

INFORME TÉCNICO FINAL

Fecha de entrega del Informe
18 de Mayo del 2005
Nombre del coordinador de la ejecución
Bernardita Villalba C.
Firma del Coordinador de la Ejecución
<i>Bernardita Villalba</i>

1. ANTECEDENTES GENERALES DE LA PROPUESTA
Nombre de la propuesta
Catálogo de Insumos para el Control de Plagas y Enfermedades en la Agricultura Orgánica, Disponibles en Chile.
Código
FIA-PR-L-2004-1-A-004
Entidad responsable
Certificadora Chile Orgánico (CCO).
Coordinador(a)
Bernardita Villalba C.
Lugar donde se realizó la actividad de formación o promoción (región, ciudad, localidad)
Santiago, Región Metropolitana.
Tipo o modalidad de la actividad (curso, pasantía, seminario, congreso, taller, otros)
Elaboración de un documento técnico (Catálogo de Insumos).
Fecha de realización (inicio y término)
Fecha de Inicio: 30/07/2004. Fecha de Término: 30/04/2005 ¹

¹ Queda pendiente la actividad de difusión.

2. ALCANCES Y LOGROS DE LA PROPUESTA

Problema a resolver, justificación y objetivos planteado inicialmente en la propuesta

Como escenario actual, las exigencias del mercado tendientes a una mayor demanda de productos sanos obtenidos a partir de procesos productivos donde se reduzca al mínimo de impacto ambiental; evidencian la urgente necesidad de contar con información útil, clara y accesible en cuanto a prácticas de manejo y técnicas conducentes a este tipo de producción y en especial al control de plagas/enfermedades que privilegie aquellas prácticas tendientes a la conservación de los recursos naturales y a la obtención de un producto inocuo y libre de residuos. En este contexto, el uso de insumos compatibles con estos principios adquiere relevancia y se hace evidente la necesidad de contar con un documento de referencia para nuestro país en este tema.

Para que los agricultores cuenten con una alternativa real y válida para el control de plagas y enfermedades, deben contar con herramientas eficaces; dentro de las cuales la existencia de insumos disponibles en el mercado, de fácil uso y con ingredientes equivalentes a los materiales y sustancias de las listas de insumos permitidos por normativas relacionadas. Específicamente para la agricultura orgánica existen normas que establecen principios, prácticas y procedimientos que deben ser cumplidos a cabalidad.

En la actualidad muchos son los insumos ofrecidos como productos "naturales", "orgánicos", "bio" u otros adjetivos que confunden a quienes están interesados en utilizarlos, sin que tales adjetivos sean equivalentes a lo establecido en las normativas. Esta confusión desorienta a los agricultores, comerciantes y elaboradores de insumos; y en especial representa un alto riesgo para que los agricultores violen involuntariamente normas y reglamentos, con el consecuente riesgo de perder el derecho a certificar su producción. Cuando un productor orgánico necesita un insumo que responda a sus necesidades y cuyo uso sea permitido en una producción orgánica, se presenta ante la dificultad en encontrar información confiable acerca los ingredientes y procesos utilizados en su elaboración. Generalmente es difícil conseguir información acerca de los materiales genéricos de un determinado nombre comercial. Una lista de insumos permitidos por las normas orgánicas y una completa descripción de estos insumos, pretende evitar confusiones y dar transparencia al mercado de estos insumos.

Frente a este escenario, es que se plantea la elaboración de un documento que reúna el máximo de información útil acerca de la disponibilidad actual de insumos que se comercializan en Chile y que cuenten con la autorización de uso en la agricultura orgánica, por agentes competentes (certificadoras, organizaciones o instituciones de prestigio internacional en el tema).

En donde los objetivos generales planteados inicialmente en la propuesta fueron:

- Disponer de un documento de referencia nacional para productores, asesores y otros interesados en utilizar insumos permitidos por la normativa que regula la producción orgánica en el mundo.

- Recopilar, sistematizar y divulgar dentro del sector agrario un listado de insumos disponibles en Chile, destinados al control de plagas y enfermedades en la agricultura orgánica.

Objetivos alcanzados tras la realización de la propuesta

Como resultado de la ejecución de la propuesta, se alcanzaron los siguientes objetivos:

1. Realizar una pre-evaluación de equivalencia de la normativa de producción orgánica, con los insumos registrados en el SAG como plaguicidas, existentes en Chile para el control de plagas y enfermedades.
2. Identificar, describir, sistematizar y ordenar información relacionada a las principales características de los insumos con registro SAG y cuyo uso está autorizado en la agricultura orgánica.
3. Identificar información a cerca de las exigencias legales respecto a la fabricación y comercialización de plaguicidas en Chile. Evidenciando la imposibilidad legal de incluir en el Catálogo todos aquellos insumos que se distribuyen en Chile sin registro SAG, como por ejemplo algunos controladores biológicos.
4. Transmitir entre fabricantes, representantes y distribuidores de plaguicidas con registro SAG la importancia de contar con una autorización de uso para la agricultura orgánica por un organismo competente y en qué consiste este procedimiento.
5. Intercambio con representantes del Subdepartamento de Plaguicidas y Fertilizantes del SAG, del FIA y del grupo de personas ligadas a la producción de insumos sin registro SAG y que poseen aptitud de incluirse en el catálogo; con el fin aclarar limitaciones y enfrentar mecanismos de trabajo. No habiendo sido posible, hasta la fecha el tener una visión clara de cómo abordar el tema.
6. Identificar empresas y personas ligadas a producción y comercialización insumos sin registro SAG.
7. Realizar evaluaciones de equivalencia para 22 plaguicidas que se distribuyen actualmente en Chile y que poseen registro SAG, para determinar su autorización de uso en agricultura orgánica según las normativas de producción orgánica. A través de lo cual, una certificadora orgánica nacional llevó a cabo procedimientos y una metodología de evaluación de insumos en base a la equivalencia de normativas nacional e internacionales de producción orgánica.
8. Identificar, describir y presentar las principales características de los insumos cuyo uso está autorizado en la agricultura orgánica. La información que describe a estos insumos y que es entregadas en el catálogo es de absoluta responsabilidad de los fabricantes o distribuidores, quienes fueron los que la emitieron.
9. Entregar los criterios aplicados en la normativa analizada para la evaluación de insumos destinados al control de plagas y enfermedades.

10. Y en forma complementaria, entregar conceptos, elementos, criterios y principios que contribuyen a un mayor entendimiento de los procedimientos y exigencias asociados a la evaluación de los insumos para la agricultura orgánica y al uso de insumos para controlar plagas y enfermedades en una agricultura sostenible.

Resultados e impactos esperados inicialmente en la propuesta

Cuando se presentó la propuesta, los siguientes fueron los resultados e impactos esperados:

- Quienes accedan a este documento, serían capaces de identificar la oferta existente en Chile en materia de insumos que pueden ser utilizados en la agricultura orgánica y que cuentan con la debida autorización de una certificadora de productos orgánicos.
- Los productores que recurran a este catálogo podrían contar con información que les facilite la toma de decisión en las distintas etapas de sus procesos productivos, siendo un excelente punto de partida en el momento de decidir las prácticas ha implementar. Respondiendo a una importante demanda de quienes desarrollan o pretender desarrollar sistemas de producción sustentable.
- Para los proveedores y distribuidores de insumos, este documento constituiría un precedente y ejemplo de los requisitos y exigencias mínimas que deben cumplir los insumos utilizados en la agricultura orgánica.
- En cuanto a las certificadoras de productos orgánicos y a las instituciones de gobierno ligadas a la certificación orgánica en Chile (por ejemplo, el SAG que actúa como agente de acreditación de las certificadoras orgánicas en Chile), este documento constituiría una herramienta valiosa para la implementación de sus procedimientos; permitiendo una mayor eficiencia de trabajo y en consecuencia una mejor calidad en la oferta de sus servicios.
- En especial, CCO pretendería adquirir mayor experiencia y habilidades en el tema de evaluación de insumos; perfeccionando los procedimientos ligados a esta actividad.
- Para investigadores, asesores y profesionales ligados a la elaboración y desarrollo de nuevos insumos; este catálogo les permitiría visualizar deficiencias o áreas específicas en donde existe escasez de oferta en Chile. Lo cual les permitiría focalizar los esfuerzos de trabajo con fines específicos y con potencial económico.
- Específicamente para la agricultura orgánica en Chile, un catálogo como se planteó en la presente propuesta se traduciría en un aumento en el interés de agricultores en desarrollar sistemas de producción orgánicos como una alternativa de negocio
- Al analizar la información entregada por este catálogo, sería posible contar con la información básica sobre la oferta real y actual de insumos controladores de plagas y enfermedades, con autorización de su uso en la agricultura orgánica en Chile. Esta información permitiría sentar las bases para la confección de una lista nacional de productos permitidos en la agricultura orgánica. Dependiendo de las especificidades

que asuma el Sistema Nacional de Control de la Agricultura Orgánica en Chile, el hecho de contar con esta referencia de insumos será la base para continuar perfeccionando y definiendo la forma como se regulará el tema de los insumos en este tipo de agricultura.

- En resumen, la divulgación de una herramienta como la que se planteó en la propuesta pretendí contribuir en forma directa a la promoción de la agricultura sustentable en Chile. Facilitando la implementación en terreno de prácticas alternativas al uso de plaguicidas químicos para el control de plagas y enfermedades; contribuyendo al aumento de la superficie destinada a la agricultura orgánica, sustentable y con la implementación de buenas prácticas agrícolas en Chile.

Resultados obtenidos

Descripción detallada de los conocimientos y/o adiestramientos adquiridos. Explicar el grado de cumplimiento de los objetivos propuestos de acuerdo a los resultados obtenidos.

Con la entrega del documento técnico al FIA para su impresión y divulgación, ha culminado con éxito el cumplimiento de la totalidad de los objetivos propuestos inicialmente en la propuesta. Sólo queda pendiente la actividad de difusión, que por acuerdo del coordinador de la ejecución de la propuesta y el Supervisor del FIA, se determinó que se realizaría una vez impreso el catálogo para su efectiva promoción, difusión, y distribución.

Es necesario señalar que para cumplir con la totalidad de los resultados e impactos planteados inicialmente, es necesario que este documento esté al menos en la etapa de distribución y que exista una adecuada difusión; estableciendo mecanismos accesibles y alcanzables por quienes se interesan en el tema y desean adquirir este catálogo

Todas las actividades realizadas que implicaron recopilación de información, contacto e intercambio con proveedores de insumos agrícolas en Chile, multiplicadores de controladores biológicos e investigadores; fue extensa y muy acabada. Habiendo sido necesarios la revisión y análisis con representantes del SAG de los temas legislativos que se relacionan con la comercialización, venta y distribución de plaguicidas en Chile.

Sin duda alguna, la elaboración de un catálogo como el elaborado se tradujo en un largo proceso de búsqueda y ordenamiento de información, realización de evaluaciones de algunos plaguicidas para agricultura orgánica y divulgación de la información relativa entre los representantes de sectores ligados a insumos agrícolas en Chile. Esto último ha contribuido en forma complementaria y necesaria al entendimiento de la situación actual a la cual se ve inserto las empresas que emprenden actividades que se vinculan en oferta de insumos utilizables en la agricultura orgánica. Todo lo cual se traduce en un valioso material ha ser utilizado para la elaboración del documento final.

En resumen, en este documento técnico se entregan información, herramientas, conceptos y análisis que contribuyen a un mejor entendimiento de los principios que involucran el uso de insumos para el control de plagas y enfermedades en la agricultura orgánica. Se presentan insumos y controladores biológicos destinados al control de plagas y enfermedades para la agricultura orgánica que se encuentran disponibles

comercialmente en Chile. Todos los insumos formulados con registro SAG que se presentan en este documento y para los cuales se adjuntan fichas técnicas de referencia, cuentan con algún tipo de evaluación realizada por un organismo de control (certificadora orgánica, Instituto u otro). Por esta razón y como resultado del resultado de un procedimiento de evaluación, su uso ha sido autorizado en agricultura orgánica para determinados objetivos y bajo ciertas condiciones.

En forma adicional se entrega información complementaria y relacionada al tema, para apoyo y consulta de quienes lo estimen necesario. Anexando un listado de investigaciones que en la actualidad se están efectuando o que se han desarrollado en fecha reciente en Chile, en el tema de controladores biológicos y extractos naturales; considerándolos como materiales de importancia en la elaboración de agentes o insumos para el control de plagas y enfermedades.

Valoración desde los participantes

Análisis de la recepción por parte de los participantes de la temática abordada en el evento o actividad de formación y si es posible obtener alguno de los impactos esperados a partir de las capacidades y conocimientos adquiridos.

No corresponde.

Resultados adicionales

Describir los resultados obtenidos que no estaban contemplados inicialmente como por ejemplo: formación de una organización, incorporación de alguna tecnología, desarrollo de un proyecto, firma de un convenio, entre otros posibles.

Como complemento a los resultados esperados propuestos inicialmente en la propuesta, se puede enumerar los siguientes resultados adicionales:

1. Revisión y análisis de los aspectos en el tema normativo ligado a la comercialización y distribución de plaguicidas en Chile.
2. Autorización de parte del SAG para incluir insumos sin registro SAG indicando las obligaciones básicas sobre producción, comercio y aplicación de plaguicidas en Chile.
 - 2.1. Conversaciones con la Sra. Claudia Valenzuela del Subdepartamento de Plaguicidas y Fertilizantes, y encargada del proceso de autorización de plaguicidas de uso agrícola del Servicio Agrícola y Ganadero (SAG).
 - 2.2. Recepción de una carta respuesta oficial del Departamento Jurídico del SAG autorizando la inclusión de determinados insumos con sus nombres genéricos, que se comercializan en Chile y que en la actualidad no cuentan con un número de registro SAG.

3. Introducción al tema de la agricultura orgánica a personas ligadas a mundo de comercialización y distribución de plaguicidas en Chile. Lo cual en muchos casos, ha significado un extenso trabajo de entrega de información y aclaración de dudas e inquietudes sobre lo que significan las normativas orgánicas, y cómo el uso productos comerciales puede ser autorizados en la agricultura orgánica bajo una norma de referencia.
4. Difusión y capacitación a personas ligadas a mundo de comercialización y distribución de plaguicidas en Chile a través de de entrega de información y aclaración de dudas e inquietudes sobre lo que significan las normativas orgánicas, y cómo el uso productos comerciales puede ser autorizados en la agricultura orgánica bajo una norma de referencia
5. A partir de una solicitud emitida por CCO a la certificadora orgánica IMO-Chile en el mes de septiembre del presente año, IMO-Chile entregó como parte de un servicio remunerado a CCO, una lista de los insumos utilizados para el control de plagas y enfermedades en la agricultura orgánica. Esta lista corresponde a aquellos insumos aprobados (certificados o no) por IMO-Chile a sus clientes que producen alimentos orgánicos con certificación IMO. Como consecuencia de este trabajo, IMO-Chile publicó a través de su Boletín Informativo Eco-dato información relativa a la evaluación de insumos y una tabla de pesticidas y fertilizantes certificados y no certificados que según los reglamentos respectivos se pueden utilizar en la agricultura orgánica. Este interés en IMO-Chile en presentar esta lista en su Boletín Informativo, constituye un resultado adicional en la implementación de esta iniciativa y en respuesta a un servicio entregado a CCO en virtud de la propuesta.
6. En cuanto a los apoyos externos recibidos por CCO, en el tema de la evaluaciones de insumos, se evidenció un excelente servicio entregado por OMRI (Organic Materials Review Institute de los EE.UU.) con el cual se contó con un constante apoyo para temas relacionados con equivalencia de ingredientes de insumos con la lista de los materiales permitidos y prohibidos por el NOP (Programa Orgánico Nacional de los EE.UU.).
7. Participación de la Coordinadora de la propuesta al Taller de Control Biológico organizado por el FIA en, en el mes de Julio del 2004 y al Seminario Internacional "Alternativas Ecológicas para el Control de Plagas y Enfermedades Agrícolas", organizado por la Universidad de Concepción en el mes de Noviembre del 2004. Ambas actividades sirvieron, entre otras cosas, para establecer contactos, recolectar información y entender en mejor forma los aspectos asociados a los insumos con aptitud de uso en la agricultura orgánica y las empresas chilenas involucradas en el tema.
8. Revisión exhaustiva de investigaciones realizadas en la actualidad en Chile, en el ámbito de controladores biológicos y extractos vegetales; estableciendo contacto con las personas responsables y obteniendo información básica respecto a sus trabajos en el tema que fue incluida en el catálogo.

Aplicabilidad Explicar la situación actual del rubro y/o temática en Chile (región), compararla con las tendencias y perspectivas presentadas en la actividad de promoción o formación y explicar la posible incorporación de los conocimientos adquiridos en el corto, mediano o largo plazo, los procesos de adaptación necesarios, las zonas potenciales y los apoyos tanto técnicos como financieros necesarios para hacer posible su incorporación en nuestro país (región).

En la actualidad, es evidente el desconocimiento que existe en Chile en cuanto al tema de cómo un producto comercial puede autorizarse para ser utilizado en un sistema productivo que se rige bajo determinadas normas de producción orgánica. Un claro ejemplo lo dan la mayor parte de las personas que se vinculan a la fabricación, comercialización y distribución de insumos para la agricultura.

El sólo echo de haber contactado a un grupo bastante representativo del mundo de los agroquímicos; explicándoles esta iniciativa, invitándolos a participar y en muchos casos estableciendo compromisos de participación activa por parte de ellos (en especial, en lo relativo a la recopilación de documentos e información necesaria que avalara la inclusión de un determinado insumo en el catálogo o en otros casos, que permitiera conducir un proceso de evaluación por parte de CCO); es un logro importante que debe asociarse a esta iniciativa. De alguna manera, se está creando el interés y la inquietud en el sector que provee de insumos a la agricultura nacional, de cómo responder a demandas del sector orgánico y de todos aquellos que desean producir en una forma más limpia.

Las acciones que tome cada fabricante, representante o distribuidor de insumos; pasa en muchas ocasiones por decisiones de la empresa, voluntades, recursos y capacidades humanas. Sin embargo, este Catálogo se presenta como una primera etapa en donde aquellos que se desenvuelven en este mundo identifiquen esta demanda, se aproximen al tema de los requisitos necesarios y conozcan mecanismos de cómo implementar la decisión de poner a disposición un insumo para la agricultura orgánica. Sin duda, esta experiencia se presenta como el inicio de un proceso en donde cada fabricante, representante o distribuidor de insumos reaccionará en forma distinta.

La continuidad que se le dé a este documento es pieza clave en lo señalado en el párrafo anterior, la actualización de este Catálogo en forma periódica exigirá en el medio de proveedores de insumos una posición al respecto; y en consecuencia, una necesidad de mayor información y la creación de capacidades competentes en el tema.

Detección de nuevas oportunidades y aspectos que quedan por abordar

Señalar aquellas iniciativas que surgen como días para realizar un aporte futuro para el rubro y/o temática en el marco de los objetivos iniciales de la propuesta como por ejemplo la posibilidad de realizar nuevas actividades.

Indicar además en función de los resultados obtenidos los aspectos y vacíos tecnológicos que aun quedan por abordar para ampliar el desarrollo del rubro y/o temática.

En esta etapa final de la ejecución de esta propuesta, sin duda alguna, el tema de mayor preocupación que queda por abordar es lo relativo a la continuidad y actualización de este documento. A pesar de la gran importancia que reviste la creación de un documento como este, es necesario advertir que sin un procedimiento de actualización periódica de la información entregada; y en especial de un procedimiento que nos asegure la inclusión de insumos con autorizaciones (de registro SAG y de uso en la agricultura orgánica) vigentes este documento va perdiendo valor a medida que transcurre el tiempo. Por lo tanto, queda pendiente identificar un mecanismo a través del cual se establezcan responsables y los procedimientos a través de los cuales se hará posible esta actualización.

En el texto del mensaje de S.E. el Presidente de la República en donde se dirige a la Cámara de Diputados, con fecha 13 de septiembre de 2004; se señala que la creación de un Sistema Nacional de certificación de productos orgánicos agrícolas en el cual se considera la creación de un Registro específico para los insumos utilizados en la agricultura orgánica. Y el Proyecto de Ley en el Artículo 10º señala "Todos los insumos utilizados en los procesos de producción y elaboración de productos orgánicos regidos por esta ley, deberán inscribirse en un registro que para tal efecto llevará y administrará el Servicio Agrícola y ganadero". Todo lo anterior, hace inminente la necesidad que el SAG se haga cargo de este registro para lo cual este catálogo puede ser un importante punto de partida pero el cual debe ser trabajado para cumplir con los objetivos de la Ley.

Otro tema importante, es lo relativo a la existencia en Chile de plaguicidas sin registro SAG. CCO recogió información al respecto y la analizó en forma detallada, concluyendo que el actual procedimiento de registro en Chile es necesario y de gran utilidad, establece las bases de un sistema que avala la calidad de los insumos y la competencia de quienes forman parte de este sector. Dentro del grupo de personas y empresas que trabajan desarrollando y/o investigando controladores biológicos fue posible detectar una fuerte demanda de una normativa que se ajuste a las características de organismos de control biológico que en algunas etapas difiere de los procesos que implica la formulación de plaguicidas químicos que se rigen por la normativa existe. Por lo tanto, la creación de una normativa que regula el registro de organismos de control biológico que se ajuste a las especificidades que lo distinguen del actual procedimiento establecido en la Resolución SAG N° 3670, sin duda alguna es un aspecto importante que queda por abordar.

El trabajo realizado confirma el alto interés de parte de los potenciales usuarios por contar con un documento como este, y en forma complementaria queda en evidencia la urgente necesidad de contar con un documento similar a éste que presente los fertilizantes y enmiendas del suelo disponibles en Chile, que pueden ser utilizados en la agricultura orgánica.

Por otra parte, al abordar el tema de la evaluación de insumos para su uso en la agricultura orgánica ha sido necesario identificar aspectos relevantes que en muchos casos confunde a quienes se ligan al tema. En el catálogo se entregan las directrices que orienten e informen y aclaren confusiones en el tema. Este Catálogo deja en evidencia la necesidad de uniformar criterios y procedimientos ligados a la evaluación de insumos para la agricultura orgánica en Chile. En la actualidad este tema ya ha sido abordado por la Unión Europea que está desarrollando un proyecto a largo plazo, pero sin duda alguna, la participación de Chile en iniciativas internacionales como ésta es otro aspecto que queda por abordar.

3. ASPECTOS RELACIONADOS CON LA ORGANIZACIÓN Y EJECUCIÓN DE LA PROPUESTA

Programa de la actividad

No corresponde.

Ficha de docentes o expositores, según el siguiente cuadro.

No corresponde.

Material elaborado

A continuación se entrega una lista del material elaborado y recopilado durante la ejecución de la propuesta. Este material fue utilizado como referencia del documento técnico elaborado. El material de apoyo para la jornada de difusión será adjuntado en el momento de entregarse el informe correspondiente a dicha actividad que queda pendiente en el momento de entrega del presente informe técnico.

El material listado a continuación se anexará al presente informe técnico.

Tipo de material	Nombre o identificación y dirección en la web al 9/05/2005	Preparado por	Copia electrónica
Tabla en excel.	Lista de contactos	CCO	Si
Lista de insumos autorizados y recomendados por FIBL.	Intrants autorisés et recommandés en agriculture biologique. Liste des intrants. 2003	FIBL	Si
1er Reporte del Proyecto "Organic Inputs Evaluation" de la UE. ¹	Proceedings "Current Evaluation Procedures for plant Protection Products Used in Organic Agriculture". Suiza, 2003. http://www.organicinputs.org/documents/speiser-schmid-2004-inputs.pdf	FIBL	Si
2º Reporte del Proyecto "Organic Inputs Evaluation" de la UE.	Proceedings "Draft Criteria for Evaluation of Plant Protection Products, Fertilizers and Soil Conditioners Used in Organic Agriculture". Italia, 2004. http://orgprints.org/4270/01/speiser-2005-draft-criteria-organic-inputs.pdf	FIBL	Si

Listas de ingredientes inertes clasificados por la EPA.	- List 1: Inert Ingredients of Toxicological Concern. http://www.epa.gov/opprd001/inerts/list1_chemname.pdf - List 2: Potentially Toxic Other Ingredients/High Priority for Testing inertes. http://www.epa.gov/opprd001/inerts/inerts_list2byname.pdf - List 3: Inerts of unknown toxicity. http://www.epa.gov/opprd001/inerts/inerts_list3name.pdf - List 4A: Minimal risk inert ingredients. http://www.epa.gov/opprd001/inerts/inerts_list4Aname.pdf - List 4B: Other ingredients for which EPA has sufficient information to reasonably conclude that the current use pattern in pesticide products will not adversely affect public health or the environment. http://www.epa.gov/opprd001/inerts/inerts_list4Bname.pdf	EPA	Si
Cuadro comparativo IFOAM de insumos permitidos.	Comparison on Materials Standards for Organic Food. 2002. http://www.ifoam.org/standard/mat_comp.pdf	IFOAM	Si
Cuadro comparativo NOP v/s ECC 2092/91, por IMO.	IMO Comparison NOP Final Rule vs. Regulation (ECC) N° 2092/91 http://www.imo.ch/imo/texte/downloads/nop/comparison_NOP-EU.rtf	IMO	Si
Comparación de sustancias permitidas entre NOP y UE, por Austria Bio Garantie.	Allowed Substances NOP vs EU.	Austria Bio Garantie	Si
Lista de Insumos autorizados por IMO Chile.	Boletín Eco-Dato IMO Chile. Edición N°17. Oct/Nov 2004.	IMO Chile	Si
Lista de insumos autorizados por BCS en todo el mundo.	Lista de Insumos Compatibles autorizados por BCS, Julio 2004.	BCS	Si
Resolución del SAG N° 3670.	Resolución N° 3670/1999, que Establece Normas para la Evaluación y Autorización de Plaguicidas	SAG	Si
Resolución del SAG N° 1038	Resolución N° 1038 del 15/4/2003 Procedimientos de Fiscalización de Plaguicidas Importados y Nacionales.	SAG	Si
Resolución del SAG N° 2196	Resolución N° 2196 de 2000, que establece clasificación toxicológica de los plaguicidas de uso agrícola.	SAG	Si
Resolución del SAG N° 2229	Resolución Exenta N° 2229 de 2001. Establece normas de ingreso de material biológico y deroga resoluciones que se indica. Santiago, 24 de septiembre de 2001.	SAG	Si
Lista de materiales permitidos por NOP.	OMRI Generic Materials List with Nacional Organic Program Rule and Nacional Organic Standards Board appendices. June 2004. ¹	OMRI	No

Lista de insumos de marca comerciales permitidos por NOP.	OMRI Brand Name Products List. June 2004. ¹	OMRI	No
Actualización de la lista de insumos de marca comerciales permitidos por NOP.	OMRI Brand Name Products List, Update. September 2004. ¹	OMRI	No

¹ Se entrega sólo una copia de este material al FIA, debido a la escasez de copias obtenidas por CCO.

Programa de difusión de la actividad

En esta sección se deben describir las actividades de difusión de la actividad, adjuntando el material preparado y/o distribuido para tal efecto.

En la realización de estas actividades, se deberán seguir los lineamientos que establece el "Instructivo de Difusión y Publicaciones" de FIA, que le será entregado junto con el instructivo y formato para la elaboración del informe técnico.

Por acuerdo con el FIA, se decidió postergar la actividad de difusión para cuando los ejemplares del catálogo estén impresos y listos para su difusión, venta y distribución. Por lo tanto, toda la información y material generado asociado a la actividad de difusión queda pendiente.

Participantes en la actividad

El listado de asistentes a cualquier actividad deberá al menos contener la siguiente información de quienes participan:

El listado de los participantes de la actividad de difusión queda pendiente, hasta cuando sea realizada.

Nombre	
Apellido Paterno	
Apellido Materno	
RUT Personal	
Dirección, Comuna y Región	
Fono y Fax	

E-mail	
Nombre de la organización, empresa o institución donde trabaja / Nombre del predio o de la sociedad en caso de ser productor	
RUT de la organización, empresa o institución donde trabaja / RUT de la sociedad agrícola o predio en caso de ser agricultor	
Cargo o actividad que desarrolla	
Rubro, área o sector a la cual se vincula o en la que trabaja	

4. EVALUACIÓN DE LA PROPUESTA

Evaluación de la actividad de Formación o Promoción

En esta sección se debe evaluar la actividad en cuanto a los siguientes ítems:

a) Efectividad de la convocatoria.

No corresponde.

b) Grado de participación de los asistentes (interés, nivel de consultas, dudas, etc)

No corresponde.

c) Nivel de conocimientos adquiridos por los participantes, en función de lo esperado (se debe indicar si la actividad contaba con algún mecanismo para medir este punto y entregar una copia de los instrumentos de evaluación aplicados)

No corresponde.

d) Problemas presentados y sugerencias para mejorarlos en el futuro (incumplimiento de horarios, deserción de participantes, incumplimiento del programa, otros)

No corresponde.

Aspectos relacionados con la postulación al programa de formación o promoción

a) Apoyo de la Entidad Responsable

☒ X_ bueno

☐ regular

☐ malo

Justificar: La propuesta fue ejecutada en su totalidad por la Entidad Responsable, por lo tanto se requirió de un 100% de compromiso y efectividad para lograr lo obtenido.

b) Información recibida por parte de FIA para realizar la postulación ☒ X amplia y detallada ☐ aceptable ☐ deficiente Justificar: Todo lo consultado durante la ejecución fue positivamente solucionado por representantes del FIA.			
c) Sistema de postulación al Programa de Formación o Promoción (según corresponda) ☒ X adecuado ☐ aceptable ☐ deficiente Justificar: Los procedimientos establecidos por FIA son claros y efectivos.			
d) Apoyo de FIA en la realización de los trámites de viaje de expositores internacionales (pasajes, seguros, otros) (sólo cuando corresponda) ☐ bueno ☐ regular ☐ malo Justificar: No corresponde.			
Recomendaciones (señalar aquellas recomendaciones que puedan aportar a mejorar los aspectos administrativos antes indicados). Ninguna			
Organización durante la actividad (indicar con cruces)			
Item	Bueno	Regular	Malo
Nº asistentes	No corresponde		
Aspectos logísticos	No corresponde		
Calidad de la actividad	No corresponde		
Cumplimiento del programa y horarios	No corresponde		
En caso de existir un ítem Malo o Regular, señalar los problemas enfrentados durante el desarrollo de la actividad, la forma como fueron abordados y las sugerencias que puedan aportar a mejorar los aspectos organizacionales en futuras actividades.			
No corresponde			

5. Conclusiones Finales

Los resultados obtenidos cumplen ampliamente con las expectativas creadas inicialmente por la Entidad Responsable de la ejecución de la propuesta. Los resultados generados y los productos obtenidos, en especial, las características del documento técnico elaborado dan cuenta del cumplimiento de los objetivos propuestos inicialmente.

La efectividad de que este catálogo sea aprovechado en forma íntegra por el mayor número de destinatarios posible, determinará en forma definitiva que el documento técnico elaborado sea un éxito completo. Para lo cual, la difusión y los mecanismos de acceso que se establezcan por el FIA serán de gran importancia.

Este trabajo sienta un precedente muy importante para la agricultura orgánica, limpia y sustentable en Chile; entrega una guía técnica para todos quienes encuentren en él una herramienta útil. Constituye un documento que ha sido elaborado en forma rigurosa y responsable y en donde se pretende entregar un conjunto de elementos, herramientas y conceptos de utilidad para el sector agrícola chileno.

Sin embargo, es necesario insistir que esta experiencia se enmarca dentro un trabajo integral en torno a la promoción y desarrollo de la agricultura orgánica en Chile. Esta tarea no culmina aquí, sino por el contrario, debe marcar un punto de inicio en la creación de otros documentos técnicos similares (por ejemplo, un catálogo de fertilizantes y enmiendas de los suelos utilizados en la agricultura orgánica) que también sirvan de apoyo y guía para el sector; en donde la actualización sea posible en forma oportuna. Y por último, debe ser el punto de partida de la implementación de un sistema integral de información para la agricultura orgánica en Chile, en donde el recurso de la información oportuna, clara, accesible y responsable sea valorado por sus usuarios como un insumo de gran importancia en sus procesos de toma de decisión y en su gestión productiva.

La CCO, como siempre, queda al servicio de iniciativas similares o vinculadas a ésta, en donde sus capacidades y habilidades posibiliten de manera eficiente la obtención de productos que contribuyan al desarrollo de una agricultura limpia en Chile.

Empresa o Institución	Nombres	Primer Apellido	Segundo Apellido	Email	Telefono	Cel	Fax	Dirección	Ciudad
Proveedores de insumos formulados									
Agrocal S.A	Carlos	Rios	(gerente)						Pto Montt.
Agroindustrial Pufihue Ltda.	Cristian	Couso	Salas						R.M
Agroquímica Ltda.	Claudio	Figallo	Solari						Santiago
Agroquívir Chile S.A.									Talagante
Agrospec S.A	Mauricio	Zwanzger							Santiago
Agrospec S.A	Cristian	Zwanzger							
Agrospec S.A	Ricardo	Lavin							
Agrospec S.A	Macarena	Madariaga	(encargada)						
Agrospec S.A	Miriam	Gárate							
Alumcar S.A. (Super Azufre)	Ignacio	Saavedra							
Alumcar S.A. (Super Azufre)	David	Olivares							
Anasac									
Anasac	Andrea	Torn							
Arysta Moviagro Chile S.A	Rodrigo	de Lorenzo							Santiago
Arysta Moviagro Chile S.A	Sergio	Rodríguez							
Arysta Moviagro Chile S.A	Veronica	Soffia							
Arysta Moviagro Chile S.A	Pilar	Alfaro							
Avance Biotechnologies Chile Ltda	Mario	Reyes							Santiago
Azufres Landia S.A.	Manuel	Reyes							
Azufres Landia S.A.	Cristian	Spoerer							
Basf Chile S.A	Valeria	Kunstmann	S						Santiago
Bayer	Rodrigo	Olivares							
Bayer	Victor	Navia	G.						
Bioagro S.A (Biorend)	Paul	Abogabir	S						Santiago
Bioagro S.A (Biorend)	Patricia	Flores							
Bioamérica	Victor	Aguilera	Díaz (jefe de protección)						Santiago
Bioamérica	Humberto	Mendoza							
Biorriego	José	Villanueva	Prieto						
Borquez y Gahona Cia Ltda									X región
Brenntag Chile Comercial E Industrial	Andrea	Cortés							
Brenntag Chile Comercial E Industrial	Marcelo	Nací							
Brenntag Chile Comercial E Industrial	Osvaldo	Rubi							
Cals (Coop. Agrícola Lechera de Stgo	Jorge	Vuscovich							
Cerexagri Inc.(francia)// Atofina Chile	Alejandro	Armstrong							Santiago
Certis Chile (productos de mutsui)	Pablo	Chauan							
Certis Chile (productos de mutsui)	Juan Pablo	Hube							
Chemie //Chemie Research &	Rodolfo	Aguirre	Hood						Santiago
Chemie //Chemie Research &									
Chileagro S.A	Ricardo	Gatto							Santiago
Comercial Rx Ltda	Ricardo	Barteau	(representante)						
Comercializadora Agrícola Tecnobac									Santiago.
Connexion (Agro Connexion)	Claudio	Fernández	T.						Santiago
Connexion (Agro Connexion)	Waldo	Lira							
Copec S.A.	Marcelo	Sbarbaro							
Copec S.A.	Gabriel	Concha							
Copec S.A.									
Cordova y Edwards	M.Soledad	Mora	(Representa)						
Dow Agrosiences Chile	Alexis	Henriquez	(gerente Marketing)						Santiago
Dow Agrosiences Chile									
Dow Agrosiences Chile									
Eco Insumos Ltda.	Nora	Fuenzalida							
Eurolant Chile									Viña del Mar
Ferosor Agrícola S.A	Marta	Simon	Rademacher						Quilota
Fumex Ltda.		Conca							Osorno
Gro-n-Green Chile S.A	Gilberto	Peña							Santiago
Gro-n-Green Chile S.A	Luis	Acuña							
Grupo Interzone									

Empresa o Institución	Nombres	Primer Apellido	Segundo Apellido	Email	Teléfono	Cel	Fax	Dirección	Ciudad
Isk Biosciences Corp	Juan Antonio	Carreño							
Lombricultura Pachamama	Enzo	Boilo	Tapia						Viña del Mar.
Magan Chile Ltda.	Alvaro	Arroyo	C.						Santiago
Magan Chile Ltda.	Cristobal	Arroyo							
Marketing Arm Chile									
Mathiesen (Agrovet) - Pangermex	Maria Lorena	Sotomayor							
Mathiesen (Agrovet) - Pangermex	Carlos	Santander							
Mathiesen S.A.C. (Agrovet) - Surround	Hernán	Cobo							Santiago
Mathiesen S.A.C. (Agrovet) - Surround	Susana	Valdés	M. (Product manager						
Mathiesen S.A.C. (Agrovet) - Surround	Gustavo	Salgado	Benimelis						
Mathiesen S.A.C. (Agrovet) - Surround	Alejandro	Rodríguez	Quintino						
Monte Urkabe Ltda.	Juan	Urdangarin							Santiago
Nichimen Chile S.A.									Santiago
Nufarm Americas Inc.	Pablo	Fori							Santiago
Nufarm Americas Inc.	Raul	Luna							Santiago
Point Enterprise Chile S.a	Claudio	Perez							Santiago
Point Enterprise Chile S.a	Daniela	Karlezi	S.						
Poland	Alex	Stein	Claudio Pérez						
Prima- Agrottrading									Santiago
Prinal	Roberto	Montecino							
Prinal	René	Manriquez							
Prinal	Marcela	Mesa							Santiago
Probical	Jaime	Gonzalez							Peñaflo
Proteca S.A	Pablo	Undurraga	Diaz						
Quimetal Industrial S.A.	Felipe	Lalhacar	Derivo a:						Santiago
Química R&S Ltda.	Maria Eugenia	Reyes							
Química Sagal S.A. De C.V.	Claudia	Mata	C.						
Soc. Azufrera Borlando y Cia.	Agustin	Concha	Mail Nuevo						Malloco
Soc. Azufrera Borlando y Cia.									
Syngenta Agribusiness S.A.	Raul	Pizarro	Sciaraffia						
Tattersall S.A	Luis	Lagos							Santiago
Tattersall S.A	Juan Carlos	Ortúzar							
Tauern	Graciela	Moraga	M						Santiago
Tauern	Claudia	Valenzuela							
Tomen Corporation Chile	Berta	Kaplan							
Uap Chile S.A (united agri products	Ana María	Prado	B.						Santiago
Uap Chile S.A (united agri products	Marcela	Ruiz							
Valent Biosciences Chile Ltda.	Cristian	Rodríguez							Santiago
Vasangei S.A. y CIA. LTDA	Hans	Walter	Stein						Santiago
Controladores biológicos									
Agrícola Quillota	Alejandra	Arellano							
Agrícola Quillota	Rodrigo	García							
AGROCONTROL	Gonzalo	Gálvez	Perez						Quillota
Agroindustria Behn	Alberto	Behn							
Agropiemonte S.A	Marco	Gajardo							
Agropiemonte S.A	Violeta	Caro							
Aurelio Solis	Aurelio	Solis							
Bioagro	Patricia	Flores							
Biocaf (Biocontroladores agroforestales Ltda.)	Gastón	Gonzalez	Vargas						Chillán
Biocaf (Biocontroladores agroforestales Ltda.)	Gloria	Molina							
Biocontrol Ltda	Jose Luis	Paniagua							
Biolinsumos Nativa	Eduardo	Donoso							
Biolinsumos Nativa	Gustavo	Lobos							

Empresa o Institución	Nombres	Primer Apellido	Segundo Apellido	Email	Telefono	Cel	Fax	Dirección	Ciudad
BioInsumos Nativa	Paulo	Escobar							
Bioland s.a.	Alex	Ramdhor							
Biomycota	Mónica	Cortés							
CET Colina	Patricia	Palazuelos							Chillán
CET Colina	Raúl	Venegas							
Cet Programa Bío Bío	Agustín	Infante							
Controladora de plagas forestales (CPF)	Osvaldo	Ramírez							
Controladores Biotológicos Aplicados (CBA)	Luis	Soto							
Fumex Ltda.	Ramón	Nonaga							
Fumex Ltda.	Eduardo	Conca							Santiago
INIA- Quilamapu	Marcos	Gerding	P.						
Mip-Agro Ltda.	Francisco	Urza							
Mip-Agro Ltda.	Sebastian	Jimenez							
Mundo Orgánico	Carlos	Meza							
Mundo Orgánico	Miguel Angel	Palma							
Química R y S	Maria Eugenia	Reyes							
Rio Grande S.A.	Pablo	Ossandon							
Roberto Trincado	Roberto	Trincado							
Xilema	Eduardo	López							
Empresa/Institución/ Organización	Nombres	Primer Apellido	Segundo Apellido						Ciudad
FDF	David	Castro Da Costa							
INIA Carillanca	Alfonso	Aguilera							
INIA Carillanca	Rafael	Galdames	Gutierrez						
INIA- Carillanca	Miguel	Ellena							
INIA- La Cruz	Fernando	Rodriguez							
INIA- La Cruz	Renato	Ripa							
INIA- La Cruz	Robinson	Vargas							
INIA- La Platina	Patricia	Estay							
INIA- Quilamapu	Marcos	Gerding	P.						
INIA- Quilamapu	Andres	France	I.						
INIA- Quilamapu	Cecilia	Céspedes							
INIA-Carillanca	Hernán	Norambuena							
INIA-Carillanca	Orlando	Andrade	Vilaró						
Particular	Alejandro	Jimenez							
Particular	José A.	Satinas							
SAG	Mª Eugenia	Murillo							
SAG	Antonieta	Palma							
SAG	Marco	Muñoz							
SAG	Rina	Acuña							
U. de Chile	Juan C	Magunacelaya							
U. de Chile	José Luis	Henriquez							
U. de Chile. Fac.	Marcela	Esterio							
U. de Chile. INTA	Guillermo	Figuerola							
U. Andrés Bello	Luz María	Pérez							

Empresa o Institución	Nombres	Primer Apellido	Segundo Apellido	Email	Telefono	Cel	Fax	Dirección	Ciudad
U. Austral de Chile	Luigi	Ciampi							Valdivia
U. Austral de Chile	Roberto	Carrillo							
U. Austral de Chile	Nancy	Andrade	S.						Valdivia
U. Austral de Chile	Laura	Bohm							
U. Católica de Chile	Gastón	Apablaza							
U. Católica de Chile	Jaime	Apablaza							
U. Católica de Chile	Tania	Zaviezo							
U. Católica de Chile	Claudia	Bonomelli							
U. Católica de Chile	Bernardo	Latorre							
U. Católica de Valparaíso	Begoña	Parra							
U. Católica de Valparaíso	Eugenio	López							
U. Católica de Valparaíso	Ximena	Besoain							
U. Católica de Valparaíso	Gabriela	Verdugo							
U. de Chile	Luis	Sazo							
U. de Chile	Tomislav	Curkovic							
U. de Chile	Erwin	Aballay							
U. de la Frontera	Ramón	Rebolledo							
U. de la Frontera	Jaime	Guerrero							
U. de la Serena	Carol Paola	Krausz	Barrientos						Ovalle, IV Región
U. de Talca	Eduardo	Fuentes							
U. de Talca	Mauricio	Lolas	Caneo						
U. de Talca	Hernán	Paillan							
U.Chile. Fac. de Ciencias Químicas y Farmacéuticas	Luis	López	Valladares						
U. de Chile	Jaime R.	Montealgre	A.						
U. de Chile	Rodrigo	Herrera	C.						
U. de Chile	Jaime	Araya	C.						
U. de Chile	Jaime	Auger							
U. de Concepción, Dpto. Desarrollo Tecnológico	Claudia	Tramón							
U. de Concepción, Dpto. Químicas	Galo	Cárdenas							
Univ. Concepción	Gonzalo	Silva							
Univ. Concepción (Chillán)	Patricio	Torres	Morales						
Universidad de Tarapacá	Héctor	Vargas							Arica
Universidad de Tarapacá	Germán	Sepúlveda							Arica
Universidad del Mar	Rosa	Arancibia	Carvajal						

Indication pour les firmes:

Vous trouvez les informations pour l'inscription de nouveaux produits sur notre site internet www.fibl.ch

Impressum

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La présente Liste des intrants est une liste exhaustive et contraignante des intrants que les producteurs de BIO SUISSE et de Migros-Bio-Production ont le droit d'utiliser. Les prescriptions légales et générales concernant l'utilisation de ces intrants demeurent réservées. Toutes les données en rapport avec l'homologation officielle sont fournies sans garantie. Le FiBL décline expressément toute responsabilité en rapport avec l'utilisation des intrants de cette liste.

Les éventuelles modifications importantes survenues après l'impression de cette Liste des intrants seront annoncées au fur et à mesure sur notre site Internet (www.fibl.ch).

Liste des intrants autorisés et recommandés en agriculture biologique en Suisse

La Liste 2002 des intrants autorisés en agriculture biologique contient tous les produits phytosanitaires et de lutte contre les mouches des étables ou les maladies des abeilles, les agents d'ensilage, les engrais et les substrats vendus dans le commerce et autorisés en agriculture biologique. Elle contient aussi une liste des produits particulièrement recommandés pour la lutte contre les ectoparasites, pour le nettoyage et la désinfection en général d'une part et dans les fermes laitières d'autre part. Le fait qu'un produit figure dans la Liste des intrants ne correspond donc pas à une recommandation d'utilisation.

La Liste des intrants est réalisée par des experts de l'Institut de recherche de l'agriculture biologique (FiBL) et paraît après consultation des autorités, de BIO SUISSE et de Migros-Bio-Production. L'évaluation de la conformité des matières actives et des adjuvants est effectuée principalement d'après les dispositions de l'Ordonnance fédérale sur l'agriculture biologique, mais aussi en tenant compte des critères énoncés par certaines directives nationales et internationales (BIO SUISSE, Migros-Bio, UE, IFOAM, Codex Alimentarius). La Liste des intrants est actualisée chaque année.

Par rapport à l'édition précédente, les changements importants sont les suivants:

- ∞ Admission de produits répulsifs contre les fourmis
- ∞ Admission de produits de conservation pour fleurs coupées
- ∞ Admission d'engrais à base de peaux d'animaux hydrolisées
- ∞ Dès maintenant, seuls les engrais foliaires et les oligo-éléments inscrits dans la liste des intrants sont autorisés.

Quelques produits ne sont plus inscrits dans la liste. Pour ces produits, le règlement suivant est valable: Les réserves de produits achetés l'année dernière et stockés chez le producteur peuvent être encore utilisés pendant l'année courante (voir annexe).

La présente version de la Liste des intrants a été approuvée par BIO SUISSE (Association suisse des organisations d'agriculture biologique), par Migros-Bio-Production et par l'organisme de certification bio.inspecta. Elle est contraignante pour les producteurs de BIO SUISSE et de Migros-Bio-Production.

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1 Produits phytosanitaires autorisés

La liste des produits phytosanitaires comprend les catégories suivantes: adjuvants, procédés biotechniques, fongicides, insecticides et acaricides, micro-organismes, inhibiteurs de germination, produits de protection des récoltes, ennemis naturels, traitements des semences, cicatrisants, produits de conservation pour fleurs coupées. À l'intérieur des catégories, les produits sont classés par ordre de la liste Allemande. La description de chaque produit comprend sa dénomination commerciale, les fournisseurs, la classe de toxicité, la matière active, et enfin les domaines d'utilisation autorisés (sauf remarques particulières, les petits fruits sont assimilés à l'arboriculture). Les adresses et les numéros de téléphone des fournisseurs se trouvent à la fin de la liste. Les conseils d'utilisation se trouvent dans les fiches techniques du FiBL et du SRVA. Cette Liste des intrants ne contient aucun produit phytosanitaire contenant une ou des matières actives transgéniques ou fabriquées par des OGM.

Les produits phytosanitaires inscrits dans cette liste peuvent être utilisés exclusivement dans les cultures désignées. La liste contient des produits phytosanitaires (devant être homologués par l'Office Fédéral de l'Agriculture), ainsi que des produits apparentés ne nécessitant toutefois pas d'homologation. Pour l'agriculture biologique, les produits suivants sont également autorisés:

- ∞ Pièges à phéromone (pour autant qu'ils soient autorisés par l'OFAG) et les pièges à colles pour le contrôle du vol d'insectes
- ∞ Filets de protection pour les cultures, clôtures contre escargots et produits similaires
- ∞ Extraits de plantes de fabrication maison et produits tels que décoctions, infusions et thés
- ∞ Colonies de bourdons pour la pollinisation
- ∞ Produits répulsifs contre le gibier, pour autant qu'ils ne soient ni au contact des plantes ni du sol.

Abréviations utilisées:

tp = toxique pour les poissons

ep = efficacité partielle

es = effets secondaires

hsr = homologation par l'OFAG sous réserve de modifications (si disponible, le produit peut être utilisé).

Adjuvants

Nom commercial	Firme	Cl. tox.	Mat. active/concentration	Domaines d'utilisation/remarques
Acides humiques				
Humin Vital WDG 70	Andermatt	libre	96 % acides humiques	<i>Fruits en gén.</i> : augmentation d'efficacité pour Madex, Capex
Pinolènes				
Heliosol	Omya	5	70 % pinolènes	<i>Vigne</i> : augmentation d'efficacité pour soufre mouillable
Nu-Film-17	Andermatt	libre	96 % pinolènes	<i>Fruits en gén.</i> : augmentation d'efficacité pour Madex, Capex, produits à base d'argile <i>Vigne</i> : augmentation d'efficacité pour produits à base d'argile

Méthodes biotechniques

Nom commercial	Firme	Cl. tox.	Mat. active/concentration	Domaines d'utilisation/remarques
Pièges à base d'alcool (alcool éthylique; glu)				
Rebell Piège à bostryche disparate	Andermatt	libre		<i>Fruits à noyau, fruits à pépins, petits fruits: diminue les attaques de bostryche disparate</i>
Pièges de couleur englués				
Piège à mouche de la cerise	Neogard	libre		<i>Fruits à noyau: diminue les attaques de mouche de la cerise</i>
Rebell Piège à mouches de la cerise	Andermatt	libre		
Glu pour pièges englués				
Tangle-Trap	Andermatt	libre		Glu pour pièges englués
Bandes-pièges (acides gras + résines naturelles)				
Anneau de colle	Andermatt, Neogard		100 % résines naturelles	<i>Fruits à pépins et à noyaux: cheimatobies</i>
Raupenleimring LG	Leu	libre	76 % acides gras, 20 % résines naturelles	
Répulsifs				
Poudre anti-fourmis	Andermatt	libre		<i>Jardinage amateur: fourmis</i>
Coop Oecoplan Biocontrol Ameisenstreupulver	Coop	libre		
Technique de confusion avec diffuseurs (phéromones)				
Bocep Viti	Andermatt	libre	hormones sexuelles	<i>Vigne: cochyilis (1^{ère} génération (ep), 2^{ème} génération)</i>
Bocep Viti 230	Andermatt	libre	hormones sexuelles	<i>Vigne: cochyilis</i>
Isomate-C Plus	Andermatt	libre	hormones sexuelles	<i>Fruits à pépins: carpocapse des pommes</i>
Isomate-CLR	Andermatt	libre	hormones sexuelles	<i>Fruits à pépins: carpocapse des pommes, tordeuses de la pelure</i>
Isomate-CTT	Andermatt	libre	hormones sexuelles	<i>Fruits à pépins: carpocapse des pommes</i>
Isomate-OFM Rosso	Andermatt	libre	hormones sexuelles	<i>Fruits à pépins: petite tordeuse des fruits</i> <i>Fruits à noyau: carpocapse des prunes</i>
RAK 1+2	Andermatt	libre	hormones sexuelles	<i>Vigne: eudémis, cochylys</i>
RAK 2	Andermatt	libre	hormones sexuelles	<i>Vigne: eudémis</i>

Fongicides

Nom commercial	Firme	Cl. tox.	Mat. active/concentration	Domaines d'utilisation/remarques
Huile de fenouil (<i>Oleum foeniculi</i>)				
Fenicur	Andermatt	libre	23 % huile de fenouil	<i>Petits fruits</i>: oïdium (ep), rouilles (ep) <i>Vigne</i>: oïdium (ep) <i>Cucurbitacées</i>: oïdium (ep) <i>Plantes d'ornement en gén.</i>: oïdium (ep), rouilles (ep) Délai d'attente: 3 semaines pour les petits fruits, 3 jours pour les cucurbitacées
Hydroxyde de cuivre *				
Kupferhydroxid 50 Hoko	Hoko	4, tp	50 % cuivre pur	<i>Fruits à pépins</i>: tavelure <i>Fruits à noyau</i>: maladie criblée, cloque du pêcher, chancre bactérien du cerisier, maladie des pochettes <i>Petits fruits</i>: dessèchement parasitaire des rameaux du framboisier, anthracnose du fraisier, anthracnose du groseillier <i>Vigne</i>: mildiou de la vigne, rougeot parasitaire (es) <i>Aubergines, tomates</i>: alternariose de la tomate, mildiou de la tomate, septoriose de la tomate, moucheture bactérienne (ep), flétrissement bactérien de la tomate (ep) <i>Carottes</i>: alternariose de la carotte <i>Céleris</i>: septoriose du céleri <i>Salsifis noir</i>: rouille blanche <i>Betterave rouge</i>: cercosporiose et ramularia (maladie des taches noires) de la betterave <i>Choux</i>: maladie des nervures noires (ep) <i>Haricots</i>: anthracnose (ep), graisse des haricots <i>Concombres</i>: taches anguleuses des feuilles (ep), oïdium du concombre (ep) <i>Pommes de terre</i>: mildiou de la pomme de terre <i>Plantes d'ornement en gén.</i>: anthracnoses, mildiou (<i>Peronospora</i>, <i>Albugo</i>, <i>Bremia</i>) <i>Rhododendrons</i>: maladie des bourgeons <i>Bégonias, pélargoniums (géraniums)</i>: bactérioses <i>Roses</i>: chancre <i>Laurier-cerise</i>: maladie criblée Quantité max. par année: voir ci-dessous Délai d'attente: pour fruits, légumes et pommes de terre 3 semaines, exception: aubergine et tomate 3 jours

Fongicides (suite)

Nom commercial	Firme	Cl. tox.	Mat. active/concentration	Domaines d'utilisation/remarques
Cupravit bleu	Bayer	4, tp	35 % cuivre pur	Domaines d'utilisation comme ci-dessus, sauf plantes d'ornement
Kocide DF	Bayer	4, tp	40 % cuivre pur	
Microperl	Andermatt, Burri	4, tp	40 % cuivre pur	
Champion flow	Méoc	4	24 % cuivre pur	Domaines d'utilisation comme ci-dessus, sauf plantes d'ornement et mildiou des fanes et des tubercules
Kocide 2000	Bayer	4	35 % cuivre pu	Domaines d'utilisation comme Kupferhydroxid 50 Hoko; sans plantes d'ornement; plus: <i>Vigne</i> : oïdium de la vigne (ep), pourriture grise (ep)
Bouillie bordelaise *				
Bouillie bordelaise Disperss	Landi/fenaco	4, tp	20 % cuivre pur	Voir hydroxyde de cuivre 50 Hoko, sauf plantes d'ornement Quantité max. par année: voir ci-dessous
Octanate de cuivre *				
Cueva	Andermatt, Neogard	libre, tp	10 % sels de cuivre (17.5 g/l)	<i>Pommes de terre</i> : mildiou des fanes et des tubercules(ep) Quantité max. par année: voir ci-dessous
Oxychlorure tétracuvrique *				
Cuprofix	Maag	4, tp	50 % cuivre pur	Comme pour Kupferhydroxid 50 Hoko
Cuivre 50	Intertoresa	4, tp	50 % cuivre pur	
Kupfer 50/Cuivre 50	Leu	4, tp	50 % cuivre pur	Quantité max. par année: voir ci-dessous
Kupfer 50/Cuivre 50 Hoko	Hoko	4, tp	50 % cuivre pur	
Cuivre 50 S	Schneider	4, tp	50 % cuivre pur	
Oxychlorure de cuivre	Méoc	4, tp	50 % cuivre pur	
Oxycuivre 50	Siegfried	4, tp	50 % cuivre pur	
Vitigran 50	Omya	4, tp	50 % cuivre pur	
Oxysulfate de cuivre *				
Cuproxat flüssig/liquide LG	Leu	4, tp	15 % cuivre pur (190 g/l)	Comme pour Kupferhydroxid 50 Hoko, sauf mildiou des fanes et des tubercules de la pomme de terre Quantité max. par année: voir ci-dessous

* Limitations des quantités pour les produits cupriques:

L'utilisation des produits de cuivre est limitée aux quantités suivantes de cuivre pur (en kg par hectare et par an): **fruits à pépins 1.5; fruits à noyau 4; petits fruits 2; légumes, pommes de terre et plantes d'ornement 4. Vigne 4** en moyenne sur 5 ans (depuis 2002), mais pas plus que 6 par an.*

Fongicides (suite)

Nom commercial	Firme	Cl. tox.	Mat. active/concentration	Domaines d'utilisation/remarques
Lécithine				
Bio-Blatt Mehлтаumittel	Andermatt	libre	50 % lécithine	<i>Vigne</i> : oïdium (ep)
Bio feuilles	Neogard			<i>Concombre</i> : oïdium (ep)
				<i>Plantes d'ornement</i> : oïdium (ep)
Savon végétal				
Biofa Cocana RF	Andermatt	libre	29.7 % savon mou	<i>Fruits à pépins</i> : maladies des taches de pluie
				Délai d'attente: 3 semaines
Soufre				
Elosal Supra	Omya	5S	80 % soufre	<i>Fruits à pépins</i> : tavelure (ep), oïdium
Microthiol Spécial Disperss	Landi/fenaco	5S	80 % soufre	<i>Fruits à noyau</i> : oïdium et tavelure noire du pêcher, maladie criblée
Soufre mouillable 80 Spécial	Intertoresa	5S	80 % soufre	<i>Petits fruits</i> : oïdium du fraisier
Netzschwefel LG	Leu	5S	80 % soufre	<i>Vigne</i> : oïdium
Soufre 80 S	Schneider	5S	80 % soufre	<i>Cucurbitacées</i> : oïdium
Solfo fluid	Burri	5S	52 % soufre	<i>Houblon</i> : oïdium
Solfovit WG	Bayer	5S	80 % soufre	<i>Plantes ornementales</i> : oïdium
Soufre mouillable	Méoc	5S	80 % soufre	<i>Laurier-cerise</i> : maladie criblée, fumagines
Sufralo	Siegfried	5S	80 % soufre	
Thiovit Jet	Syngenta	5S	80 % soufre	Délai d'attente: 3 semaines pour les fruits et la vigne, 3 jours pour les légumes
				Remarque: Tous les produits ne sont pas autorisés pour toutes les indications. Consultez l'étiquette des produits. Voir aussi «Insecticides et acaricides»
Soufre + huile de pin				
Heliosoufre S	Omya	5S	(700 g/l) soufre, (117 g/l) huile de pin	Voir soufre, mais pas pour plantes d'ornement ni houblon, et en plus pour l'oïdium du groseillier et la mélanose infectieuse de la vigne
Soufre pour poudrage				
Elosal Schwefel Stäubemittel	Omya	5S	99 % soufre	<i>Fruits à pépins</i> : oïdium
Florfluid	Méoc	5S	98 % soufre	<i>Vigne</i> : oïdium
Fluidosoufre	Landi/fenaco	5S	99 % soufre	<i>Cucurbitacées</i> : oïdium
				Délai d'attente: 3 semaines

Fongicides (suite)

Nom commercial	Firme	Cl. tox.	Mat. active/concentration	Domaines d'utilisation/remarques
Alumine (argile)				
Myco-Sin	Andermatt	libre	65 % argile sulfurée 0.2 % extrait de prêle	<i>Fruits à pépins</i> : tavelure (ep), oïdium (ep), feu bactérien (ep), flétrissement bactérien du poirier (ep) <i>Fruits à noyau</i> : maladie criblée <i>Vigne</i> : oïdium (ep), mildiou (ep), rougeot (ep) Remarque: à combiner avec 0.3 % soufre mouillable
Ulmasud B	Andermatt	libre	96.9 % poudre de roche (dont 24 % oxyde d'aluminium, 20 % oxyde de silice, 13 % soufre)	<i>Fruits à pépins</i> : tavelure, oïdium <i>Vigne</i> : oïdium, mildiou Remarque: à combiner avec 0.3 à 0.5 % soufre mouillable
Alumine (argile) + soufre				
Myco-San	Andermatt	libre	50 % argile sulfurée, 41 % soufre, 1 % extrait de prêle	<i>Fruits à pépins</i> : tavelure (ep), oïdium <i>Vigne</i> : oïdium (ep), mildiou (ep), rougeot (ep) Délai d'attente: 3 semaines pour les fruits à pépins

Insecticides et acaricides

Nom commercial	Firme	Cl. tox.	Mat. active/concentration	Domaines d'utilisation/remarques
Azadirachtine				
NeemAzal-T/S	Andermatt	5	Azadirachtine A (10 g/l)	<i>Fruits à pépins</i> : puceron cendré du pommier, puceron des galles rouges <i>Plantes d'ornement</i> : pucerons, thrips, acariens, mouches blanches Remarque: La dérive de ce produit provoque de graves brûlures aux feuilles de nombreuses variétés de poires.
Acides gras (savon mou)				
Natural	Andermatt	libre	50 % acides gras	<i>Fruits en gén.</i> : acariens, pucerons
Neudosan nouveau	Neogard	libre	50 % acides gras	<i>Légumes</i> : acariens, pucerons
Siva 50	Omya	libre	50 % acides gras	<i>Plantes d'ornement</i> : acariens, pucerons, mouches blanches Délai d'attente: fruits 3 semaines, légumes 7 jours
Coop Oecoplan Biocontrol Insectizid	Coop	libre	1 % acides gras	<i>Jardinage privé</i> : mêmes applica- tions comme Natural

Insecticides et acaricides (suite)

Nom commercial	Firme	Cl. tox.	Mat. active/concentration	Domaines d'utilisation/remarques
Huile minérale				
Huile blanche Omya	Omya	libre	99 % huile	<i>Fruits en gén.:</i> cochenilles, phytopte du poirier, lécanium du cornouiller, cheimatobies, acariens
Spray Oil 7-E	Leu	libre	99 % huile	
Sunspray 7-E	Blaser	libre	99 % huile	
Huile blanche S	Schneiter	libre	99 % huile	
Zofal D	Siegfried	libre	99 % huile	
Huile de paraffine				
Promanal nouveau	Andermatt, Neogard	libre	Huile de paraffine (546 g/l)	<i>Plantes d'ornement sous serre:</i> thrips des palmes, cochenilles, acariens
Pyréthrine + huile de sésame				
Parexan N	Omya	libre, tp	5 % pyréthrine, 20 % huile de sésame	<i>Fruits en gén. (hsr):</i> pucerons, tenthrèdes (larves), cheimatobies <i>Légumes en gén. (hsr):</i> pucerons, mouches blanches, doryphore, thrips, acariens, piéride du chou <i>Plantes d'ornement sous serre:</i> chenilles phytophages, pucerons, acariens, thrips, mouches blanches <i>Plantes d'ornement en gén.:</i> pucerons, acariens, thrips, mouches blanches
Pyrethrum FS	Andermatt	libre	8.0 % pyréthrine, 35.7 % huile de sésame	Comme Parexan N, sans doryphore et piéride du chou; plus chenilles sur plantes d'ornement
Extrait de quassia				
Quassan	Andermatt	libre	30 % extrait de quassia	<i>Fruits à pépins et à noyau:</i> hoplocampes, pucerons (ep) <i>Légumes en gén.:</i> pucerons <i>Plantes d'ornement en gén.:</i> pucerons Délai d'attente: légumes 7 jours
Huile de colza				
Genol Plant	Andermatt, Syngenta	libre	94.6 % huile	<i>Fruits en gén.:</i> lécanium du cornouiller, pucerons (ep), phytopte du poirier (ep), cheimatobies (ep), acarien rouge (ep) <i>Plantes d'ornement:</i> lécaniums, pucerons (ep), cheimatobies (ep), acariens (ep)
Telmion	Omya	libre	85 % huile	

Insecticides et acaricides (suite)

Nom commercial	Firme	Cl. tox.	Mat. active/concentration	Domaines d'utilisation/remarques
Roténone				
Sicid	Siegfried	5, tp	1.25 % roténone	<i>Fruits en gén.</i>: pucerons, psylles, cheimatobies, acariens <i>Légumes en gén.</i>: pucerons, acariens, thrips, mouches blanches <i>Plantes d'ornement en gén.</i>: pucerons, acariens, thrips, mouches blanches Délai d'attente: fruits 3 semaines, légumes 7 jours
Soufre				
Produits voir «Fongicides»				<i>Petits fruits</i>: acariens des mûres <i>Vigne</i>: ériniose et acariose
Spinosad (produit fermenté à base de micro-organismes du sol)				
Audienz	Omya	5	44.2 % Spinosad	<i>Choux</i>: piéride du chou, piéride de la rave, cécidomyie du chou, noctuelle du chou, teigne des crucifères, mouches blanches <i>Concombres, poivrons, tomates</i>: noctuelles, thrips, mouches blanches, mineuses <i>Plantes d'ornement en gén.</i>: lépidoptères, mineuses, chenilles de papillons, thrips, mouches blanches <i>Vigne</i>: agrotis, pyrale de la vigne, thrips (es), cochylis, eudémis

Micro-organismes

Nom commercial	Firme	Cl. tox.	Mat. active/concentration	Domaines d'utilisation/remarques
Ampelomyces quisqualis				
Aq10	Andermatt	libre	Ampelomyces quisqualis	<i>Vigne</i> : oïdium (ep)
Bacillus subtilis				
Biopro	Andermatt	libre	Bacillus subtilis	<i>Fruits à pépins</i> : feu bactérien (ep)
FZB24 WG	Bayer	libre	Bacillus subtilis	<i>Pomme de terre</i> : rhizoctone (ep), optimisation du triage (hsr)
Bacillus thuringiensis var. israeliensis				
Skeetal	Omya	libre	Bacillus thuringiensis var. israeliensis	<i>Plantes d'ornement sous abri</i> : sciarides
Solbac	Andermatt	libre	Bacillus thuringiensis var. israeliensis	<i>Plantes d'ornement en gén.</i> : sciarides
Solbac Tabs	Andermatt	libre		

Micro-organismes (suite)

Nom commercial	Firme	Cl. tox.	Mat. active/concentration	Domaines d'utilisation/remarques
Bacillus thuringiensis var. kurstaki				
Delfin	Syngenta	libre	Bacillus thuringiensis var. kurstaki	<i>Fruits en gén.</i> : cheimatobies, hyponomeutes <i>Vigne</i> : eudémis <i>Crucifères</i> : piéride du chou, teigne du chou, noctuelle du chou <i>Arbustes hors forêt</i> : hyponomeute, phalènes, bombyx Délai d'attente: vigne 3 semaines, légumes 7 jours
Baktur	Omya	libre	Bacillus thuringiensis var. kurstaki	Voir ci-dessus, sauf teigne du chou et arbustes
Bacillus thuringiensis var. tenebrionis				
Novodor	Andermatt, Leu	libre	Bacillus thuringiensis var. tenebrionis	<i>Pommes de terre, aubergines</i> : doryphore Délai d'attente: pomme de terre 3 semaine, aubergine en plein air 7 jours, aubergine sous serre 3 jours
Beauveria bassiana				
Naturalis-L	Andermatt	libre	Beauveria bassiana	<i>Plantes d'ornement sous abri en gén.</i> : mouches blanches
Beauveria brongniartii				
Beauveria-Schweizer	Schweizer	libre	Beauveria brongniartii	<i>Fruits en gén.</i> : hanneton
Beauveria	Andermatt	libre		<i>Grandes cultures en gén.</i> : hanneton
Coniothyrium minitans				
Contans	Omya	libre	Coniothyrium minitans	<i>Légumes en gén.</i> : Sclerotinia sp. <i>Tabac</i> : Sclerotinia sclerotiorum <i>Chrysanthème, gerbera</i> : Sclerotinia sp.
Koni WP	Andermatt		Coniothyrium minitans	<i>Légumes en gén.</i> : sclérotiniose
Virus de la granulose				
Capex 2	Andermatt	libre		<i>Fruits en gén.</i> : capua Délai d'attente: 3 semaines
Carpovirusine	Siegfried Méoc	libre		Voir ci-dessus; seulement pommes et poires
Granupom Neu	Omya	libre		<i>Fruits</i> : carpocapse
Madex 2	Andermatt	libre		Délai d'attente: 3 semaines
Madex 3	Andermatt	libre		

Traitements antigermes

Nom commercial	Firme	Cl. tox.	Mat. active/concentration	Domaines d'utilisation/remarques
Huile de cumin				
Talent	Omya	4	95 % D-Carvon	<i>Pommes de terre</i> : inhibition de la germination Remarque: efficace seulement dans des locaux fermés

Protection des stocks

Nom commercial	Firme	Cl. tox.	Mat. active/concentration	Domaines d'utilisation/remarques
Oxyde de silicium				
Silico-Sec	Andermatt	libre	96.5 % oxyde de silicium	<i>Céréales en gén.</i> : silvain dentelé des grains, cucurjide roux (<i>Cryptolestes</i> sp.), charançon du riz, psoques <i>Dépôts, moulins, bâtiments des silos</i> : voir ci-dessus

Ennemis naturels

Nom commercial	Firme	Cl. tox.	Mat. active/concentration	Domaines d'utilisation/remarques
Cécidomyies prédatrices, Aphidoletes aphidimyza				
Aphidoletes aphidimyza	Andermatt, Omya		Aphidoletes aphidimyza	<i>Aubergine, concombre, tomate, poivron sous serre</i> : pucerons (ep)
Aphi-Pack Aa	Welte			<i>Plantes d'ornement sous serre</i> : pucerons (ep)
Aphidend	Leu, Welte			Voir ci-dessus, mais sans les plantes d'ornement
Coccinelles, Adalia bipunctata				
Coccinelles Adalia	Andermatt		Adalia bipunctata	<i>Plantes d'ornement sous serre</i> : pucerons
Coccinelles, Cryptolaemus montrouzieri				
Cryptobug	Welte		Cryptolaemus montrouzieri	<i>Plantes d'ornement sous serre</i> : cochenilles farineuses
Cryptolaemus montrouzieri	Andermatt, Omya			
Cryptopack	Welte			
Nématodes, Heterorhabditis sp.				
Nématodes contre l'otiorrhynque	Andermatt		Heterorhabditis sp.	<i>Fruits à pépins en gén.</i> : otiorrhynque sillonné et noir
Larvanem	Welte			<i>Vignes jeunes</i> : voir ci-dessus
Nematop	Landi Reba			<i>Plantes d'ornement en gén.</i> : voir ci-dessus Remarque: Tous les produits ne sont pas autorisés pour toutes les indications.

Ennemis naturels (suite)

Nom commercial	Firme	Cl. tox.	Mat. active/concentration	Domaines d'utilisation/remarques
Nématodes, <i>Phasmarhabditis hermaphrodita</i>				
Bioslug nématodes anti-limaces	Andermatt		Phasmarhabditis hermaphrodita	<i>Fraises</i> : limaces agrestes <i>Légumes en gén.</i> : voir ci-dessus <i>Plantes d'ornement en gén.</i> : voir ci-dessus
Nématodes, <i>Steinernema carpocapsae</i>				
Carponem	Andermatt		Steinernema carpocapsae	<i>Fruits en gén.</i> : otiorrhynque sillonné et noir <i>Vignes jeunes</i> : voir ci-dessus <i>Légumes en gén.</i> : agrotis, courtilière <i>Plantes d'ornement en gén.</i> : otiorrhynque sillonné et noir, agrotis, courtilière
Nématodes, <i>Steinernema feltiae</i>				
Entonem	Welte		Steinernema feltiae	<i>Plantes d'ornement pérennes</i> : sciarides
Nemaplus	Landi Reba			
Traunem	Andermatt		Steinernema feltiae	<i>Plantes d'ornement pérennes, boutures</i> : sciarides
Acariens prédateurs, <i>Amblyseius cucumeris</i>				
Amblyseius cucumeris	Andermatt, Leu, Omya		Amblyseius cucumeris	<i>Aubergines, concombres, poivrons, tomates sous serre</i> : thrips de l'oignon, thrips de Californie <i>Plantes d'ornement sous serre</i> : thrips de l'oignon, thrips de Californie
Amblyseius cucumeris SR	Omya			
Ambly-Pack	Welte		Amblyseius cucumeris	<i>Concombres, tomates, cultures couvertes</i> : acariens, thrips <i>Plantes d'ornement cultures couvertes en gén.</i> : acariens, thrips
Acariens prédateurs, <i>Amblyseius cucumeris</i> & <i>Amblyseius barkeri</i>				
Thripex/Thripex-plus	Welte		Amblyseius cucumeris & Amblyseius barkeri	<i>Aubergines, concombres, poivrons, tomates sous serre</i> : voir ci-dessus <i>Plantes d'ornement sous serre en gén.</i> : thrips de l'oignon, thrips de Californie
Acariens prédateurs, <i>Hypoaspis aculeifer</i>				
Entomite	Leu		Hypoaspis aculeifer	<i>Légumes sous serre</i> : sciarides
Acariens prédateurs, <i>Hypoaspis miles</i>				
Hypoaspis	Andermatt, Omya		Hypoaspis miles	<i>Légumes sous serre</i> : sciarides (sans produit de Omya) <i>Plantes d'ornement sous serre</i> : sciarides

Ennemis naturels (suite)

Nom commercial	Firme	Cl. tox.	Mat. active/concentration	Domaines d'utilisation/remarques
Acariens prédateurs, Phytoseiulus persimilis				
Phytoseiulus persimilis	Andermatt, Leu		Phytoseiulus persimilis	<i>Légumes sous serre</i> : acarien jaune commun
Phytoseiulus persimilis Biopax	Omya			<i>Plantes d'ornement sous serre</i> : voir ci-dessus (sans le produit de Leu)
Phyto-Pack	Welte			
Spidex/Spidex-Plus	Welte			
Punaises prédatrices, Macrolophus caliginosus				
Macrolophus	Andermatt, Welte		Macrolophus caliginosus	<i>Légumes sous serre</i> : mouches blanches, pucerons (es), acariens (es)
Mirical	Leu, Welte			<i>Plantes d'ornement</i> : voir ci-dessus (sans le produit de Leu)
				Remarque: Tous les produits ne sont pas autorisés pour toutes les indications. Consultez l'étiquette des produits.
Punaises prédatrices, Orius insidiosus				
Orius insidiosus	Andermatt, Omya		Orius insidiosus	<i>Poivron sous serre</i> : thrips de l'oignon, thrips de Californie
				<i>Plantes d'ornement sous serre</i> : thrips de l'oignon, thrips de Californie
Punaises prédatrices, Orius laevigatus				
Orius laevigatus Biopax	Omya		Orius laevigatus	<i>Légumes sous serre</i> : thrips de l'oignon, thrips de Californie (Orius laevigatus Biopax homologué seulement pour poivrons)
Thripor L	Leu			<i>Plantes d'ornement sous serre</i> : thrips de l'oignon, thrips de Californie
Punaises prédatrices, Orius majusculus				
Orius majusculus	Andermatt		Orius majusculus	<i>Poivron sous serre</i> : thrips de l'oignon, thrips de Californie
				<i>Plantes d'ornement sous serre</i> : voir ci-dessus, aussi contre acarien jaune commun
Ori-Pack	Welte			Voir ci-dessus; sans les plantes d'ornement
Thripor	Leu, Welte			
Hyménoptères parasites, Aphelinus abdominalis				
Aphelinus abdominalis	Andermatt, Omya		Aphelinus abdominalis	<i>Légumes sous serre</i> : puceron vert du pêcher, puceron de la pomme de terre
Aphi-Pack A abd	Welte			<i>Plantes d'ornement sous serre</i> : voir ci-dessus

Ennemis naturels (suite)

Nom commercial	Firme	Cl. tox.	Mat. active/concentration	Domaines d'utilisation/remarques
Hyménoptères parasites, <i>Aphidius colemani</i>				
Aphidius colemani	Andermatt, Omya		Aphidius colemani	<i>Légumes sous serre</i> : puceron vert du pêcher, puceron du melon
Aphipar	Leu, Welte			<i>Plantes d'ornement sous serre</i> : voir ci-dessus
Aphi-Pack Am	Welte			
Hyménoptères parasites, <i>Aphidius ervi</i>				
Aphidius ervi	Andermatt, Leu		Aphidius ervi	<i>Légumes sous serre</i> : puceron à taches vertes de la pomme de terre, puceron à strie verte de la pomme de terre
				<i>Plantes d'ornement sous serre</i> : voir ci-dessus, sans les produits de Leu
Hyménoptères parasites, <i>Dacnusa sibirica</i>				
Dacnusa sibirica	Omya		Dacnusa sibirica	<i>Légumes sous serre</i> : mineuses
				<i>Plantes d'ornement sous serre</i> : voir ci-dessus
Hyménoptères parasites, <i>Diglyphus isaea</i>				
Diglyphus isaea	Andermatt, Leu, Omya		Diglyphus isaea	<i>Légumes sous serre</i> : mineuses
Miglyphus	Welte			<i>Plantes d'ornement sous serre</i> : voir ci-dessus
Hyménoptères parasites, <i>Diglyphus isaea</i>/<i>Dacnusa sibirica</i>				
Dacnusa/Diglyphus	Omya		10 % Diglyphus isaea, 90 % Dacnusa sibirica	<i>Légumes sous serre</i> : mineuses
Dacnusa sibirica/Diglyphus isaea (mélange)	Andermatt			<i>Plantes d'ornement sous serre</i> : voir ci-dessus
Minex	Leu, Welte			
Minierpack	Welte			
Hyménoptères parasites, <i>Encarsia formosa</i>				
Encarsia formosa	Andermatt, Leu, Omya		Encarsia formosa	<i>Légumes sous serre</i> : mouches blanches
En-Pack	Welte			<i>Plantes d'ornement sous serre</i> : voir ci-dessus, sans le produit de Leu
En-Strip	Welte			
Hyménoptères parasites, <i>Leptomastidea abnormis</i>				
Leptomastidea abnormis	Andermatt		Leptomastidea abnormis	<i>Plantes d'ornement sous serre</i> : cochenille farineuse de l'orange
Hyménoptères parasites, <i>Leptomastix dactylopii</i>				
Leptomastix dactylopii	Andermatt		Leptomastix dactylopii	<i>Plantes d'ornement sous serre</i> : cochenille farineuse de l'orange
Hyménoptères parasites, <i>Metaphycus helvolus</i>				
Metaphycus helvolus	Andermatt		Metaphycus helvolus	<i>Plantes d'ornement</i> : cochenille du cafetier
Hyménoptères parasites, <i>Microterys flavus</i>				
Microterys flavus	Andermatt		Microterys flavus	<i>Plantes d'ornement</i> : lécaniums

Ennemis naturels (suite)

Nom commercial	Firme	Cl. tox.	Mat. active/concentration	Domaines d'utilisation/remarques
Hyménoptères parasites, <i>Pseudaphycus maculipennis</i>				
<i>Pseudaphycus maculipennis</i>	Andermatt		<i>Pseudaphycus maculipennis</i>	<i>Plantes d'ornement (serres tropicales publiques): coccidae</i>
Hyménoptères parasites, <i>Trichogramma brassicae</i> Bezdenko				
Trichobox	Landi Reba		<i>Trichogramma brassicae</i>	<i>Maïs: pyrale du maïs</i>
Trichocap-Kapseln zum Werfen	Landi Reba			
Tricho-Fix	Andermatt			
Trichogrammes (TrichoCarte)	Omya			
Trichosafe	Andermatt			
Trichosafe TS	Andermatt			

Traitements des semences

Nom commercial	Firme	Cl. tox.	Mat. active/concentration	Domaines d'utilisation/remarques
Farine de moutarde				
Tillecur	Andermatt	5	84.8 % farine de moutarde	<i>Blé: carie du blé</i>

Produits pour la cicatrisation des plaies arboricoles

Nom commercial	Firme	Cl. tox.	Mat. active/concentration	Domaines d'utilisation/remarques
Mastics arboricoles (solide ou liquide)				
Arbal	Andermatt	libre		<i>Arbres fruitiers en gén. : protection des plaies</i>
Mastic de greffage Galopp	Bitex	libre		<i>Arbres fruitiers en gén. : pour greffage, protection des plaies</i>
Mastic de greffage Gaschell	Radix	libre		
Lac Balsam	Scheidler	libre		
Acide silicique, minéraux argileux, agent adhésif				
Stammanstrich	Andermatt	libre		<i>Fruits à pépins et fruits à noyau: réduction de risque de dégâts dus au gel</i> <i>Plantes d'ornement: voir ci-dessus</i>

Agents conservateur pour fleurs coupées

Nom commercial	Firme	Cl. tox.	Mat. active/concentration	Domaines d'utilisation/remarques
Alumine (argile)				
Chrysal RVB	Floristen	libre		Conservation de fleurs coupées après la récolte et pendant le transport
Alumine (argile), glucose				
Chrysal R01	Floristen	libre		Conservation de fleurs coupées dans le vase

2 Engrais et substrats du commerce autorisés

La liste des engrais et substrats du commerce comprend les catégories suivantes de produits: engrais riches en azote (N), engrais riches en phosphore (P), engrais riches en potasse (K), engrais complexes, engrais liquides, amendements calcaires, autres amendements, poudres de roches, produits à base de micro-organismes, produits à base d'algues, mulchs de couverture, compléments, stimulateurs des défenses naturelles des plantes, engrais foliaires et oligo-éléments, substrats du commerce. Les feuilles de mulch ne sont pas mentionnées dans la liste des intrants. Les produits sont classés par ordre de la liste allemande.

Les produits admis sont conformes aux directives de l'agriculture biologique, mais aucune preuve d'efficacité n'a été posée comme condition préalable à leur admission (p. ex. pour les amendements, les compléments et les stimulateurs des défenses naturelles des plantes). L'admission d'un produit dans cette liste ne représente donc pas une recommandation d'utilisation. Le nom commercial, le fournisseur, la composition, les teneurs et des remarques sont indiqués pour chaque produit. Les adresses et les numéros de téléphone des fournisseurs se trouvent à la fin de la liste. La classification des types d'engrais ne correspond pas avec la classification de l'ordonnance fédérale des engrais et du livre des engrais.

Les aliments du bétail comme les protéines de pommes de terre ou les tourteaux sont autorisés comme engrais pour autant qu'ils répondent aux directives de BIO SUISSE art. 3.1.7-3.1.9. Leur utilisation doit être limitée au minimum.

Un masque de protection contre les poussières est à porter lors de l'épandage d'engrais poussiéreux.

Abréviations et symboles utilisés:

dist. pr.	distributeurs privés		
Ca	calcium	MO	matière organique
H ₂ O	eau	P ₂ O ₅	phosphate
K ₂ O	oxyde de potasse	SiO ₂	oxyde de silicium
Mg	magnésium		
mS	millisiemens	*)	provisoirement autorisé
N	azote	•	produits sous licence BIO SUISSE

Engrais riches en azote (N)

Nom commercial	Firme	Composition	MO %	N %	P ₂ O ₅ %	K ₂ O %	Ca %	Mg %	Disponibilité
Azocor 8 *)	Méoc	Fumier séché, poudre de corne, déchets de laine	60	9	1	0.5	1	0.5	
◦ Azor Bio-Stickstoffdünger	Hauert	Malt, protéine de maïs	75	8					
Bio 9-1-0.5 *)	Agribort Riddes	Déchets de laine, fientes de volailles, fumier de poule, poudre de plumes	66	9	1	0.5			
◦ Biorga Engrais azoté granulé	Hauert	Compost/marc de raisin, poudre de corne, malt, poudre de plume, vinasse	80	10-11		1			
◦ Biorga Engrais azoté pelletisé	Hauert	Compost/marc de raisin, poudre de corne, malt, poudre de plume, vinasse	80	10-11		1			
◦ Biorga Engrais azoté poudre	Hauert	Compost/marc de raisin, poudre de corne, malt, poudre de plume, vinasse	80	10-11		1			
Haarmehl Pellets 4 mm	Landor	Soie de porcs		13	1.4	0.2			
◦ Hornmehl	Hauert	Poudre de corne	80	14					Moyenne (2-3 mois)
Hornspäne	Renovita	Râclures de corne	85	14					Lente (6-8 mois)
◦ Râclures de corne fine	Hauert	Râclures de corne	85	14					Lente (3-6 mois)
◦ Râclures de corne moyennes	Hauert	Râclures de corne	85	14					Lente (5-8 mois)
Hornspäne SI fein 1-4 mm	Landor	Copeaux de corne		14					
Hornspäne SII fein 4-7 mm	Landor	Copeaux de corne		14					
Humosan-Horngrüss/Hornspäne	Humosan	Semouls et copeaux de corne	85	14					Moyenne à lente

Engrais riches en phosphore (P)

Nom commercial	Firme	Composition	MO %	N %	P ₂ O ₅ %	K ₂ O %	Ca %	Mg %	Remarques
Agri P15	Agribort Fully	Phosphate brut, lithotamne			15		36		
ASP 60	Feuerstein	Scories Thomas			6		32	2.4	
Biophos	Agroline	Phosphate brut			33		39		
Dolophos	Reichmuth	Phosphate brut, chaux de magnésium			15		29	4	
Granuphos 18	Landor	Phosphate brut, dolomie			18		22	4.8	
Litho Physalg 18	Timac	Phosphate naturel tendre, dolomie, lithotamne			18		31	1.8	
Maxiflor P7	Landor	Phosphate brut, chaux de magnésium			7		22	2.9	

Engrais riches en potasse (K)

Autres sources de K: voir sous «Poudres de roches»

Nom commercial	Firme	Composition	MO %	N %	P ₂ O ₅ %	K ₂ O %	Ca %	Mg %	Remarques
Hapa Kali (sulfate de potasse)	Hauert	Sulfate de potassium				50			Seulement si carence potassique prouvée (analyses de sol)
Magnesia Kaïnite (Patentkali)	Landor	Sulfates de potassium et de magnésium				30		6	Idem
Patentkali	Hauert	Sulfates de potassium et de magnésium				30		6	Idem
Kalin	Hauert	Sulfate de potassium				50			Idem
Sulfate de potassium 50 %	Landor, Kali	Sulfate de potassium				50			Idem
Kaïnite magnésienne	Kali	Sel brut de potasse (kaïnite)				11		3	Idem
Patentkali (Potasse magnésienne)	Kali	Sulfates de potassium et de magnésium				30		6	Idem
Solupotasse	Kali, Landor	Sulfate de potassium				50			Idem

Engrais complexes

Nom commercial	Firme	Composition	MO %	N %	P ₂ O ₅ %	K ₂ O %	Ca %	Mg %	Remarques
Agrifum *)	Landi/fenaco	Fumier de bovin, compost de déchets verts	70	2.2	2	2.2		1	
Agro Biosol	Isely	Biomasse de champignons	80	5	0.5	0.5			
Angibio 6	Agribort Fully	Déchets de poissons compostés	55	7	2			2	
• Biorga Engrais complet	Hauert	Compost/marc de raisin, malt, vinasse, poudre d'argile, vinasse potassique	60	4	1	5		0.7	
Biorga Engrais gazon	Hauert	Protéines de pomme de terre, malt, vinasse	60	6	1	4		0.7	
• Biorga végétal	Hauert	Malt	70	5	1	5			
Biovin	Enpro	Marc de raisin	65	2	0.7	2.5	1	0.3	
Collit-Standard *)	Omya	Fumier de poule (granulé)		5	2	2			
Foodgreen	Agrano	Levure	85	7.2	1.5	1.6	1.5		
Fumor vert *)	Bachmann	Fumier de poule	65	2.7	2.7	2.7		0.4	
Gallina Swiss *)	Jud	Fumier de poule	65	3	3	3		0.4	
Gallitos *)	Bernasconi	Malt, fumier de poule, protéine de pommes de terre	65	4.5	2	3		0.5	
Guanumus	Agribort Fully	Déchets de poisson compostés	45	3	0.9	2		4	
Herbäguano	Agribort Fully	Déchets de poissons compostés, poudre de plumes, phosphate brut, vinasse, dolomie	33	3	3	15		3	
Hexabio	Landor	Biomasse de champignons fermentée		6	2	2	18	0.6	
Fumier de poules pelletisé *)	Hauert	Fumier de poule	65	3	3	1.5			
Humixa-B	Farmtech	Vermicompost, enzymes		3.5					

Engrais complexes (suite)

Nom commercial	Firme	Composition	MO %	N %	P ₂ O ₅ %	K ₂ O %	Ca %	Mg %	Remarques
Humotin *)	Hauert	Malt, vinasse, fumier de poule	60-70	4	2-2.5	3-3.5			En pellets
Italpollina *)	Reichmuth	Fumier de poule	70	4	4	3		0.5	
Fumier composté *)	Hauert	Fumier de bovins (stabilisation libre), compost de jardin	25-30	0.8-1	0.6-0.8	0.8-1			
Fumier de bovin pelletisé *)	Hauert	Fumier de bovins	65	1.7	1	2			
Fumier bovin *)	Méoc	Fumier de bovins composté	65	3	3	4			
Maltaflor	Landor	Malt		5	1	5			
Fumier de bovin naturel *)	Optisol	Fumier de bovins, dolomie, marc de raisin	60	1.5	0.8	1.2		2.4	
Ökohum Bio-Langzeitdünger	Ökohum	Biomasse fongique, potasse de vinasse, phosphate brut, poudre d'argile		7	4	7			
Optisol Universel *)	Optisol	Fumier de poule	65	3	3	3		0.4	
o Nourriture organique pour plantes Belflor Bio	Bachmann	Compost, corne, malt, produits à base d'algues	25-35	3	3	3			
Oscorna Floracorn	Humosan	Tourteau de ricin, colza, soja, drèches	90	5.5	4.6	1.4			
Phytoperls	Landor	Protéine de maïs		7.5	5.5	1			
o Reinor *)	Hauert	Malt, vinasse, fumier de poule, protéines de pomme de terre	60	5	1.5	4		0.7	
Rizinusschrot	Humosan	Tourteau de ricin	75-80	5	2	1.5			
o Rizinusschrot	Thurella	Tourteau de ricin	75	6	2	1			
Tourteau de ricin	Landor	Tourteau de ricin	75	5	2	1			
Tourteau de ricin	Méoc	Tourteau de ricin	75	6	2	1			
Valorga *)	Agribort Fully	Fumier de bovins, écorces de résineux (compostées)	43	0.6	0.3	1.2	0.9	0.3	
Vivasol *)	Landor, Vivasol	Fumier de poule séché, en pellets	85	4.6	3.3	2.5	3.5	0.6	

Engrais complexes (avec Patentkali et/ou sulfate de potassium)

Nom commercial	Firme	Composition	MO %	N %	P ₂ O ₅ %	K ₂ O %	Ca %	Mg %	Remarques
Agri PK 0.8.20	Agribort Fully	Phosphate brut, chaux d'algues marines			8	20	17		
Biosol	Isely	Biomasse de champignons, Patentkali	70	5	0.5	1			
Oenuutri	Isely	Biomasse de champignons, Patentkali	70	5	0.5	1			
Optisol K+ *)	Optisol	Fumier de poule, sulfate de potassium	60	1.5	2	10		0.3	
Organos *)	Hauert	Maltaflor, poudre de corne, phosphate brut, fumier de poule, Patentkali	60	9	3	6		1	

Engrais liquides

Lors de l'utilisation d'engrais liquides, il faut faire attention à ce qu'ils n'atteignent pas des produits mûrs.

Nom commercial	Firme	Composition	MO %	N %	P ₂ O ₅ %	K ₂ O %	Ca %	Mg %	Remarques
Bioalgi Vegetali	Bioline	Vinasse, extraits d'algues		2.2		8			
Biocorrettore Vegetale	Bioline	Vinasse, extraits de tourbe		2.2		9			
Biodite Vegetale	Bioline	Vinasse, extraits de tourbe		2.2		9			
Bioequi Vegetale	Bioline	Vinasse, extraits de prêle et de thym		2.2		4			
Bioorti Vegetale	Bioline	Vinasse, extraits d'ortie, d'absinthe et de fougère		1.9		13.2			
Biopropol Vegetale	Bioline	Vinasse, propolis, extrait de thym		2.1		7.6			
• Biorga N liquide	Hauert	Vinasse riche en N		7					
Biorga NK liquide	Hauert	Vinasse riche en K		2.5		7			
Biovin (liquide)	Enpro	Pépins de raisin	65	2.7	2.7	2.7		0.4	
Delfan	Optisol	Peaux d'animaux hydrolysées	20	10					
Humixa-R	Farmtech	Vermicompost, enzymes		3.5					liquide
Liquazor	Landor	Protein hydrolysé		9					
Presswasser aus Kompogasanlage	Kompogas	Fraction liquide du compost en fermentation	6	0.4	0.2	0.5	0.5	0.1	en % sur la matière fraîche
Trapper	Omya	Peaux d'animaux hydrolysées		14					pour utilisation liquide
Trapper flüssig	Omya	Peaux d'animaux hydrolysées		9					
Engrais Universel Or Brun	Andermatt	Arêtes de poisson, levures de pommes de terre, vinasse, lithotamine	38	3	1	4.5	1	3	
• Vegeşan bio	Hauert	Vinasses		3.3		2.5			
Vinasse	Landor	Vinasse		5	0.3	6			

Amendements calcaires

Voir aussi rubriques «Engrais riches en phosphore (P)», «Produits à base d'algues» et «Poudres de roches».

Nom commercial	Firme	Composition	MO %	N %	P ₂ O ₅ %	K ₂ O %	Ca %	Mg %	Remarques
Agro-Düngkalk	Landi/fenaco	Carbonate de calcium					38	0.6	
Calcisol/Calcosol	Feuerstein	Carbonate de calcium					38		
Calcodol 10	Feuerstein	Carbonate de calcium, dolomie					28	6	
Chaux à semer I	Holcim	Carbonate de calcium					39	0.1	
Chaux à semer III	Holcim	Carbonate de calcium					30	0.1	
Dolokorn	Reichmuth	Dolomie					26	8	
Dolomit	Agroline	Dolomie					22	13	
Dolosul	Reichmuth	Dolomie, gypse					22	4.8	5 7 %
Hasler Düngkalk	Landor	Carbonate de calcium					37	1.5	
Kalk-Steinmehl	Ulrich	Carbonate de calcium					20-25		
Kohlensaurer Kalk	Reichmuth	Carbonate de calcium					38	1.5	
Magnesiumkalk Dolomit	Landor	Dolomie					21	11	

Amendements calcaires (suite)

Voir aussi rubriques «Engrais riches en phosphore (P)», «Produits à base d'algues» et «Poudres de roches».

Nom commercial	Firme	Composition	MO %	N %	P ₂ O ₅ %	K ₂ O %	Ca %	Mg %	Remarques
Naturein Chaux de magnésium	Flora Geissler	Dolomie					22	12	
Naturein Engrais pour gazon	Flora Geissler	Dolomie, basalte, poudre d'argile, résidus aqueux de pommes de terre, bactéries	7.5	0.3	0.2	0.3	16	8	
Ovo Grit 12	Holcim	Carbonate de calcium					39	0.1	
o Chaux d'Aarberg	Ricoter	Carbonate de calcium issu de la fabrication du sucre	10		1		22	0.6	
Vitalsel A.M.C.	Hedel	Lithotamne, argile, sel marin					30	2.1	Na 3.6 %

Autres amendements

Nom commercial	Firme	Composition	MO %	N %	P ₂ O ₅ %	K ₂ O %	Ca %	Mg %	Remarques
Belflor Compost de Jardin	Bachmann	Déchets végétaux compostés	37	1.3	0.7	0.9	5	0.8	Distance de transport max.: 80 km à partir du lieu de fabrication
Belflor Compost d'écorces	Bachmann	Compost d'écorces, lithotamne, poudre de roche							Complément pour substrats
Bihutherm (en vrac et en pellets)	Renovita	Paille hachée	75	0.5	0.4	2	0.6		
Biodenit	Rolusa	Pulpes (cossettes) de betteraves, bouillons de paille de luzerne, kenaf, déchets de céréales, micro-organismes		1.5	0.4	1.6		0.3	Amendement, succédané de tourbe
Biohumus	Pareno	Sciure de bois, poudre de roche, xylite, drèches, vinasse	55	0.3	1.1	0.2			
Biplantol agrar	Plantosan	Lave granulée, Opticulite, Biplantol, semoule de corne, farine de paille d'avoine, poudre de roche							Amendement pour l'agriculture
Biplantol terra	Plantosan	Lave granulée, Opticulite, Biplantol, semoule de corne, farine de paille d'avoine, poudre de roche							Amendement pour l'horticulture
Casibac CP10	Casanova	Zéolithe, micro-organismes							
Champi-Hum	Kuhn	Fumier de champignonnière	58	0.5	0.7	1	3	0.6	Distance de transport max.: 80 km à partir du lieu de fabrication
o Compost Elite	Germanier	Compost de gazon et de déchets verts	36	1.5	0.7	1.2	6.2	0.5	Distance de transport max.: 80 km à partir du lieu de fabrication
o Compost Junior	Germanier	Compost de gazon et de déchets verts							Distance de transport max.: 80 km à partir du lieu de fabrication
o Dünge-Kompost	Weiherhus	Déchets verts, roseau de Chine	60	0.5	0.8	1.2			Distance de transport max.: 80 km à partir du lieu de fabrication
E-2001	Andermatt	Sirope de feuilles d'érable, mélasse, levure, micro-organismes							
Soufre élémentaire	Schweizerhall								5.99 %; seulement si carence prouvée

Autres amendements (suite)

Nom commercial	Firme	Composition	MO %	N %	P ₂ O ₅ %	K ₂ O %	Ca %	Mg %	Remarques
Frischkompost	Kym	Déchets végétaux et verts	22	1	0.4	0.7	2.7	0.3	Distance de transport max.: 80 km à partir du lieu de fabrication
• Frischkompost	Weierherus	Déchets verts, fumier de cheval		1.8	0.7	0.7			Distance de transport max.: 80 km à partir du lieu de fabrication
Fumor bleu *)	Bachmann	Fumier de champignonnière, marc de raisin, fumier de bovins, marc de café	47	1.3	0.7	1.3		0.3	
Gärgut aus Kompogasanlage	Kompogas	Digestat d'installation de méthanisation	30-50	0.6	0.2	0.5	3.5	0.4	% de la matière fraîche; distance de transport max.: 80 km à partir du lieu de fabrication
Terre pour jardin	Ricoter	Terre végétale, compost de déchets de jardin	16	1	0.6	1.1			Distance de transport max.: 80 km à partir du lieu de fabrication
• Compost de jardin Bio-Line	Ricoter	Déchets verts	40	1.3	0.2	1.5	3.3	0.6	Distance de transport max.: 80 km à partir du lieu de fabrication
Geolife	Bioma	Poudre de lait, extraits de plantes, vitamines, micro-organismes, poudre de roche, vinasse							Diverses dénominations complémentaires pour les différents domaines d'utilisation
Terre de champignons Gerber	Gerber	Fumier de cheval, fumier de poule, tourbe, gypse	20	0.6	0.5	0.8	0.6	0.2	
Humaform (10 mm)	Coulette	Compost de déchets verts et de déchets de jardin	40	1.3	6	10	65	7	Distance de transport max.: 80 km à partir du lieu de fabrication
Humosan Bodenaktivator	Humosan	Tourteau de ricin et de colza, poudre de roche, bentonite, lithotamne, m élasse	45	2	1	0.5			
• Knospen Kompost	StGBS	Déchets verts, Enzymix, poudre de roche, poudre de corne							Distance de transport max.: 80 km à partir du lieu de fabrication
• Terre de compost	Komposta	Argile, bois, déchets verts, roseau, raclures de corne, plumes	40						Distance de transport max.: 80 km à partir du lieu de fabrication
• Terreau de compost	Vollenweider	Compost, terre végétale	40	1.5	1.8	1.2	6	0.5	Distance de transport max.: 80 km à partir du lieu de fabrication
Mator	Méoc	Tourteau de pépins de raisins (en pellets)	75	0.5	0.5	0.5		0.2	
Naturrein Améliorant du sol granulé	Flora Geissler	Dolomie, basalte, poudre d'argile, dextrine, bactéries	3.5			1.7	10	10	
Optisol Organo *)	Optisol	Marc de raisin, marc de café, écorces de sapin, fumier de poule	80	1.2	0.7	1.2			
PRP Minéral Sol	PRP	Lithotamne, sel marin, oligo-éléments, lignosulfonates					24	1.5	
Terreau de gazon	Vollenweider	Compost, sable	25	0.8	0.9	0.6	3	0.3	Entretien du gazon

Autres amendements (suite)

Nom commercial	Firme	Composition	MO %	N %	P ₂ O ₅ %	K ₂ O %	Ca %	Mg %	Remarques
Reifekompost	Kym	Déchets verts et déchets de légumes	48	0.9	0.3	0.7	2.3	0.2	Distance de transport max.: 80 km à partir du lieu de fabrication
◦ Reifekompost	Weierhus	Déchets verts		1.8	0.7	2			Distance de transport max.: 80 km à partir du lieu de fabrication
Sferosol	Schweizerhall	Soufre, bentonite							S env. 87 %, seulement en cas de besoin avéré
Soil Tonic	Ledona	Sulfate de potassium, extrait végétal aqueux, oligo-éléments				2.1			
Terraform (25 mm)	Coulette	Compost de déchets verts et de déchets de jardin	40	1.3	0.6	1	6.5	0.7	Distance de transport max.: 80 km à partir du lieu de fabrication
TMS-B Amendement minéral	TMCE	Lithotamne, dolomie, kiesérite, lignosulfonates	15				20	6.7	S 4 %
◦ Belflor Bio succédané de tourbe	Bachmann	Compost, bois, corne, malt, phosphate brut							Amendement, complément pour substrat, succédané de tourbe
◦ Succédané de tourbe Bio-Line	Ricoter	Compost, bois haché, vinasse	94	0.5	0.1	0.1	0.5	0.1	Ameublissement (aération) du sol, composant pour terreaux, mulch de couverture
Vegethumus *)	Méoc	Fumier de mouton, marc de café	61	2	0.5	1		1.5	
Vermi	Andermatt	Vermicompost	17	0.7	0.5	0.6			
Wauwiler Champignon-Kompost	Gassmann	Fumier de cheval, fumier de poule, gypse, soja	28	0.9	0.7	1.4		0.3	

Poudres de roches

Nom commercial	Firme	Composition	SiO ₂ %	N %	P ₂ O ₅ %	K ₂ O %	Ca %	Mg %	Remarques
Biolit	Landor	Poudre de roche de Diabas	50		0.4	2.2	1.2	2.4	
Clinosoil	Eco	Silicate d'aluminium	64			1.2	3.5	0.7	
Edasil G	Renovita	Poudre de bentonite	56			2	3	2.5	
Europert	Schweizerhall	Perlite				5			
Fitoclin	Eco	Microsilite	64			1.2	3.5	0.7	
Poudre de roche Hersbrucker	Reichmuth	Poudre de roche	28		0.2	2.5	12	4	
Klinofeed	Unipoint	Zéolithe, clinoptilolithe, minéraux argileux, feldspath	70			2.8	2.5	0.6	
Napf-Steinmehl	Ulrich	Poudre de roche du Napf	58				12	0.3	
Poudre de roche du Napf	Andermatt	Poudre de roche du Napf	58				12	0.3	
Perlit	Bernasconi	Roche volcanique	75			2.5	0.9	0.4	
Pflanze 2000	Holistic	Poudre de roche de Diabas	50		0.4	2.2	1.7	4	
Ringolit	Reichmuth	Poudre de roche de Diabas	42		0.3	0.7	7	4	
• Poudre de roche avec magnésium	Bernasconi	Poudre de roche	20				5	19	
• Poudre de roche riche en silicium	Bernasconi	Poudre de roche	58				8	1.2	
Poudre de roche riche en silice	Landor	Poudre de roche	58				8	1.2	
• Biorga poudre de roche cristalline	Hauert	Poudre de roche du Gotthard	56			2.9		2.4	
Vulkamin	Landor, Rem	Poudre de roche volcanique	48			5.1	5.7	0.6	

Produits à base de micro-organismes

Nom commercial	Firme	Composition	MO %	N %	P ₂ O ₅ %	K ₂ O %	Ca %	Mg %	Remarques
Biofitac PF1	Biophyt	Pseudomonas fluorescens							
EM1	Bionova	Bactéries, levures, champignons							
MBI 600	Andermatt	Bazillus subtilis							
Polyversum	Andermatt	Pythium oligandrum							
Tri 002/003	Andermatt	Montmorillonite, sable, micro-organismes (Trichoderma harzianum)	2						
Tri-Ton	Triton	Argile expansée, cultures mycorrhysiennes							
Vaminoa	Andermatt	VA-Mykorrhiza							

Produits à base d'algues

Nom commercial	Firme	Composition	MO %	N %	P ₂ O ₅ %	K ₂ O %	Ca %	Mg %	Remarques
Agricol	Renovita	Algues marines							
Algada	Künzle	Algues marines	50	1.5	3	20	0.1	0.3	
Algamer compact	Agribort Fully	Algues marines					32	1.8	
Algamer poudre	Agribort Fully	Algues marines					32	1.8	
Algan	Omya	Extrait d'algues brunes		1		4.2	1.5		
Algifol	Andermatt	Algues marines							
Algobrun No 1	Landor	Algues brunes		0.2	0.3	1.3	0.6	0.1	
Algobrun No 2	Landor	Algues brunes		0.7		2.5	0.9	0.2	
◦ Biorga Chaux d'algues marines granulé	Hauert	Algues marines					30	2.8	
Coralite KR+	Wytor	Algues marines					1.1	1.2	
Glenactin 290B	Landor	Lithotamne, algues brunes					28	2.5	
Goemar GA 14	Siegfried	Extrait d'algues brunes							
Granukal	Omya, Renovita	Carbonates de calcium et de magnésium provenant de dépôts d'algues					32	1.5	
Granulit KR+	Wytor	Algues marines					30	3	
Hasolit Kombi granuliert	Landor	Lithotamne, dolomie					35	3.8	Granulé
Litho KR+	Wytor	Algues marines					30	3	
Lithomagnesium	Timac	Lithotamne, dolomie					25	6.6	
Lithothamne Granulit	Wytor	Algues marines					30	3	
Lithothamne T400	Timac	Algues marines					29	1.8	

Mulchs de couverture

Nom commercial	Firme	Composition	MO %	N %	P ₂ O ₅ %	K ₂ O %	Ca %	Mg %	Remarques
Écorces de couverture	Ricoter	Écorces de résineux		0.2	0.1	0.1	0.3		
Belflor Écorces de Couverture	Bachmann	Écorces de pin	67	0.3					Rapport C/N = 92
Cartalit	Bernasconi	Roseaux broyés et plantes aromatique							
Decover Écorces de Pins Maritimes	Bachmann	Écorces de pin maritimes	77	0.2					Rapport C/N = 215
◦ Biorga Terravital Mulch	Hauert	Roseau de Chine							
Oecoplan matériel de couverture	Coop	Écorces de résineux							Rapport C/N = 130
Rindenmulch	Renovita	Écorces							
Terra fit	Ökohum	Fibres ligneuses, paille, fécule de pommes de terre, râclures de corne	90	3 ^{a)}					^{a)} N en kg/m ³

Compléments

Nom commercial	Firme	Composition	MO %	N %	P ₂ O ₅ %	K ₂ O %	Ca %	Mg %	Remarques
Actilith	Timac	Lithotamne, bentonite, levures							Lisier
Algalise L	Agribort Fully	Chaux d'algues, bentonite, levures							Lisier
Algalise P	Agribort Fully	Chaux d'algues, bentonite, levures							Purin
Amalgerol 2-verte	Landor	Huiles végétales, algues marines, huiles essentielles, extraits végétaux, terpènes de limonène, alcool							Lisier, compost
Amelgo-verte	Amelgo	Huiles végétales, algues marines, huiles essentielles, extraits végétaux, terpènes de limonène, alcool							Lisier, compost
• Biorga Compostage rapide	Hauert	Protéines de pomme de terre, de céréales et de maïs, malt, vinasse, plantes aromatiques	60	5	1	3			Compost
Biorott	Andermatt	Micro-organismes, mélasse		7					Compost
Biosuza	Guignard	Micro-organismes							Lisier
Biovin-Compost-activateur	Enpro	Pépins de raisins, poudre de roche							Compost
Biplantol Kompost	Plantosan	Nutriments et matières actives en concentration homéopathique							Compost
Biplantol plus	Plantosan	Nutriments et matières actives en concentration homéopathique							Fumier de bovins, fumier, compost
Biplantol plus SG	Plantosan	Nutriments et matières actives en concentration homéopathique							Lisier de porc, fumier de poule et de cheval
Casibac CP	Casanova	Micro-organismes							Lisier et fumier
Casibac P15	Casanova	Micro-organismes							Lisier sans paille
CMC-Kompoststarter 550	Verora	Terre, poudre de roche, micro-organisme							Compost
Compolit/Tradilit	Comptoir	Bactéries, lithotamne, mélasse de cane à sucre							Litière et fumier
• Composter *)	Hauert	Fumier de volaille, malt, vinasse, protéines de pomme de terre, de céréales et de maïs, marc de raisin	60	5	1.5	3		0.6	Compost
Compostol natura	Socora	Huiles essentielles, alcool, acides gras, terpènes							Lisier et fumier
Enzymix	Farmtech	Lithotamne, dolomie, milieu de culture pour enzymes	8	1.2	0.5	0.6	3.3	1.6	Lisier, fumier, compost
Gartenaktiv KR+	Wytor	Algues, plumes de poules		5	3		10	1.2	Compost
Glenor Kr+	Wytor	Algues, échangeurs ioniques naturels, activateurs							Lisier
Gülle 2000	Holistic	Poudre de roche de Diabas			0.4	2.2	1.7	4	Lisiers
Hasolit B Pulver	Landor	Lithotamne					30	2.6	Lisiers, compost
Hasorgan MC liquide	Landor	Extrait d'algues brunes				3.3			Lisier
HE Confort	Wytor	Chaux, algues					20	2.9	
Kompost 2000	Holistic	Poudre de roche de Diabas			0.4	2.2	1.7	4	Compost
Micro Tonic	Ledona	Sulfate de sodium, extrait végétal aqueux, oligo-éléments							Lisier, fumier, compost, Na 1.6 %

Compléments (suite)

Nom commercial	Firme	Composition	MO %	N %	P ₂ O ₅ %	K ₂ O %	Ca %	Mg %	Remarques
Microbactor *	Landor	Cultures de bactéries							Lisier
Microbe Lift	Landor	Cultures de bactéries							Lisier, fumier, compost
Microsan	Agrisan	Cultures de bactéries et de champignons, son de blé	7			8	4		Lisier, fumier, compost
Penergetic-g	Penergetic	Carbonate de calcium, poudre de quartz							Lisier
Penergetic-k	Penergetic	Carbonate de calcium, poudre de quartz							Compost
Plocher g-purin & lisier	Huplo	Carbonate de calcium, poudre de quartz							
Plocher g-lisier de porc	Huplo	Carbonate de calcium							
Plocher k-compost & fumier	Huplo	Carbonate de calcium							
Progénia	Marthy	Phosphate monocalcique, dioxyde de silicium, hydrates de carbone, extraits d'eucalyptus			16				Lisier, fumier
PRP Purin Fix	PRP	Lithotamne, sel marin, lignosulfonates oligo-éléments,					24	1.5	Lisier
Activateur de compost liquide	Ledona	Sulfate de sodium, extrait végétal aqueux, oligo-éléments, mélasse							Compost, Na 1.4 %
Seso	Verora	Mélasse, microorganismes							
Sojall-Bio-Power	Ritter	Carbonate de calcium et de magnésium							
Sojall-Micro-Power	Ritter	Mélasse							
Terra Biosa	Biosa	Hydrates de carbone, plantes aromatiques, micro-organismes, EMI							Compost, terre
Poudre Tomin	Andermatt	Roches basaltiques							
Tradilyse/Fertilyse	Comptoir	Bactéries, lithotamne, mélasse de canne à sucre							Lisier, fumier

Stimulateurs des défenses naturelles des plantes

Nom commercial	Firme	Composition	MO %	N %	P ₂ O ₅ %	K ₂ O %	Ca %	Mg %	Remarques
Bentosan	Agrisan	Bentonite, lithotamne, plantes aromatiques							
Biplantol Contra X2	Plantosan	Nutriments et matières actives en concentration homéopathique, huiles essentielles, huile de colza							
Biplantol Rose	Plantosan	Nutriments et matières actives en concentration homéopathique							
Biplantol SOS	Plantosan	Nutriments et matières actives en concentration homéopathique							
Biplantol vital	Plantosan	Nutriments et matières actives en concentration homéopathique							
Crop-Set	Schneiter	Extrait de yucca, produit fermenté à base de Lactobacillus acidophilus		3					
Equisan	Agrisan	Prêle							
Floraforce	Bioflora	Dérivé de dextrose, acide lactique, extraits végétaux, div. sucres		1.2	0.2	0.7	0.3	0.1	

Stimulateurs des défenses naturelles des plantes (suite)

Nom commercial	Firme	Composition	MO %	N %	P ₂ O ₅ %	K ₂ O %	Ca %	Mg %	Remarques
Humixa-Normal	Farmtech	Extrait de vermicompost	38	3.5	0.3	16			
Humixa-Polivalente	Farmtech	Extrait de vermicompost	38	3.5	0.3	16			
Microsan-P	Agrisan	Poudre de roche et de plantes							
NaturPur fortifiant du sol	Mauser	Sulfate de potassium, oligo-éléments, extrait végétal aqueux							
NaturPur fortifiant pour plantes	Mauser	Sulfate de potassium, mouillant, oligo-éléments, extrait végétal aqueux				2.1			
Penergetic-p	Penergetic	Carbonate de calcium, poudre de quartz							
Penergetic-p (liquide)	Penergetic	Mélasse							
Eau bleue végétale	PRP	Eau, potassium, cuivre, oligo-éléments				7			Cu 0.02 %
Plant Tonic	Ledona	Sulfate de potassium, mouillant, oligo-éléments, extrait végétal aqueux				2.1			
Plocher p-fortifiant foliaire-Kaleaf	Huplo	Patentkali							
Plocher p-mélasse-foliaire	Huplo	Mélasse							
Plocher p-Activplante-Kaleaf	Huplo	Patentkali							
Plocher p-fortifiant pour les plantes	Huplo	Carbonate de calcium							
Plocher p-fortifiant pour les plantes - dolomie	Huplo	Dolomie							
Plocher p-Vitalplante	Huplo	Dolomie							
Plocher p-Vitalplante-Kaleaf	Huplo	Patentkali							
Plocher p-Zone racinaire I	Huplo	Dolomie							
Plocher p-Zone racinaire II	Huplo	Mélasse							
Plocher p-Zone racinaire III	Huplo	Patentkali							
Proposan 40 MG/ML	Agrisan	Propolis, alcool, flavonoïdes		5.8	0.7	2.3			
Sojall-Vitalnal	Ritter	Mélasse de sucre, cultures de bactéries							
Fortifiant TMF pour plantes	TMCE	Sulfate de potasse, sulfate de magnésie, extrait d'algues, oligo-éléments				2.9		0.3	S 2.8 %, Na 1.1 %
Stubble-Aid	Schneiter	Extrait de yucca, produit fermenté à base de Lactobacillus acidophilus		3					
Targanic	AJE	Acides fulviques							
Turf-Set	Schneiter	Extrait de yucca, produit fermenté à base de Lactobacillus acidophilus		3					
Urtisan	Agrisan	Ortie							
Vermi-Sol 1	Racroc	Extrait de vermicompost, vinaigre							
Vitase! A.M.C.Plus	Hedel								
Vitase! Vinea Plus	Hedel	Algues marines, argile							

Engrais foliaires et engrais à base d'oligo-éléments

L'utilisation d'oligo-éléments (fer, manganèse, cuivre, molybdène, bore, zinc) ainsi que de calcium et de magnésium à action rapide doit satisfaire les conditions suivantes:

- ∞ Analyse de terre (vieille d'au max. 4 ans) de la parcelle correspondante;
- ∞ Parcelle témoin (sans traitement);
- ∞ Relevé de l'efficacité des oligo-éléments utilisés.

L'utilisation des produits mentionnés est **soumise à déclaration (sd)** (voir colonne «Remarques») et doit être annoncée aux offices de certification **avant leur utilisation**. Le formulaire d'annonce peut être demandé à:

bio.inspecta, Ackerstrasse, Postfach, 5070 Frick, tél. 062 865 63 00, fax 062 865 63 01, email admin@bio-inspecta.ch

Abréviations utilisées: (B) Bore, (Ca) Calcium, (Cu) Cuivre, (Fe) Fer, (Mg) Magnésium, (Mn) Manganèse, (Mo) Molybdène, (N) Azote, (S) Soufre, (Zn) Zinc
sd = soumis à déclaration

Type d'engrais/ Nom commercial	Firme	Composition	Ca %	Mg %	Fe %	Mn %	B %	Mo %	Remarques
Bore (B)									
Borax	Hauert	Tétraborate de sodium					15		sd
Bortrac	Landor	Polybore					15		sd, liquide
Microbor	Leu	Polybore					15		sd, liquide
Calcium (Ca)									
Calciumchlorid	Schneiter	Chlorure de calcium	12						sd
Chlorcal-220	Agribort Fully	Chlorure de calcium	16						sd
Stopit	Landor	Chlorure de calcium	12						sd
Tip	Leu	Chlorure de calcium	12						sd
Fer (Fe)									
Aton Fe	Optisol	Fe complexé avec acides aminés			5.3				sd, N 2 %, liquide
Optifer 11	Optima	Chélate de fer à base d'écorce d'helmlock des Indes			11				Poudre
Optifer 6 liquide	Optima	Chélate de fer à base d'écorce d'helmlock des Indes			6				
Optifer Fe++	Landor	Chélate de fer à base d'écorce d'helmlock des Indes			6				

Engrais foliaires et engrais à base d'oligo-éléments (suite)

Type d'engrais/ Nom commercial	Firme	Composition	Ca %	Mg %	Fe %	Mn %	B %	Mo %	Remarques
Magnésium (Mg)									
Bittersalz	Kali, Landor	Sulfate de magnésium		10					sd, S 13 %
Kieserit/Kisérite	Hauert, Landor, Kali	Sulfate de magnésium		16					sd, S 20 %
Manganèse (Mn)									
Sulfate de manganèse	Hauert	Sulfate de manganèse				32			sd
Mantrac	Landor	Carbonate de manganèse				50			sd, liquide
Micro-Mangan	Leu	Carbonate de manganèse				50			sd, liquide
Optima Mn++	Landor	Chélate de manganèse à base d'écorce d'helmlock des Indes				6			
Molybdène (Mo)									
Molybdate de sodium	Hauert	Molybdate de sodium						40	sd
Zinc (Zn)									
Sulfate de zinc	Hauert	Sulfate de zinc							sd, Zn 23 %
Zintrac	Landor								sd, liquide, Zn 70 %

Substrats du commerce

Analyses conformes à la fiche technique FAW-n° 113 (1995)

Compléments pour substrats et succédanés de tourbe: voir sous amendements

Nom commercial	Firme	Composition	NH ₄ -N µmole/l	NO ₃ -N µmole/l	P µmole/l	K µmole/l	Sels µS/cm	pH (H ₂ O)	Remarques
Terreux pour mottes pressées									
Belflor Presse-Mottes	Bachmann	Tourbe (60 %), compost de déchets verts, humus d'écorces, poudre de corne, malt	300-600	1500-3000	100-200	2000-3000	600-1000	6,0-6,8	Date de fabrication mentionnée
Eco Grond (Brill)	Nieth	Tourbe (70 %), compost de déchets verts, poudre de corne	800-1200	5000-6000	600-1200	5000-7000	800-1200	5,5-6,5	Date de fabrication mentionnée
Floragard Terreau motte biologique	Floragard, Landi/fenaco	Tourbe (70 %), compost de déchets verts, maltaflor	3420	3160	900	3190	1270	6,2	Date de fabrication non mentionnée
Klasmann KKS Bio-Potgrond	Schweizer	Tourbe (70 %), compost de déchets verts, poudre de corne, Dolophos	600-1200	3000-6000	500-800	2500-3500	1000-1800	6,0-6,5	Date de fabrication mentionnée
Terreau pour semis	Leureko	Tourbe (50 %), compost de déchets verts, terre végétale	50-200	1200-3400	70-170	4200-6400	900-1900	6,8-7,2	Date de fabrication mentionnée
Ökohum-Bio-Prestopferde	Ökohum	Tourbe (70 %), compost de déchets verts	500-1000	2000-3000	200-500	5000-7000	1000-1500	6,8-7,3	Date de fabrication mentionnée
Terreau pour presse-motte 142	Ricoter	Tourbe (60 %), compost, bois haché, poudre de corne, sable	400-800	1600-3200	500-1000	3000-6000	env. 1400	env. 6,5	Date de fabrication non mentionnée, avec engrais additionnel également pour culture de plantons
Statohum Bio-Prestopf	Patzer	Tourbe (70 %), compost, poudre de corne							Date de fabrication mentionnée
Terreau B2	Landi/fenaco	Tourbe (70 %) compost de déchets verts, engrais organique, farine de plume, vinasse							Date de fabrication non mentionnée
Tref EKO 1	GVZ	Tourbe (65 %), coco, compost d'écorces, engrais org. complexes	2350	850	900	1500	700-1100	5,6-6,2	Date de fabrication mentionnée
Terreux pour plants (proportion de tourbe: 51-70 %)									
Bio Statohum II	Patzer	Tourbe (65 %), compost, poudre de corne							Pour pots, date de fabrication non mentionnée
Eco Start (Brill)	Nieth	Tourbes blonde et noire (70 %), compost de déchets verts, poudre de corne							Date de fabrication mentionnée
Floragard Terreau plantes aromatiques biologiques	Floragard, Landi/fenaco	Tourbe (70 %), compost, lin, malt, vinasse, phytoperls	5100	930	590	5060	1700	6,8	Date de fabrication non mentionnée
frux Kräutererde Anzuchtsubstrat	Patzer	Tourbe (70 %), compost, poudre de corne, semoule de corne	600-1200	2000-4000	500-800	2000-3000	600-1200	6,0	Date de fabrication non mentionnée
Klasmann KKS Bio Tray-substrat	Schweizer	Tourbe (70 %), compost, radures et poudre de corne	600-1200	3000-6000	500-800	2500-3500	1000-1800	6,0	Date de fabrication mentionnée
Tref EKO 2	GVZ	Tourbe (65 %), coco, compost d'écorces, engrais organique	2350	850	800	1500	700-1100	5,6-6,2	Terreau universel, date de fabrication mentionnée

Substrats du commerce (suite)

Analyses conformes à la fiche technique FAW-n° 113 (1995)

Nom commercial	Firme	Composition	NH ₄ -N µmole/l	NO ₃ -N µmole/l	P µmole/l	K µmole/l	Sels µS/cm	pH (H ₂ O)	Remarques
Terreux pour plants et pots et terreux universels (proportion de tourbe: 31-50 %)									
Belflor Substrat pour plantons	Bachmann	Tourbe (40 %), compost de déchets verts, humus d'écorces, roseaux, roseau de Chine, terre végétale, poudre de corne, malt	300-600	1500-3000	100-200	2000-3000	800-1000	6.5-7.0	Date de fabrication mentionnée
Eco Pot (Brill)	Nieth	Tourbes blonde et noire (50 %), compost de déchets vert, fibres de bois, poudre et semoule de corne							Date de fabrication mentionnée
Floragard Terreau rempotage biologique	Floragard, Landi/ fenaco	Tourbe (50 %), compost, malt, vinasse, bûchettes de lin, argile	3800	4600	880	6400	1900	6.7	Pour plantes tolérant la salinité, date de fabrication non mentionnée
Terreau horticole	Landi/ fenaco	Tourbe (50 %), compost, malt, vinasse, bûchettes de lin, argile	3800	4600	880	6400	1900	6.7	Pour plantes tolérant la salinité, date de fabrication non mentionnée
Tref EKO 5	GVZ	Tourbe (45 %), cocopeat, compost d'écorces, engrais organique complexe	2900	970	950	1700	800-2200	5.6-6.2	Date de fabrication mentionnée
Terreux pour plants et pots et terreux universels (proportion de tourbe: 1-30 %)									
Bio-Erde	Terre	Tourbe (30 %), compost, terre tourbeuse, fibres, argile, sable	800	1900	20	6700	1300	6.9-7.0	Date de fabrication non mentionnée
Substrat Bio avec tourbe	Ökohum	Tourbe (25 %), compost, lave, pierre ponce, fibres de coco, radures et poudre de corne	1000-3000	3000-5000	400-600	2000-3500	1000-1500	5.0-7.0	Pour plants et pots, date de fabrication mentionnée
Biosol Terreau universel avec tourbe	Bachmann	Tourbe (30 %), compost de déchets verts, humus d'écorces, roseaux, roseau de Chine, fibres de bois, terre végétale, poudre de corne, malt	600-1200	3000-6000	200-400	5000-6000	1000-1500	6.5-7.0	Pour plants et pots, date de fabrication mentionnée
Coco-Mix	Ökohum	Tourbe (25 %), poussière et fibres de coco	0-100	0-100	0-100	1500-2500	400-700	5.0-6.0	Compléments pour substrats
Floragard Terreau biologique universel	Floragard, Landi/ fenaco	Tourbe (25 %), compost, malt, vinasse, bûchettes de lin, humus d'écorces	6160	1670	220	6430	1850	6.6	Pour plantes tolérant la salinité, date de fabrication non mentionnée
Klasmann KKS Bio Kräuter- substrat	Schweizer	Tourbe (30 %), compost, cocopeat, poudre de corne	800-1400	2000-5000	500-800	3000-5000	1500-2000	6.0	Date de fabrication mentionnée
Klasmann KKS Bio Topfsubstrat	Schweizer	Tourbe (50 %), compost, cocopeat, poudre de corne	600-1200	3000-6000	500-800	2500-3500	1200-2000	6.0	Date de fabrication mentionnée
Terreau pour pots	Leureko	Compost, terre végétale, fibres de chanvre, tourbe (5 %)	80-300	1500-4200	40-110	4200-6400	1200-2300	7.0-7.4	Terreau pour containers, date de fabrication mentionnée
Terreau universel	Leureko	Compost, fibres de chanvre, tourbe (20 %)	30	2300	80	6200	1100	7.5	Date de fabrication mentionnée
Lignostrat Typ Bio (Archut)	Kurras	Tourbe blonde (30 %), humus d'écorces, argile volcanique, radures et poudre de corne							Terreau pour pots, date de fabrication mentionnée
Swissfiber 2	Bachmann	Tourbe (30 %), fibres de bois, roseaux, roseau de Chine (composté), lithothamne, poudre de roche							Complément pour substrats
Terreau universel	Vollen- weider	Tourbe (30 %), compost, terre végétale		4000-7000 ^a	30-150	5000-20000	2000-2500	7-7.5	Pour pots et balcons, date de fabrication mentionnée; ^a N _{min}

Substrats du commerce (suite)			Analyses conformes à la fiche technique FAW-n° 113 (1995)						
Nom commercial	Firme	Composition	NH ₄ -N µmole/l	NO ₃ -N µmole/l	P µmole/l	K µmole/l	Sels µS/cm	pH (H ₂ O)	Remarques
Terreux pour plants et pots et terreux universels (sans tourbe)									
◦ Belflor Bio Semis	Bachmann	Compost, bois épineux défibré, sable	500	3000	200	4000	800-1000	6.8	Pour semis et bouturage, date de fabrication mentionnée
◦ Terreau pour semis Bio-Line	Ricoter	Succédané de tourbe (Toresa organic), compost, copeat, sable	100-500	900-2500	400-800	4000-8000	1300-1900	7.0-7.5	Pour particuliers, date de fabrication non mentionnée
◦ Terreau pour balcon Bio-Line	Ricoter	Succédané de tourbe (Toresa organic), compost, copeat terre végétale	100-500	1900-5500	400-800	4000-8500	1500-2200	7.0-7.5	Pour particuliers, date de fabrication non mentionnée
Substrat Bio sans tourbe	Ökohum	Compost, lave, pierre ponce, copeat, raclures et poudre de corne	500-1000	2000-3000	300-600	5500-7500	1100-1600	7.0-7.5	Pour pots et containers, date de fabrication non mentionnée
Substrat universel bio	Ökohum	Compost, copeat, Ter, pierre ponce	500-1000	2000-3000	300-600	5000-7000	1100-1600	6.8-7.5	Date de fabrication non mentionnée
Biosol Terreau universel sans tourbe	Bachmann	Compost, humus d'écorces, roseaux, roseau de Chine, fibres de bois, terre végétale, corne, malt	600-1200	3000-6000	200-400	5000-6000	1000-1500	6.5-7.0	Pour plants et pots, date de fabrication mentionnée
Biotopp, Terreau horticole sans tourbe	Floragard, Landi/fenaco	Humus d'écorces, fibre de bois, compost de déchets verts	680-1600	60-140	160-400	5300-12000	830-1900	6.6-7.4	Date de fabrication non mentionnée
Roseau de Chine composté	Maurer	Roseau de Chine, herbes, argile							Complément pour substrats, remplace la tourbe
Coco-Ter	Ökohum	Poussière de coco							Complément pour substrats, remplace la tourbe
frux Öko-Blumenerde	Patzer	Fibre de bois, compost, argile	600-1200	2000-4000	600-1000	3000-4000			Date de fabrication non mentionnée
Terreau de jardinage	Maurer	Compost, terre végétale, roseau de Chine, Toresa organic		8100	1300	16000	1700	7.3	Terre universel, date de fabrication non mentionnée
Terreau pour géranium	Weiherhus	Compost, terre végétale, roseau de Chine	50-300	5000-8000	10-100	8000-12000	1500-2500	6.5-7.5	Terreau pour balcons, date de fabrication non mentionnée
◦ Belflor Bio Terreau de Compost	Bachmann	Compost, terre végétale, poudre de corne, malt	600	10000	300	4000	1000-1200	6.8	Pour maison et jardin, date de fabrication mentionnée
Terreau universel	Leureko	Compost, terre végétale, fibres de chanvre	120-300	1500-4200	70-170	5300-7500	1200-2300	7.0-7.4	Terreau de plantation, date de fabrication mentionnée
◦ Oecoplan terreau pour semis	Coop	Compost, copeat, succédané de tourbe (Toresa organic), sable	100-500	900-2500	400-800	4000-8000	1300-1500	7.0-7.5	Pour maison et jardin, date de fabrication non mentionnée
◦ Oecoplan terreau pour plantes de balcon	Coop	Compost, copeat, succédané de tourbe (Toresa organic), terre végétale	100-500	1900-5500	400-800	4000-8500	1500-2200	7.0-7.5	Pour particuliers, date de fabrication non mentionnée
◦ Oecoplan Remplacement de la tourbe	Coop	Bois haché, compost, engrais organique							Amendement, complément pour substrat, remplace la tourbe
Terreau pour gazon	Weiherhus	Compost, terre végétale, sable	80	500	75	2290	2010	7.9	Date de fabrication non mentionnée
Swissfiber I succédané de tourbe	Bachmann	Fibres ligneuses, roseau, roseau de chine composté, Lithotamne, poudre de roche							Complément pour substrats, remplace la tourbe
Terre universel	Weiherhus	Compost, terre végétale, roseau de Chine	50	200	90	307	2490	7.9	Date de fabrication non mentionnée
◦ Terreau universel	Ricoter	Succédané de tourbe (Toresa organic), compost, copeat, copeaux de bois, copeaux de corne	500-2000	1500-3000	200-400	4000-6000	1800-2600	7.0-7.5	Date de fabrication non mentionnée
◦ Terreau pour plantes d'appartement	Ricoter	Copeat, compost, succédané de tourbe (Toresa organic)	1300	2700	250	10000	2500	7.3	Date de fabrication non mentionnée

3 Produits autorisés contre les mouches des étables

La liste des produits contre les mouches comprend les catégories suivantes: produits contre les mouches adultes et produits contre les larves (asticots). Les produits sont classés par ordre de la liste allemande. Le nom commercial, le fabricant, la classe de toxicité, la matière active et les domaines d'utilisation sont indiqués pour chaque produit. Les adresses et les numéros de téléphone des fournisseurs se trouvent à la fin de la liste.

Les produits tels que les attrape-mouches sans insecticides (bandes et ficelles engluées) et les appareils électriques sont en outre admis en agriculture biologique.

Produits contre les mouches adultes dans les étables

Nom commercial	Firme	Cl. tox.	Matières actives	Conditions d'emploi/Remarques
Pyréthrine				
Bio-Insektizid 5001	Mastal	libre	Extrait de pyrèthre	Prêt à l'emploi
Bio-2000	Gisga	libre	Extrait de pyrèthre	Prêt à l'emploi
BG-1000 Insektizid-Natur	Baumgartner	libre	Extrait de pyrèthre	Prêt à l'emploi
Fly-End Insecticide Nature EC	Agro-Hygiene	libre	Extrait de pyrèthre	

Pyréthrine, extraits végétaux

Bio-3000 Naturinsektizid	Gisga	libre	Extrait de pyrèthre, extr. végétaux	Prêt à l'emploi
Brumm-ex	Bischof	libre	Extrait de pyrèthre, extr. végétaux	Prêt à l'emploi
Fly-End Insecticide Nature	Agro-Hygiene	libre	Extrait de pyrèthre, extr. végétaux	Prêt à l'emploi
Lussolin 351	Lussolin	libre	Extrait de pyrèthre, extr. végétaux	Prêt à l'emploi
PY-BIO insecticide naturel	Siber Hegner, Spicosa	libre	Extrait de pyrèthre, extr. végétaux	Prêt à l'emploi
Pyri-Fly	Andermatt	libre	Extrait de pyrèthre, extr. végétaux	Prêt à l'emploi
Rütazil	Gisga	libre	Extrait de pyrèthre, extr. végétaux	Prêt à l'emploi

Spinosad (Produit fermenté à base de micro-organismes du sol)

Biospin	Omya	5	Spinosad	
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Produits contre les larves des mouches (asticots)

Nom commercial	Firme	Cl. tox.	Matières actives	Conditions d'emploi/Remarques
Micro-organismes				
DeLaval Larvicide Bio	DeLaval	libre	Bacillus thuringiensis	

Ennemis naturels

Ophyra	Andermatt		Ophyra aenescens	Contre les asticots dans les caniveaux et rigoles
Mouches du lisier	Landi Reba			
Guêpes parasites	Andermatt		Nasonia vitripennis,	Contre les asticots dans les litières profondes
Ichneumons	Landi Reba		Muscidifurax zaraptor	

Neem (Azadirachtin)

Biocid Larvenfrei	Gisga	5	Azadirachtin	Contre les asticots dans les litières profondes
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4 Produits recommandés contre les ectoparasites

La liste des produits recommandés contre les ectoparasites contient des produits en vente libre (sans ordonnance) conformes aux directives bio. D'autres produits peuvent être utilisés sur ordonnance vétérinaire. En cas d'épizootie, il faut se conformer aux directives des autorités.

Le nom commercial, le fournisseur, la classe de toxicité, la matière active, les conditions d'emploi et des remarques sont indiqués pour chaque produit. Les produits sont classés par ordre de la liste allemande. Les adresses et les numéros de téléphone des fournisseurs se trouvent à la fin de la liste.

Produits pour les traitements des locaux

Nom commercial	Firme	Cl. tox.	Matières actives	Conditions d'emploi/Remarques
Pyréthrine				
Fly-End Acaricide Nature EC	Agro-Hygiene	libre	Pyréthrine	
Pyréthrine, extraits de plantes				
PY-BIO insecticide naturel	Siber Hegner	libre	Pyréthrine, extraits de plantes	Prêt à l'emploi
Silicates				
Bio Floh-frei	Interferm	libre	Silicates	Prêt à l'emploi
Anti-puces	Andermatt	libre	Silicates	Prêt à l'emploi
Gallo-Sec	Andermatt	libre	Silicates	Contre acariens des volailles, prêt à l'emploi

5 Agents d'ensilage autorisés

La liste des agents d'ensilage autorisés comprend les catégories suivantes: Produits pour favoriser la fermentation lactique et empêcher les fermentations indésirables (correspondant à la Liste A de la RAP), Produits contre les postfermentations et les moisissures (correspondant à la Liste B de la RAP). Le nom commercial, le fournisseur, la classe de toxicité, la matière active et les domaines d'utilisation sont indiqués pour chaque produit. Les produits sont classés par ordre de la liste Allemande. Les adresses et les numéros de téléphone des fournisseurs se trouvent à la fin de la liste.

Produits pour favoriser la fermentation lactique et empêcher les fermentations indésirables

Nom commercial	Firme	Cl. tox.	Matières actives	Remarques
Bactéries lactiques				
Biomax	Gisga, Omya	libre	Bactéries lactiques	
Biosil R	Künzle	libre	Bactéries lactiques	
Bonsilage	Schaumann	libre	Bactéries lactiques	Soluble et granulé
Equilact	Comptoir	libre	Bactéries lactiques	
Flurina-Sil	Grüniger	libre	Bactéries lactiques	
Ger C3	Germaco	libre	Bactéries lactiques	
Kliba 870	Provimi Kliba	libre	Bactéries lactiques	
Kroni 905 Bactosil Forte	Kroni	libre	Bactéries lactiques	
Kroni 906 Bactosil Konzentrat	Kroni	libre	Bactéries lactiques	
Lalsil RG	Trinova	libre	Bactéries lactiques	
Multifor-Sil B	Multiforsa	libre	Bactéries lactiques	
Naturasil-Konzentrat	Interferm	libre	Bactéries lactiques	Concentré soluble dans l'eau
Navetin Silo	Protector, Union	libre	Bactéries lactiques	Concentré soluble dans l'eau
Sila-Bac	Schweizer	libre	Bactéries lactiques	Liquide et granulé
Silo Inoculant WS	Trinova	libre	Bactéries lactiques	Liquide
Topsilage	Naveta, Protector, Trofino, Union	libre	Bactéries lactiques	Concentré soluble dans l'eau et granulé

Produits pour favoriser la fermentation lactique et empêcher les fermentations indésirables (suite)

Nom commercial	Firme	Cl. tox.	Matières actives	Remarques
Autres				
Sirop de fruits 8895	Provimi Kliba	libre	Sucres	
Früchtesirup	Agrokorn	libre	Sucres	

Remarque:

Tous les produits sont autorisés pour les fourrages faciles et difficiles à ensiler. Lorsque des produits à base de bactéries lactiques sont utilisés pour des fourrages difficiles à ensiler, leur efficacité n'est garantie que si ces fourrages contiennent suffisamment de sucres ou si on ajoute une quantité suffisante de substrat nutritif (sucre, dextrose, mélasse).

Produits contre les postfermentations et les moisissures

Nom commercial	Firme	Cl. tox.	Matières actives	Remarques
Bactéries lactiques				
Bonsilage Mais	Schaumann	libre	Bactéries lactiques	Liquide; autorisation provisoire
Bonsilage Plus	Schaumann	libre	Bactéries lactiques	Liquide et granulé
Sila-Bac Stabilizer	Schweizer	libre	Bactéries lactiques	Concentré soluble dans l'eau

6 Produits recommandés pour le nettoyage et la désinfection

La liste des produits recommandés pour le nettoyage et la désinfection contient des substances et des produits du commerce recommandés parce que leur efficacité et leur compatibilité avec les exigences de l'agriculture biologique sont reconnues.

Pour le nettoyage, on recommande d'utiliser les substances pures ci-dessous ou des produits du commerce à base de ces substances. Les produits du commerce ne sont pas nommément listés. Pour la désinfection des surfaces, on trouvera ci-dessous les substances pures et les produits du commerce recommandés. En cas d'épizootie, il faut se conformer aux directives des autorités.

Le nom commercial, le fournisseur, la classe de toxicité, la matière active et le domaine d'application sont indiqués pour tous les produits du commerce. Les adresses et les numéros de téléphone des fournisseurs se trouvent à la fin de la liste. La liste des substances pures comprend leur nom et leur classe de toxicité. Les produits sont classés par ordre de la liste allemande.

Produits de nettoyage et de désinfection des surfaces

Nom commercial	Firme	Cl. tox.	Matières actives	Domaine d'application/Remarques
Diverses substances pures				
Eau, vapeur d'eau		libre		
Peroxyde d'hydrogène (eau oxygénée)		3		
Alcool (éthanol)		libre		
Essences végétales naturelles				
Acides				
Acide formique		3		
Acide acétique		3		
Acide lactique		4		
Acide oxalique		2		
Acide peracétique		2		
Acide citrique		5		
Bases et sels alcalins				
Potasse caustique (hydroxyde de potassium)		2		
Soude caustique (hydroxyde de sodium)		2		
Lait de chaux (hydroxyde de calcium)		4		
Carbonate de sodium		5		

Produits de nettoyage et de désinfection des surfaces (suite)

Nom commercial	Firme	Cl. tox.	Matières actives	Domaine d'application/Remarques
Produits du commerce				
Ewabo Aldekol Des 2000	Agro-Hygiene	3	Péroxydes, acides organiques, agents tensio-actifs	Désinfectant acide pour les surfaces; admis pour les désinfections ordonnées
Hygosan 901	Kroni	libre	Sels minéraux, alumine (argile)	Produit d'hygiène
Jet 5	Andermatt	3	Péroxydes, acides organiques	Désinfectant acide pour les surfaces
Sojall-Desy clean	Ritter	libre	Péroxydes, acides organiques	Désinfectant acide pour les surfaces
Stall-Aktiv-Forte	Kroni	libre	Sels minéraux, alumine (argile)	Produit d'hygiène

Remarque:

Certaines substances pures autorisées par l'Ordonnance fédérale sur l'agriculture biologique (l'hypochlorite de sodium, le formaldéhyde et les produits à base d'iode) ne sont pas recommandées parce qu'elles sont très toxiques et peu biodégradables.

7 Produits de nettoyage et de désinfection recommandés pour les fermes laitières

La liste des produits de nettoyage et de désinfection recommandés pour les fermes laitières biologiques est structurée selon la destination des produits en reprenant les titres des groupes de produits définis par la FAM: Produits pour le nettoyage de caractère général, s'effectuant manuellement (groupe FAM A/1), produits acides pour l'élimination du tartre (groupe FAM A/3b), produits acides pour prévenir la formation de tartre (groupe FAM A/3c), produits combinés pour le nettoyage et la désinfection des ustensiles à lait ainsi que des installations de traite et de stockage de lait dans les exploitations de production laitière (groupe FAM C/4). Le nom commercial, le fournisseur, la classe de toxicité, la concentration à laquelle il faut l'utiliser et le pH à la concentration voulue pour l'utilisation sont mentionnés pour chaque produit. Les adresses et les numéros de téléphone des fournisseurs se trouvent à la fin de la liste.

Cette liste reprend donc la structure de la liste des produits de nettoyage et de désinfection de la FAM. Elle contient les produits prévus pour les fermes laitières, mais pas ceux prévus pour les entreprises de transformation du lait. Les produits de notre liste sont recommandés parce qu'ils sont facilement biodégradables (Test 302B du CPST) et qu'ils ne contiennent aucune substance indésirable comme p. ex. des enzymes ou des produits dégageant du chlore.

Vous trouverez des données détaillées sur les méthodes efficaces de nettoyage et de désinfection des installations de traite et sur les exigences y relatives dans la fiche technique «Nettoyage et désinfection des installations de traite dans les exploitations produisant du lait biologique» (à commander auprès de la FAM ou du FiBL).

Groupe A/1: Produits pour le nettoyage de caractère général, s'effectuant manuellement

Nom commercial	Firme	Cl. tox.	Concentration %	pH *
Amstutz Oeko	Amstutz	libre	1.0	2.6
Bio Reminal = Bio-klar	Künzle	3	0.5	11.8
Bio-443 AP	Halag	4	0.5	9.1
Bio-444 AF	Halag	4	0.5	10.1

Groupe A/3b: Produits acides pour l'élimination du tartre

Nom commercial	Firme	Cl. tox.	Concentration %	pH *
Bioacid	Halag	5	2.0	2.3
Bio-532 P	Halag	4	2.0	1.9
Blaha-vit Plus	Blaser	3	1.0	2.0
Halacid-ALTAG	Halag	3	2.0	1.9
Halacid-P	Halag	2	2.0	1.5
Halacid-S	Halag	3	1.0	1.6

Groupe A/3c: Produits acides pour prévenir la formation de tartre

Nom commercial	Firme	Cl. tox.	Concentration %	pH *
Amstutz Oeko	Amsutz	libre	1.0	2.6
Bioacid	Halag	5	0.5	2.6
Bio Reminox = Bio-Pur	Künzle	3	0.5	3.0
Bio-532 P	Halag	4	0.5	2.4
Blaha-vit Plus	Blaser	3	1.0	2.0
Halacid-ALTAG	Halag	3	0.5	2.2
Halacid-P	Halag	2	0.5	2.0
Halacid-S	Halag	3	0.5	1.9

Groupe C/4: Produits combinés pour le nettoyage et la désinfection des ustensiles à lait ainsi que des installations de traite et de stockage de lait dans les exploitations de production laitière

Nom commercial	Firme	Cl. tox.	Concentration %	pH *
Bioacid	Halag	5	0.5	2.6
Bio Reminox = Bio-Pur	Künzle	3	0.5	3.0
Blaha-vit Plus				

∞ Le pH est basé sur la concentration lors de l'utilisation.

8 Produits autorisés contre les maladies des abeilles

Cette liste des produits du commerce autorisés contre les maladies des abeilles mentionne pour chacun le nom commercial, le fournisseur, la classe de toxicité, la matière active et le domaine d'utilisation. La liste des substances pures comprend leur nom et leur classe de toxicité. Les produits sont classés par ordre de la liste allemande. Les adresses et les numéros de téléphone des fournisseurs se trouvent à la fin de la liste.

Les produits du commerce contre la varroase sont homologués par l'Office intercantonal de contrôle des médicaments (OICM). Les substances pures contre la varroase et les produits contre la fausse teigne sont recommandés par le Centre Suisse de Recherches Apicoles de Liebfeld. Les recommandations d'utilisation de ces institutions sont à respecter.

Traitements contre la varroase

Nom commercial	Firme	Cl. tox.	Matières actives	Domaines d'utilisation/Remarques
Substances pures				
Acide formique		3		
Acide lactique		4		
Acide oxalique		2		
Produits du commerce				
Feuilles acaricides Illertissen (IMP)	Meier	libre	Acide formique	
Plaque Krämer	Andermatt	libre	Acide formique	

Produits contre la fausse teigne

Nom commercial	Firme	Cl. tox.	Matières actives	Domaines d'utilisation/Remarques
Substances pures				
Acide formique		3		
Acide acétique		3		
Produits du commerce				
B 401	Apivet	libre	Bacillus thuringiensis	
Mellonex	Andermatt	libre	Bacillus thuringiensis	

9 Index des produits

Nom commercial	Page	Nom commercial	Page	Nom commercial	Page
Acariens	15	Bio Floh-frei	38	Calciumchlorid	32
Acide acétique	45	Bio Reminal = Bio-klar	43	Calcodol 10	23
Acide acétique	41	Bio Reminox = Bio-Pur	44	Capex 2	13
Acide citrique	41	Bio Stathum II	34	Carbonate de sodium	41
Acide formique	45	Bio-2000	37	Carponem	15
Acide formique	41	BIO-3000 Naturinsektizid	37	Carpovirusine	13
Acide lactique	45	Bio-443 AP	43	Cartalit	28
Acide lactique	41	Bio-444 AF	43	Casibac CP	29
Acide oxalique	45	Bio-532 P	44	Casibac CP10	24
Acide oxalique	41	Bioacid	44	Casibac P15	29
Acide peracétique	41	Bioalgi Vegetali	23	Champi-Hum	24
Actilith	29	Bio-Blatt Mehlttaumittel	9	Champion flow	8
Activateur de compost liquide	30	Biocid Larvenfrei	37	Chaux à semer I	23
Adalia bipunctata	14	Biocorrettore Vegetale	23	Chaux à semer III	23
Agri P15	20	Biodenit	24	Chaux d' Aarberg	24
Agri PK 0.8.20	22	Biodite Vegetale	23	Chlorcal-220	32
Agricol	28	Bioequi Vegetale	23	Chrysal R01	18
Agrifum	21	Bio-Erde	35	Chrysal RVB	18
Agro Biosol	21	Biofa Cocana RF	9	Clinosoil	27
Agro-Düngkalk	23	Biofitac PF1	27	CMC-Kompoststarter 550	29
Alcool (éthanol)	41	Biohumus	24	Coccinelles	14
Algada	28	Bio-Insektizid 5001	37	Coco-Mix	35
Algalise L	29	Biolit	27	Coco-Ter	36
Algalise P	29	Biomax	39	Collit-Standard	21
Algamer compact	28	Bioorti Vegetale	23	Compolit/Tradilit	29
Algamer poudre	28	Biophos	20	Compost de jardin Bio-Line	25
Algan	28	Biopro	12	Compost Elite	24
Algifol	28	Biopropol Vegetale	23	Compost Junior	24
Algobrun No 1	28	Biorga Chaux d'algues marines granulé	28	Composter	29
Algobrun No 2	28	Biorga Compos-tage rapide	29	Compostol natura	29
Amalgerol 2-verde	29	Biorga Engrais azoté granulé	20	Contans	13
Ambly-Pack	15	Biorga Engrais azoté pelletisé	20	Coop Oecoplan Biocontrol	
Amblyseius cucumeris	15	Biorga Engrais azoté poudre	20	Ameisenstreupulver	6
Amblyseius cucumeris SR	15	Biorga Engrais complet	21	Coop Oecoplan Biocontrol Insectizid	10
Amelgo-verde	29	Biorga Engrais gazon	21	Coralite KR+	28
Amstutz Oeko	43, 44	Biorga N liquide	23	Crop-Set	30
Angibio 6	21	Biorga NK liquide	23	Cryptobug	14
Anneau de colle	6	Biorga poudre de roche cristalline	27	Cryptolaemus montrouzieri	14
Anti-puces	38	Biorga Terravital Mulch	28	Cryptopack	14
Aphelinus abdominalis	16	Biorga végétal	21	Cueva	8
Aphidend	14	Biorott	29	Cuivre 50	8
Aphidius colemani	17	Biosil R	39	Cuivre 50 S	8
Aphidius ervi	17	Bioslug nématodes anti-limaces	15	Cupravit bleu	8
Aphidoletes aphidimyza	14	Biosol	22	Cuprofix	8
Aphi-Pack A abd	16	Biosol Terreau universel sans tourbe	36	Cuproxat flüssig/liquide LG	8
Aphi-Pack Aa	14	Biosol Terreau-universel avec tourbe	35	Dacnusa sibirica	17
Aphi-Pack Am	17	Biospin	37	Dacnusa sibirica/Diglyphus isaea (mélange)	17
Aphipar	17	Biosuza	29	Dacnusa/Diglyphus	17
Aq10	12	Biotopp, Terreau horticole sans tourbe	36	Decover Écorces de Pins Maritimes	28
Arbal	18	Biovin	21	DeLaval Larvicide Bio	37
ASP 60	20	Biovin (liquide)	23	Delfan	23
Aton Fe	32	Biovin-Compost-activateur	29	Delfin	13
Audienz	12	Biplantol agrar	24	Diglyphus isaea	17
Azocor 8	20	Biplantol Contra X2	30	Diglyphus isaea	17
Azor Bio-Stickstoffdünger	20	Biplantol Kompost	29	Dolokorn	23
B 401	45	Biplantol plus	29	Dolomit	23
Bacillus thuringiensis	12, 13	Biplantol plus SG	29	Dolophos	20
Baktur	13	Biplantol Rose	30	Dolosul	23
Beauveria	13	Biplantol SOS	30	Dünge-Kompost	24
Beauveria-Schweizer	13	Biplantol terra	24	E-2001	24
Bellfor Bio Semis	36	Biplantol vital	30	Eau bleue végétale	31
Bellfor Bio succédané de tourbe	26	Bittersalz	33	Eau, vapeur d'eau	41
Bellfor Bio Terreau de Compost	36	Blaha-vit Plus	44	Eco Grond (Brill)	34
Bellfor Compost d' écorces	24	Bocep Viti	6	Eco Pot (Brill)	35
Bellfor Compost de Jardin	24	Bocep Viti 230	6	Eco Start (Brill)	34
Bellfor Écorces de Couverture	28	Bonsilage	39	Écorces de couverture	28
Bellfor Presse-Mottes	34	Bonsilage Mais	40	Edasil G	27
Bellfor Substrat pour plantons	35	Bonsilage Plus	40	Elosal Schwefel Stäubemittel	9
Bentosan	30	Borax	32	Elosal Supra	9
BG-1000 Insektizid-Natur	37	Bortrac	32	EM1	27
Bihutherm	24	Bouillie bordelaise Disperss	8	Encarsia formosa	17
Bio 9-1- 0.5	20	Brumm-ex	37	Engrais Universel Or Brun	23
Bio feuilles	9	Calcisol/Calcosol	23	En-Pack	17

En-Strip	17	Humin Vital WDG 70	5	Mirical	16
Entomite	15	Humixa-B	21	Molybdate de sodium	33
Entonem	15	Humixa-Normal	31	Mouches du lisier	37
Enzymix	29	Humixa-Polivalente	31	Multifor-Sil B	39
Equilact	39	Humixa-R	23	Myco-San	10
Equisan	30	Humosan Bodenaktivator	25	Myco-Sin	10
Essences végétales naturelles	41	Humosan-Horn-griess/Hornspäne	20	Napf-Steinmehl	27
Europel	27	Humotin	22	Natural	10
Ewabo Aldekol Des 2000	42	Hygosan 901	42	Naturalis-L	13
Fenicur	7	Hyménoptères parasites	16, 17	Naturasil-Konzentrat	39
Feuilles acaricides Illertissen (IMP)	45	Hypoaspis	15	NaturPur fortifiant du sol	31
Fitoclin	27	Ichneumons	37	NaturPur fortifiant pour plantes	31
Floraforce	30	Isomate-C Plus	6	Naturein Améliorant du sol engraulé	25
Floragard Terreau biologique universel		Isomate-CLR	6	Naturein Chaux de magnésium	24
Floragard Terreau motte biologique	34	Isomate-CTT	6	Naturein Engrais pour gazon	24
Floragard Terreau plantes aromatiques biologiques	34	Isomate-OFM Rosso	6	Navetin Silo	39
Floragard Terreau repotage biologique	35	Italpollina	22	NeemAzal-T/S	10
Florfluid	9	Jet 5	42	Nemaplus	15
Fluidosoufre	9	Kainite magnésienne	21	Nématodes	14, 15
Flurina Sil	39	Kalin	21	Nématodes contre l'otiorrhynque	14
Fly-End Acaricide Nature EC	38	Kalk-Steinmehl	23	Nematop	14
Fly-End Insecticide Nature	37	Kieserit	33	Nettschwefel LG	9
Fly-End Insecticide Nature EC	37	Kisérite	33	Neudosan nouveau	10
Foodgreen	21	Klasmann KKS Bio Kräuter-substrat	35	Nouriture organique pour plantes Belflor	
Fortifiant TMF pour plantes	31	Klasmann KKS Bio Topfsubstrat	35	Bio	22
Frischkompost	25	Klasmann KKS Bio Tray-substrat	34	Novodor	13
Frischkompost	25	Klasmann KKS Bio-Potgrond	34	Nu-Film-17	5
Früchtesirup	40	Kliba 870	39	Oecoplan matériel de couverture	28
frux Kräuterdre Anzuchsubstrat	34	Klinofeed	27	Oecoplan Remplacement de la tourbe	36
frux Öko-Blumenerde	36	Knospen Kompost	25	Oecoplan terreau pour plantes de balcon	36
Fumier bovin	22	Kocide DF	8	Oecoplan terreau pour semis	36
Fumier composté	22	Kohlensäurer Kalk	23	Oenutri	22
Fumier de bovin naturel	22	Kompost 2000	29	Ökohum Bio-Langzeitdünger	22
Fumier de bovin pelletisé	22	Koni WP	13	Ökohum-Bio-Pressstopferde	34
Fumier de poules pelletisé	21	Kroni 905 Bactosil Forte	39	Ophyra	37
Fumor bleu	25	Kroni 906 Bactosil Konzentrat	39	Optifer 11	32
Fumor vert	21	Kupfer 50/Cuivre 50	8	Optifer 6 liquide	32
FZB24 WG	12	Kupfer 50/Cuivre 50 Hoko	8	Optifer Fe++	32
Gallina Swiss	21	Kupferhydroxid Hoko	7	Optima Mn++	33
Gallitos	21	Lac Balsam	18	Optisol K+	22
Gallo-Sec	38	Lait de chaux (hydroxyde de calcium)	41	Optisol Organo	25
Gärgut aus Kompostanlage	25	Lalsil RG	39	Optisol Universel	22
Gartenaktiv KR+	29	Larvanem	14	Organos	22
Genol Plant	11	Leptomastidea abnormis	17	Ori-Pack	16
Geolife	25	Leptomastix dactylopii	17	Orius insidiosus	16
Ger C3	39	Lignostrat Typ Bio (Archut)	35	Orius laevigatus Biopax	16
Glenactin 290B	28	Liquazor	23	Orius majusculus	16
Glenor Kr+	29	Litho KR+	28	Oscorna Floracorn	22
Goemar GA 14	28	Litho Physalg 18	20	Ovo Grit 12	24
Granukal	28	Lithomagnesium	28	Oxychlorure de cuivre	8
Granulit KR+	28	Lithothamne Granulit	28	Oxycuivre 50	8
Granuphos 18	20	Lithothamne T400	28	Parexan N	11
Granupom Neu	13	Lussolin 351	37	Patentkali	21
Guanumus	21	Macrolophus	16	Patentkali (Potasse magnésienne)	21
Guêpes parasites	37	Madex 2	13	Penergetic-g	30
Gülle 2000	29	Madex 3	13	Penergetic-k	30
Haarmehl Pellets 4 mm	20	Magnesia Kaïnite (Patentkali)	21	Penergetic-p	31
Halacid-ALTAG	44	Magnesiumkalk Dolomit	23	Penergetic-p (liquide)	31
Halacid-P	44	Maltaflor	22	Perlit	27
Halacid-S	44	Mantrac	33	Peroxyde d'hydrogène (eau oxygénée)	41
Hapa Kali (sulfate de potasse)	21	Mastic de greffage Galopp	18	Pflanze2000	27
Hasler Düngkalk	23	Mastic de greffages Gaschell	18	Phyto-Pack	16
Hasolit B Pulver	29	Mator	25	Phytoperls	22
Hasolit Kombi granuliert	28	Maxiflor P7	20	Phytoseiulus persimilis	16
Hasorgan MC liquide	29	MBI 600	27	Phytoseiulus persimilis Biopax	16
HE Confort	29	Mellonex	45	Piège à mouche de la cerise	6
Heliosol	5	Metaphycus helvolus	17	Plant Tonic	31
Heliosoufre S	9	Micro Tonic	29	Plaque Krämer	45
Herbaguano	21	Microbactor*	30	Plocher g-lisier de porc	30
Hexabio	21	MicrobeLift	30	Plocher g-purin & lisier	30
Hornmehl	20	Microbor	32	Plocher k-compost & fumier	30
Hornspäne	20	Micro-Mangan	33	Plocher p-Activplante-Kaleaf	31
Hornspäne SI fein 1-4 mm	20	Microperl	8	Plocher p-fortifiant foliaire-Kaleaf	31
Hornspäne SII fein 4-7 mm	20	Microsan	30	Plocher p-fortifiant pour les plantes	31
Huile blanche Omya	11	Microsan-P	31	Plocher p-fortifiant pour les plantes-dolomie	31
Huile blanche S	11	Microterys flavus	17	Plocher p-mélasse-foliaire	31
Humaform	25	Microthiol Spécial Dispers	9	Plocher p-Vitalplante	31
		Miglyphus	17	Plocher p-Vitalplante-Kaleaf	31
		Minex	17		
		Minierpack	17		

Plocher p-Zone racinaire I	31	Soil Tonic	26	Terreau pour géranium	36
Plocher p-Zone racinaire II	31	Sojall-Bio-Power	30	Terreau pour plantes d'appartement	36
Plocher p-Zone racinaire III	31	Sojall-Desy clean	42	Terreau pour pots	35
Polyversum	27	Sojall-Micro-Power	30	Terreau pour presse-motte 142	34
Potasse caustique (hydroxyde de potassium)	41	Sojall-Vitalan	31	Terreau pour semis	34
Poudre anti-fourmis	6	Solbac	12	Terreau pour semis Bio-Line	36
Poudre de roche avec magnésium	27	Solbac Tabs	12	Terreau universel	35, 36
poudre de roche du Napf	27	Solfo fluid	9	Terreau universel	36
Poudre de roche Hersbrucker	27	Solfovit WG	9	Thiovit Jet	9
poudre de roche riche en silice	27	Solupotasse	21	Thripex/Thripex-plus	15
Poudre de roche riche en silicium	27	Soude caustique (hydroxyde de sodium)	41	Thripor	16
Poudre Tomin	30			Thripor L	16
Presswasser aus Kompogasanlage	23	Soufre 80 S	9	Tillecur	18
Progénia	30	soufre élémentaire	24	Tip	32
Promanal nouveau	11	Soufre mouillable	9	TMS-B Amendement minéral	26
Proposan 40 MG/ML	31	Soufre mouillable 80 Spécial	9	Topsilage	39
PRP Minéral Sol	25	Spidex/Spidex-Plus	16	Torteau de ricin	22
PRP Purin Fix	30	Spray Oil 7-E	11	Tradilyse/Fertilyse	30
Pseudaphycus maculipennis	18	Stall-Aktiv-Forte	42	Trapper	23
Punaises prédatrices	16	Stammanstrich	18	Trapper flüssig	23
PY-BIO insecticide naturel	37, 38	Statohum Bio-Pressstopf	34	Traunem	15
Pyrethrum FS	11	Stopit	32	Tref EKO 1	34
Pyri-Fly	37	Stubble-Aid	31	Tref EKO 2	34
Quassan	11	Substrat Bio avec tourbe	35	Tref EKO 5	35
Râclures de corne fine	20	Substrat Bio sans tourbe	36	Tri 002/003	27
Râclures de corne moyennes	20	Substrat universel bio	36	Trichobox	18
RAK 1+2	6	Succédané de tourbe Bio-Line	26	Trichocap-Kapseln zum Werfen	18
RAK 2	6	Sufralo	9	Tricho-Fix	18
Raupenleimring LG	6	Sulfate de manganèse	33	Trichogrammes (TrichoCarte)	18
Rebell Piège à bostryche disparate	6	Sulfate de potassium 50 %	21	Trichosafe	18
Rebell Piège à mouches de la cerise	6	Sulfate de zinc	33	Trichosafe TS	18
Reifekompost	26	Sunspray 7-E	11	Tri-Ton	27
Reifekompost	26	Swissfiber 1 succédané de tourbe	36	Turf-Set	31
Reinor	22	Swissfiber 2	35	Ulmasud B	10
Rindenmulch	28	Talent	14	Urtisan	31
Ringolit	27	Tangle-Trap	6	Valorga	22
Rizinusschrot	22	Targanic	31	Vaminoa	27
Rizinusschrot	22	Telmion	11	Vegesan bio	23
Roseau de Chine composté	36	Terra Biosa	30	Vegethumus	26
Rütazil	37	Terra fit	28	Vermi	26
Schlupfwespen	17	Terraform	26	Vermi-Sol 1	31
Seso	30	Terre de champignons Gerber	25	Vinasse	23
Sferosol	26	Terre de composte	25	Vitalsel A.M.C.	24
Sicid	12	Terre pour jardin	25	Vitalsel A.M.C.Plus	31
Sila-Bac	39	Terre universel	36	Vitalsel Vinea Plus	31
Sila-Bac Stabilizer	40	Terreau B2	34	Vitigran 50	8
Silico-Sec	14	Terreau de compost	25	Vivasol	22
Silo Inoculant WS	39	Terreau de jardinage	36	Vulkamin	27
Sirop de fruits 8895	40	Terreau du gazon	25	Wauwiler Champignon-Kompost	26
Siva 50	10	Terreau horticole	35	Zintrac	33
Skeetal	12	Terreau pour balcon Bio-Line	36	Zofal D	11
		Terreau pour gazon	36		

Annexe 1: Produits ne figurant plus sur la liste des intrants

Les produits suivants ne figurent plus sur la liste des intrants 2003. Les stocks achetés avant le 1.1.2003 peuvent encore être utilisés en 2003. Les produits avec un changement de nom peu considérable ne sont pas cités ci-dessous.

Produits phytosanitaires

Bio 1020

Cuivre 50 (seulement le produit de Sintagro)

Soufre mouillable micronisé

Rebell piège à bostryche disparate (seulement le produit de Landi Schweiz)

Rebell piège à manches de la cerise (seulement le produit de Landi Schweiz)

Engrais et substrats du commerce

Activor 1000

Aktivmulch TerraFit

Amalgerol 2-verde (seulement le produit de Reichmuth)

Bentonit Sandbodenverbesserer

Bio Trissol engrais pour fleurs

Biofitac B1

Biofitac S1

Biogronnd aktiv (Brill)

Biomag M0

Biorga engrais bio liquide

Capito

Dornröschen

Eifelgold poudre de lava

Engrais agrumes Engrais bonsai

Engrais cactées

Engrais géraniums

Engrais orchidées

Engrais plantes vertes

Engrais Surfinias

Equi-Mais

Eurobio 0-6-12+4.8S

F 707

Forvisol

Gafsa 18+Maerl

Guano de poisson naturel

Heideblume

Humin-Vital 70 WDG (seulement le stimulateur des défences naturelles)

Hydromag

L 65

Lava-Granulat

Life Biofruit/Biovegetable

Lithothamne 400

Maxiflor 55/35

Maxiflor 80/10

Maxiflor 92

MG-Korn 35

Multiclever

Natrimag

Oekoplan Geraniendünger flüssig

Opalit

Phos-Korn 15/40

Pilzverein

Porolit

poudre de roches

Rizotal

Robikompostal

Sulfate de potassium (Patentkali) (seulement le produit de Méoc)

Sulfate de potassium 50 % (seulement le produit de Méoc)

SystemmulchC2

TerraFit-Quellmulch

Terreau pour fleurs Terracomp

Thomaskalk (Landor)

Tomagurk

Vegetoligo

Vinasse (seulement le produit d'Optigal)

Wollmanet

Wurmhumus

Würmling

Produits d'ensilage

Ecosyl

Ecosyl Dry

UFA-Lactosil

Produits contre les ectoparasites

Fossil Shield 90.0

Annexe 2: littérature

Numéro de commande	Titre	Année de publication	Prix (TVA incl.)
1130	Agriculture biologique: la reconversion	1999	6.00
1186	Aire de sortie pour poules pondeuses: respectueux des animaux et de l'environnement	2001	7.50
1219	Arboriculture fruitière bio 1 ^{re} partie: Réalisation d'un verger basse tige	2002	9.00
1221	Arboriculture fruitière bio 2 ^{ème} partie: Entretien d'un verger basse tige	2002	9.00
1160	Contrôle des courtilières	2000	4.00
1085	Contrôle des maladies et des ravageurs en maraîchage biologique	1999	7.50
1070	Contrôle des maladies et des ravageurs en viticulture biologique	1999	9.00
1162	Contrôle des mouches des étables	2000	4.00
1099	Contrôle du chardon des champs	2000	4.00
1071	Culture des plantes médicinales	1988	10.00
1073	Culture maraîchère biologique: quelques principes de base	1997	4.00
1187	Engraissement au pâturage: Une viande de boeuf bio de qualité	2001	8.00
1190	FiBL Dossier N° 1: Résultats de 21 ans d'essai DOC. Le bio améliore la fertilité du sol et la biodiversité	2001	6.00
1201	FiBL Dossier N° 2: Techniques de sélection végétale. Evaluation pour l'agriculture biologique	2001	8.00
1074	Fraises biologiques	1998	7.50
1098	La conduite des mélanges céréales - protéagineux	2000	5.00
1126	La culture biologique des petits fruits	1998	9.00
1086	La culture biologique des vergers haute tige	2000	9.00
1161	La féverole	2000	4.00
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Volume 1

Current Evaluation Procedures for Plant Protection Products Used in Organic Agriculture

Proceedings of a workshop
held September 25–26, 2003 in Frick, Switzerland



Edited by Bernhard Speiser and Otto Schmid



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Current Evaluation Procedures for Plant Protection Products Used in Organic Agriculture
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List of abbreviations

EC 2092/91	European Council Regulation 2092/91 on organic agriculture, including all subsequent amendments
F&SC	fertilizers and soil conditioners
I&C	inspection and certification
Inputs	In this volume: PPP and F&SC
OA	organic agriculture
OF	organic farming
PPP	plant protection product(s)

Foreword

This volume contains a number of articles on evaluation procedures for plant protection products used in organic agriculture. They describe the current situation in different European countries and the USA, and summarize the evaluation procedures in the guidelines for organic food in Codex Alimentarius and in the Basic Standards of the International Federation of Organic Agriculture Movements. These articles are based on presentations made at the workshop "Inventory of existing procedures for evaluation of plant protection products used in organic agriculture", held on September 25–26, 2003 in Frick, Switzerland. The aim of the workshop was to give an overview of different evaluation systems, and of their interaction with general (i.e. non-organic) legislation on pesticides. The workshop was part of the European Union (EU) Concerted Action project 'ORGANIC INPUTS EVALUATION', described at the end of this volume.

The range of available plant protection products, fertilizers and soil conditioners (referred to in this volume as 'inputs') strongly affects quantitative yield, yield security, quality of produce and profitability of crops. It may also affect the environment and the public perception of organic and non-organic farming systems. Thus, the use or non-use of inputs is an important element of agricultural production systems from the point of view of farmers, consumers and policymakers. Organic farming is characterized by a strict regulation of plant protection products, fertilizers and soil conditioners, which precludes the use of the vast majority of all available compounds.

At European level, Council Regulation 2092/91 lists all inputs allowed in organic farming. However, the particular inputs allowed on a national level can vary quite considerably from country to country. There are two reasons for this heterogeneity: (i) in addition to EC 2092/91, inputs also have to comply with national legislation. In the case of plant protection products (PPP), the most important bottleneck is pesticide registration on a national level; (ii) certain aspects of EC 2092/91 are interpreted in different ways in the EU Member States.

The collection of country reports in this volume allows a comparison of the situation in a number of countries, mostly in Europe. This shows the degree of equivalence between countries, and indicates the causes of the heterogeneity found. The aim of this collection was not to give a complete picture of all similarities and dissimilarities for the whole of Europe, but to highlight the general patterns, and to identify the reasons for the major differences between countries. Finally, it should be kept in mind that input evaluation takes place in a constantly changing environment of regulations and private standards. The articles therefore describe the situation at the time when the workshop was held.

The present collection of reports, all written to a common structure, is unique, and we would like to thank all authors for their contributions, and the Commission of the European Communities for financial support. We hope that this volume will further efforts to create a more level playing field regarding the selection of inputs that European organic farmers are permitted to use.

Frick, Switzerland, April 2004

Bernhard Speiser and Otto Schmid

Summary

Bernhard Speiser and Otto Schmid¹

Scope of this collection of reports

The reports in this volume give an overview of the current use of plant protection products in organic agriculture, as well as of the regulatory framework and the procedures and criteria for evaluation of these products, together with some background information. The reports describe the situation in the following EU Member States: Austria (AT), Denmark (DK), France (FR), Germany (DE), Italy (IT), The Netherlands (NL), Portugal (PT), Spain (SP) and the United Kingdom (UK). In addition, the volume covers Poland (POL; accession country at the time of the workshop), Slovenia (SLO; accession country at the time of the workshop), Switzerland (CH; recognized as a third country) and the United States of America (USA). Finally it describes the procedures and criteria used by the International Federation of Organic Agriculture Movements (IFOAM) in its 'Basic Standards', and those used by Codex Alimentarius in the 'Guidelines for the Production, Processing, Marketing and Labelling of Organically Produced Food'.

Regulatory framework

In all these countries, plant protection products (PPP) must conform to two kinds of regulations:

- Regulations for organic agriculture
- Legislation on pesticides

Only those compounds which comply with *both* sets of legislation can be used in any given country.

Regulations for organic agriculture

Organic farming can be regulated at three levels: European, national and private.

For EU Member States, Council Regulation 2092/91 defines the maximum range of PPP which can be used in organic agriculture. In addition, some countries also have national legislation on organic farming (e.g. AT, DK, SP, UK), and there are various private standards. In most cases, however, national legislation and private standards do not further restrict the range of PPP allowed in organic farming (except for the case of copper fungicides).

Countries which are not EU Member States have national legislation on organic farming. For the accession countries Poland and Slovenia, this is an identical transcript of EC 2092/91 (except that SLO has a lower limit for copper use than the EU regulation 2092/91). The Swiss Organic Farming Ordinance allows a similar range of inputs as EC 2092/91, but lacks a number of compounds which are not relevant for Switzerland, and restricts the use of copper more tightly than EC 2092/91. The 'National Organic Program' of the United States has a different approach than European regulations: Natural compounds are generally allowed unless they are explicitly prohibited, and synthetic compounds are generally prohibited unless they are explicitly allowed.

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Pesticide legislation

At present, all countries have their own legislation on pesticides and require registration of pesticides at national level. This applies to all pesticides, not just those for organic agriculture. The standard registration procedures are similar in most countries. However a number of countries have simplified procedures for low-risk products. Examples are:

- NL: 'RUB' registration for low-risk compounds;
- IT: simplified procedure for commercialization of certain compounds used in organic farming;
- PT: exemption from registration costs for compounds used in organic agriculture only;
- DE: notification for 'plant strengtheners' & exemption from registration requirements for substances on the 'self-cooking list'. According to the official interpretation, products listed as plant strengtheners in DE are neither PPP nor fertilizers, and are therefore allowed in organic farming without having to be listed in Annex II A or B of EC 2092/91.

There are great disparities as to which of the compounds permitted by EC 2092/91 are actually registered in the different countries. There are several reasons for this: (i) the industry may or may not apply for registration. This depends on the importance of crops, pests and diseases, and on the market share of organic farming, all of which determine the potential sales of a particular input; (ii) simplified procedures for registration may or may not be available, and criteria may be implemented with variable stringency, thus leading to variable registration costs.

Regulation of commercial products

From the list of pesticides registered for a given country, products are allowed for organic farming provided that the active substance is listed in EC 2092/91, Annex II B. As this requires no further decision making, competent authorities in the Member States are referring to Annex II B ensuring that in their countries only allowed products are used. In some cases, national or regional authorities or certification bodies have prepared lists of allowed products (e.g. DE, FR, PT, SP). In most cases, these are only guidance documents which are updated with varying frequency, and the responsibility lies with the farmer. In Austria and Slovenia, annually updated lists of allowed inputs are available.

Some countries have additional criteria for evaluation of PPP: in DK, evaluation covered not only the active substance but also the other ingredients, until recently. However, this procedure might be changed in the future. Decisions were taken by the Danish Plant Directorate, a government institution. In the USA, an inputs list is produced annually by a specialized body, the Organic Materials Review Institute (OMRI). Additional criteria are applied such as evaluation of the entire product composition. Decisions are taken by a public institution, the National Organic Standards Board. In Switzerland, an inputs list is produced annually for the largest private label organization BIO SUISSE, to which almost all Swiss organic farmers belong. Criteria for inclusion in this list are stricter and include an evaluation of the entire product composition, as well as strict evaluation of necessity, environmental impact, socio-economic acceptability and ethical aspects. Dossiers are prepared by the Research Institute of Organic Agriculture, and decisions are taken by BIO SUISSE.

Major discussion points

A review of the major discussion points in the different countries reveals a considerable heterogeneity of concerns. The most frequent issues are:

- The bottleneck for the use or non-use of compounds (active ingredients) is often the official pesticide registration in the country. Whether commercial products containing a given active ingredient are registered depends on the industry and the registration authorities, but the organic sector has little influence on it. To overcome this, modifications of the registration procedures are being discussed in several countries.
- Many of the PPP allowed for organic agriculture are subject to re-evaluation under directive EC 91/414. If they failed this re-evaluation, the range of allowed compounds might be reduced substantially. At present (April 2004), most of the compounds have been notified, but the exact evaluation criteria have not yet been decided and their impact cannot be foreseen yet.
- Organic farmers in several countries feel discriminated against because they do not have access to compounds that can be used in other countries.
- The use of copper fungicides is perceived as undesirable in organic farming. As a corollary, producers in some countries fear that they might be deprived of copper fungicides before efficient alternatives are available.
- Many organizations believe that inert ingredients of PPP should also comply with organic farming regulations. However, there are no generally accepted evaluation criteria, and most of the institutions regulating organic farming have no insight into the composition of PPP.

Use of compounds in different countries

Here, we summarize the use of different compounds across Europe. This overview is based on the country reports in this publication, but information was not complete for all countries. In most cases where a compound is not allowed in a country, this is because no commercial product is registered.

Products of plant or animal origin

▪ *Azadirachtin*

According to EC 2092/91, azadirachtin (an extract of the neem tree) may be used if the need is recognized by the inspection body or authority. Under this restriction, its use is allowed in AT, IT, NL, SP, CH and UK, but not in DK, PT and SLO. In the UK, some private standard setting organizations allow its use with prior permission, while others do not.

▪ *Pyrethrins*

According to EC 2092/91, pyrethrins may be used if the need is recognized by the inspection body or authority. Their use is allowed in all countries investigated. In NL, the use is not allowed in apple, pear and stone fruit production.

▪ *Quassia*

Quassia is allowed in AT, IT, SP, CH and UK, but not in DK, NL, PT, SLO. In the UK, some private standard-setting organizations allow its use, while others do not.

▪ *Rotenone*

According to EC 2092/91, rotenone may be used if the need is recognized by the inspection body or authority. Under this restriction, its use is allowed in AT, IT, SP, CH and UK, but not in DK, NL, PT

and SLO. In the UK, some private standard-setting organizations allow its use with prior permission, while others do not.

- *Lecithin*

Lecithin is allowed in all countries investigated except DK and SLO.

- *Plant oils*

Plant oils are allowed in all countries investigated except DK.

- *Soft soap*

Soft soap is allowed in all countries investigated except PT.

Products of mineral origin

- *Potassium alum (kalinite)*

According to EC 2092/91, potassium alum is allowed only for bananas. With this restriction, it is allowed in AT, IT, SLO and SP.

- *Mineral oils*

According to EC 2092/91, mineral oils are allowed only for fruit and olive trees, vines and tropical crops. With this restriction, their use is allowed in AT, IT, NL, PT, SLO, SP and CH.

- *Quartz sand*

Quartz sand is allowed in all countries investigated except PT and CH.

- *Sulphur*

Sulphur is allowed in all countries investigated.

- *Others*

Rock powder and silicates are allowed in NL, clay minerals in CH. In DE, clay minerals are notified as plant strengtheners and therefore allowed.

Products of microbial origin

- *Bacillus thuringiensis*

B. thuringiensis is allowed in all countries investigated.

- *Granulosis viruses*

Granulosis viruses are allowed in all countries investigated except DK and PT.

- *Others*

According to EC 2092/91, all microorganisms are allowed provided that they are not genetically modified. In different countries, different microorganisms are registered against different pests or diseases. In CH, the microbial fermentation product spinosad is allowed.

Products of diverse origin

▪ ***Diammonium phosphate***

According to EC 2092/91, diammonium phosphate is allowed only in traps. It is allowed in AT, IT, SLO and UK.

▪ ***Metaldehyde***

According to EC 2092/91, metaldehyde is allowed only in traps, and only until 2006. It is allowed in AT, IT, NL, PT, SLO, SP and UK.

▪ ***Pheromones***

According to EC 2092/91, pheromones are allowed only in traps. They are allowed in all countries investigated except DK.

▪ ***Pyrethroids***

According to EC 2092/91, only the pyrethroids deltamethrine and lambda-cyhalothrine are allowed, and their use is restricted to traps for the control of *Batrocera* and *Ceratitis*. The use of these products is allowed in AT, IT, SLO, SP and UK.

▪ ***Iron phosphate***

Iron (III) phosphate is allowed in AT, DE, IT, NL, SLO and SP. In CH, it is allowed by national legislation, but the commercial product is not included in the FiBL inputs list. Thus, it cannot be used by the majority of Swiss organic farmers.

▪ ***Copper***

According to EC 2092/91, copper fungicides may be used if the need is recognized by the inspection body or authority. The application is limited to 8 kg/ha/year until 2006, and 6 kg/ha/year after that (with more complicated regulations for perennial crops). With these restrictions, copper fungicides are allowed in AT, DE, FR, IT, PT, SP and UK. In CH, their use is limited to 4 kg/ha/year (less in some crops) and in SLO to 3 kg/ha/year. In DK and NL, copper is not allowed.

▪ ***Lime sulphur***

According to EC 2092/91, lime sulphur may be used if the need is recognized by the inspection body or authority. With this restriction, it is allowed in AT, IT, SLO, SP, and UK. In NL, it was exceptionally allowed in 2003 for apples and pears.

▪ ***Paraffin oil***

Paraffin oil is allowed in all countries investigated except PT.

▪ ***Potassium permanganate***

According to EC 2092/91, potassium permanganate may be used in fruit and olive trees and vines only. With this restriction, it is allowed in AT, IT, SLO, SP and UK.

Plant protection products in organic farming in Austria

Alexandra Hozzank²

History, structure and trends of organic farming in Austria

History

The organic movement in Austria originated in 1980, when 200 farmers decided to cultivate their farms according to organic methods. The movement's strongest period of growth was up to the end of the nineties; in 1999 it reached its peak with 19 733 farms. The most important factors for this enormous increase had been the early inclusion of guidelines for organic crop production and animal husbandry in the Austrian Codex Alimentarius (not to be confounded with the international Codex Alimentarius of FAO/WHO), government support for organic farms during and after conversion through compensatory payments, favourable market conditions through the entrance of supermarket chains, and the active policy of the organic farming associations (mainly BIO ERNTE AUSTRIA, with a share of nearly 65 % of all organic farmers). After this peak the number of organic farms decreased again until 2001. From 2001 to 2002, the number of organic farms in Austria increased from 17 512 to 17 891. In 2002, 17 891 organic farmers were cultivating 12 % of the agriculturally used area (BMLFUW, 2003a).

Structure and trends

Austria is characterized by small-structured agriculture, the average farm size being between 10 and 20 ha.

Cereal production is of highest importance, followed by feed production – 43 % cereal production, 31 % feed crop production, 7 % legumes, 5 % maize, about 2 % potatoes and 2 % oil seed (Eder *et al.*, 2002). In animal husbandry the distribution is as follows: 18 % of cattle, 1 % of pigs, 2 % of chickens, 24 % of sheep and 14 % of horses are kept according to organic standards (Freyer *et al.*, 2001). In 2001, an 'Action Plan for Organic Agriculture in Austria' was developed. This plan is scheduled to increase the organically managed area to 50 % by 2006 (BMLFUW, 2003b).

Support

Financial support for organic agriculture by the state started in 1989. Since 1995, one year after Austria entered the European Union, organic agriculture has been funded through the framework of ÖPUL, the Austrian Agri-Environmental Programme (BMLFUW, 2000).

Inspection

There are seven accredited certification bodies operating in Austria, which are either private non-profit or for-profit organizations. The supervision of the control and certification process is characterized by a tripartite approach (Federal Ministry of Social Security; Federal Ministry for Economic Affairs and Labour; Federal Ministry for Agriculture, Environment and Water Management), where each ministry focuses on a specific agenda (Darnhofer *et al.*, 2003).

² Infoxgen – Arbeitsgemeinschaft transparente Nahrungsmittel, Königsbrunnerstraße 8, A-2202 Enzersfeld

Major inputs (in descending order)

- Copper, sulphur (decreasing quantities)
- *Bacillus thuringiensis*
- Granulosis viruses
- Fatty acid potassium salt
- Lime sulphur (only used in 2003, with an exceptional authorization)

Regulatory framework

Organic agriculture in Austria is mainly regulated through the EU Regulation 2092/91. In addition, guidelines for organic production are implemented in the Austrian Codex Alimentarius. On the national level, PPP and F&SC are regulated by the laws mentioned below. There is also the possibility of applying for an exceptional authorization for components not listed in Annex B. This can be considered when special circumstances threaten crop production. For example, an exceptional authorization for lime sulphur against powdery mildew and scab on apples and pears was given in 2003.

Legislation on PPP and F&SC

- Codex Alimentarius Austriacus, Chapter A8, Subchapter A

Legislation on PPP

- Plant Protection Products Act (Pflanzenschutzmittelgesetz) 1997
- Ordinance giving parity with Germany (109. Verordnung: Verordnung gemäß §12 Abs. 9 Pflanzenschutzmittelgesetz 1997 – Gleichstellungsverordnung Bundesrepublik Deutschland)
- Ordinance giving parity with the Netherlands (52. Verordnung: Verordnung des Bundesministers für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft gemäß §12 Abs. 9 des Pflanzenschutzmittelgesetzes 1997 – Gleichstellungsverordnung Königreich der Niederlande)
- Agricultural Law Amendment Act 2003 (110. Bundesgesetz: Agrarrechtsänderungsgesetz)

Legislation on F&SC

- Fertilizer Regulation (Düngemittelverordnung) 2004.
- Compost Ordinance 2001 (Verordnung des Bundesministers für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft über Qualitätsanforderungen an Komposte aus Abfällen – Kompostverordnung)

Private Standards

- Production Guidelines of BIO ERNTE AUSTRIA (published annually)
- Infoxgen Input List (published annually)

Hot issues

- Evaluation of products restricted to active substances
- Lack of lists for problematic inerts
- GMO problem concerning active ingredients as well as inerts
- Restricted resources for information transfer
- Plant strengtheners: through the amendment of the Austrian Fertilisers Regulation at the beginning of 2004 plant strengtheners registered in Germany (BBA list) are treated as plant conditioners and are allowed for use in organic agriculture in Austria without previous evaluation.
- 'Self-cooking list': sticking to the existing legislation, it is not possible to use self-produced plant extracts. As soon as a product is applied against any kind of pest organisms, it has to be registered as plant protection product.
- There are no institutions in Austria checking products with reference to necessity and effectiveness.

Decision making

PPP have to be registered with the Agency for Health and Nutrition Security (AGES). There the branded products are evaluated taking the active ingredients into consideration, apart from the required studies on ecotoxicity and human toxicity.

The evaluated products are published on the AGES homepage <http://www.lwvie.ages.at/service/pflanzenschutz/pfschreg/index.html>, where PPP for organic agriculture are listed in a separate category <http://www.lwvie.ages.at/service/biolandbau/index.html>.

The evaluation of products on the level of private standards (BIO ERNTE AUSTRIA) is taken into account during the composition of the input list, which is published annually by the database *Infoxgen* <http://www.infoxgen.com>.

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Plant protection products in organic farming in Denmark

Rasmus Ørnberg Eriksen³

Legislative history

From the 1950's, organic farming in Denmark was inspected and certified by the Biodynamic Association (Demeter) and later also by the Danish Association of Organic Farming (LØJ) (Landsforeningen Økologisk Jordbrug, 1998). In 1987, the Danish government passed the first law on organic farming in Denmark (Økologilov, 1999). This was followed by the first common European Union (EU) legislation in 1991 (EC 2092/91).

Since 1989, all organic farms from which primary products are to be marketed making reference to the organic production method are certified and inspected by the Plant Directorate (PD) under the Danish Ministry of Food, Agriculture and Fisheries. For details see the announcement and guidance document (Anonymous, 2000). Thus, the whole of Danish organic primary production is controlled by this national authority. Inspection is carried out by six regional centres.

Development in the last decades

From 1989 to 1994, the area and number of organic farms were unchanged, with around 500 farms in total. From 1995 to 2001, the area and number of organic farms has more than tripled due to consumer demand for organic products, lower prices and better economic support from the beginning of the conversion period.

In 2002, there were 3 532 organic farms in Denmark, which represents only a small increase from 2001. These farms covered an area of 171 467 hectares, which is about 6.6 % of the total area under agricultural production. It seems that the number of farms will be largely unchanged from 2002 to 2003. The organic farms are distributed over the whole country, but with a higher concentration in the western (primarily southwestern) part of Denmark.

The average size of an organic farm in Denmark is about 50 hectares, which is similar to non-organic farms. The variability in size is generally larger in non-organic farming, representing both the largest and the smallest farms in Denmark.

Where in the nineties a lot of dairy farms converted to organic production, in the last years primarily arable farms without livestock are converting. Approximately 13 % of the area is permanent pasture. The rest is in rotation. About half is used for herbage (mainly grass-clover) and the remainder for cash crops (mainly cereals).

During the last few years, the market share for the typical organic products has been stable at around 5 %. Organic milk and other dairy products have the largest market share in Denmark (approx. 1/3 of fresh milk sold is organic). Vegetables (mainly potatoes, onions, carrots and salads) and cereal products (mainly rye and wheat for bread, and oats) are also important organic products. Danish production of organic fodder crops generally covers needs in Denmark.

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Danish organic seed production of certain grass species is large enough to cover most of (if not all) the demand within the EU. Also for most cereal species, some other field crops and for potatoes, the Danish production generally covers the Danish market for organic seed. When the new legislation on seed enters into force from January 2004 (Anonymous, 2003), it can be assumed that exports and imports of organic seed will increase rapidly.

Future challenges

- Within the EU, the legislation on substrates for organic greenhouse production and organic production in pots and bags differs from country to country. This is also the case for fruit production, where the number of permitted products and the use of pesticides is quite large in some countries and minimal in others. This is an indefensible situation from a consumer point of view, and leaves the organic farmers governed by the stricter rules at an economic disadvantage to organic farmers in other countries.
- If genetically modified (GM) plants are generally approved in Europe, it may no longer be possible to grow some species organically, as GM plants will inevitably cross with plants from nearby fields. If GM plants are grown and no contamination with GM is allowed in organic plant material, the growing of species such as rape, maize and some grasses may be hazardous for the organic farmer.
- The use of fertilizers, in particular the amount of imported manure from non-organically reared livestock, varies from country to country. This may be a discussion point in relation to leakage into the environment, and the integrity of organic farming generally.
- In order to obtain equal competition and general consumer support for organic products, it is a necessity to achieve more uniform legislation and to harmonize the interpretation of the current legislation throughout the whole of Europe. The great challenge concerning the legislation does not diminish with the accession of new Member States.

Fertilizers and soil conditioners

The use of soil conditioners in organic farming in Denmark is very low. Use of fertilizers imported to the farm is more common, in particular on arable farms without livestock. The type and origin of fertilizers is regulated in Annex II of EC 2092/91. However, the national legislation in Denmark sets a maximum on the import and use of fertilizer (Anonymous, 2000): a maximum of 70 kg nitrogen (N) per ha in rotations can be from non-organic animal manure. Finally, the total amount of fertilizer including organic manure must not exceed 140 kg N per ha.

Plant protection products

In Denmark, the use of plant protection products (PPP) in organic farming is very low compared to the current use in non-organic farming. This is partly due to less intensive growing conditions and probably also to a general opinion among organic farmers that in organic farming the use of pesticides of any kind is not an option. Most of the organic farmers do not use any PPP at all. PPP are mainly used by producers of high-value (intensive) crop types, such as vegetable and fruit products, which depend on very high cosmetic quality and on homogeneous products, in order to achieve reasonable prices and to lower the risk and percentage of produce discarded.

Major PPP

Only few plant protection products are allowed in organic farming in Denmark. It is characteristic of them that all are of natural origin and that their environmental and biological impacts are brief and insignificant.

The use of sulphur against fungi is probably the primary PPP use in organic farming in Denmark. Quartz sand, paraffin oil, fatty acid potassium salt (soft soap) and microorganisms are all allowed, but only used in minor amounts (if at all).

General legislation on use of PPP in organic farming

In Denmark, the overall legislation for the use of different products for plant protection and possible restrictions are administered by the Danish Environmental Protection Agency (DEPA, 1996). Only PPP approved by DEPA can be used as PPP in Denmark. The relevant law is the 'Law on chemical substances and products' (*Bekendtgørelse af lov om kemiske stoffer og produkter*, Consolidation Act No. 21 of 16/01/1996, with later amendments). The law gives an overview of the types of products that are allowed and which kinds of products are prohibited.

The 'Register of approved pesticides' (*Oversigt over godkendte bekæmpelsesmidler*), 2003 is available from the homepage www.mst.dk (only in Danish).

By comparing the list from DEPA with the list in Regulation EC 2092/91, with amendments, the allowed active substances are narrowed down to 11 in all. This means for example that copper, metaldehyde and pheromones are prohibited substances in Denmark.

Hot issues

- Until now (2003), the evaluation of new PPP for organic farming has included looking at all the ingredients of a product. The argument has been that some ingredients may not be active substances, but can nevertheless be the reason why a product has a certain effect. Sometimes inert substances may influence the environment even though they have no biological activity. This creates some difficulties, as inert substances used in PPP are not mentioned in Regulation EC 2092/91.
- As the Danish legislation on organic farming is currently under revision, the described system may soon change, hereby moving towards the same interpretation as in some other European countries.
- Plant extracts are generally allowed for soil improvement, but the same products cannot be used as PPP. This might be changed after the revision of the general EU legislation on pesticides (in connection with Commission Regulation 1112/2002).
- Organic farming organizations in Denmark are critical towards the Danish administration, which is considered to have a stricter evaluation system than other European countries, thereby leading to unequal competition between farmers in Denmark and farmers in other countries.

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Plant protection products in organic farming in France

Marie-Christine Monnier⁴

History, structure and trends of organic farming in France

History and structure

Organic farming and the organic movement began to grow in France in the 1960s, by two different routes:

- 'Nature approach' with a consumers' and organic producers' organization (Nature & Progrès)
- 'Agronomy and business', through the diffusion of the LEMAIRE-BOUCHER method, based on the use of maerl (a calcified seaweed), compost and magnesium inputs.

The 1970s favoured the growth of organic agriculture because of increasing criticism against intensive modern agriculture and the chemical industry, responsible for major ecological catastrophes. Organic farming was at this time one expression of the rebellious youth movement. Private standards ('*cahiers des charges*') were linked to organizations and labels.

The 1980s context was in favour of organic farming, which was in line with a new orientation in policy towards quality products, initiated by the Ministry of Agriculture. Facing important problems of fraud, the organic movement took this opportunity to get official recognition for organic farming. An organic section ('Section Bio') was created within the new national commission for labels and certification (CNLC), and assigned responsibility for agreeing standards. At this time, private standards (mostly global, such as Nature & Progrès, Demeter) coexisted with public standards for production of plants and animals.

With the adoption of EC 2092/91 in 1991, the previous national standards for vegetable products became outdated. The French control system for organic farming was reorganized on the basis of independent certification bodies, which have to be accredited by the authority COFRAC and authorized by the CNLC. Nature & Progrès chose to stay out of this system. ECOCERT was created by a group of agronomists and advisers and became the first certifier dedicated to organic farming which was independent from a consumers' or producers' organization.

After publication of the EC Regulation 1804/1999 on organic animal husbandry in 2000, France chose to adopt a complementary national regulation (known as CC-REPAB F).

A specific national logo (AB; '*agriculture biologique*'), owned by the Ministry of Agriculture, is free for all stakeholders to use in respect of the current regulation for organic farming.

Today, private standards have little influence on consumers, except in the case of labels for biodynamic farming, and for some products not covered by EC 2092/91, such as wine or salt. At national level, EC 2092/91 is completed by specific standards for production of fish and pet food.

In order to guarantee the same interpretation of the current regulation on organic agriculture by certifiers and stakeholders, the Section Bio edited two 'reading guides' concerning vegetable production and animal husbandry.

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Six certification bodies were recognized by the French authorities for organic farming control in 2004: ACLAVE, AGROCERT, CERTIPAQ, ECOCERT, QUALITE FRANCE and ULASE.

Support

A *National Plan* for organic farming was produced by the Ministry of Agriculture for the period 1997-2002, with the aim of better integration of all kinds of support for agricultural development: *financial aids* for conversion of farms, economic assistance for the sector, including processors, *training and advice*, *research* in organic agriculture, and *statistics*.

In this context, several conventional organizations are involved in organic agriculture in their fields of competence: the national agronomic research institute (INRA), the Chambers of Agriculture (APCA), the national network of agricultural schools (with FORMABIO), in partnership with other organic structures, such as ITAB for research, organizations of producers (FNAB) and processors.

During this period, the 1999 *Agricultural Policy Law* laid the foundations both for helping organic farming as the main pattern of sustainable agriculture and giving it the structure to develop the sector. Help for conversion to organic farming was given through specific contracts with farmers involved in less intensive and environmentally friendly practices. These contracts have been reduced in 2003, but are still applicable to conversion. The Ministry of Agriculture published a *new plan in January 2004*, the details of which have yet to be completed.

A new national body (*Agence Bio*), created in 2001 under the Ministry of Agriculture's responsibility, is in charge of collecting and publishing appropriate data and coordinating public communication on organic agriculture. See www.agencebio.org and www.printempsbio.com.

Trends

In 2003, organic farming represents a total area of 555 000 ha with 11 377 farms (growth rate: 6 %). The conversion area is depressed (-20 %), as a consequence of the changed financial support system. Organic animal husbandry is increasing at a rate of 5 to 6 %, depending on the species.

The total number of processing units is reduced from 5 252 in 2002 to 4 861 in 2003 (-8 %).

Major inputs used as PPP in France

- Copper and sulphur compounds, sometimes in mixture
- Rotenone (grapevines)
- Pyrethrum
- *Bacillus thuringiensis*
- Granulosis virus
- *Beauveria* sp.
- Pheromones (grapevines)
- Metaldehyde

Due to legal requirements concerning agricultural inputs, certain products are labelled as fertilizers, but are extensively used as PPP (e.g. neem extract).

A national list of available inputs used as PPP was established and published in 2002 under the responsibility of the Plant Protection Service (SPV, a department of the Ministry of Agriculture).

The publication of the Technical Institute for Organic Agriculture (ITAB) gives required information for each type of crop.

Regulatory framework

Organic farmers have to respect legislation concerning organic farming (EC 2092/91) as well as the French policy on agricultural inputs in general, especially on PPP. This policy makes the following requirements:

- For fertilizers and substrates: equivalence with a national norm or market authorization (AMM) after 'homologation' (registration).
- For PPP: homologation and AMM. A database of authorized substances, branded products and their conditions for use is accessible at <http://e-phy.agriculture.gouv.fr/wiphy/>.
- The previous category of 'simple industrial products', sold without specific authorization, has been suppressed since May 2003. Previously, potassium permanganate was used under this legislation.
- 'Additives for organic matter' can be sold without authorization if they are applied to organic matter directly, and not to the soil.

All products used as PPP must be authorized following the evaluation procedure (see Figure 1, next page). The dossier must prove both efficacy and innocuity. Two different commissions give their conclusions on these aspects before the 'Committee for Homologation' grants or denies market authorization (AMM). For F&SC, a different agreement committee exists, and better connections between the two committees would be desirable. The French Association for Plant Protection (AFPP) is also deeply involved in this process. See <http://www.anpp.asso.fr>

Hot issues

- *Copper products*: There is concern about their possible prohibition for organic farming at European level. Some progress was made in decreasing the application rates, but there is no real alternative to copper fungicides for a number of commodities grown in southern regions (especially fruit trees, grapevines, vegetables). The nuisance of copper in soils under various conditions is unclear, and the issue of copper prohibition is perceived as being more of a political than of a technical nature.
- Lack of authorized products for a number of active ingredients allowed by EC 2092/91 (neem, quassia, pure preparation of pyrethrum), because of the complexity and high cost of the legal procedure for AMM.
- The creation of a new legal category 'plant strengtheners', with simpler and more adapted procedures for agreement, is being discussed at national level (Ministry of Agriculture). Products should prove their effectiveness and innocuity before being labelled. It is unclear how such a category would interact with EC 2092/91.
- Potassium permanganate can no longer be used, as of May 2003, because the legal category of 'simple industrial products' is not recognized any more (see above).

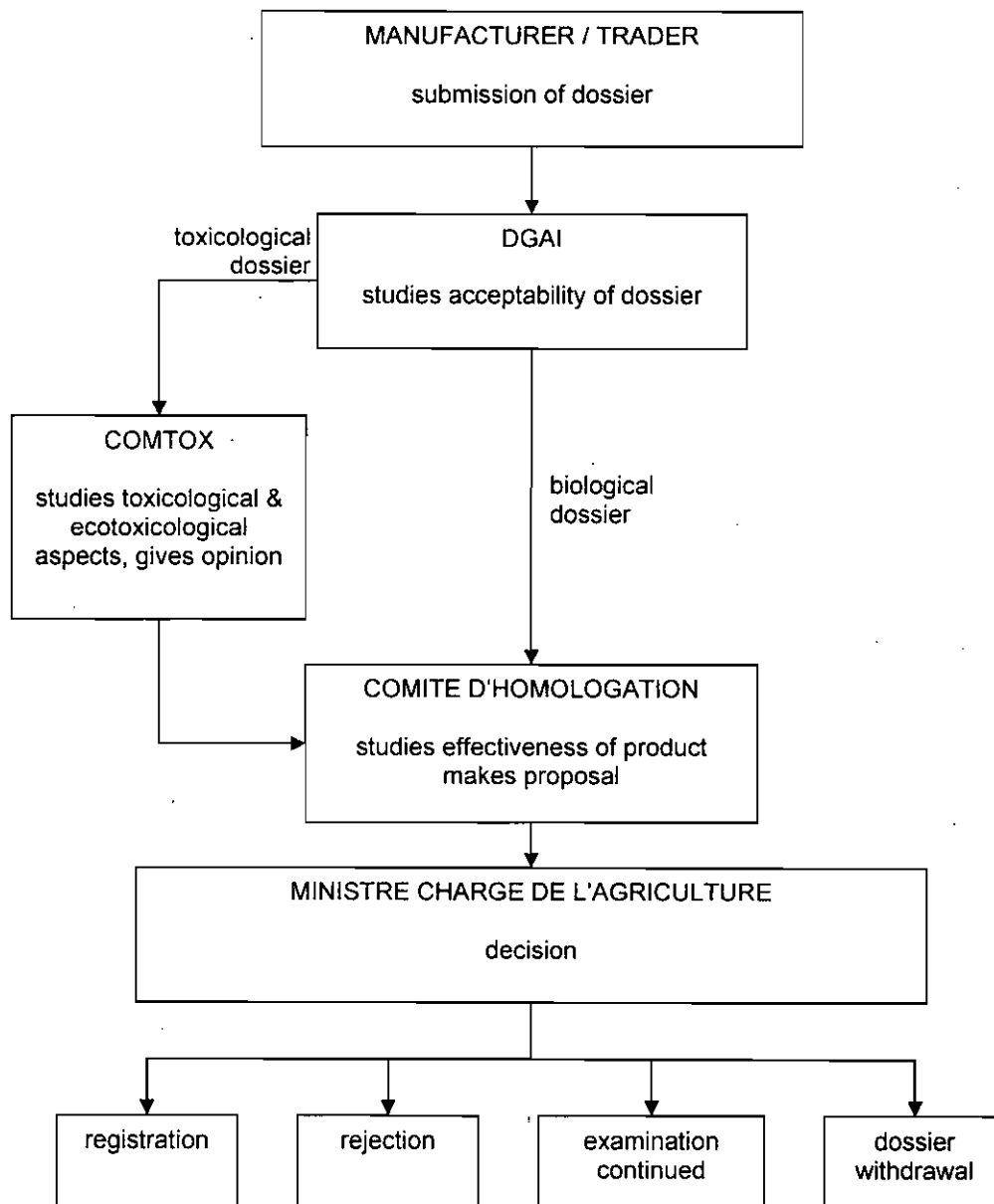


Figure 1: Flow-chart illustrating the registration process for France.

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Plant protection products in organic farming in Germany

Christian Schüler⁵

History and context of organic farming in Germany

Development of organic farming

The development of organic farming in Germany can be divided into three phases. The first phase started towards the end of the 1960s, when the negative environmental effects of industrialized farming and pollution in general were becoming obvious. During the 1960s, it was important to show that organic farming could be practised successfully.

The second phase began when state funding was directed to organic agriculture through the EU extensification programme from 1989 onwards, and later EU Regulations 2078/92 and 1957/1999 supported organic agriculture.

The third phase started in 2001. In order to reach the ambitious government goal of 20 % organic land by 2010, a set of measures was introduced in 2001 including improved support for organic agriculture, the implementation of the Federal Programme for Organic Agriculture as well as the introduction of a national organic seal. By the end of 2001, the number of organic enterprises had increased by 15.4 % compared to the previous year. The statistics show that on December 31, 2001 there were 14 703 organic producers with around 632 000 hectares under organic management. The proportion of organic farms amounted to 3.1 %, and the proportion of organically managed land amounted to 3.7 %.

Regulations supporting conversion to organic farming (e.g. the extensification programme in 1989 and the later agri-environment programmes under Council Regulation 2078/92 and 1957/1999), and EC 2092/91 have greatly helped to make organic agriculture generally accepted.

Regional distribution of organic farms in Germany

The majority of organic farms, as well as the highest ratio of organic farms and organically managed land area, are found in former East Germany. Many organic farms are also found in southern Germany, where organic farming was originally concentrated. These differences are due to:

- the major changes in eastern German agriculture after the reunification of Germany in 1990;
- the designation of large conservation areas with restrictive conditions that are easily fulfilled by organic farmers; and
- the fact that many regions in eastern Germany are classified as disadvantaged areas – often with special incentives for organic farmers.

Organic farming associations

The Demeter Association was founded in 1954 to certify biodynamic agriculture. The producer organization 'Bioland' was founded in 1971; more producer organizations were founded later. The Federation for Organic Farming (Arbeitsgemeinschaft Ökologischer Landbau; AGÖL) was founded in

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1988 as an umbrella association of the six producer organizations (Demeter, Bioland, ANOG, Biokreis, Naturland and Ecovin). Common basic standards ('*Rahmenrichtlinien*') had already been developed in 1984 and continued to be developed up to the year 2002. These standards set the framework within which the standards of the individual organizations operated. AGÖL ceased its activities in 2002.

Standards and inspection

Generally, sovereignty over standards, i.e. the right to decide on which standards are to be accepted or modified, lies with the Assembly of Delegates of the different organic producer organizations and their standards committees. The mission of the standards committees is to draft the standards and to keep them updated. The standards of the organic producer organizations are in several respects stricter than EC 2092/91. For instance, they prescribe the conversion of the whole farm. With respect to processing, the positive lists of these standards are more restrictive, e.g. by limiting the use of enzymes for certain purposes.

Both private and state standards are inspected according to the inspection system as described in EC 2092/91. Private inspection bodies, which are approved and supervised by the state authorities, often inspect according to both standards.

After EC 2092/91 came into force in 1993, a number of farmers and processors began to produce organically without joining one of the existing producer organizations. Currently about 60 % of organic farms are organized in one of the producer associations.

The organic producer organizations as well as processors and traders have been represented since June 2002 by the Union of the Organic Food Industry (Bund Ökologische Lebensmittelwirtschaft – BÖLW) i.e. the central association of the organic food sector. On the international level, organic producer organizations have agreed on the IFOAM international basic norms.

Land use and animal husbandry

Grassland, legume-based leys, the production of vegetables and fruit as well as sheep and goats are of higher importance in organic farming than in conventional farming. On the other hand, comparatively little pig and poultry meat is produced. More information is available under http://www.soel.de/oekolandbau/international_deutschland_ueber.html (in German).

Major inputs

The data basis for organic inputs is very small. Data from the year 2000, presented in the annual report on agriculture by the Federal Ministry of Consumer Protection, Food and Agriculture, show that the input for plant protection is very low. Only 2 DM/ha (=1.3 EUR/ha) were spent on plant protection on organic farms – that is 2 % of what conventional farms spent (93 DM/ha). Compared to this, the input for feed on organic farms is as much as a third (183 DM) of that on conventional farms (488 DM), whereas money spent on fertilizers is only 10 % (15 DM/ha) of the input on conventional farms (149 DM/ha).

Regulatory framework

Definition of terms

First of all, the Act on the Protection of Crop Plants defines the difference between *Plant Protection Products* and *Plant Resistance Improvers*.

Plant Protection Products are defined as protecting plants and plant products against harmful organisms; against animals, plants or micro-organisms which are not harmful organisms; as influencing the processes of plants (e.g. growth regulators) and as inhibiting the germination of plant products. They do *not* include water, fertilizers (as defined in the Fertilizer Act) and *plant resistance improvers*.

Contrary to that, Plant Resistance Improvers are those substances which are intended to enhance the resistance of plants to harmful organisms, to protect plants against non-parasitic impairments and to be used on cut ornamental plants (not for planting material, though).

If a newly developed substance is to be marketed, it has to comply with the following rules: it is not allowed to have harmful effects on human and animal health, groundwater and the natural balance. Furthermore it has to be included on a list of Plant Resistance Improvers issued by the Biologische Bundesanstalt (BBA – Biological Research Centre of Agriculture and Forestry) and the designation “Plant Resistance Improver” plus the list number has to be stated on the containers and outer packaging or packaging inserts.

As EC 2092/91 does not regulate the use of plant resistance improvers, all products recognized as plant resistance improvers may be used in organic agriculture in Germany.

Inclusion on the list of plant resistance improvers

In order for a product to be included on the list, the manufacturer, distributor or importer has to apply for inclusion. The application has to contain the name and address of the applicant, the trade name of the product and its composition (specifying the nature and quantity of the substances using scientific nomenclature). Information on its mode of action and instructions for use as well as the labelling intended for the container and outer packaging or package inserts have to be given.

In addition to this information, several optional points can be submitted with the application in order to avoid separate requests and to accelerate the handling of the application. Topical Safety Data sheets for both the product and its components (if present) and CAS numbers (or similar registration numbers) for clear scientific identification of the (chemical) components of the product should be supplied. If the applicant is not the manufacturer of the product, he or she should be named, as should the manufacturer of the product components. For products which cannot be clearly identified in substance, raw materials and manufacturing procedures can be given. Statements can also be included to the effect that the product – especially products based on organic materials – does not contain pathogenic germs or – for microbial products – it is free from toxic metabolites and that no toxic metabolites are formed. Reference literature should show that the product is harmless with regard to human and animal health, groundwater and the natural balance.

Listing procedure for plant resistance improvers

If the necessary information is given in the application, the listing procedure according to the Crop Protection Act follows three different steps.

First, the Federal Office of Consumer Protection and Food Safety tests whether the application is complete and whether the product is to be classified as a Plant Resistance Improver (plausibility test). If all the information that is necessary for this is not handed in with the application, it requests more documents and samples. When documentation is complete, the processing period of four months starts.

Now the Federal Institute of Risk Assessment (BfR), the Federal Environmental Office (UBA) and the Federal Biological Research Centre of Agriculture and Forestry (BBA) check whether the criteria for marketing the product as a Plant Resistance Improver are fulfilled.

As the last step, the Federal Office of Consumer Protection and Food Safety (BVL) decides in agreement with the other three institutions (BfR, UBA, BBA) whether the product is included in the list of Plant Resistance Improvers.

Numbers and fees

In May 2003 there was a total of 324 applications, of which 222 were already included in the list. 43 applications had been withdrawn or were rejected and 59 were still in progress.

According to the BBA (2002), the fee for the general test, the decision and the inclusion on the list is EUR 290. In case of objections or additional demands, further tests cost between EUR 800 and 5 200.

Categories of plant resistance improvers

There are different categories of Plant Resistance Improvers depending on their ingredients. In 2002, 18 % of the products listed were based on inorganic compounds (stone meal, sodium silicate, etc.), 58 % were based on organic compounds (algae and plant extracts, plant oils etc.), 16 % were homeopathic preparations and 8 % mainly consisted of microbial agents (*Trichoderma* spp., *Bacillus subtilis* etc.).

Applying distinctions similar to those made in the definition of terms, there are three categories of intended purpose. As of May 2003, there were 222 products included in the list, of which 186 were intended to enhance the resistance of plants to harmful organisms. 144 are supposed to protect against non-parasitic impairments and 46 are intended for use on cut ornamental plants.

Some of the Plant Resistance Improvers on the list have multiple purposes: 107 products can be used for the first two categories (harmful organisms and non-parasitic impairment); 3 substances act against harmful organisms and can be used cut ornamental plants; 20 products help against non-parasitic impairment and on cut ornamental plants. Only one of the 222 products can be used for all three purposes.

Hot issues

Several risks and problems may arise as more applications are made for listing of Plant Resistance Improvers. An important point to be considered is that problems might occur when the listing requirements are reduced so that an increasing number of 'low risk pesticides' is included on the list. This may lead to a modification of the basic principles of plant protection in organic farming – away from preventive measures towards direct control of pests and diseases.

- Although bureaucracy and costs might increase, there is no quality control of the listed Plant Resistance Improvers.
- Neither producer organizations nor consumers and environmentalists are involved in the evaluation of Plant Resistance Improvers.
- Advisory services are sceptical about Plant Resistance Improvers and there is only a small market for these products so far.

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Plant protection products in organic farming in Italy

Cristina Michelsoni⁶

History and context

In Italy, organic agriculture (OA) started its development quite late compared to other EU countries: in the late 1980s, the number of organic farms was just a thousand. During the 1990s, a huge number of farms converted to OA: in 2001, the total number of organic farms was 56 440 (total operators, including processors, handlers and importers: 60 509) cultivating 1 237 640 ha. This mass conversion was due essentially to two factors:

- Market opportunity (especially for vegetables, citrus and specialities such as pasta or Parmesan cheese) in northern European markets;
- Regional subsidies, direct and indirect: through EC 2078/92 to start with, then through Rural Development Plans grants awarded to converting farms. But there were also several regions giving priority to organic farms when requesting structural intervention funding. So, for example, if requesting funds for stable restructuring, an organic farm has priority over others.

Organic animal husbandry showed some development a few years ago but it never had a significant presence. This is due to extremely reduced and intensified animal husbandry in Italy and to high competition from Northern countries (in a way, it is the result of 30 years of the Common Agricultural Policy (CAP)).

In the last 10 years, organic product consumption and consumer interest started to grow as well, driving many supermarket chains to establish their own organic brands, although the range offered by speciality shops was more important.

Control and certification bodies

The competent authority for OA is the Ministry for Agriculture. It has authorized 11 certification bodies to perform their activities in OA (plus two German ones for the province of South Tyrol). All of them are private organizations. They are overseen by the Ministry of Agriculture together with regional authorities.

Present situation in production

A few years ago Italy had the highest proportion of OA in Europe. But in 2002, statistics started to highlight a change in trends: a decrease of about 1 % in the number of organic operators. By the end of 2002, organic farmers numbered 49 489 (55 902 including processors and importers) cultivating 1 168 212 ha (-70 000 ha compared to 2001) that represent about 8 % of the total agricultural area.

Main areas of production: in terms of hectares, the most important crops are cereals and pulses (272 000 ha), fodder (289 009 ha) and pasture (261 263 ha). In terms of market relevance, vegetables (12 210 ha), fruit (47 220 ha), olive trees (102 055 ha) and vineyards (37 380 ha) are the leaders. Animal husbandry products have a very low importance and are often imported.

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Consumption

OA products follow the same trend as conventional ones: strong exports to the USA, Japan and northern Europe. In the last five years, however, national consumption of organic products (Italian and imported) has increased considerably. Organic products have considerable presence in school canteens and catering. In a few regions they are supported and subsidized by law.

Future developments

In the coming years a further decrease in organic farms is likely, but this will mainly affect organic farms that are unable to sell on the organic market and are compelled to offer their products on the conventional market. At the same time, an increase in national consumption may support local organic farms and allow them to withstand strong competition coming from northern Africa, South America and EU accession countries.

Technical issues

Fertilization

The main problem is *organic matter* re-integration. Animal husbandry (organic and conventional) is reduced, specialized and extremely localized in Italy. Therefore, organic matter should be searched for in other sectors (e.g. the food industries) or provided through other methods (i.e. green manure). However, both options are difficult to organize and implement, and are often too expensive, or perceived as such by farmers. Few farms are self-sufficient in terms of organic matter and nutrients.

Plant protection

The major challenges are:

- Control of flies (Mediterranean, olive and cherry flies).
- Reduction/replacement of copper fungicides. In northern and central Italy, precipitation is high and so are temperatures, which creates an ideal climate for almost all plant pathogenic fungi. The situation is worsened by the length of the vegetative season during which plants are susceptible to diseases (from April to September).

Major inputs used

Fertilization

The major inputs are animal dejecta, composted and pelleted, often mixed with slaughterhouse residues and leather processing residues.

Plant protection

The major inputs are (in decreasing order of use):

- copper (hydroxide and oxychloride, mainly);
- sulphur (wetable and micronized, mainly);
- lime sulphur;
- pyrethrins within traps;
- mating disruption (pheromone dispensers);
- *Bacillus thuringiensis*;
- pyrethrum, rotenone, neem oil;
- oils (mineral, vegetal, paraffinic).

Regulatory framework

National regulations

Regulation EC 2092/91 has been implemented with almost no variation or specification. In contrast, Regulation EC 1804/99 (animal husbandry regulation) has been implemented by a decree (No. 91436 dated 4th August 2000 amended by decree dated March 29th 2001) that adds several further limitations and considerable bureaucratic load. The requirements for certification system definition and identification of certification bodies are set out in Decree 220/95.

F&SC

The general Italian law on Fertilizers and Soil Conditioners is Law 748/84. Concerning inputs for OA, Ministry Circular Letter No. 8 dated September 13th 1999 sets a comparison between EC 2092/91 Annex IIA and national law (Law 748/84) defining marketing characteristics and labelling requirements of F&SC to be used in OA in Italy. It also empowers ISNP (Istituto Sperimentale Nutrizione delle Piante – Research Institute for Plant Nutrition) to evaluate branded products and to publish (on the web) a list of authorized branded products. The evaluation is carried out by dossier submission.

PPP

EU Directive 91/414 is implemented in Italy through Legislative Decree 194/95, with further modification by Presidential Decree 290 dated April 23rd 2001, that establishes a general, simplified procedure for PPP and adjuvants authorization. Specifically, Article 38 deals with PPP for organic and biodynamic agriculture. It allows commercialization and use (under the name of the active ingredient, but not under fancy brand names) of several products traditionally used in OA but not registered/authorized in Italy (e.g. oils, lecithin, herbs, quassia). Before Decree 290 was in force, all PPP had to follow the normal registration procedure. With respect to OA, inerts are neither considered nor regulated. A list of PPP allowed for organic farming in Italy has recently been produced by ISPAVE (Istituto Sperimentale per la Patologia Vegetale) but it mentions only products registered under the normal procedure and not those allowed by the simplified one (ISPAVE, 2004).

Private standards

Private standards are set by four standard setting organizations (AIAB, AMAB, CCPB and Bioagricert). The latter two are also certification bodies.

A few years ago, some certification bodies started a volunteer certification system for inputs (based on dossier evaluation, inspections and analysis), but this was stopped by the Ministry. At present, AIAB (which is an association, not a certification body) is carrying on this voluntary evaluation and publishes a list of certified inputs (F&SC, PPP, feed, processing adjuvants etc.). The list can be downloaded (in Italian) from www.aiab.it.

Hot issues

- The most urgent issue is a legislative process (amending Decree 290/01) intended to further simplify PPP authorization for many products traditionally used in OA. The present version of the simplification has some deficiencies in terms of product categories and was not compatible with current legislation.
- Concerning registered products a complication is due to the fact that registrations are 'crop specific' and minor crops (basil, berries, some vegetables, some kiwi fruit) are often not covered, with the consequence that no use of PPP is permitted for them.
- Registration of *Ryania speciosa*: it is a useful insecticide, but its use is extremely restricted (to Italian organic apple production). This makes it economically unreasonable to register it; at the same time it cannot be authorized with the simplified procedure.
- Copper reduction/replacement: Italian climatic and agronomic conditions make it difficult to reduce copper below 8 kg/ha/year in certain areas and on specific crops.

Decision-making process

The competent authority for OA is the Ministry of Agriculture, but supervisory activity over certification bodies is carried on by regional authorities. PPP issues are dealt with by the Ministry of Health.

Several committees have been set up by the Ministry of Agriculture (a general one, SC&F, PPP, processing, animal husbandry) that are composed of: ministry representatives, researchers, general agriculture unions, consumers association, input producers, and organic movement associations. A participatory approach is not often applied outside the committee.

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Plant protection products in organic farming in the Netherlands

Rob Boeringa⁷ and Marc Trapman⁸

History and context

Organic farming in the Netherlands started as early as the twenties of the last century, but up to the seventies, its development was very slow. Around 1970, the organically farmed area was merely 450 ha. With the emergence of critical movements (students, environmentalists) and the first report of the Club of Rome, the development accelerated. At the moment, the total organically cultivated area is about 42 600 ha, that is 2.2 % of Dutch farmland. It is composed of the following crops (Anonymous, 2003):

Arable farming, fodder crops	5 100 ha
Arable farming, food crops	6 900 ha
Horticulture, outdoors (of which fruit growing approx. 300 ha)	3 400 ha
Horticulture, glasshouse	75 ha
Grassland (animal husbandry)	19 100 ha
Rest (esp. land in nature reserves for grass and fodder crops)	8 000 ha

From the seventies, there was also growing interest from conventional research and farm advice institutions and the Ministry of Agriculture (Anonymous, 1977; Commissie Onderzoek Biologische Landbouwmethoden, 1977). The real acceleration took place in the beginning of the nineties, when the Ministry published its first policy document (Anonymous, 1992) and the Ministerial Department of Science and Technology produced its action plan on research (Anonymous, 1993). At the moment, the Ministry spends about EUR 10 million on research projects into organic farming, carried out by research institutes and experimental stations of Wageningen University and Research Centre (WUR) and by the private Louis Bolk Institute. This EUR 10 million corresponds to about 8 % of total ministerial, i.e. public, money for agricultural research. There is a relation between this 8 % and the aim of the Ministry to reach 10 % organic market in the year 2010 (Anonymous, 2000).

Starting a few years ago, WUR has an innovation centre for organic farming (*Innovatiecentrum Biologische Landbouw* - IBL) and an advisory committee for research on organic farming (see www.biologischelandbouw.net). These two supervise, coordinate and advise on organic farming research.

The organization *Biologica* is the platform of the organic farming and marketing organizations (See www.platformbiologica.nl). It is supported by organizations of consumers, environmentalists and nature and landscape management. It cooperates with the platform for conventional agriculture (*LTO-Nederland*). As mouthpiece for organic farming it receives financial support from the Ministry of Agriculture. It participates, together with the inspection body (*SKAL*), the Ministry, LTO and several other organizations in a consultative body for legislation on organic agriculture (*Overlegorgaan Biologische Regelgeving* - OBR), especially on Directive EC 2092/91 (Contact: Joost Guijt, *Biologica*).

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Biologica has *working groups* composed of farmers, farm advisers, researchers and employees of the National Reference Centre for Agriculture, Nature and Food Quality (EC-LNV), an 'expertise centre' of the Ministry of Agriculture. Their tasks are:

- Analysing problems in the cultivation of crops or in animal husbandry and the marketing of produce;
- Advising about, and following research projects;
- Producing views on (desirable) developments in organic farming, e.g. how to deal with intensive, heated glasshouse culture.

There are working groups for:

- Arable farming and outdoor vegetables;
- Arboriculture and herbaceous perennials;
- Fruit growing and vine culture;
- Glasshouse cultures (vegetables, floriculture);
- Dairy cattle husbandry;
- Pig husbandry;
- Poultry husbandry;
- Soil and manure management, environment.

Crop protection: crops, problems/challenges, inputs

The Dutch soil and climate are ideal for grassland and for root crops; there are 1.2 million ha of grassland in 2 million ha of agricultural land in total.

Because of high prices for agricultural land and labour, both conventional and organic farmers grow economically high-yielding crops like potatoes, sugar beet, carrots, onions and vegetables. Except for fodder maize and some other fodder grains, cereal crops are of minor importance (compared with other countries). Imported grain is cheaper and baking quality sometimes better.

Crop rotations are very narrow in conventional agriculture, and not always optimum in organic agriculture (to put it kindly). Some pest and disease problems in organic farming can be attributed to one-sided cropping schemes (on individual farms or in regions). Examples: carrot fly in carrots, thrips in leek, root knob nematode in glasshouse horticulture.

A major challenge in research and farm advice on crop protection is to develop soil management and cropping systems which improve the intrinsic resistance of soils and crops to pests and diseases. But even in – to our mind – sound cropping systems with resistant varieties, we see some problems with pests and diseases. Examples:

- *Apple*: sooty blotch (esp. *Gloeodes pomigena*) in scab resistant varieties; pest insects, e.g. rosy apple aphid, green apple capsid, apple sawfly and several caterpillars;
- *Grape*: downy mildew (*Plasmopara* [*Peronospora*] *viticola*) on mildew resistant (better: tolerant) varieties of grape under bad weather conditions;
- *Potato*: late blight (*Phytophthora infestans*) is still unsolved, despite a lot of breeding research and research in the EU-funded programme 'Blight-MOP'.

There are no reliable data on the use of inputs. We suppose that sulphur compounds (used especially against scab and mildew in fruit growing and mildew in glasshouse crops) are the major input.

The major challenges in the development of inputs are:

- To develop more effective alternatives to sulphur. Sulphur is rather ineffective at lower temperatures and cannot be used on sensitive fruit-varieties. Moreover, sulphur can be harmful to natural enemies. To control scab in fruit growing, a grapefruit seed extract shows considerable promise.
- To develop copper compounds which can be applied at very low dosage. In this respect, copper octanoate might be promising.
- To improve authorization procedures for non-chemical plant protection products (see paragraph 'From problems to agreement').

Legislative framework

Plant protection in organic farming in the Netherlands is amenable to the Pesticide Law (*Bestrijdingsmiddelenwet*; see www.overheid.nl > Wet- en regelgeving > Bestrijdingsmiddelenwet). There are no separate guidelines for plant protection products under private standards. Authorization under the Pesticide Law is executed by the Board for the Authorization of Pesticides (*College Toelating Bestrijdingsmiddelen* – CTB; see www.ctb-wageningen.nl), a committee of independent experts. It is a complex and mostly very expensive procedure. For pheromones and microorganisms, there are simplified authorization procedures.

A special category is the Regulation Exemption Pesticides (*Regeling Uitzondering Bestrijdingsmiddelen* – RUB; contact: Paul Jellema). This is a part of the Pesticide Law which regulates products with such a low risk for man and environment that the usual procedures for authorization are considered unnecessary. Contrary to the other procedures where the decisions on authorization are taken by the CTB (on behalf of the government), the *government itself* decides about RUB authorizations, advised by the CTB. Examples: *milk* as a viricide and against mildew in courgette, *sugar* as a fungicide against a specific disease in arboriculture and several plant oils against pests and diseases. Sometimes, authorization is only given for a specific application method. So, heavy oils like coconut oil and sunflower oil are allowed for spraying, while lighter, volatile oils may only be used for dipping and pouring. RUB authorization can also be given to products which may not be used in organic agriculture (e.g. potassium phosphonate).

Recently, we applied to the RUB authority for the following products:

- *Spiritus* (methyalted spirit) against bubbles in mushroom growing;
- *Quassia* against apple sawfly and apple blossom weevil;
- *Potassium phosphonate* (K_2HPO_3) (solution in water and the German product Frutogard) against powdery mildew in viticulture (very restricted application: once or twice shortly before and shortly after flowering, at a rate of 3 kg/ha/application). Potassium phosphonate is already authorized under RUB for use as a fungicide in conventional glasshouse culture. Of course, we know that at the moment this product is not permitted in organic agriculture and that there are difficult (and longstanding) discussions about its acceptability;
- *Coconut soap* against sooty blotch in scab-resistant apple varieties. Soaps, without further specification, already have RUB authorization for use as acaricides and insecticides.

These products are of importance to organic farmers, but probably also to (some) conventional farmers. In the case of spiritus and potassium phosphonate, there is a need not only for RUB authorization, but

also for decision-making on acceptability within IFOAM and under EC 2092/91. To prevent misunderstandings: RUB products are only allowed in organic agriculture if they are included, or can be interpreted as included, in Annex II B of EC 2092/91.

In the Netherlands we do not have a 'plant strengtheners' category. The reason is quite simple: almost all products claim, exclusively or beside other claims, preventive or curative control of pests and diseases. And that claim – on paper or as a verbal message – is the argument for organic and conventional growers to buy these (usually expensive) products. So their application is almost always a pesticidal one, and therefore these products are amenable to the Pesticide Law.

From problems to agreement: The 'Convenant Gewasbescherming' (crop protection covenant)

In practice, there were many difficulties with regard to these authorization procedures (and crop protection policy in general):

- Environmentalist or water management organizations frequently made objections to new authorizations or extensions of authorizations;
- Sometimes, authorizations were lost in the middle of the growing season;
- Despite timetables, authorization procedures could take a very long time.

As a result of long discussions, the Ministry of Agriculture (LNV), the Ministry of Environment (VROM), the platform for conventional agriculture (LTO-Nederland), a platform organization of environmentalists (SNM), organizations for production and trade of pesticides (Nefyto, Arcadis) and organizations for ground and surface water management (VEWIN, Unie van Waterschappen) signed an agreement (Convenant Gewasbescherming; contacts from the Ministry of Agriculture, Nature and Food Quality: Irmo Neijman and Marien Valstar) aiming at the large-scale introduction of integrated, sustainable crop protection. Emphasis is laid on preventive and non-chemical measures, to achieve rapid reduction of environmental pollution. Registration of pesticide use will be obligatory.

In the case of bottlenecks in production, the government can decide to re-allow on a temporary basis products which were already withdrawn, or to allow new applications of already authorized products. Bottlenecks must be argued in detail by the applicants (*LTO-Nederland* but also *Biologica*) and are analysed by *groups of experts* (including experienced farmers) and by the *Plant Protection Service*. This exemption is based on Article 16.aa of the Pesticide Law, and is possible up to the year 2008. 'Bottleneck discussions' perhaps accelerate the current authorization procedures.

Example of a bottleneck from organic agriculture: In spring, wettable sulphur is rather ineffective against scab in fruit growing, and resistant varieties are a minority. Copper compounds ceased to be authorized in March 2000. Lime sulphur is an effective alternative and authorized under EC 2092/91, so *Biologica* applied for authorization of this product in 2002. The CTB decided to follow the normal procedure for synthetic chemicals. The CTB concluded that there are many unanswered questions with regard to product characteristics, human and ecotoxicology. Partly due to lack of interest from the producer Polisenio, the procedure came to a deadlock in the beginning of 2003. Thereafter the government decided, on the basis of Article 16.aa, to allow the use of lime sulphur in 2003. We hope for this to be extended.

The Dutch Ministry of Agriculture has applied for the authorization of slaked lime (Ca(OH)_2) against canker in fruit growing, by means of inclusion in Annex II B of EC 2092/91. Canker is a big problem in countries with an oceanic climate (roughly the northwest of Europe), but also in regions like the Lake Constance area and the north of Italy. The difference is that in the 'oceanic climate countries' the

Netherlands and Denmark copper compounds are not allowed. We hope for a positive decision at the October 2003 meeting of the *Standing Committee on Organic Farming (SCOF)*.

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Plant protection products in organic farming in Poland

Anamarija Slabe⁹

History and context of organic farming

In Poland, the organic agriculture movement started in the 1980s due to growing public ecological awareness. Early seminars given by 'revolutionary' scientists and German experts led to the establishment of the first organic farmers' association, called EKOLAND, in 1989. In 2002, nine organizations were members of IFOAM. In 1989, there were 27 certified organic farms. The rapid early growth slowed down when the certification system was changed and farms could only obtain certificates after a conversion period of two years. In 2001, 669 farms with a total area of 14 967 hectares ($\approx 0.05\%$ of all farms) and eight food-processing plants held certificates. The Polish Association of Organic Farming (*Polskie Towarzystwo Rolnictwa Ekologicznego – PTRE*), inspected 1 114 farms, BIOEKSPERT 242 and AGROBIOTEST 431 farms in 2001. Farms that produce for the EU-market were also controlled by EU inspection bodies such as SKAL, BCS, Lacon, INAC and Ecocert, but there is no exact data on the number and acreage of these farms, and some of these farms are under double inspection (Tyburski *et al.*, unpublished).

The regulation on direct subsidies for organic farms was signed by the Minister of Agriculture in March 1999. They have been paid from 1999 onwards (see table below).

Table 1: Aid for organic farms and for farms converting to organic farming (according to Annex No. 17 of the Decree of May 22nd 2002) (information from: D. Metera 2002)

Crop	In conversion (EUR/ha)	Organic farms (EUR/ha)
Vegetables	125	100
Arable land	50	37
Orchards	137	112
Berries	137	125
Meadows and pastures	20	12

Major inputs used

Very few commercial plant protection products (PPP) are used in Polish organic agriculture; likewise the use of other external inputs (i.e. from outside the farm) is not the usual practice, and is very low.

The reasons are that organic farmers are not used to buying PPP, but also the rather limited availability of these products and their high price. For some more market-oriented farms, a need for commercial PPP exists (U. Soltysiak, pers. comm.).

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Existing legislative/regulatory framework relevant for organic farming

The first organic standards in Poland were those of Ekoland, the strongest organic farmers' association. The Ekoland standards were based on the IFOAM Basic Standards, which were in force until the Polish national legislation on organic farming was enacted (November 2001).

At present, the Polish national legislation on organic farming is the only body of legislation and standards relevant for organic farmers in Poland, including for farmers who are members of associations. Ekoland has given up its standard-setting function.

The basic piece of legislation is the National Regulation on Organic Farming of 16th March 2001 (effective from 3rd November 2001). In accordance with the Polish legal system, the act skips many detailed issues crucial to the functioning of the organic sector. These are included in the executive regulations. The executive regulations were issued by the Minister of Agriculture and are as follows:

- April 12, 2002 – concerning acceptable heavy metal concentrations in soil (this one does not exist under the EU Regulation),
- May 14, 2002 – concerning detailed conditions of organic production (that is: minimum standards of organic production at farm level),
- May 15, 2002 – concerning a list of additional substances, other supporting ingredients and ingredients of agricultural origin made by other than organic methods, and approved for use in processing organic farming products (that is a positive list of acceptable ingredients),
- May 21, 2002 – concerning conditions which should be fulfilled by inspection bodies and set by the Minister of Agriculture pertaining to controlling and certification, and de-certification,

These executive regulations came into force after as little as two weeks (Tyburski et al., unpublished).

The regulation of PPP use in the Polish legislation for organic farming is a transposition (equivalent) of EC 2092/91, both with regard to the justification of the use of PPP and to the annex listing the PPP allowed in organic farming, which is the same as in EC 2092/91.

There are no practical guidelines for the use of inputs in organic production and processing that would make it easier for operators to choose among the inputs available on the Polish market (for example a catalogue or a list of commercial products).

PPP: Issues and trends

At present, interested stakeholders (organic farmers and their associations and control bodies) are waiting for the lists and detailed instructions to be prepared by the Ministry of Agriculture, so there is no ongoing discussion at the moment.

Discussion and decision-making on PPP

It seems that the legislative intervention of the government has had a rather negative effect on activities and development in the field of private initiative (organic farmers' associations, inspection bodies...). The situation has been even more difficult because of the slow speed of state action and a low level of cooperation within the private organic farming sector. This has also had a negative impact on the regulation of the use of PPP, as mentioned above. Thus, there is hardly any public discussion of these issues.

At this point, the decision-making process on PPP is still an open question. As the Ministry of Agriculture has taken over all responsibilities with regard to organic farming, all private actors are awaiting the Ministry's further actions.

In the existing legislation on organic farming, there is no specification of the procedure regarding approval of PPP. At present, no information can be obtained on how this issue will be handled in the future.

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Plant protection products in organic farming in Portugal

Alexandra Maurer da Costa¹⁰

History and context of organic farming

History and trends

The first articles published in Portugal about organic farming date from 1976. But only in 1985, following the first course on organic farming, did a number of interested people gather to found AGROBIO – The Portuguese Association for Organic Farming. This association has, since its beginning, contributed to the promotion and development of organic farming, by organizing fairs and conferences, by certifying, according to private standards, and by providing training and technical support to farmers. Presently, the organic movement has spread at the regional level, through the development of several regional associations, which are also providing technical support to organic farmers (now mandatory for those farmers who apply for subsidies).

Certification

In 1995 certification was transferred from AGROBIO to SOCERT and, more recently two other private control bodies (SATIVA, since the year 2000 and CERTIPLANET, since 2003) also began to certify organic farming. These control bodies are supervised by the national authority, IDRHa (Institute for Rural Development and Hydraulics).

Development and structure

The advent of subsidies for organic farming, among other agro-environmental measures, in 1994, led to a large increase in the number of organic farmers. Presently, there are over 1 060 farmers (0.3 % of the total number of farmers) and 91 000 ha (2.4 % of the total agricultural area). Extensive production is dominant; altogether, pastureland and cereals represent 66 % of the total area under organic farming. Olive groves represent 26 %, whereas dry fruits, fruits, vegetables and vineyards together account for a mere 5 % of the total area under organic farming.

Major technical challenges

The major challenges in plant nutrition concern the lack of organic matter in the soils and the lack of sources of nitrogen. The available organic fertilizers with a high nitrogen content are imported and very expensive. Composting of agro-industrial residues and of source-selected household residues could be part of the answer to this problem. Regarding plant protection, the olive fly (*Dacus oleae*), the Mediterranean fly (*Ceratitis capitata*) and the cabbage and onion flies constitute major problems. Traps for the Mediterranean and olive flies are not available (traps with lambda-cyhalothrin or deltamethrin) or not always effective enough (traps with food bait) to prevent great yield losses. The methods and products used should be improved. Codling moth (*Laspeyresia pomonella*) on apple and pear is also difficult to control, since pheromones are expensive and granulosis viruses are not registered in Portugal. As for

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diseases, the major challenges are presented by downy mildew (*Plasmopara viticola*) on grapevine, late blight (*Phytophthora infestans*) on potato and tomato, apple and pear scab (*Venturia* spp.), and olive diseases (*Gloeosporium olivarum*, *Cycloconium oleaginum* and others).

Major inputs used

Fertilizers and soil conditioners

The main products used are: organic fertilizers, natural phosphates, Patentkali.

Plant protection products (PPP)

In general, the use of PPP is low in organic farming. The most commonly used inputs are sulphur, copper salts, rotenone (not registered!) and mineral oil. Hydrolyzed proteins, diammonium phosphate (not registered!) and pheromones are reasonably used to control or monitor fly pests.

Legislative and regulatory framework

Pesticide registration

All the legislation regarding the authorization and commercialization of pesticides in Portugal can be consulted at the website of the DGPC – General Directorate for Crop Protection (in Portuguese; see www.dgpc.min-agricultura.pt/fitofarmaceuticos/proced_homologa/legisla_pf.htm). A general list of authorized PPP (conventional agriculture) is published by DGPC (Ministry of Agriculture), on an annual basis. According to Decree (*Portaria*) n.º 1232/2001, 25 October, a request for registration of plant protection products for organic farming can be made by any farmer, farmers' organization or company willing to commercialize it. The cost for registration is zero, provided that the PPP concerned are used exclusively for organic farming. However, the process of registration is still quite complex, requiring data which are not always available.

Organic legislation

In Portugal, Regulation EC 2092/91, with amendments, is the only regulatory framework for organic farming. It is available in Portuguese on the website of the Institute for Rural Development and Hydraulics (<http://www.idrha.min-agricultura.pt/agribiologica/dossier/dossier.htm>). A list of PPP allowed for organic farming (according to the EU legislation) and registered in Portugal (PPA(AB)-01/02) by July 2002, is available at the website of the DGPC – General Directorate for Crop Protection. (see www.dgpc.min-agricultura.pt/fitofarmaceuticos/proced_homologa/pfagricbio_apv.htm).

There are no private standards in use at present. The attribution of subsidies within agro-environmental measures, which include Measure 14 – Organic Farming, is regulated by Decree n.º 475/2001 D.R. n.º 108, I-B Series, 10 May 2001, amended. The 'homologation' (approval) of organic farmers' organizations and organic farming technicians is regulated by Decree n.º 180/2002, 28 February.

PPP lists

The book *Manual de Agricultura Biológica* (Manual for organic farming; Ferreira *et al.*, 2003) contains chapters with lists of commercial products (F&SC and PPP). The first Portuguese guide to inputs for organic farming *Guia de factores de produção para a Agricultura Biológica* was published in 2003 (Ferreira and Falamin, 2003).

Hot issues

The major problem is currently the very short list of registered products available for organic farming, as well as the lack of organic certification for fertilizers and soil conditioners (F&SC) and for PPP (ingredients). Some products, such as rotenone and fatty acid potassium salt are used – though not frequently – in spite of not being registered. This causes problems at the farmers' level with authorities and control bodies. The Ministry of Agriculture has, since October 2001, simplified the registration process for these kinds of products, as explained above. Currently, at least three products that we know of are in the process of submission for registration by private companies: lime sulphur, fatty acid potassium salt and a trap with lambda-cyhalothrin. Though two pyrethroids (lambda-cyhalothrin and deltamethrin) are allowed in traps against olive and Mediterranean fly according to EC 2092/91, no commercial traps with these active ingredients have been available in Portugal so far. Others should follow, in order to achieve equivalent conditions with other European countries. The national Action Plan for Organic Farming, which is now under approval, foresees the possibility of simplified import of PPP from southern European countries (with similar climatic conditions) where they have been registered. It also envisages the mandatory certification of all commercial inputs for organic farming, which would be done by the private control bodies and supervised by the central administration. It also recommends the creation of a national database for organic farming inputs, the prohibition of burning crop residues (exceptions made for wood diseases), and 50 % support within financing programmes AGRO and AGRIS for equipment used in composting / wood recycling, among other measures.

Decision making

The process of consultation within the national Action Plan has, itself, helped to improve communication in the organic sector, and is expected to provide a forum for a more open discussion of current problems and bottlenecks for the development of organic farming. Farmers' and consumers' organizations, certification bodies, advisors and the public administration are involved in the discussion.

The decision-making concerning PPP, however centralized in the public administration (DGPC & Commission for toxicological evaluation of PPP), has shown openness towards contributions coming from the organic sector, namely through making the registration procedure easier. So progress is to be expected, as the national organic sector becomes increasingly dynamic.

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Plant protection products in organic farming in Slovenia

Anamarija Slabe¹¹

History and context of organic farming

In the 1980s, organic farming in Slovenia started as a civil society movement with a very limited outreach. In 1996, first standards for organic farming and processing were elaborated. The first two organic farmers' organizations were founded in 1997. In 1998, two inspection and certification (I&C) systems were established. 41 farms were certified in 1998; the basis for I&C were organic farmers' organizations' standards and Regulation EC 2092/91. In 1999, I&C was taken over by the Unit for the Control of Organic Farming at the Institute for Agriculture and Forestry in Maribor, which is the only state-approved I&C body for organic farming. In 1999, five regional organic farmers' associations founded the Union of Slovenian Organic Farmers' Associations (USOFA). In 2003, USOFA has eight members (associations) with some 1 000 individual members (organic farmers). USOFA members share the same standards and organic logo 'BIODAR'. The second organization is the biodynamic farmers' association Ajda, with some 45 certified farms in 2003 (Slabe, 2003).

In 1999, the Ministry of Agriculture, Forestry and Farming (MAFF) introduced direct payments for organic farming and besides NGOs, the agricultural advisory service also started to organize introductory courses in organic farming. The total number of organic farms (including those in conversion) has risen to approx. 1 400 in 2003 (approx. 4 % of all farms). In April 2001, MAFF issued "Rules on the Organic Production and Processing of Agricultural and Food Products", in accordance with the obligations to transpose EU legislation. Support for organic farming has become part of a substantial national agri-environmental programme. However, besides direct payments, only very limited other support measures are in place at the state level. There is also support from some municipalities (Slabe, 2003).

In comparison with other EU accession countries, the macroeconomic importance of agriculture in Slovenia is relatively low: agriculture accounts for 5.3 % of total employment, and the share of agriculture in gross domestic product is 3.1 % (2001). In spite of that, agriculture is an important developmental, social and political factor.

Over 85 % of farms are smaller than 20 ha, and an average conventional farm measures 5.5 ha (organic: 13.4 ha).

Diversity of production is enabled by 3 different climatic and pedogeographic areas: alpine, continental and Mediterranean. Over 70 % of farmland is classified as less favoured area. The majority is grassland and the share of arable land is relatively low. On the other hand, the level of biodiversity is high and nature is well preserved. For all these reasons including accession to the EU, organic farming has a certain place in agricultural policy. For 90 % of the organic farms, the main activity is animal production (predominantly cattle), followed by grain production, vegetables, fruits and some wine. Products are sold on the domestic market.

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Major inputs used

In *animal production*, the major external input is grain fodder as supplementary energy source. Due to the limited availability of organic animal fodder, farmers often use conventional grain fodder within the allowed limits.

In *plant production*, especially in vegetable production, some farmers buy additional *fertilizers* (mainly manure, compost or a range of commercial fertilizers approved for use in organic farming). Use of *PPP* is generally low in organic farming. They are used mostly in fruit production, viticulture, vegetable production and sometimes in potato production.

- *Sulphur* and *copper* are used mainly in wine production, and also in fruit production, although to a smaller extent (M. Bavec, pers. comm.). The use of copper is limited to 3 kg of pure copper per ha per year. This limit has been set by the BIODAR standards (USOFA) and was later (2001) repeated in the state rules for organic farming. Both in wine and fruit production, farmers also use natural preparations to strengthen the plants (plant extracts and preparations) which they often prepare by themselves; the use of commercial products of this kind is very low.
- *Pheromones* are sometimes used in fruit and olive production.
- *Pyrethrin* is sometimes used in vegetable production. There are several commercial products available, including from domestic production.

Existing legislative/regulatory framework relevant for organic farming

The basic piece of legislation is "Rules on the Organic Production and Processing of Agricultural and Food Products" (MAFF, 2001) and its amendment of April 2003. Inspection is regulated by "Rules on technical and organizational conditions that must be fulfilled by organizations for inspection of organic agricultural produce and/or foods", OGRS, May 2001. Both rules are ministerial decrees based on Art. 41, 43 and 44 of the Agriculture Act (OGRS 54/2000, 16.06.2000), which has introduced the concept of organic farming and foreseen its detailed specification and regulation in (previously mentioned) separate acts.

The use of *PPP* is regulated in the "Rules on the Organic Production..." in a similar way as in EC 2092/91, both with regard to the justification of the use of *PPP* and by an annex listing the *PPP* allowed in organic farming, which are more or less the same as those in the EC 2092/91, Annex II.

In addition, there is general legislation on *PPP* consisting of the Phytopharmaceuticals Act (OGRS 11/2001, 16.02.2001) and Plant Protection Act (45/2001, 07.06.2001). The general provisions of this legislation also apply to the use of *PPP* in organic farming.

For practitioners, the most important document is the "Catalogue of allowed inputs for organic farming" which is prepared by the inspection and certification body. This catalogue lists all the commercial products available on the Slovenian market that can be used by organic farmers.

PPP: Issues and trends

- One of the major challenges in plant nutrition and protection is the lack of proper (advanced) training and advice, and general structural and other problems (size of farms, lack of money for investment, etc.).
- The issue of *PPP* in organic farming has not been widely discussed in public, not even in organic farming circles, apart from some individual issues. In Slovenia, only few *PPP* for organic farming are

being produced, the majority are imported. For the latter, the reference for use is EU legislation on organic farming.

- In the first years (1998-2000), there was a very distinct lack of available commercial PPP suitable for organic production. However, since 2002 this has changed and there are more and more traders asking for their products to be included in the "Catalogue".
- In the case of copper, Slovenian legislation has not taken over the EU legislation, but followed the stricter rules of organic farmers' standards that allow max. 3 kg/ha of copper per year in plant production.

Discussion and decision-making on PPP

Slovenian legislation on organic farming does not mention any decision-making procedure on PPP. The "Rules on the Organic Production..." merely state that only the use of products listed in Annex I of the Rules is allowed. This can be seen as a deficiency that will need improvement in the near future, as the organic sector and the interest of other organizations (consumers, environmentalists, etc.) is developing and growing constantly.

The Ministry of Agriculture is thus responsible for preparation of the list and the minister takes the final decision. Up to now, the Rules and their annexes have been prepared by the Ministry and then, at a relatively late stage, sent to farmers' organizations, the inspection body, the advisory service and certain others for comments. So far, there have been few discussions on PPP, as there has been more emphasis on other, more basic issues. The majority of interested parties accepted the approach of 'copying' EU legislation and its list of PPP for organic farming.

The I&C body therefore has a substantial responsibility for determining suitable PPP. In addition, the "Rules on the Organic Production and Processing of Agricultural and Food Products" also foresee the decisive role of I&C in approving the use of certain PPP in individual cases (see references). The I&C body is making use of the experience gained and progress made in EU countries, especially Austria (ABG – Austria Bio Garantie, an Austrian I&C organization; M. Bavec, pers. comm.).

The above mentioned "Catalogue of allowed inputs for organic farming" of the I&C body is also submitted for comments to the organic farmers' organizations. In the Catalogue, a specific reference is then made to some products that are not allowed for members of USOFA (BIODAR label) but may potentially be used by other organic farmers. So, USOFA does not publish its own list but cooperates with the I&C body in the preparation of the organic inputs catalogue.

Ajda (the biodynamic association) has not produced standards in the Slovenian language so far, but they claim to use German Demeter standards. Since 2003, biodynamic farms are also inspected by the Slovenian I&C body, so in practice, the same catalogue of inputs also applies to them.

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Plant protection products in organic farming in Spain

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History and context of organic farming in Spain

Agronomic background

Spain has a wide diversity of climates and soils, and consequently a wide range of agro-ecosystems. Agricultural production ranges from subtropical fruit in the Canary Islands and some southern regions, to olives, citric fruit, cereals (particularly in the Central Plateau) and finally dairy and meat products from pastures in the Atlantic north and northwest. Some areas of Spain have very intensive agricultural systems, but there are also vast areas of well-preserved semi-natural land, where traditional agricultural systems have survived (Sevilla *et al.*, 2000) and which are very suitable for organic production (González, 2001). In the south, mainly in Andalusia and Extremadura, there is a peculiar Mediterranean agro-ecosystem called the '*dehesa*'. This is a savanna-like grassland with spaced trees, usually cork or holm oaks, where native breeds of livestock graze freely and feed on the acorns. In some parts of the *dehesa*, cereals and legumes, rotating with the grassland, are cultivated.

Currently, many hectares of *dehesa* and other traditional agro-ecosystem land are certified organic. Organic wine and olive oil production is very important throughout the country, and there are different varieties adapted to all the climates.

Development of organic farming in Spain

Organic farming was started in Spain by a few pioneers in the 1970s (González, 2002). During the last decade, the area dedicated to organic production and the number of certified producers has increased considerably: in 1991 there were 346 producers, 50 processors and 4 235 ha of registered organic land; by 2002, this had risen to producers, 1 204 processors and 665 054 67 ha of land. Spain now has the third largest area of registered organic land in Europe, with an estimated total turnover of EUR 172.9 million. The producers and processors include 1 776 cattle farmers and 147 processors of animal products. Organic farming is at very different stages of development in the diverse regions of Spain (MAPA, 2003). In addition, there are huge variations in average farm size and average yields obtained. In general, organic production predominates over organic processing.

The region of Andalusia has the largest area of organic land (225 598 ha), followed by Extremadura (164 339 ha), Aragon (66 374 ha), Cataluña (ha) and Castilla-La Mancha (40 873 ha). The highest numbers of producers are located in Extremadura (39 %), followed by Andalusia (24 %) and Castilla-La Mancha (6 %). Most processors are located in Cataluña (21.7 %) and Andalusia (17.7 %).

Pastures and forest cover 53 % of the organic land; the rest is distributed between cereals and legumes (32 %), olive plants, (27 %), dry fruits (12 %), vineyards (5 %), fruits and citrus (2 %), vegetables and potatoes (1 %), and set-aside land ('*barbecho*') linked to arable crops (17 %).

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Crop production is distributed as follows (source: MAPA, 2003):

Cereals and leys:	Aragón, Castilla-La Mancha, Extremadura, Andalucía, Navarra
Fresh vegetables:	Andalucía, Murcia, Aragón, Valencia
Citrus:	Andalucía, Valencia
Fruits:	Extremadura, Valencia, Murcia, Andalucía
Olives:	Extremadura, Andalucía, Castilla La Mancha
Viticulture:	Castilla La Mancha, Murcia, Extremadura
Dry fruits (almond):	Andalucía, Murcia, Castilla La Mancha, Extremadura, Baleares
Subtropical fruits:	Canarias
Aromatic plants:	Andalucía, Valencia
Forest and wild harvest:	Andalucía, Cataluña, Baleares
Pastures and feed:	Extremadura, Cataluña, Andalucía, Valencia

Animal production is distributed as follows:

Cattle for meat:	Extremadura, Cataluña, Andalucía
Cattle for milk:	Galicia, Asturias
Sheep and goats:	Extremadura, Andalucía
Poultry for meat:	Cataluña
Poultry for eggs:	Baleares, Andalucía
Pig production:	Extremadura, Baleares, Andalucía

Market for organic products

The first 'organic' products appeared in 1975 in Barcelona, as a small assortment of dietary products. In 1978, rice from Calasparra, Murcia was first exported (González, 2001).

Spain exports around 85 % of its organic produce, mainly to other EU countries, but also to Japan and the USA. Local consumption is growing, but is still low. In fact, the majority of consumers still do not appreciate the meaning of the organic labels, and are more likely to respond to labels like 'home-made', 'traditionally produced' and 'natural'. There are very few registered importers of organic products from third countries. Currently, the domestic market is strongly influenced by health food products, and the majority of health food shops (approximately 2 500) offer organic products. It is difficult to find organic products in the conventional distribution network, although some supermarkets promote organic foods (Eroski, Mercadona, Carrefour, El Corte Inglés, etc.). Recently, some specialized organic supermarkets have opened in Barcelona and Madrid (González, 2001). Direct sales from farms play a subordinate role, but there are some examples of successful weekly fairs.

Organic farming organizations

The most important organic producers' associations in Spain are the Asociación de Agricultura Biodinámica de España, Friends of the Agricultural School of Manresa (AEAM, Barcelona), Biolur (Navarra), Ekonekazaritza (Basque Provinces or *Euskadi*), Aula de Agricultura Ecológica (Sevilla), Asociación de Agroecología A. Rodríguez P and the Spanish Society of Organic Farming (SEAE).

Currently, 10 Spanish organizations are members of IFOAM (Vida Sana; BIOCOP; CAFAI; FABIO; AEAM; Natureco S. L.; CAAE-Sevilla; Centro Las Torcas-Granada; ADGE-Cordoba; SEAE). Until the establishment of the semi-public certification and inspection system in 1991, the main activity of the associations was inspection of the associated farms (COPCE-FANEGA-SEAE, 2001).

Some conventional farmers' organizations, like COAG, ASAJA or ENHE, have an internal organic section. In particular, the organic section of COAG is strongly involved in the COPA Organic Group work on standards and others issues at European level. For the most part, Spanish organic producers are organized within the conventional farmers' organizations. The majority of processors have joined the association of organic processors (FA-BIO). Organic consumers have a national federation involving 11 different organizations.

Financial support for organic production

In 1995, the EU Regulation 2078/92 was integrated into Spanish legislation, opening up the possibility for promoting environmentally friendly production methods. Financial support for organic farmers started in 1995 and has influenced the development of the organic sector in Spain (Alonso, 2002a; 2002b; 2002c). Nevertheless, support was more restricted than in other European countries. In 1997, less than 3 % of all funds from European agro-environmental and organic farming programmes (more than 2 300 million ECUS) were distributed to Spain (compared with 23 % for Austria, 17 % for Germany & Italy, and 13 % for France). In addition, the percentage of national funding was lower in Spain (30 %) than in many other countries (Germany 76 %, Austria 48 %, France 50 %). Currently, organic farmers receive a fixed payment per crop and year, fixed by each regional government. In most cases, this payment is lower than in other European Member States.

Policy

Spain was the third country in Europe having legislation on organic farming (Alonso, 2002a; 2002b). Andalusia has started an 'action plan for organic farming', and Castilla-La Mancha and Baleares are drafting regional action plans. Recently, the Ministry for Agriculture, Fisheries and Food (MAPA) has drafted a national action plan, motivated by the European discussion. Some other organic farmers' organizations have proposed a national Action Plan (COAG, 2003).

On the other hand, MAPA issued a National Decree in 2001, liberalizing the term 'biológico' and 'bio' for non-organic products (26 May 2001, BOE nº 126, pg. 18.609, Royal Decree (RD) 506/2001, of 11 May, modifying the RD 1852/1993, of 22 October, on organic production and the labelling of agricultural products and foods). This Royal Decree was issued due to pressure by the drinks and processed products industry, but was rejected by the entire organic sector in Spain, which has mounted several public protest actions and asked the IFOAM EU Group for support. Two members of the Spanish organic sector, COAG and CAAE, have brought legal claims at regional and national courts and at the European Court. Currently, the Basque Provinces' Court has resolved this claim in favour of the organic sector. At European level, the European Commission sent two letters to the Spanish government, asking for revocation of this RD. Since no response was forthcoming, the Commission brought a case against the Spanish government in the European Court. Several companies, like Danone, are taking advantage of the present legal situation by advertising 'Bio-Joghourt' on television, but they are obliged to add "not from organic production" in small print. Export products are not affected, because they must have the legal organic label. For the Spanish organic sector, the greatest impact is the confusion among Spanish consumers about the meaning of 'bio' (COAG, 2003).

Advice, information and training

There is no official support for advisory work in organic farming (González and Altés, 2002). Small producer groups or associations, which are frequently organized in cooperatives, often employ private advisors. There are several magazines on organic farming, the best known being 'La Fertilidad de la Tierra' and 'Revista Humus'. The regional offices of the agricultural administration, and recently the organic sector of the conventional farmers organizations, organize advanced training events for organic farmers. There are several courses for college graduates, and other training courses for practitioners offered by private institutions like Vida Sana and SEAE. Some universities (like Córdoba, Tenerife, Sevilla, Valencia, Barcelona) offer seminars or have included organic farming on their curricula.

Legal framework of organic farming in Spain

Organic farming was first regulated by the private Standards of Vida Sana (Vida Sana, 1982; Vida Sana, 1984) and the Organic Farming Coordination (CAE, 1984; CAE, 1985). In 1989, it was regulated by national law on Origin Denomination and Regulation Council for Organic Farming (RD 759/1988 and Order of 4 October 1989). For the implementation of the EC 2092/91, the Spanish Ministry of Agriculture and Fisheries (MAPA) created a Central Council for Organic Farming Regulation (CRAE). CRAE was the only institution authorized for inspections and certification. It developed a common label for organic farming in Spain. In 1993, MAPA transferred the competence for controlling organic production to the seventeen Spanish 'Autonomous Regions' (ACs). The transfer occurred progressively between 1994 and 1997. Currently, MAPA assumes responsibility for the control of imports from third countries, and represents Spain at the EU Commission.

CRAE is now an advisory board including representatives of the control bodies of every region, public administration and stakeholders of all food channels involved in organic production and consumption. CRAE is organized into different working groups (WGs). One of the most active is called 'Rules, Monitoring and Inspection'. This WG has set the following six standards in addition to EC 2092/91, which are voluntarily implemented at regional level:

- Standards for rabbit production
- Standards for processing of compounded feed for livestock
- Standards for milk and processing of dairy products
- Standards for traceability of meat and meat products in slaughter houses
- Standards for deer (*Cervus elaphus*) production
- Standards for aquaculture

The ACs can also develop their own standards in some specific subjects, as is the case for the CAAE aquaculture standards in Andalusia. Catalonia is currently reviewing the general technical standards for organic farming.

The public certification system in Spain

Spain has adopted the Regulatory Boards or Committees system for controlling and promoting organic farming. The boards are elected every four years among the registered organic operators. These bodies have over 60 % public support. This model was chosen when national regulation started and has been maintained ever since. It is based on the old Wine Regulation (1972) and the Origin Denomination, which define regional specialities such as wine, cheese and others. Currently, many public certification

bodies are applying to the National Accreditation Company (ENAC), in order to gain international credibility. ENAC is accrediting certification and inspection bodies in Spain according to the Multilateral Agreement (MLA) on EN-45011 Norms.

Private certification in Spain

There are currently four private certification bodies in Spain: CAAE (the former public body of Andalusia), Sohiscert SA (linked to ECOCERT), Agrocolor and Ecal (two new Spanish private certification bodies, coming from the conventional sector). Some international certification bodies (e.g. Bio-inspecta), are also operating in Spain, in collaboration with local inspectors.

Input certification for organic farming

Registration

In Spain, any product used as a fertilizer or pesticide in agriculture must be registered by MAPA (see www.mapya.es/agricultura/pags/fitos/registro/introregistro.htm; in Spanish). However, MAPA makes no distinction between products used in organic or conventional agriculture. The process of registration is expensive, particularly for pesticides, and often prohibitive for products that will not be sold in large amounts. Consequently, some products listed in Annex II A or B of EC 2092/91 are not on the official register in Spain and therefore unavailable to Spanish farmers. For example, only three microorganisms are registered (*Bacillus thuringiensis*, granulosus virus and *Beauveria bassiana*). Some of the inputs listed in EC 2092/91, Annex II need not be registered in Spain. However, no list has been published informing growers which ones these are.

Certification of active substances and branded products

Until recently, neither public nor private inspection and certification bodies in any region had a system in place for certifying inputs, and there were no evaluation procedures or criteria. At the farm level, it can be quite confusing to find out what active ingredients a commercial product actually contains, and hence whether it is permitted or not. As a consequence, inspection and certification bodies have to answer many queries from licensees about what products they can or cannot use.

Currently, inputs for organic farming need a certificate extended by each public certification body, after reviewing whether the active material is included in EC 2091/92, Annex II or VI. This system of having an input certificate from the official certification structure is now widespread in Spain. The Regional Competent Authority for Extremadura and some members of SEAE have published a 'Guide to products permissible for use in organic production' (Labrador and Reyes, 1999), based on a voluntary declaration of the ingredients. The Working Group of SEAE, headed by J. Labrador, is preparing an updated edition for the end of 2003. This unofficial guide is used as a consultancy book by farmers and technicians in all Spanish regions.

Intereco certification

Recently, 12 public certification bodies have founded the non-profit organization Intereco (2000), to develop an input certification system for their operators (Alonso, 2002b). The aim is to allow easy recognition of inputs which are acceptable for organic production. Certification by Intereco is voluntary at present, but it has been agreed that in the future their associated members will make it compulsory for all inputs used by the operators.

Intereco has established a certification system (SICI) for organic agriculture, starting with fertilizers, and is working to establish another system for pesticides (Gutiérrez, 2001). The products certified by Intereco must be on the MAPA register and must also comply with EC 2092/91. Intereco adds its own rules regarding labelling and precautionary measures for fraud control. Intereco certification procedures are very similar to those for production and processing, with an application, initial inspection visit and concerted (once a year) or unexpected inspection, contract, correction of any non-compliance found, certificate and annual revision. Intereco is a non-profit organization, has no support from the government and depends upon the annual contributions of the member organizations (Intereco, 2003).

Major production problems and inputs used

Plant protection

The major problems are:

- Control of the Mediterranean and White fly. They are controlled with pyrethrins within traps, with mating disruption (pheromone dispensers) and with oils.
- Control of some yellow and red spiders. They are controlled with neem and rotenone (although rotenone is not registered by MAPA ...).

Fertilization

The major problems are:

- Poor content of organic matter in the soil. To increase the organic matter in the soil, some organic farmers use manure, cover crops and several compost types made from animal manure.
- High calcium content, obstructing the availability of some micronutrients to the plant, e.g. iron. Therefore, natural iron sulphate is added to manure, compost or humic acids from composted products.

Hot issues and pending matters

General issues

- RD 506/2001, liberalizing the term 'bio': The organic sector is taking action at several levels and waiting for a court ruling at national and European level (see paragraph 'policy' above).
- Some of the producers and the regional certification bodies organized within Intereco are aiming at developing *higher, private standards* (like the IFOAM Basic Standards). More participation of the sector in these discussions is needed.
- There is a debate as to whether public or private certification bodies are the better option. Producers support the semi-public systems, with public support and improvement of this service. Some of the public inspection and certification bodies are improving their work and being accredited by EU organizations. Most of them are currently working to improve their own internal legal status to comply with the European Union Regulations as independent bodies.
- An input certification system is needed, such as the one provided by Intereco.

Plant protection issues

- Aerial spraying of conventional insecticides in some citrus or olive areas to control the Mediterranean fruit fly is an obstacle for some organic producers in Valencia and Andalusia.
- More effective means for control of the Mediterranean fruit fly in organic farming are needed. New traps with three different attractants are being probed (Tri-pack, authorized in the USA for organic farming). Another research line is applying Effective Microorganisms (EM), like Bocashi, to the soil in order to increase soil activity, facilitating the development of microorganisms which are enemies of some fly forms which need to spend a period of their life cycle on the soil.
- The use of imported rotenone, authorized in France and other European countries for organic farming, but not registered in the Official General Register of MAPA, is a controversial issue in Spain.
- Use of copper products is not a big problem in the calcareous soils of the Mediterranean area, but might be a problem in the humid areas of Spain, if organic production were to increase.

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Plant protection products in organic farming in Switzerland

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History, structure and trends of organic farming in Switzerland

Farming in Switzerland

Large parts of Switzerland are mountainous, and only suitable for animal husbandry. *Animal husbandry* accounts for two thirds of farm income (milk: 36 %; meat and other animal products: 34 %), while one third comes from *crop production* (arable crops: 11 %; fruit and vegetables: 10 %; wine: 7 %; other crops: 2 %). Most farms are between 5 and 15 ha in size (similar for organic and other farms), which is small on an international scale (Bundesamt für Landwirtschaft, 2002).

Development of organic farming practices

In 1924, Rudolf Steiner outlined the principles of a new farming method, which he himself realized were still theoretical at that time and needed to be developed in practice. One major aspect of his principles was the rejection of mineral fertilizers. In 1928, Minna Hofstetter, inspired by the 'Reform' movement and vegetarianism, started to publish on the subject of organic gardening. In the following decades, various farmers experimented along these lines, without much coordination. The ideas of Steiner evolved into the biodynamic methods of farming. In Switzerland, Hans and Marie Müller helped to found the '*Anbau- und Verwertungsgenossenschaft Heimat*' in 1946 (since 1971 '*Bio-Gemüse AVG Galmiz*'). This organization had guidelines for production, and marketed the products under a label comparable with those which organic products are produced and sold under today (for a long time, though, it remained separate from BIO SUISSE). By the 1970s, farming practices similar to modern organic farming had evolved (Vogt, 2000).

Development of standards and regulations

In 1980, five regional organic farmers' organizations decided to adopt common guidelines for organic production. Today, these are known as the standards of BIO SUISSE, and Switzerland is the only country in Europe where all organic farmers' organizations agree on the same, basic private standards (BIO SUISSE, 2003b). The BIO SUISSE standards are similar to EC 2092/91, but have some additional requirements:

- The entire farm must be converted to organic production
- Minimum requirements for crop rotations
- Ecological compensation areas
- Tighter restrictions on copper (1.5–4 kg/ha/year, depending on crop)
- Nutrient balance

In 1995, 'Migros-Bio' was founded as a second major organic programme in Switzerland. Migros-Bio standards for production are on the same level as BIO SUISSE, but the standards for processing and for

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importing are less strict. In 1998, the Swiss Ordinance on Organic Production entered into force ('Bio-Verordnung'; *Verordnung über die biologische Landwirtschaft und die Kennzeichnung biologisch produzierter Erzeugnisse und Lebensmittel*). The regulations it contains are similar to the standards of BIO SUISSE. Although Switzerland is not a member of the EU, Swiss law is regularly adapted to the amendments of EC 2992/91 to facilitate market harmonization and mutual recognition.

Development of production

Over the last ten years, the number of organic farms has increased almost five-fold. In 2003, there were 10.8 % organic farms in Switzerland (=6 466 farms) (BIO SUISSE, 2003a). The majority of these farms are in the mountains and hills, and produce milk and meat, while fruit, berry, vegetable and wine production are underrepresented due to difficulties in production.

Market

Originally, organic products were sold mainly by the farmers themselves and in health stores. The sales volume increased drastically when the two large supermarket chains, Coop and Migros, began to sell organic products (Coop in 1993, Migros in 1995). Today, 50 % of organic products are sold by Coop, 25 % by Migros and 16 % by health stores. At Coop, organic products account for 7 % of food sales (12 % for milk, 20 % for carrots). In 2002, the turnover of organic products rose by 13 % and totalled CHF 1 045 million (approx. EUR 750 million). High growth rates are expected for meat, cheese, fruit and convenience food in the next few years (BIO SUISSE, 2003a).

Farm economy

The Swiss Federal Government has supported organic farming with additional direct payments since 1993. Subsidies are CHF 200/ha for grassland, CHF 800/ha for arable land and CHF 1 200/ha for horticultural crops. In addition, organic farms are entitled to payments which are given to all farms which have at least 7 % ecological compensation areas and animal-friendly husbandry systems.

The prices and price differentials vary greatly for different organic products, depending on production costs. Organic farmers are paid 20 to 100 % more than their conventional colleagues for their products. Together with the subsidies, the result is that incomes of organic farmers are similar to those of conventional farmers.

Major pests and diseases, and use of inputs

In fruit growing, a large number of pests and diseases cause severe problems. The most important are apple scab (*Venturia inaequalis*) and aphids, especially *Dysaphis plantaginea*. In strawberries, grey rot (*Botrytis cinerea*) causes most severe damage. In viticulture, most damage is caused by downy mildew (*Plasmopara viticola*) and grey rot (*Botrytis cinerea*). In potato, late blight (*Phytophthora infestans*) and the Colorado potato beetle (*Leptinotarsa decemlineata*) cause severe damage. In vegetables, a large number of pests and diseases may cause severe problems, depending on the vegetable species. In cereals and in feed crops, there is no major damage from pests or diseases.

- **Disease control:** Copper fungicides are the only means to control late blight and a number of diseases in vegetables and berries. They are also most effective against apple scab and downy mildew of grapes. Clay minerals, lecithin, fennel oil and sulphur (against powdery mildews and scab) are also frequently used as fungicides.

- *Pest control:* Neem (against certain aphids, mainly on apples), pyrethrum (mainly on vegetables), soft soap, rape oil (mainly on apples), mineral oil (mainly in apples), sulphur (against mites on grapes and berries) and 'spinosad' (a microbial fermentation product, mainly used on vegetables) are frequently used insecticides. In addition, *Bacillus thuringiensis* products, granulosis viruses (mainly in apples) and a large number of beneficial insects, mites and nematodes are used for pest control (most often in glasshouses).

Regulatory framework

Annex 1 of the Swiss organic farming ordinance lists the active ingredients allowed in organic agriculture. The list is similar to Annex II of EC 2092/91, but does not contain gelatine, hydrolyzed proteins, potassium alum, diammonium phosphate, metaldehyde, pyrethroids, ethylene and lime sulphur, and copper is restricted to 4 kg/ha. On the other hand, it explicitly mentions 'clay minerals' and 'microbial products' (which allows the use of spinosad). The BIO SUISSE, Migros-Bio and Demeter labels (i.e. ca 99 % of all organic farms in Switzerland) prescribe that only the branded products from the FiBL inputs list can be used.

The FiBL inputs list is updated annually and published in German and French. The 2003 issue contains 191 plant protection products (PPP). The FiBL inputs list is prepared by the FiBL inputs list team, based on the relevant legislation and guidelines, as well as on precedent decisions by the label organizations. Each year, a draft version together with explanations on critical issues is submitted to the label organizations and the relevant authorities for comments, decisions on precedent cases and approval. The approved version is then published by FiBL. PPP are evaluated on the basis of their full composition, which requires that a secrecy agreement be signed before FiBL has access to the full recipes. The criteria for evaluation are mainly based on the IFOAM Basic Standards. For PPP, they are as follows:

- *Registration, necessity and crop-specific use.* PPP can only be used in the crops for which they are registered. However, the range of crops may be further limited in the inputs list. For example, no insecticides or fungicides are allowed in arable and fodder crops (except potatoes).
- *Origin.* In general, the active ingredients of PPP must be of natural origin. Microorganisms and products of soybean, maize, rape and sugar beet must be free of GMOs. If the extraction of a compound from its natural source would be unacceptable, it may exceptionally be produced synthetically, as long as it is chemically identical to the natural compound (e.g. pheromones need not be extracted from insects). For inerts, natural compounds are preferred, but certain synthetic compounds are also allowed (see 'Environment and human health', below).
- *Environment and human health.* The environmental effects of the PPP must be as small as possible. To achieve this, limits to its application may be set (e.g. crop specific maximum quantities for copper products). Inerts with adverse environmental effects are not allowed. For example, nonylphenols have been banned from the inputs list since 1998 (note: meanwhile, nonylphenols have been banned as active ingredients by Regulation EC 2076/2002 dated 20 Nov. 2002 (whether this also covers also their use as inerts, we cannot say with certainty)).
- *Quality, ethical and socio-economic aspects.* The use of a PPP must not affect the premium status of organic products. For example, phosphonate (a fungicide for grapevines and other crops) causes significant residues in the harvested products. Even though they are of no toxicological concern, such residues were considered undesirable. Also, a rodenticide which presumably causes suffering in mice before death was not included in the list for ethical reasons (Schmid and Tamm, 2000).

Hot issues

- The use of *copper fungicides* is regularly criticized. Copper use has been limited quantitatively for many years, but copper cannot be completely banned under Swiss climatic conditions without incurring severe losses in fruit, berries, viticulture and vegetables. Thus, the search for alternatives to copper (other products and/or cultural control measures or resistant varieties) has a high priority.
- *Potassium phosphonate* has been considered as a replacement for copper in viticulture, and it was thoroughly investigated by FiBL. As it regularly caused significant levels of residues in wine (although of little toxicological concern), its use was rejected by BIO SUISSE. However, the issue is regularly taken up by foreign producers' associations.
- *Lime sulphur* is used for the control of apple scab in some European countries; thus it is a potential copper replacement. In Switzerland, it is not registered, and therefore not available to organic fruit growers. Lime sulphur is toxic, but less persistent in the soil than copper. Minds have not yet been made up on whether such a product is desirable as a copper replacement.
- Molluscicides based on *iron orthophosphate* have been allowed in organic agriculture in the EU since 2002, but FiBL has not been able to include the only commercial product containing iron orthophosphate in the inputs list. Thus, Swiss vegetable producers feel at a significant competitive disadvantage to their colleagues in the neighbouring countries.
- In a few years, *mycoherbicides* are likely to be commercially available. Presently, the Swiss organic farming ordinance allows no herbicides whatsoever, and the same is true for the BIO SUISSE standards. This regulation was made with chemical herbicides in mind; whether it should also be applied to herbicidal fungi will be discussed in the future. Unlike chemical herbicides, mycoherbicides act on very few, selected weed species, with far lower efficacy, and have only minimal impact on the environment. Because this issue touches on a fundamental guideline of organic agriculture, it needs to be discussed with a much larger group of stakeholders than other issues concerning PPP.

The decision-making process

The FiBL inputs list is updated annually and published in January. In the preceding autumn, companies submit dossiers on novel products to the *FiBL inputs list team*. Applications are sorted as follows: (1) Products which are analogous to other products in the inputs list. These are included in the draft list by the inputs list team on its own responsibility. (2) Products which raise fundamental questions. In these cases, the inputs list team submits a short description of the fundamental question to the label organizations BIO SUISSE and Migros-Bio. Fundamental questions may relate to new compounds, to certain methods of application or certain crops, or products which are already on the list may be reconsidered. (3) Products which are to be rejected for non-compliance, either with legislation or with previous decisions made by the label organizations. These are rejected by the inputs list team on its own authority, but applicants may ask the label organizations to reconsider the issue. Based on the above considerations, the inputs list team prepares a draft version of the inputs list.

- The *label organizations* decide on the fundamental questions raised by the inputs list team, and they confirm that the inputs list is an integral component of their standards and thus compulsory for their producers.
- The *federal authorities* check whether the list is in agreement with organic legislation and pesticide registration.

- Based on the comments of the label organizations and the federal authorities, the inputs list team prepares and edits the inputs list. BIO SUISSE sends a copy of the list to each of their producers (the vast majority of all organic farmers in Switzerland).
- Because Demeter is a member of BIO SUISSE, its members are also bound to the FiBL inputs list. The inputs list team does not evaluate products against separate Demeter standards.

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Plant protection products in organic farming in the United Kingdom

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The development of organic food and farming in the UK 1998 to present

Since 1998 sales of organic food and drink in the UK have grown faster than any other organic market in Europe. The estimated value of organic food and drink sales increased from GBP 390 million in 1998/1999 to over GBP 1 000 million in 2002/2003 (EUR 1 430 million; Anonymous 1999; 2003). This growth has been triggered by growing demand for organic food by the British public, increasingly in search of safe, healthy and traceable food. On a yearly basis between 1998 and 2001 more British households were buying more organic food more often and spending more. However in recent years (2002 and 2003) market growth has slowed as the number of UK households making purchases has levelled out. Encouraging existing organic buyers to become more committed (spend more, more regularly) has therefore been recognized as a key to future growth. To achieve greater commitment, a number of key challenges face the organic sector and businesses within it, including:

- Increasing emphasis on quality, particularly taste
- Developing awareness of the benefits of buying organic food from all categories: fruit and vegetables through to dairy
- Increasing understanding of what is and what is not organic
- Keeping organic food competitively priced, but not compromising the principles

British farmers have responded to the demand by converting more land to organic production. The area of organically managed land in April 1998 was approximately 105 000 ha, increasing to nearly 730 000 ha by April 2003 (Anonymous 1999; 2003). Pressure from cheaper imports has contributed to the domination of the British market by overseas products. Standards discrepancies have been identified as important factors contributing to disparities in production costs between Member States. In this regard, acceptance of fertilizers and pest control products and the control of their use is regarded as very important.

Major PPP inputs used

The pest and disease challenge in the UK is moderate, compared to other EU countries (particularly Southern Europe). Grassland makes up the overwhelming majority (92 %) of the UK organic area (rotational: 12 %; permanent: 80 %); no PPP are used on grassland. Arable crops (cereals, grain legumes etc.) make up 6 % of the total organically managed area; very small quantities of PPP are used (occasionally sulphur based fungicides). Horticultural crops account for 2 % of the total organic area (Anonymous, 2002).

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It is on the horticultural crops that PPP use is concentrated. However, since pest and disease challenge is relatively low, and the proportion of organic horticultural crops is small, use of PPP in the UK is not high. The use of different types of PPP in organic horticulture is summarized below with details of crop areas derived from Firth *et al.* (2003):

- *Biological control agents (BCA)*: Used in protected crops, accounting for only 0.6 % of the total vegetable area, and 30 % of the farm gate value of vegetables. Wide range of classical multi-cellular BCAs used in protected crops. The Soil Association lists 32 BCAs available for organic protected crops (Soil Association, 2002).
- *Copper based fungicides*: Used against several fungal diseases on a range of crops. Most is used on potatoes, which make up approximately half of the total area of vegetable crops (Firth *et al.*, 2003; Soil Association, 2002).
- *Sulphur fungicides*: Used against mildew and *Botrytis* on a range of crops. Limited use.
- *Traps and physical barriers*: Physical barriers (crop covers) are used to protect against insect pests in vegetables and are not regulated. Traps are used for pest monitoring.
- *Others: Rotenone, citrus based, other plant derived pesticides*: No professional products, a few amateur products including Rotenone and Pyrethrum are approved, use is very limited, only very few other plant-derived products are approved under pesticide rules (as repellants), and thus very little use.

Legislative/regulatory framework for organic farming and PPP

Organic farming legislation is made under EC 2092/91 as amended, implemented through the Organic Product Regulations (2001). The competent authority UKROFS (UK Register of Organic Food Standards) was established by the Ministry of Agriculture Fisheries and Food (MAFF), now the Department of Environment, Food and Rural Affairs (Defra), with responsibility for the approval and oversight of private certification bodies through the UKROFS Certification Committee. There are currently 14 approved private certification bodies in the UK. Since autumn 2003 UKROFS has been replaced by a new structure: Advisory Committee on Organic Standards (ACOS). Although the legal basis of ACOS will be different, the function will be largely the same as under UKROFS.

Regulation of pesticides is principally under the Food & Environment Protection Act (1985), Control of Pesticide Regulations (1986) as amended and Plant Protection Products Regulations (1995, 1997). Dossiers, submitted by the manufacturer of the pesticide product and evaluated by the DEFRA Pesticide Safety Directorate, detail the risk to human health, environment, operator and bystander from the pesticides in use. The Advisory Committee on Pesticides considers these, and advises ministers in several government departments (DEFRA, Department of Health, Department of Transport, Local Government and Regions, and the devolved administrations of the UK – Northern Ireland, Wales and Scotland) as to the approval or otherwise of the pesticide and any conditions on use that should be imposed. No producer (whether organic or conventional) can use a pesticide that has not been approved for use through the procedure described above.

Hot issues

- Use of PPP in organic production is contentious. The basic premise of organic production, as understood by consumers in the UK, is that pesticides are not used. However, the very limited use of the few permitted substances means that the 'no pesticide' claim cannot be made. The body that controls

advertising standards in the UK has challenged such claims, on the basis that some pesticides are permitted and used in organic systems.

- The extent to which pesticides are necessary is in part a product of the quality and development of the organic system. More well-established and experienced producers seem to require little or no inputs of pesticides, those recently converted from conventional still have an 'input-based' mentality, which coupled with a poorly developed system appears to necessitate some (though still limited) use of the very few pesticides that are permitted.
- Nevertheless, there are several pest and disease problems that can be relatively important for some growers, of some crops, in some or most years. For example, mildew, potato blight, *Botrytis*, aphids, thrips etc. Weed problems (couch, thistle, poppy, black grass) can also be a severe problem on some farms, and there are no permitted herbicides. Some believe that the pest and disease problems require a pesticide intervention to ensure adequate marketable yields are achieved. The fact that several naturally derived bio-pesticides and microbial biocontrol agents are not permitted in the UK, and that the regulatory authorities and government have ignored this need, is considered by some to be a hot issue that represents a significant bottleneck to development. This discussion is currently very active, and there are likely to be changes in the future. In the meantime, organic producers in the UK are frustrated that those in other EU Member States have access to substances that can control key pests and diseases, whilst in the UK they are not permitted.

Involvement in discussion and decision-making

The key participants in the debate are the private control bodies (CBs), in consultation with UKROFS (and subsequently ACOS from Autumn 2003). The Soil Association has always tended to be more restrictive, and has placed a greater degree of control on pesticidal inputs in the Soil Association standards, operated by Soil Association Certification Ltd (the approved CB). The Soil Association (the owner of the standards) has several Standards Committees – the Agricultural and Horticultural Standards Committees, made up of organic producers and other interested parties, regularly debate and advise on the use of PPP in organic systems.

ACOS, formerly UKROFS, considers issues of the use of PPP. This is supplemented by discussions in the ACOS (formerly UKROFS) Forum, in which all CBs participate. This is all under the Department of Environment, Food and Rural Affairs (Defra). However, no specific prohibitions of the few permitted substances have been made by UKROFS and ACOS is unlikely to prioritize this.

Since there are very few pesticides approved under national pesticide regulations that are also acceptable under organic standards, there is relatively little debate between companies that make such products, although there are several small companies that have recently initiated an association (International Biocontrol Manufacturers Association – IBMA) to lobby on regulatory issues in the UK and in Europe.

As pointed out above, the organization that controls advertising standards (the Advertising Standards Authority – ASA) has persistently challenged claims made about the non-use of pesticides in organic production systems. These challenges appear to have been encouraged by complaints from individuals motivated by the desire to 'rubbish' organic production.

Consumer associations have relatively little interest in the issues concerning the use of PPP in organic production, except to articulate the position that, in the view of consumers, pesticides are not used in organic production.

The Food Standards Agency (the government agency responsible for food and consumers) has recently advised that where consumers wish to limit their intake of pesticide residues they could consume organic

food. They have not entered the debate about the use of PPP in organic food, except to point out that organic standards do permit the use of some (albeit a very limited range) of PPP.

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Plant protection products in organic farming in the USA

Brian Baker¹⁶

Brief history of organic farming

In the United States of America (USA), as in the rest of the world, organic practices have their foundation in traditional farming methods. Many farmers who questioned the industrialization of agriculture did not adopt modern agricultural technologies. With few exceptions, those who maintained these traditional farming methods did not distinguish their products in the market. The term 'organic' was first used in the USA to describe farming techniques during the 1940s.

During the 1960s and 1970s, 'organic' became established in the USA as a separate identity for food apart from conventionally produced food. The publication of *Silent Spring* (Carson, 1962) was instrumental in building a public awareness of the ecological problems associated with agricultural chemicals in general and the use of synthetic insecticides in particular. This created a growing demand for food grown without ecologically destructive and toxic pesticides, and many consumers considered organic food to be one such alternative. As the market for organic foods grew, so did the need for regulation. The Rodale Press established a set of voluntary standards and a certification program in 1972. Several states passed laws governing organic agriculture in the late 1970s.

The entire farming sector was stagnant for most of the 1980s, with bankruptcy and foreclosure rates not seen since the 1930s. A few large-scale bankrupt conventional farms were still able to plant and harvest crops without using purchased inputs. At the end of a transition period, they discovered that there were buyers who would pay a premium for their crops that were 'organic' by neglect. These farms were possibly the first to go organic for strictly economic reasons and were of considerably larger scale than earlier organic farms. Their market entry made the organic sector more competitive. The success of their methods and rapid expansion of the organic market gained the attention of other non-organic farmers. However, the long-term consequences of these farmers' practices led to pressure for standards that required more sustainable practices than simply the avoidance of chemicals.

As the ecological, health, and welfare consequences of conventional farming systems continued to worsen, organic agriculture found itself serving a growing consumer base seeking an alternative to conventionally produced food. Then, in 1989, a popular television news magazine show aired a story that a plant growth regulator commonly used on apples – daminozide or Alar – was a human carcinogen and was a particular health risk to children (Bradley, 1989). This resulted in an overnight increase in the sale of organic apples and other organic commodities. As a result of limited supply, overwhelming demand, inconsistent laws, and inadequate enforcement, a large quantity of non-organic food products were labelled and sold as organic (US Congress, 1990).

Legislative and regulatory structures

As the result of pressure from organic farming and consumer organizations to protect the meaning and value of the organic label from fraud and abuse, Congress then passed the Organic Foods Production Act (OFPA) as part of the 1990 Farm Bill [P.L. (Public Law) 101-624, title 21. Codified at 7 USC (United States Code) §6501 et seq. November 28, 1990]. OFPA directed the US Department of Agriculture

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(USDA) to create a program for the marketing of organically produced agricultural products. The law's intent was to assure consumers that organically produced products met a consistent standard and to facilitate interstate commerce in fresh and processed organic food.

OFPA set out a procedure and timeline for the USDA to establish a National Organic Program (NOP) for organic certification [7 USC §6503(a)]. Key to the rulemaking process is the National Organic Standards Board (NOSB), a constituency board that balances stakeholder interests [The composition of the NOSB is described at 7 USC 6518(b)]. The NOSB is empowered by OFPA to review and recommend standards to the USDA. In particular, the NOSB is responsible for the recommendation to the NOP for a proposed National List [7 USC §6518(k)(2)]. The NOP is not permitted to allow synthetic substances unless they first appear on the proposed National List [7 USC §6517(d)(2)]. The NOSB also establishes the procedure to petition to have substances added to or removed from the National List [7 USC §6518(n)].

The NOSB refers petitioned materials to expert Technical Advisory Panels (TAP) to provide scientific evaluation of petitioned materials [7 USC §6518(k)(3)]. The NOSB is also required to review available information from the US Environmental Protection Agency (EPA) and other appropriate sources to determine the potential for petitioned substances to cause adverse human and environmental effects [7 USC §6518(l)(1)]. Nothing can be added to the National List that is prohibited by other Federal regulation [7 USC §6517(d)(3)]. The NOSB also is directed to work with input manufacturers through the NOP and the TAP, particularly on the subject of inert ingredients [7 USC §6518(l)(2)]. The OFPA requires the NOSB to submit recommendations for the National List as a result of the TAP's and the Board's evaluation [7 USC §6518(l)(3)].

In evaluating substances considered for the National List, the NOSB is required to consider the seven criteria [7 USC 6518(m)]

- Potential detrimental chemical interactions.
- Toxicity and mode of action.
- Environmental contamination during manufacture, use, misuse or disposal.
- Human health effects.
- Biological and chemical interactions in the agro-ecosystem.
- Alternatives to using the substance including practices.
- Compatibility with a system of sustainable agriculture.

NOSB began operation in 1992 and completed its first set of recommendations in 1996 (compiled in Sligh, 1997). USDA published the first proposed NOP Rule in 1997. The proposed rule did not follow many of the NOSB's recommendations. In particular, it proposed to allow genetically modified organisms, sewage sludge, and irradiation, as well as to allow a number of substances that the NOSB recommended to be prohibited [62 Fed. Reg. 65850 *et seq.*]. The USDA also proposed to broadly allow formulated products without regard to inert ingredients, except for those of toxicological concern (EPA List 1) even in non-pesticide formulations [62 Fed. Reg. 65944]. The EPA classifies inert ingredients into four following categories. List 1 refers to the EPA category of inerts of known toxicological concern. List 2 includes inerts of probable toxicological concern, with a high priority for testing. List 3 is composed of inerts of unknown toxicity, and is the largest category. List 4 contains those inert ingredients that are considered minimum risk. The NOSB recommended that only List 4 be categorically allowed, and that List 3 be reviewed on a case-by-case basis. The NOSB recommended that List 1 and List 2 inert ingredients remain prohibited [Minutes of the NOSB meeting, February 11, 1999].

By not following the NOSB's recommendations or other public input that took place over the seven years since Congress passed OFPA, the first NOP proposed rule resulted in the largest response to a proposed rule that the USDA ever received; and the comments were overwhelmingly negative. A second rule was proposed in 2000, largely addressing concerns raised by public comment to the first proposed rule [65 Fed. Reg. 13512 *et seq.*]. The second proposed rule was broadly supported and formed the basis for the final NOP Rule that was published on December 21, 2000 [65 Fed. Reg. 80548 *et seq.*]. According to the regulatory framework created by the NOP Rule, USDA accredited certifiers conduct the certification program. The NOP Rule became effective by accrediting the first certifiers on April 20, 2001 [As codified at 7 CFR (Code of Federal Regulations) §205]. Full implementation of the regulations took place on October 22, 2002.

The NOP standards for crop production are more than simply the substitution of natural inputs for ones that are synthetically produced. Organic production practices must maintain or improve the natural resources of an operation, including the soil and water quality [7 CFR §205.200]. A number of positive management practices are required for soil fertility management [7 CFR §205.203] and crop protection [7 CFR §205.206]. Synthetic substances are generally prohibited [7 CFR §205.105(a)], with exceptions that appear on the National List [7 CFR §205.601]. Natural substances are allowed unless they appear as prohibited on the National List [7 CFR §205.602]. This requirement applies to all substances, not just to active ingredients. Synthetic inert ingredients are permitted only in pesticides, and must be classified as minimum risk (Environmental Protection Agency (EPA) List 4) [7 CFR §205.601(m)]. The NOP Rule also prohibits without exception genetically modified organisms [7 CFR §205.105(e)], ionizing radiation [7 CFR §205.105(f)], and sewage sludge [7 CFR §205.105(g)]. A crop cannot be sold as organic for a minimum of three years following the application of a prohibited substance [7 CFR §205.200].

The Organic Materials Review Institute (OMRI) is a non-governmental organization that specializes in the review of substances for use in organic production, processing, and handling. OMRI conducts materials review according to the standards established with implementation of the USDA National Organic Program (NOP). Materials that are allowed or prohibited by the NOP Rule are compiled in the *OMRI Generic Materials List* (see OMRI 2002a) in a cross-referenced format organized under the three modes of production – crops, livestock, and processing. Policy determinations relating to material standards are made by the OMRI Board, which seeks guidance on scientific and technical issues from the OMRI Advisory Council. The Advisory Council serves as an independent body designed to provide a balanced representation of expertise on the scientific, technical, and industry aspects of standard setting. OMRI provides guidance on the compliance of specific brand name products under the NOP via the *OMRI Brand Names Product List*. Specific procedures to evaluate a given product are contained in the *OMRI Operating Manual* (OMRI 2002b). The reviews are conducted by a professional staff and status is assigned by an expert Review Panel.

Widely used materials

The results of a national survey of over 1 000 organic farmers (Walz, 1999) provides evidence that organic farmers follow the principle that organic farming is a management system and apply inputs to supplement cultural practices. Most organic farmers rely on a combination of cover crops and compost to provide for fertility and soil conditioning needs (Walz, 1999, summarized in Table 1). Uncomposted manure and compost tea are used by a much smaller number of organic farms. Supplementation with mineral sources of calcium is also a common practice, used frequently or occasionally by most organic farmers. In areas where pH is high and sulphur is low, gypsum (calcium sulphate) is commonly used. Soils that have low pH are generally treated with limestone (calcium carbonate). Animal by-products such

as fish emulsion, fishmeal, blood meal, bone meal, or meat meal are other common soil amendments. The majority of organic farmers also use kelp and mineral amendments either on occasion or frequently.

Similarly, most organic farmers rely on cultural strategies to manage pests, with crop rotations and beneficial habitat being the two most commonly reported practices (Walz, 1999, summarized in Table 2). *Bacillus thuringiensis* (Bt) is the most commonly used insecticide. Bt and soap are the only pesticides used by more than half of all farmers responding. Dormant and summer oils were next most common. Botanical insecticides are used frequently only by 9 % of the farms responding, with over half never using them at all.

As with pest management, organic farmers rely primarily on crop rotation to manage diseases (Walz, 1999, summarized in Table 3), followed by the selection of disease-resistant varieties. Sulphur and copper are the most commonly used fungicides, used by 40 % and 34 % of responding farms respectively.

Table 1: Use and Frequency of Fertilization and Soil Conditioning Inputs (in %) by USA Organic Farmers in 1999 (approx. 1 000 to 1 100 responses per category; Source: Walz, 1999. Reprinted with permission. In descending order of frequency of use).

Input	Never	Rarely or as a last resort	On occasion	Frequently
Cover crops	7	3	18	72
Compost application	17	5	21	57
Gypsum or lime	22	10	34	34
Animal by-products (e.g. fish products, bone & blood meal, feather meal, etc.)	31	11	25	33
Kelp or seaweed	36	10	25	29
Mineral amendments (other than gypsum or lime)	27	13	34	26
Uncomposted manure applications	43	16	19	22
Compost tea applications	52	14	20	14

Table 2: Use and Frequency of Pest Management Strategies or Materials (in %) by USA Organic Farmers in 1999 (approx. 1 000 to 1 100 responses per category; Source: Walz, 1999. Reprinted with permission. In descending order of frequency of use).

Strategy or material	Never	Rarely or as a last resort	On occasion	Frequently
Crop rotations	18	1	7	74
Beneficial insect habitat	39	5	18	38
Beneficial vertebrate habitat	60	7	12	21
<i>Bacillus thuringiensis</i> (Bt)	43	12	27	18
Beneficial insect, mite or nematode releases	61	10	18	11
Dormant or summer oils	65	11	13	11
Insecticidal soaps	49	18	23	10
Botanical insecticides (e.g. pyrethrum, rotenone, ryania, sabadilla, quassia, neem)	52	21	18	9
Trap crops	60	13	18	9
Pheromones or mating disruption	78	6	8	8
Viral pathogens (e.g. granulosis viruses)	95	3	1	1

Table 3: Use and Frequency of Disease Management Strategies or Materials (in %) by USA Organic Farmers in 1999 (approx. 1 000 to 1 100 responses per category; Source: Walz, 1999. Reprinted with permission. In descending order of frequency of use).

Strategy or Material	Never	Rarely or as a last resort	On occasion	Frequently
Crop rotations	15	1	4	80
Disease resistant varieties	22	3	22	53
Compost or compost tea application	33	7	22	38
Companion planting	42	9	27	22
Sulphur or sulphur-based materials	60	14	14	12
Copper-based materials	66	15	12	7
Solarization	76	10	10	4

Hot issues

Perhaps the most widely discussed, and most controversial issue arising from the NOP Rule – certainly with the broadest impact among organic farmers – is the *restriction of animal manure use*. The NOP Rule defines compost in a more narrow and prescriptive way than the NOSB recommended [7 CFR §205.2; see Sligh (1997) pp. 200-201 for the NOSB's recommended definition of compost]. Many composting practices that were once acceptable may no longer comply under the USDA regulation. According to the NOP Rule, organic farmers are required to have an interval of between 90 and 120 days between the application of uncomposted manure and the harvest of any crop for human consumption sold as organic [7 CFR §205.203(c)(2)]. The minimum interval required between application of uncomposted manure

and harvest of crops intended for human consumption by OFPA was 60 days [7 USC §6513(b)(2)(B)(iv)]. The NOSB recommended that the NOP Rule adopt the statutory minimum (Sligh, 1997). Farmers have complained that the more stringent NOP Rule limits their options, particularly in regions with short growing seasons.

Contamination with products of genetic engineering is also a hot issue. The NOP Rule does not establish a threshold for contamination. Questions regarding what is defined as 'excluded methods' also remain. A flow chart is available to help determine what is and is not the product of genetic engineering (OMRI, 2002b), but it is not universally used or accepted. This issue requires continued review and improvement.

Fortification of fish fertilizers, aquatic plant products, and humic acid derivatives, with synthetic fertilizers remains an issue. These commonly accepted natural products are stabilized or extracted by limited amounts of phosphoric acid and potassium hydroxide. Some manufacturers may use the extraction loophole to increase phosphate and potash levels above the minimum needed to achieve the desired stabilization effect. Maximum limits of potash in aquatic plant products and humic acid derivatives have not been set in the NOP Rule. Fish has a minimum pH that is needed to prevent spoilage, but there are no guidelines for phosphate fortification when blending fish with other buffering fertilizers. Blended fertilizers that contain these ingredients further complicate the evaluation to establish whether they are (1) extracted or stabilized, and thus allowed; or (2) fortified and thus prohibited. The NOSB is expected to face petitions from other fertilizer manufacturers who want to use synthetic sources of plant nutrients similar to aquatic plant products, fish, and humic acid derivatives.

On the plant protection side, among active ingredients, one of the newest developments has been the commercial release of *spinosad*, a derivative of the actinomycete *Saccharopolyspora spinosad*. The NOSB voted that it was not synthetic, and did not recommend that it be prohibited. Therefore, it remains allowed without any annotation. Some have raised issues concerning its toxic mode of action, the broad spectrum of organisms that are killed by it, and the potential for development of resistance. While organic farmers rely on cultural methods and classical means of biological control as their primary ways to manage pests, some biocides are needed for serious outbreaks. With many new farmers entering the organic sector from conventional farming, there is a concern that these farmers will simply practice input substitution with spinosad and various botanicals. Certification agents will have a challenge in enforcing requirements through the farm plan and other restrictions on the use of the few broad-spectrum biocides that are available to organic farmers.

To see that the organic farmers who use their products comply with the new rule, manufacturers need to make some adjustments to their pesticide formulations. The NOP Rule requires that the active ingredient is either an allowed synthetic substance that appears on the National List, or a non-synthetic substance that does not appear on the National List as prohibited. Not all active ingredients previously accepted by certifiers were allowed in the NOP Rule. All certifiers now prohibit genetically engineered Bt, piperonyl butoxide, sodium fluoaluminate, strychnine, and tobacco dust, to name a few examples that were allowed by certifiers and petitioned to the NOSB, but not allowed under the NOP Rule (Sligh, 1997).

In addition, all other ingredients must be either non-synthetic or minimum risk (EPA List 4) [7 CFR §205.601(m)]. In general, farmers have had to switch from some commonly used formulations to unfamiliar ones. Since the NOP took effect, NOP-compliant pesticides have been identified; EPA reclassified over 30 inert ingredients to minimum risk (EPA List 4) status (EPA, 2002); formulators have petitioned to add individual synthetic inert ingredients to the National List; and a number of companies have reformulated products specifically to comply with the NOP standard.

While many companies have developed products or reformulated crop protection materials to be compliant with the NOP Rule, there is still a shortage of acceptable materials in certain categories. Currently, there is no approved form of *Bt tenebrionis* for use on Colorado potato beetle (*Leptinotarsa*

decimlineata), a major pest in organic potatoes. Spinosad offers one possible alternative, but as noted above there are concerns over its use. There are no known NOP compliant formulations of rotenone, ryania, or sabadilla. Only a few narrow range spray oils are formulated with allowed emulsifiers that are currently on the market. Some of the more popular copper and sulphur formulations contain unacceptable inert ingredients.

Farmers are complaining that many NOP-compliant pesticides are not as effective as products with the same active ingredient previously acceptable to their certifiers. For example, many apple farmers regarded pheromone formulations that contained only pheromones and List 4 (minimum risk) inert ingredients to be ineffective. The pheromones are delivered in passive dispensers that are hung on trees, and do not contact either the fruit or the soil. The EPA List 3 inert ingredients (unknown toxicity) are only a small percent of the total formulation, but they stabilize the pheromones to ensure their steady release throughout the growing season. The NOSB recommended that List 3 (unknown toxicity) inert ingredients be allowed for use in passive pheromone dispensers.

Finally, continued innovation and development is needed in organic agriculture. Although the NOP Rule allows certifiers to grant variances for research, no producers have been granted such a variance. A consistent research procedure is needed to conduct experiments on certified organic farms.

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Development of evaluation criteria for inputs for organic farming, in view of their compatibility with organic farming principles

Klaus-Peter Wilbois¹⁷

A study was made, with the goal of building up both clear criteria and an evaluation system for inputs used in organic agriculture. The evaluation system includes active substances and branded products. For this purpose, existing systems both in Germany and abroad were considered and evaluated with regard to their strong and weak points. From these findings, criteria and models for evaluation systems were derived. The results were discussed amongst representatives and officials involved in organic agriculture during a workshop.

Proposals of systems for evaluating active substances and branded products

The proposed system for the evaluation of active substances comprises an expert committee that carries out the technical evaluation of a substance, as well as an advisory council which is to be established by the responsible body. The latter shall decide on the basis of the technical evaluation made by the expert committee whether an amendment of the lists of permitted inputs for organic agriculture shall be pursued.

With regard to the evaluation system for branded products, the advisory council shall pass general decisions on all components of a branded product. On the basis of general decisions passed by the advisory council, the expert committee evaluates the branded products. Accepted products will be inserted in a positive list of inputs. In principle, the positive list of input material shall be submitted for opinions to the advisory council and official authorities (e. g. Federal Biological Research Centre for Agriculture and Forestry (BBA) and the Federal Agency for Agriculture and Food [BLE]).

Outlook

The proposals made in the present study for systems to evaluate active substances and branded products offer a basis for their implementation and use in practice. Once implemented in practice, such evaluation systems offer a reliable and transparent process for the amendment of positive input lists within the rules and standards of organic agriculture, both for active substances and for branded products. With the implementation of such systems, a considerable contribution could be made for the development of organic agriculture and its regulation in Germany and in the EU.

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IFOAM policies concerning inputs evaluation

Francis Blake¹⁸

General policy of IFOAM EU Group

The IFOAM EU Group is a regional group of the International Federation of Organic Agriculture Movements (IFOAM) and works within the structures and policies of IFOAM. IFOAM is the worldwide umbrella of the organic movement, representing some 700 member organizations in over 100 countries. It works to coordinate and unite the organic movement and to promote organic food and farming at the international level.

In technical questions, IFOAM EU Group defers to the 'IFOAM Basic Standards', and makes its own recommendations only in the areas which are not covered by the IFOAM Basic Standards.

IFOAM Basic Standards

IFOAM Basic Standards are 'standards for standards', not 'standards for certification'. This means that they can only be used as the basis for the development of an organization's own standards, they are not in a form that can be used directly by a farmer or processor to achieve certification. They are also the minimum standards required for IFOAM accreditation which is administered by the International Organic Accreditation Service (IOAS). As a private initiative the IFOAM Basic Standards have no legal standing but their political and practical impact has been huge. Most of the organic legislation worldwide has used them as the starting point and most of the major organic certification bodies are IFOAM accredited.

The IFOAM Basic Standards were first developed in the 1980s. They are kept under review by a standards committee of experts who are appointed by the World Board from nominations from IFOAM members. Revisions are approved at each IFOAM general assembly. The last issue of the 'IFOAM Basic Standards' was published in 2002, after approval by the IFOAM General Assembly in Victoria, Canada.

The 2002 General Assembly voted a new procedure which allows inputs to be approved by the IFOAM World Board in between general assemblies. The procedure is as follows:

- Standards reviewed and amendments drafted and proposed by the IFOAM Standards Committee.
- Decision process involves two rounds of consultation with IFOAM members.
- Final amendment approved by the World Board.
- Approved amendment is ratified by the next general assembly.
- Changes to the basic principles must be approved by the general assembly.

A separate procedure allows regions to develop region-specific standards, provided they are consistent with the general aims and principles of the IFOAM Basic Standards.

With respect to inputs evaluation, the following sections of the IFOAM Basic Standards are relevant:

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- General principles for farming, in particular for prevention and control of pests and diseases, and for maintenance and improvement of soil fertility.
- A list of inputs considered compatible with organic farming (fertilizers and soil conditioners in Appendix 1, and crop protectants and growth regulators in Appendix 2).
- Procedures and criteria for the evaluation of inputs (evaluation of new inputs as well as re-evaluation of allowed inputs) in Appendix 3, described below.

IFOAM Basic Standards, principal aims

These are intended to distil the essence of organic agriculture, therefore they give a context for the standards and provide aspirational guidance for further development. Here is a sample of relevant ones:

- To work compatibly with natural cycles and living systems through the soil, plants and animals in the entire production system.
- To maintain and increase long-term fertility and biological activity of soils using locally adapted cultural, biological and mechanical methods as opposed to reliance on inputs.
- To maintain and encourage agricultural and natural biodiversity on the farm and surrounds through the use of sustainable production systems and the protection of plant and wildlife habitats.
- To use, as far as possible, renewable resources in production and processing systems and avoid pollution and waste.
- To recognize the importance of, and protect and learn from, indigenous knowledge and traditional farming systems.

IFOAM Basic Standards, Appendix 1 – Fertilizers and Soil Conditioners

Examples of materials include (this is about half of them):

Plant and animal origin

- Farmyard manure, slurry and urine
- Source separated human excrement from separated sources which are monitored for contamination – not to be directly applied on edible parts
- Blood meal, meat meal, bone, bone meal
- Biodegradable processing by-products, plant or animal origin
- Plant preparations and extracts

Mineral origin

- Basic slag
- Calcerous and magnesium amendments
- Mineral potassium (sulphate of potash, muriate of potash, kainite, sylvanite, patentkali) – obtained by physical procedures but not enriched by chemical processes
- Natural phosphates

- Sodium chloride
- sulphur

Microbiological

- Microbiological preparations based on naturally occurring organisms

Other

- Biodynamic preparations

IFOAM Basic Standards, Appendix 2 - Crop Protectants and Growth Regulators

Examples of materials include (about 2/3 of them):

Plant and animal origin

- Algal preparations
- Animal preparations and oils
- Chitin nematicides (natural origin)
- Corn gluten meal (weed control)
- Dairy products
- Natural acids (e.g. vinegar)
- Neem
- Plant oils
- Plant preparations
- Pyrethrum – the synergist piperonyl butoxide is prohibited.
- Quassia
- Rotenone
- Ryania
- Sabadilla
- Tobacco tea (pure nicotine is forbidden)

Mineral origin

- Chloride of lime
- Clay
- Copper salts – max 8kg/ha/year (on a rolling average basis)
- Diatomaceous earth
- Light mineral oils

- Lime sulphur
- Potassium and sodium bicarbonate
- Potassium permanganate
- Silicates
- Sulphur

Microorganisms

- Fungal preparations
- Bacterial preparations
- Release of parasites, predators, sterilised insects
- Viral preparations

Others

- Biodynamic preparations
- Calcium hydroxide
- Ethyl alcohol
- Homeopathic and Ayurvedic preparations
- Sea salt and salty water
- Soda
- Soft soap
- Sulphur dioxide

Traps, barriers, repellants

- Physical methods (e.g. chromatic, mechanical traps)
- Mulches, nets
- Pheromones – in traps and dispensers only

IFOAM Basic Standards, Appendix 3 – Criteria to Evaluate Additional Inputs

Appendix 3 of the IFOAM Basic Standards contains a checklist for evaluation of additional inputs.

Substances for fertilization and soil conditioning

- The material is essential for achieving or maintaining soil fertility or to fulfil specific nutrient requirements which cannot be satisfied by existing practices and products.
- The ingredients are of plant, animal, microbial or mineral origin and may have undergone the following processes: (i) physical (mechanical, thermal); (ii) enzymatic; (iii) microbial (composting, digestion).

- Their use does not result in, or contribute to, unacceptable effects on, or contamination of, the environment, including soil organisms.
- Their use has no unacceptable effect on the quality and safety of the final product.

Substances for pest, disease or weed control

- The material is essential for the control of a harmful organism or disease for which other biological, physical or plant breeding alternatives and/or effective management are not available.
- The active compound should be of plant, animal, microbial or mineral origin and may have undergone the following processes: (i) physical (mechanical, thermal); (ii) enzymatic; (iii) microbial (composting, digestion).
- Their use does not result in, or contribute to, unacceptable effects on, or contamination of, the environment
- Nature-identical products (e.g. pheromones) may be considered if they are not available in their natural form, provided they do not directly or indirectly contribute to contamination of the environment or the product.

General criteria: Nature and mode of production

The origin of the input should be (in order of preference):

- Plant, animal, microbial
- Mineral
- Nature identical (only if there are sufficient ecological, technical or economic arguments)

The ingredients may only undergo the following processes:

- Mechanical
- Physical
- Enzymatic
- Action of micro-organisms
- Chemical (as an exception and restricted)

General criteria: Environment

- No harmful or lasting negative impact on the environment.
- No unacceptable pollution of surface or ground water, air or soil - during processing, use and breakdown.
- No xenobiotic (harmful to life) ingredients where these are known to accumulate in the food chain.
- Degradable to CO₂, H₂O, and/or to their mineral form.
- Maximum half-life of five days for inputs with a high acute toxicity to non-target organisms (and must be subject to additional restrictions to safeguard these organisms).
- Natural substances used as inputs which are not considered toxic do not need to be degradable within a limited time.

- Mineral inputs should contain as few heavy metals as possible (copper salts are recognised as a temporary exception with restricted use).

General criteria: Human Health and Quality

- Not harmful to human health (all stages of processing, use and degradation to be taken into account).
- No negative effects on the quality of the product - e.g. taste, keeping quality, visual quality.
- Acceptable to consumers' perception of organic.

Input Criteria of Codex Alimentarius for Organic Agriculture

Otto Schmid¹⁹

The Codex Alimentarius Commission, a joint FAO/WHO Food Standards Programme, is the body that sets international food standards (for more information see: www.codexalimentarius.net). It started elaborating guidelines for the production, processing, labelling and marketing of organically produced food in 1991. Within the Codex Committee on Food Labelling, a special working group with active participation from observer organizations such as IFOAM and the EU carried out intensive work to develop such guidelines, following the Codex 8-step procedure. The guidelines on organic plant production were the first to be approved by the Codex Commission in June 1999, followed by those for organic animal production in July 2001. The requirements in these Codex guidelines are in line with IFOAM Basic Standards and the EU Regulation on organic foodstuffs (2092/91, 1804/99). There are differences with regard to the details and the areas covered (see: 'Comparison of the IFOAM Basic Standards, the Codex Guidelines, and the EU Regulation' by Otto Schmid, in this volume).

These trade guidelines on organic food took into account the current regulations in several countries, in particular EU Regulation 2092/91, as well as private standards applied by producer organizations, especially those based on IFOAM Basic Standards. The guidelines clearly define the nature of organic food production and prevent claims that could mislead consumers about the quality of the product or the way it was produced.

The elaboration of these guidelines is an important step in the harmonization of international rules in order to build up consumer trust. They will be important for equivalence judgements under the rules of the WTO (World Trade Organization). As a contribution to developing the market for organically produced food, the finalization of these Codex guidelines is important in giving guidance to governments as they develop national regulations for organic food.

The Codex guidelines for organically produced food will be reviewed regularly, at least once every four years, according to given Codex procedures. Regarding the list of inputs, it is possible to make use of an 'Accelerated Procedure' which facilitates a quicker update of amendments.

In 2001, it was decided to review the criteria for inputs as well as the lists of substances for agricultural production and processing. This could take into account the technological advances made in the organic food industry, the development of research on organic farming/food and the growing awareness of different consumer groups about such food. It was agreed to review the existing criteria for inputs and to develop the procedure in such a way that decisions on future inputs are supported by technical submissions evaluated on the basis of these criteria. At the meeting of the Working Group for Organic Food within the Codex Committee on Food Labelling in 2002 and 2003, the criteria were revised and they were finally adopted by the Codex Alimentarius Commission in July 2003.

Codex input criteria as a broadly accepted tool for input evaluation

The criteria for new inputs in organic agriculture in the Codex Alimentarius guidelines are a result of long discussions between the European Union delegates, delegates from other countries and IFOAM. They

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reflect a broad consensus and are mostly based on the criteria developed by IFOAM in its Basic Standards. These criteria could serve as a tool for the evaluation of new substances and consideration might be given to taking them up in EU Regulation 2092/91.

Practical experience with the criteria of IFOAM and Codex Alimentarius has shown that further reflection is needed on which is the best way to develop and apply these criteria, e.g.

- by making a clearer hierarchy of criteria
- by further clarifying some of the criteria, such as necessity and socio-economic impact
- by looking at areas which are not fully covered by these criteria.

Strengths of the Codex Alimentarius approach

- Transparent and participatory approach
- Working with broadly accepted decision-making criteria
- Platform for international harmonization
- Strong involvement of the private sector (IFOAM)

Weaknesses of the Codex Alimentarius approach

- Codex Alimentarius is only a guidance document for governments
- The list of substances is an indicative list and not mandatory
- No resources are available for elaboration of detailed dossiers and real reviews
- Not every issue is sufficiently covered by these criteria, e.g. the case of Chilean nitrate

Codex organic input criteria as a starting point

One of the objectives of the ORGANIC INPUTS EVALUATION project is to propose better criteria for Article 7 of EU Regulation 2092/91. The criteria of Codex Alimentarius might provide a useful starting point for these discussions.

Background information

The following documents are annexed as background information:

- *Annex 1:* Codex Alimentarius criteria for new input substances in organic agriculture
- *Annex 2:* Report of the IFOAM delegation on the CCFL Meeting in 2003
- *Annex 3:* Proposed revisions to the Annexes of the Codex Alimentarius Guidelines for organically produced food
- *Annex 4:* Examples of summarized reviews of substances submitted by IFOAM in 2003

Annex 1: Codex Alimentarius criteria for new input substances in organic agriculture

ALINORM 03/22A APPENDIX V: AMENDMENT TO THE GUIDELINES FOR THE PRODUCTION, PROCESSING, LABELING AND MARKETING OF ORGANICALLY PRODUCED FOODS

SECTION 5. REQUIREMENTS FOR INCLUSION OF SUBSTANCES IN ANNEX 2 AND CRITERIA FOR THE DEVELOPMENT OF LISTS OF SUBSTANCES BY COUNTRIES

5.1 At least the following criteria should be used for the purposes of amending the permitted substance lists referred to in Section 4. In using these criteria to evaluate new substances for use in organic production, countries should take into account all applicable statutory and regulatory provisions and make them available to other countries upon request.

Any proposals for the inclusion in Annex 2 of new substances must meet the following general criteria:

- i) they are consistent with principles of organic production as outlined in these Guidelines;
- ii) use of the substance is necessary/essential for its intended use;
- iii) manufacture, use and disposal of the substance do not result in, or contribute to, harmful effects on the environment;
- iv) they have the lowest negative impact on human or animal health and quality of life; and
- v) approved alternatives are not available in sufficient quantity and/or quality.

The above criteria are intended to be evaluated as a whole in order to protect the integrity of organic production. In addition, the following criteria should be applied in the evaluation process:

(a) if they are used for fertilization, soil conditioning purposes

- they are essential for obtaining or maintaining the fertility of the soil or to fulfil specific nutrition requirements of crops, or specific soil-conditioning and rotation purposes which cannot be satisfied by the practices included in Annex 1, or other products included in Table 2 of Annex 2; and
- the ingredients will be of plant, animal, microbial, or mineral origin and may undergo the following processes: physical (e.g., mechanical, thermal), enzymatic, microbial (e.g., composting, fermentation); only when the above processes have been exhausted, chemical processes may be considered and only for the extraction of carriers and binders; and
- their use does not have a harmful impact on the balance of the soil ecosystem or the physical characteristics of the soil, or water and air quality; and
- their use may be restricted to specific conditions, specific regions or specific commodities;

(b) if they are used for the purpose of plant disease or pest and weed control

- they should be essential for the control of a harmful organism or a particular disease for which other biological, physical, or plant breeding alternatives and/or effective management practices are not available, and

- their use should take into account the potential harmful impact on the environment, the ecology (in particular non-target organisms) and the health of consumers, livestock and bees; and
- the use of chemical processes in the context of these Criteria is an interim measure and should be reviewed in line with the provisions as set out in Section 8 of these Guidelines.
- substances should be plant, animal, microbial, or mineral origin and may undergo the following processes: physical (e.g. mechanical, thermal), enzymatic, microbial (e.g. composting, digestion);
- however, if they are products used, in exceptional circumstances, in traps and dispensers such as pheromones, which are chemically synthesized they will be considered for addition to lists if the products are not available in sufficient quantities in their natural form, provided that the conditions for their use do not directly or indirectly result in the presence of residues of the product in the edible parts;
- their use may be restricted to specific conditions, specific regions or specific commodities;

(c) if they are used as additives or processing aids in the preparation or preservation of the food:

- these substances are used only if it has been shown that, without having recourse to them, it is impossible to:
 - produce or preserve the food, in the case of additives, or
 - produce the food, in the case of processing aids in the absence of other available technology that satisfies these Guidelines;
- these substances are found in nature and may have undergone mechanical/physical processes (e.g. extraction, precipitation), biological/enzymatic processes and microbial processes (e.g. fermentation),
- or, if these substances mentioned above are not available from such methods and technologies in sufficient quantities, then those substances that have been chemically synthesized may be considered for inclusion in exceptional circumstances;
- their use maintains the authenticity of the product;
- the consumer will not be deceived concerning the nature, substance and quality of the food;
- the additives and processing aids do not detract from the overall quality of the product.

In the evaluation process of substances for inclusion on lists all stakeholders should have the opportunity to be involved.

5.2 Countries should develop or adopt a list of substances that meet the criteria outlined in Section 5.1.

The open nature of the lists

5.3 Because of the primary purpose of providing a list of substances, the lists in Annex 2 are open and subject to the inclusion of additional substances or the removal of existing ones on an ongoing basis. When a country proposes inclusion or amendment of a substance in Annex 2 it should submit a detailed description of the product and the conditions of its envisaged use to demonstrate that the requirements under Section 5.1 are satisfied. The procedure for requesting amendments to the lists is set out under Section 8 of these Guidelines.

Precautions (Introduction to Annex Tables 1 and 2 in Codex Alimentarius Guidelines for organically produced food)

1. Any substances used in an organic system for soil fertilization and conditioning, pest and disease control, for the health of livestock and quality of the animal products, or for preparation, preservation and storage of the food product should comply with the relevant national regulations.
2. Conditions for use of certain substances contained in the following lists may be specified by the certification body or authority, e.g. volume, frequency of application, specific purpose, etc.
3. Where substances are required for primary production they should be used with care and with the knowledge that even permitted substances may be subject to misuse and may alter the ecosystem of the soil or farm.
4. The following lists do not attempt to be all inclusive or exclusive or a finite regulatory tool but rather provide advice to governments on internationally agreed inputs. A system of review criteria as detailed in Section 5 of these Guidelines for products to be considered by national governments should be the primary determinant for acceptability or rejection of substances.

Annex 2: Report of the IFOAM Delegation about the meeting of the Codex Alimentarius Committee on Food Labelling (CCFL) in Ottawa, Canada from April 28 to May 2, 2003.

Brian Baker, Diane Bowen and Otto Schmid, IFOAM delegation

The discussion at the meeting on the further development of the guidelines for organic food was focussing on 2 main areas:

- a. the revision of the criteria for new inputs and substances for food processing;
- b. the annex list for crop production and processing

The group met a day before the official meeting and 2 times in between the main meeting, before the outcome was presented in the main plenary session of CCFL.

a. Revision of criteria for inputs

The revised criteria to evaluate new inputs, additives and processing aids for organic food and farming moved to the final step of the process, where the Codex Alimentarius Commission will have the opportunity to vote on it (which was the case in July 2003). CCFL affirmed that the Annexes are open, and that the criteria take precedent over the lists. The input and additive lists are indicative guidelines. Member states may allow substances not on the lists, and may prohibit substances that appear on the lists.

b. List of substances for crop production and for processing

Various crop production and processing inputs were permitted to move to member state consultation, or Step 5, where it will be eligible to be voted on by the Commission next year. Participants requested that eight items be added to the list of Substances for use in Soil Fertilizing and Conditioning. Of these, only four are being proposed. Out of 16 revisions requested to be added to the list of Substances for Plant Pest and Disease Control, seven were advanced to proposed draft status.

Items that did not have a completed dossier were not advanced. Items identified as controversial were placed in [square brackets]. Others substances, such as plant extracts and biodynamic preparations, were not included because they were seen as being already covered in the main text of the guidelines.

There was a strong intervention from Chile to move ahead sodium nitrate as fertiliser without a dossier. This was objected by the majority of the participants mentioning that this issue has been discussed in the Organic Agriculture Movement for many years and that IFOAM and almost all organizations except USDA (still allowed during a limited time) and Chile do not accept this product. Chile will have an opportunity to prepare and present a dossier at next year's meeting.

CCFL advanced a proposal, brought in by USDA, that in exceptional circumstances for the extraction of carriers and binders used for fertilizers chemical processes may be considered. It also revised the annotation for human excrement to make it more protective of human health. Annotations to prohibit wood ash and wood charcoal from chemically treated lumber were put forth in brackets. Other than that, Table 1 will remain unchanged. Items that were advanced in crops were chitin nematicides and sabadilla. There was no objection to revise the annotations for copper and mineral oil. Iron phosphate used as a molluscicide was advanced in brackets, as were rodenticides used in livestock buildings and installations.

With regard to the list of additives requests, based on a criteria evaluation for sodium phosphate, sodium pyrophosphate, sodium nitrate, and potassium nitrate were advanced over the strong opposition of IFOAM and certain member states, most notably Denmark. The International Dairy Federation submitted criteria based dossiers for phosphates, and Switzerland submitted also dossiers for the use of ascorbates (Sodium, Calcium and Potassium ascorbates) together with nitrates for the purpose of curing sausages and other meat products. These were advanced to Step 5 in brackets, meaning that they may be struck before advancing them to the Commission.

Decision procedure

The Codex Alimentarius Commission at their meeting in Rome June 30-July 7 2003 has adopted the revision of the criteria.

At the next meeting of the working group of the CCFL (Codex Committee on Food labelling) in Ottawa/Canada in May 2004 the list of substances will be reviewed and in particular the proposed substances will be discussed and in case of agreement moved to the Codex Alimentarius Commission for final approval.

Annex 3: Proposed Revisions to the Annexes of the Codex Alimentarius Guidelines for organically produced food / May 2003 (Products in brackets are still in discussion)

Table 1: Substances for use in Soil fertilizing and conditioning

Substance	Proposed by	Description; Compositional Requirements; Conditions of Use
Human excrement	Chile	Need recognized by certification body or authority. The source is separated from household and industrial wastes that pose a risk of chemical contamination. It is treated sufficiently to eliminate risks from pests, parasites, pathogenic microorganisms, and is not applied to crops intended for human consumption or to the edible parts of plants.
Sawdust, bark, and wood waste	European Union	Need recognized by certification body or authority [wood not chemically treated after felling]
Wood ash	European Union	Need recognized by certification body or authority [from wood not chemically treated after felling]
Wood charcoal	European Union	[Only charcoal from wood not chemically treated after felling].

Table 2: Substances for Plant Pest and Disease Control

Substance	Proposed by	Description; Compositional Requirements; Conditions of Use
Chitin nematicides	IFOAM ¹	natural origin
Sabadilla	IFOAM	—
Beeswax	Switzerland	—
[Iron phosphates]	IFOAM	[molluscicide]
[Rodenticides]	Switzerland	[Products for pest or disease control in livestock buildings or installations]
Mineral oils (in traps)	Switzerland	Need recognized by certification body or authority.
Mechanical control devices such as e.g. crop protection nets, spiral barriers, glue-coated plastic traps, sticky bands	Switzerland	—

Table 3: Ingredients of Non-Agricultural Origin Referred to in Section 3 (Processing)

For Plant Products

INS#	Substance	Specific Conditions
333	Calcium citrate	Acidity regulator, stabilizer, dispersing agent, antioxidant.
334	Tartaric acid	---
[422]	[Glycerol]	[from plant extracts]
551	Silicon dioxide	Anti-caking agent for herbs and spices

For Processing of Livestock and Bee Products

INS#	Substance	Specific Conditions
153	Wood ash	Specified traditional cheeses as recognized by the certification body or authority.
170	Calcium carbonate	Milk products, not as a colouring agent.
[250]	[Sodium nitrate]	[Where no alternate technology exists for certain products, may be used for: pickling salt for meat products except sausages for frying, products made of fish, crustaceans, and molluscs.]
[252]	[Potassium nitrate]	[Where no alternate technology exists for certain products, may be used for: raw pickled products and raw cured meat products.]
270	Lactic acid	Sausage casings / milk products.
290	Carbon dioxide	---
300	Ascorbic Acid	In meat [and dairy] products, provided insufficient natural sources are available.
[301]	[Sodium ascorbate]	[In meat products, provided insufficient natural sources are available.]
[302]	[Calcium ascorbate]	[In meat products, provided insufficient natural sources are available.]
[303]	[Potassium ascorbate]	[In meat products, provided insufficient natural sources are available.]
306	Tocopherols, mixed natural concentrates	As an antioxidant in mixed products to prevent fat oxidation.
322	Lecithin	Obtained without the use of bleaches or organic solvents. Mil products / milk based infant food / fat products / mayonnaise.
327	Calcium lactate	Stabilizer for thickening pasteurized milk and cream products.
330	Citric acid	As coagulation agent for specific cheese products and for cooked eggs.
331	Sodium citrate	Sausages / pasteurization of egg whites / milk products, emulsified sausage, and melted cheese. Stabilizer for thickening pasteurized milk and cream products, and emulsifying salt for processed cheeses.
332	Potassium citrate	---
333	Calcium citrate	Stabilizer for thickening pasteurized milk and cream.
[339]	[Sodium phosphate]	[Stabilizer for thickening pasteurized milk and cream products]
[340]	[Potassium phosphate]	[Emulsifying salt for melted and processed cheese and stabilizer for pasteurized creams]
400	Alginic acid	As a thickener for milk based and mixed products.
401	Sodium alginate	As a thickener for milk based and mixed products.
402	Potassium alginate	As a thickener for milk based and mixed products.
406	Agar	---
407	Carrageenan	Milk products
410	Locust bean gum	Milk products / meat products
412	Guar gum	Milk products / canned meat / egg products
413	Tragacanth gum	---
414	Arabic gum	Milk products / fat / confectionery / glazing agent
440	Pectin (unmodified)	Milk products
[450]	[Diphosphates]	[Emulsifying salt for melted and processed cheese and stabilizer for pasteurized creams]
[452]	[Polyphosphates]	[Emulsifying salt for melted and processed cheese and stabilizer for pasteurized creams]
500	Sodium carbonates	Milk products for pH regulation in traditional cheese varieties prepared out of sour milk.
509	Calcium chloride	Milk products / meat products
938	Argon	---
941	Nitrogen	---
[942]	[Nitrous Oxide]	[Packaging gas, propellant for whipped cream]
948	Oxygen	---

**Table 4: Processing Aids Which May Be Used for the Preparation of Products of Agricultural Origin
For Plant Products**

Substance	Specific Conditions
Sodium hydroxide	pH adjustment in sugar production. [Oil production for rape seed (<i>Brassica spp.</i>)]

For livestock and bee products

Substance	Specific Conditions
Calcium carbonate	---
Calcium chloride	Firming, coagulation agent in cheese making.
Kaolin	Extraction of propolis
Lactic acid	Milk products: coagulation agent, pH regulation of salt bath for cheese.
Sodium carbonates	Milk products; neutralizing substance
Water	---

Annex 4: Examples of summarized reviews of substances submitted by IFOAM in 2003

Further elaborated evaluation summaries of the proposed substances for plant pest and disease control, prepared by IFOAM for Codex Alimentarius Guidelines for Organic Food

Compatibility	Scoring
very positive	++
positive	+
not to evaluate	00
both positive and negative	~
negative	-
very negative	--

1. Chitin nematicides (Natural Origin): criteria for the inclusion in Annex 2

Criteria for review		Chitin nematicides: review, justification	Scoring
Section 5.1 General Principles	consistent with the principles of organic production	Natural origin: derived from crab shells, oyster shells or other aquatic animals. Non-toxic.	++
	substance is necessary/essential for its intended use	Nematodes can cause extensive damage.	+
	manufacture, use and disposal does not result in, or contribute to, harmful effects on the environment	Made from crab shells, oyster shells. Some manufacturing processes use sulphuric acid, potassium hydroxide, and urea.	+
	lowest negative impact on human or animal health and quality of life	Beneficial for many soil organisms. No negative impact on human health, livestock, or wildlife.	+
	approved alternatives not available	Compost, diatomaceous earth, beneficial organisms, neem cake. It is more effective and a viable substitute for methyl bromide and other chemical nematicides.	++
Section 5.1(b) Used for Plant Disease or Pest and Weed Control	essential for the control of a harmful organism or particular disease for which other biological, physical or plant breeding alternatives and/or effective management practices are not available	Used to control plant nematodes where biological, physical or plant breeding alternatives and the above alternatives are not effective.	+
	[use should take into account potential harmful impact on the environment, ecology and health of consumers, livestock and bees]	Beneficial to the environment in that it provides a way to recycle wastes from the seafood industry. Consumers are not exposed to any residues. Not harmful to livestock or bees.	+
	undergo physical, enzymatic or microbial process	Some products are treated with strong acids and bases—in particular hydrochloric acid and potassium hydroxide. One theory of the mode of action is that this stimulates the growth of microorganisms that produce chitinase.	+
	products used in traps and dispensers which are chemically synthesized if other products are not available provided use does not result in residue in the edible part	Not applicable	00
	use restricted to specific conditions, regions or commodities	Mechanically processed without the addition of synthetic chemical treatments.	+

2. Sabadilla: Criteria for the inclusion in Annex 2

Criteria for review		Sabadilla: justification, review	Scoring
Section 5.1 General Principles	consistent with the principles of organic production	Safely used in many sustainable systems for hundreds of years as a natural form of pest control.	+
	substance is necessary/essential for its intended use	Necessary and essential in some regions for the management of insect pests of the orders Anoplura (lice), Hemiptera (true bugs), Orthoptera (grasshoppers), Thysanoptera (thrips). Often the least toxic available natural control for certain target pests.	+
	manufacture, use and disposal does not result in, or contribute to, harmful effects on the environment	From the dried ripe seeds of <i>Schoenocaulon officinale</i> , a relative of the lily, native to northern South America. Mixed with sulfur, lime, or diatomaceous earth and applied as a dust, or sprayed in a kerosene solution. Use according to instructions is not harmful to the environment. A natural product, it is fully and quickly biodegradable.	+
	lowest negative impact on human or animal health and quality of life	Highly selective, even within the same family of insects. Effectively toxic to only a small number of pest insects. Non-toxic to most beneficial organisms. Accidental exposure causes irritation,	+
	approved alternatives not available	Non-toxic alternatives exist but are not always effective. Less toxic than other approved alternatives such as rotenone. Some other alternatives may not be locally available because of resistance. Also, because the mode of action is different, it is useful to manage insect resistance to <i>Bacillus thuringiensis</i> , pyrethrum, and other approved treatments.	~
Section 5.1(b) Used for Plant Disease or Pest and Weed Control	essential for the control of a harmful organism or particular disease for which other biological, physical or plant breeding alternatives and/or effective management practices are not available	Locally essential for the treatment of insects in the orders Anoplura, Hemiptera, and Thysanoptera when biological, physical or plant breeding alternatives and other management practices fail.	++
	[use should take into account potential harmful impact on the environment, ecology and health of consumers, livestock and bees]	Consists of about 0.3% alkaloids, of which crystalline veratrine (cevadine) and veratraidine are the chief members. Historically used as a medicinal herb in South and Central America. LD ₅₀ (ip, mouse): 7.5 mg/kg. Exposure to consumers is not much of an issue. Poisoning of applicators is rare, but has been known to happen. No record of toxicity to bees.	~
	undergo physical, enzymatic or microbial process	Physically processed by crushing. Some products may then be combined with petroleum solvents.	~
	products used in traps and dispensers which are chemically synthesized if other products are not available provided use does not result in residue in the edible part	May be used in various traps as an alternative to carbamates and organophosphates. These uses will not result in residue in the edible part.	+
	use restricted to specific conditions, regions or commodities	Because it is narrow-spectrum, locally produced, and limited to certain regions, sabadilla use is self-limiting.	+

3. Iron phosphates as molluscicide: Criteria for the inclusion in Annex 2

Criteria for review		Iron phosphate: justification, review	Scoring
Section 5.1 General Principles	consistent with the principles of organic production	Iron phosphate occurs in nature, is non-toxic, and degrades into essential nutrients.	++
	substance is necessary/essential for its intended use	Slugs and snails are a widespread problem. While there are some non-chemical alternatives, many organic farmers need a least-toxic molluscicide to reduce populations.	+
	manufacture, use and disposal does not result in, or contribute to, harmful effects on the environment	Occurs in nature; synthetic form is nature identical. Adequately pure sources do not pose a problem with heavy metals.	+
	lowest negative impact on human or animal health and quality of life	Iron phosphate appears to be the least toxic chemical control for mollusks.	++
	approved alternatives not available	There are some cultural and biological alternatives, but the efficacy varies according to climate, target pest, and cropping system.	+
Section 5.1(b) Used for Plant Disease or Pest and Weed Control	essential for the control of a harmful organism or particular disease for which other biological, physical or plant breeding alternatives and/or effective management practices are not available	Molluscs are vectors of human parasites in certain parts of the world. In many places they are very destructive to food crops. While a number of cultural and biological practices can help reduce mollusc damage, certain organic practices such as growing green manures and mulching may make the problem worse.	+
	[use should take into account potential harmful impact on the environment, ecology and health of consumers, livestock and bees]	Iron is an essential nutrient. Generally non-toxic; safe for livestock and wildlife. Iron phosphate is approved as a nutritional supplement for food. While long-term build-up may be toxic in low pH soils already high in iron, plants and animals have a high tolerance for iron. Bees are not exposed.	+
	undergo physical, enzymatic or microbial process	Most commercial sources are produced by the reaction of steel manufacturing by-product with phosphoric acid. Usually combined with chelating agents, such as ethylene diamine tetraacetic acid (EDTA).	-
	products used in traps and dispensers which are chemically synthesized if other products are not available provided use does not result in residue in the edible part	Baits are applied to soil and are not intentionally applied directly to the edible parts of plant.	++
	use restricted to specific conditions, regions or commodities	Not for use as a phosphate fertilizer unless from a mined source.	+

4. Copper salts: Criteria for the inclusion in Annex 2

Limitation of use: max. 8kg/ha per year (on a rolling average)

Criteria for review		Copper salts (limited use): justification, review	Scoring
Section 5.1 General Principles	consistent with the principles of organic production	Copper salts occur in nature and copper is an essential nutrient.	++
	substance is necessary/essential for its intended use	For certain plant diseases, there are no effective alternatives.	+
	manufacture, use and disposal does not result in, or contribute to, harmful effects on the environment	Copper mining. Copper is not biodegradable and accumulates. Long-term use needs to be restricted to protect the soil from such accumulation. Mining may generate large amounts of arsenic. Smelting produces sulfur emissions that cause acid rain.	-
	lowest negative impact on human or animal health and quality of life	Generally non-toxic when properly used.	+
	approved alternatives not available	While some progress is being made on biological alternatives such as antagonists and classical plant breeding for resistance, some plant diseases do not have any approved alternatives available.	+
Section 5.1(b) Used for Plant Disease or Pest and Weed Control	essential for the control of a harmful organism or particular disease for which other biological, physical or plant breeding alternatives and/or effective management practices are not available	Essential for the control of certain bacterial and fungal diseases, such as various blights and mildews.	++
	[use should take into account potential harmful impact on the environment, ecology and health of consumers, livestock and bees]	Long-term buildup of copper in the soil will be toxic to plants and earthworms (depending on the amounts used). Toxic to fish and other aquatic organisms.	-
	undergo physical, enzymatic or microbial process	Copper ore is smelted and then processed into copper oxide. This can be reacted with sulphuric acid to produce copper sulphate, sodium hydroxide to produce copper hydroxide, or hydrochloric acid to produce copper oxychloride.	-
	products used in traps and dispensers which are chemically synthesized if other products are not available provided use does not result in residue in the edible part	Generally not used in traps. May result in residues on edible parts, particularly in vegetables such as celery treated for late blight and spinach treated for downy mildew.	-
	use restricted to specific conditions, regions or commodities	Annual application rates and total loading rates need to be restricted to protect the environment. Use on edible vegetable parts may also need to be restricted.	-

Overview of EU Regulations for Plant Protection Products in Organic Farming

Bernhard Speiser and Otto Schmid²⁰

Introduction

The present article gives an overview of the legal regulations concerning the use of plant protection products (PPP) in organic farming (OF). It is a selective summary of the presentations and discussions held at the workshop 'Inventory of existing procedures for evaluation of plant protection products to be used in organic agriculture', held on September 25–26, 2003 in Frick, Switzerland. The article focuses mainly on regulations at EU level, although national legislation and private standards are also relevant. Two kinds of regulations will be discussed:

- *Organic farming regulations.* These include PPP among many other topics.
- *PPP regulations.* These apply to all PPP, regardless of whether used in organic or conventional agriculture.

Organic farming regulations

Regulation EC 2092/91

At EU level, OF is regulated by Regulation EC 2092/91. Table 1 gives an overview of the contents of EC 2092/91. The following parts are relevant for PPP:

- *Article 6* sets up Annex II as an exhaustive list of substances to be used as inputs (Annex IIB for PPP).
- *Article 7* lists the procedures and criteria for making changes to Annex II. The procedure is as follows: Member States may submit a dossier on a substance; the Commission may decide to put it on the agenda of the Article 14 Committee; the decision is taken by the Standing Committee for Organic Farming ('SCOF' or 'Article 14-Committee'). The main criteria for PPP are: (i) they must be essential and no alternatives must be available; (ii) they must not come into contact with the seed, the crop or crop products ('non-contact clause'). For perennial crops, the non-contact clause contains some exceptions; (iii) they must not have unacceptable effects on the environment; (iv) substances which were in common use in OF before 1991 need not fulfil the above requirements ('traditional use clause').

The *non-contact clause* is a severe obstacle to the inclusion of new substances, and hinders progress in the field of PPP. Nevertheless, it protects OF from potentially undesirable compounds.

Annexes to EC 2092/91

- *Annex I* describes the principles of organic production at farm level. Paragraph 3 prescribes that pests diseases and weeds shall be controlled by a combination of appropriate species and varieties, appropriate crop rotation, mechanical cultivation procedures, protection of natural enemies of pests, and flame weeding. PPP shall only be used in case of immediate threat to the crop.

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- *Annex IIB* lists all substances which can be used as PPP in organic farming (note: it regulates only active ingredients, and not inerts).

Historical development of the EU Regulation 2092/91 with respect to PPP

- 1991 Publication of the OF Regulation (2092/91). Annex II lists all substances which are allowed, without further restrictions.
- 1994 First review: a second column is added in Annex II, which specifies restrictions for use (2381/94).
- 1995 The "traditional use clause" is added in Article 7 (1935/95).
- 1997 Second review: Annex II B is split up in four categories (1488/97):
 - I. Substances of crop or animal origin
 - II. Microorganisms used for biological pest control
 - III. Substances to be used in traps and/or dispensers
 - IV. Other substances from traditional use in organic farming
- 2000 Third review: minor amendments (1073/2000).
- 2001 Fourth review: minor amendments (436/2001).
- 2002 Fifth review (473/2002):
 - Restrictions on use of copper
 - Inclusion of iron (III) orthophosphate in the new category IIIa. Preparations to be surface-spread between cultivated plants

National regulations and private standards for organic agriculture

A few Member States also have national legislation on PPP in OF. While they may prohibit certain substances listed in EC 2092/91, they cannot allow additional substances. In the states associated with the EU which were represented at the workshop, organic farming regulation is very similar to EC 2092/91. Some private standards also limit the choice of PPP to be used, but again this is not frequent.

All these regulations regulate *active ingredients* only. *Inerts* are only regulated at state level by the National Organic Program of the US, and at private level in Switzerland.

In conclusion, organic farming regulation of PPP is fairly homogenous across EU Member States as well as non-EU-members, and even between most private standards.

PPP regulations

Regulation EC 91/414

At EU level, pesticide registration is regulated by EC 91/414 and amendments. Here, we outline only some aspects of particular importance for OF. The review programme for existing active substances is divided into 4 stages, only the last two of which are relevant for OF. Notification of substances for re-evaluation was carried out under the 'ReNDeR' projects. The 3rd stage is covered by Commission Regulation 451/2000. In the course of this re-evaluation, copper fungicides were given positive approval.

The 4th stage covers the remaining 200 active substances which were not covered by the previous stages. The 4th stage covers a large proportion of the PPP used in OF. In the 4th stage, a simple notification (pre-notification) is possible for substances that are

- authorized in foodstuffs,

- plant extracts,
- animal products,
- attractants/repellants or
- commodities.

A full notification is required for

- microorganisms,
- rodenticides or
- substances to be used on stored products.

Notifications had to be made to ReNDeR by 1.11.2002 (Regulation 1112/2002). The notifications were reviewed by ReNDeR for acceptability/completeness, and a list of substances admitted for re-evaluation was prepared (see Commission decision 565/2003). In addition to notification, Member States could also propose derogations for substances of 'essential use'. These are listed in 2076/2002. Substances notified or of essential use may be placed on the market until December 31, 2008, while the others had to be withdrawn by July 2003 (2076/2002).

For the evaluation of certain categories mentioned above, separate 'guidance documents' are currently being prepared.

Minor uses

DG SANCO has recognized that authorization for minor uses is a problem: "... For minor uses, national markets are mostly too small to recover these costs [i.e. of registration]. As a result a lack of authorizations exists for many of these uses. The European harmonization of registration requirements (Directive 91/414) has increased the burden on the registration process considerably which is having a large impact on minor use registrations where in the past data requirements were often minimal. A consequence of this problem is an increase in illegal use of pesticides. ..." (Cited from SANCO/2971/2000). The document proposes guidelines for voluntary mutual recognition of minor use authorizations. However, this issue is not yet resolved and activities are ongoing.

Plant strengtheners

In 2001, the Netherlands submitted a draft guidance document on data requirements for plant strengtheners (SANCO/1003/2001). At that time, it was assumed that several substances included in the 4th stage of the review programme might be subject to reduced data requirements. The discussion was therefore delayed until such time as more practical experience and examples were available.

National regulations

All countries considered have national legislation on PPP registration, and only the use of registered PPP is allowed. All compounds listed in Annex II B of EC 2092/91 are registered in at least one Member State, but many of them are also unregistered in at least one Member State. The following are the main factors determining whether products are registered:

- Countries differ widely in how strict their ordinary registration procedures are. Also, some countries have established 'fast track' or 'low cost' procedures for certain product categories, which often comprise PPP used in OF.
- In some countries, it is apparently possible to register products as fertilizers (a faster and cheaper procedure), which can be used as PPP (e.g. copper, neem).
- Companies decide whether or not to submit a compound for registration. This decision is based on registration costs, expected market volume and marketing strategies.

In conclusion, there is large variability among the countries studied in the range of PPP registered and not registered.

Use of PPP

Use of PPP in OF is only possible if they comply both with organic regulations and with pesticide regulations. Most of the heterogeneity between countries is due to pesticide regulations, and not due to organic regulations. It is determined largely by the policies of the registration authorities and of the companies, and is an area over which the organic sector has little influence.

Input lists

Input lists are guides for practitioners. They list branded products which are allowed for OF in a given country. Input lists are often prepared by certification bodies, but also by some other institutions, and they may be binding documents or for guidance only. As a minimum requirement, products must fulfil the requirements of both OF and PPP regulations (EU Member States: at EU and national level; non-EU-members: at national level). Most input lists are based on these minimum requirements, but some (e.g. OMRI list, FiBL list) are based on additional criteria. These can be:

- evaluation of inert ingredients
- necessity of use or
- socio-economic acceptability.

Evaluation of these criteria requires know-how which is different from that needed for conventional PPP registration.

Active ingredients

Active ingredients are regulated for OF by EC 2092/91, Annex IIB and in general by EC 91/414 (see paragraphs above).

Inert ingredients

At the moment, inerts are not regulated at Community level, either for OF or in the context of EC 91/414. However, substances of special concern (e.g. nonylphenols) can be regulated by other Community legislation. At national level, inerts are usually evaluated in the process of PPP registration, but not as part of OF regulations. Whether a compound is considered an active or an inert ingredient is largely dependent upon the manufacturer's claims.

Branded products

Branded products are approved for use at national level by the process of registration. Evaluation of branded products at Community level is unrealistic at present, because of the large number of products involved, and also because branded products are often adapted to specific, national needs in terms of crop production and of marketing and legislation.

Table 1: Regulation of different topics in Council Regulation 2091/91

Topic	Article(s)
Scope	1, 2, 3
Definitions	4
Labelling	5
Rules of production	6, 7
Inspection system	8, 9
Indication that products are covered by the inspection scheme	10
General enforcement measures	10 a
Imports from third countries	11
Free movement within the Community	12
Administrative provisions and implementation	13, 14, 15, 15a, 16
I. Principles of organic production at farm level	Annex I
A. Plant and plant products	I.A.
B. Livestock and livestock products (bovine, porcine, ovine, caprine, equine, poultry)	I.B.
C. Beekeeping and beekeeping products	IC.
II. Substances	Annex II
A. Fertilizers and soil conditioners	II.A.
B. Pesticides	II.B.
1. For plant protection	II.B.1
I. of crop or animal origin	II.B.1 I
II. microorganisms	II.B.1 II
III. to be used only in traps/dispensers	II.B.1 III
IIIa to be surface spread	II.B.1.IIIa
IV. other substances from traditional use	II.B.1 IV
2. In livestock buildings and installations	II.B.2
C. Feed materials	II.C.
1. plant origin	II.C.1
2. animal origin	II.C.2
3. mineral origin	II.C.3
D. Feed additives, substances, processing aids used in feedingstuffs	II.D
1. Feed additives	II.D.1
2. Certain products used in animal nutrition	II.D.2
3. Processing aids used in feeding stuffs	II.D.3
E. Cleaning and disinfection of livestock buildings and installations	II.E.
F. Other products	II.F

III. Inspection requirements	Annex III
General provisions	III.General
A. Production of plants, plant products, livestock and/or livestock products	III.A
A.1 Plants and plant products from farm production or collection	III.A.1
A.2 Livestock and livestock products produced by animal husbandry	III.A.2
B. Units for preparation of products and foodstuffs	III.B.
C. Importing of products and foodstuffs	III.C.
D. Contracting out	III.D
E. Production of feedingstuffs	
IV. Information to be notified by operators	Annex IV
V. Indications that products are covered by the inspection scheme	Annex V
VI. Processed products	Annex VI
Introduction	-
General principles	-
A. Ingredients of non-agricultural origin	VI.A.
1. Food additives, including carriers	VI.A.1
2. Flavourings	VI.A.2
3. Water and salt	VI.A.3
4. Microorganism preparations	VI.A.4
5. Minerals and vitamins	VI.A.5
B. Processing aids	VI.B.
C. Ingredients of conventional origin	VI.C.
1. Unprocessed or "simple-processed" vegetable products	VI.C.1
2. Processed vegetable products	VI.C.2
3. Animal products	VI.C.3
VII. Animals per ha	Annex VII
VII. Minimum surface areas	Annex VIII
1. Bovines, ovine and pigs	VIII.1
2. Poultry	VIII.2

Acknowledgements

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Comparison of the IFOAM Basic Standards, the Codex Guidelines, and the EU Regulation

Otto Schmid²¹

Items	IFOAM Basic Standards 2000	Codex Alimentarius Organic Guidelines 1999/2001	EU-Regulation 2092/91 for organically produced food
Scope	Food and non-food, including fish, textiles (new draft), fish etc.	Mainly food	Food and non-food
Conversion	Farm or farm unit, minimum 1 year before harvest, perennials 2 years	Farm or farm unit, minimum 2 years before harvest, perennials 3 years	Farm or farm unit, minimum 2 years before harvest, perennials 3 years
Landscape/ Biodiversity	Only a recommendation to national bodies (certain % of diversified areas)	Only a recommendation	Only a recommendation
Fertilization	Similar list, clear criteria list for new inputs	Similar lists, exclusion of manure from factory farming	Similar lists, only manure from extensive farming
Pest and disease control	Similar list	Similar list	Similar list
GMO products	Excluded	Excluded	Excluded
Animal husbandry	Rather detailed, developed as a framework for national organizations	Developed more as a framework for national bodies	Very detailed regulation, especially for poultry
Processing	Elaborated criteria list for new additives and processing aids, detailed list	Less developed criteria list, very restrictive list for animal products	Little developed criteria, no list for animal products yet
Labelling	Conversion label after 2 nd year allowed. Mixed products with >95 % organic: full labelling; 70 % products: emphasis labelling; products with <70 % only on the ingredients list	Conversion label after 2 nd year allowed. Mixed products with >95 % organic: full labelling; 70 % products: labelling on the ingredients list, only allowed on a national level	Conversion label after 2 nd year allowed. Mixed products with >95 % organic: full labelling; 70 % products: labelling on the ingredients list

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About the 'ORGANIC INPUTS EVALUATION' project

The 'ORGANIC INPUTS EVALUATION' project is an EU Concerted Action project carried out under the Quality of Life Work Programme, 5th Framework Programme. It is funded by the Commission of the European Communities (QLK5-CT-2002-02565; full title: Harmonised and Standardised procedures for evaluation of plant protection products, fertilizers and soil conditioners for use in organic agriculture) and co-funded by the Swiss Federal Office for Education and Science (BBW 02.0113). The project lasts from January 2003 until December 2005.

The objective of this Concerted Action project is to develop recommendations for harmonized and standardized procedures for the evaluation of plant protection products, as well as for fertilizers and soil conditioners authorized for use in organic agriculture according to Council Regulation 2092/91. The project proceeds in three phases:

- Inventories of current evaluation procedures in the participating countries (separately for plant protection products and fertilizers and soil conditioners).
- Elaboration of standardized evaluation procedures (separately for plant protection products and fertilizers and soil conditioners).
- Recommendations for evaluation procedures and identification of research needs.

The following institutions are participating in this project:

- Danish Agricultural Research Centre for Organic Farming (DARCOF), Denmark
- Research Institute of Organic Agriculture (FiBL), Switzerland
- EcoS Consultancy, United Kingdom
- Istituto Sperimentale per le Nutrizione delle Piante, Italy
- Associazione Italiana per l'Agricoltura Biologica, Italy
- Louis Bolk Instituut, The Netherlands
- Soil Association, United Kingdom
- Ludwig Boltzmann Institut for Biological Agriculture, Austria
- Austria Bio Garantie, Austria
- Associação Portuguesa de Agricultura Biologica, Portugal
- Universität Gesamthochschule Kassel, Germany
- Danish Plant Directorate, Denmark

For more information on this project, please visit the project website www.organicinputs.org.



Brian Baker is OMRI's Research Director. He has over twenty years of experience working in organic agriculture as a researcher, farm inspector, certification programme administrator, educator, and a provider of technical support to organic farmers. He grew up on a family farm in Upstate New York. After that, he coordinated the California Certified Organic Farmers (CCOF) certification programme and then developed CCOF's technical programme. He was the first employee hired by the Organic Materials Review Institute (OMRI) in 1997. He served on the National Organic Standards Board's Technical Advisory Panel, is member of the Standards Committee of the IFOAM, and has attended Codex Alimentarius meetings as a technical expert in the IFOAM delegation.



Francis Blake has over 25 years experience in the organic farming sector. He established an organic farm in 1976 and managed it for 10 years, before co-founding the UK Organic Advisory Service in 1986. From 1988 he was Certification Director of Soil Association Certification Ltd. (now the largest certifier of organic products in the UK), before becoming the Standards and Technical Director for the Soil Association in 1999. He is heavily involved in the development and promotion of international standards for organic agriculture and he is the President of the IFOAM EU Regional Group.



Rob Boeringa was involved in research and research management on organic farming between 1972 and 1995: on the committee for research into alternative methods of agriculture, the consultative body for organic farming of the Dutch National Council for Agricultural Research, and the Department for Science and Technology of the Ministry of Agriculture. He retired in 1995. At the moment he is a member of the Dutch committee for crop protection in organic fruit growing.



Rasmus Ørnberg Eriksen works at the Danish Plant Directorate within the Danish Ministry of Foods, Agriculture and Fisheries. He is the head of the group administering plant-related issues in organic farming in Denmark (since 2000). As technical expert of the Danish delegation, he participates at meetings in the working groups on organic farming under the EU Commission, DG Agriculture. He participated throughout the negotiation and development of common EU legislation on databases for organic seed, and is responsible for the Danish database. He has been involved in organic farming since his childhood and has experience of working both in organic farming and in greenhouse production. In 1999 he graduated as a Master of Science, Horticulture from The Royal Veterinary and Agricultural University (KVL).



Victor González has been involved in several organic farming organizations in Spain since 1979. He also worked as extension agent at the Ministry of Agriculture and as advisor for organic farming in several regions. During 12 years, he worked as advisor for sustainable and organic agriculture in Nicaragua and Central America, using horizontal dissemination methodologies for technology. Since 2000, he is the Technical Coordinator of the Spanish Society for Organic Farming (SEAE), and he is also advisor for the organic farmers section of the general farmers' organization (La Unión-Coag), dealing with organic standards. He represents the Spanish members in the IFOAM EU group, dealing with organic standards and policy work.

Rob Haward is the Horticultural Development Manager for the Soil Association, and specializes in horticultural sector development, market research across the organic sector and producer support. He facilitates and chairs a range of standards development committees and is involved in several UK MAFF (Ministry of Agriculture, Forestry and Fisheries) research and development projects covering organic horticultural best practice.



Alexandra Hozzank specialized in organic pest management. She is the co-ordinator of the Austrian inputs list since three years, and of the database infoXgen.com, which lists allowed inputs.



Alexandra Maurer da Costa has been working for the technical department of AGROBIO since 1999, as a technical consultant and editor of two bulletins ('A Joaninha' and 'Infobio'). She has been responsible for the coordination of technical information and updating of input lists, and is now responsible for training and education. She is the Portuguese delegate in the IFOAM EU Regional Group.



Cristina Micheloni has coordinated the AIAB Scientific Board since 1993. She specializes in soil fertility and plant production systems. She has been involved in standard-setting activity for the AIAB private label and within the IFOAM Standards Committee. She is involved in education, farmers' training, publishing and dissemination. She took part in several commissions at Italian Ministry level (General Commission on Organic Farming and Working Group on Plant Protection Products) and is involved in AIAB's inputs evaluation activity.



Marie-Christine Monnier is a senior agronomist, initially specialized in soil and farming systems. She is experienced in research and development, project management and organic farming standards/regulatory improvement. She is involved in the organic sector at French national level, and has been a member of the IFOAM EU group since 2000.



Richard Plowright was the International Standards Manager for the Soil Association until 2004, and was involved in the area of equivalence and harmonization of international standards for organic agriculture. He has many years of experience in research in the management of plant parasitic nematodes, and has recently established an organic horticultural smallholding.



Otto Schmid is a senior researcher in socio-economics, marketing and agricultural policies at the Research Institute of Organic Agriculture (FiBL) in Switzerland. He was head of the FiBL organic advisory service from 1977 to 1990. Since 1998, he has been a lecturer in organic farming systems and agro-marketing at ETH Zürich. He is strongly involved in international input evaluation and standards development, as a member of the IFOAM Standards Committee (from 1977 to 2002), as head of the IFOAM delegation in Codex Alimentarius (since 1991) and as a member of the IFOAM EU Group (since 1999).



Christian Schüller is a senior plant pathologist in the Department of Organic Farming and Cropping Systems at the University of Kassel. He has experience in plant pathology and the development of practical control strategies on organic farms. He was a member of the AGÖL control body for the assessment of organic organizations within AGÖL.



Anamarija Slabe is co-founder and Technical Director of the Institute for Sustainable Development in Slovenia, a private institute for organic farming and sustainable rural development. She has prepared the first private standards for organic farming in Slovenia and has been co-ordinating their further development.



Bernhard Speiser is a senior researcher in organic crop protection at the Research Institute of Organic Agriculture (FiBL) in Switzerland. He has been the coordinator of the Swiss inputs list since 2000, and the administrative coordinator of the EU Concerted Action project 'ORGANIC INPUTS EVALUATION'.



Christopher Stopes is a freelance research, technical and market development consultant in organic agriculture, food and agricultural policy ('EcoS Consultancy'). He has been involved in the development of organic standards in the UK since 1987, and has specific expertise in regulatory issues relating to pesticides and other inputs. He has been a board member and Chair of the Certification Committee of the UK organic competent authority (UKROFS, now ACOS), he is currently a member of the UK pesticide regulatory body - Advisory Committee on Pesticides and was Head of Research at Elm Farm Research Centre from 1985 to 1997.



Lucius Tamm is a senior researcher in organic crop protection and a member of Management at the Research Institute of Organic Agriculture (FiBL) in Switzerland. He has produced the first Swiss inputs list and has coordinated its production for two years. Currently, he is a consultant on the inputs list team for the evaluation of crop protection products.



Klaus-Peter Wilbois is a senior researcher involved in organic crop protection and plant breeding and seed production at the Research Institute of Organic Agriculture (FiBL) in Germany. He is the projects manager in a project to set up and implement a German input list. From 1996 to 2001 he has worked in the standards development and as managing director with AGÖL, the former umbrella organisation for organic agriculture in Germany.

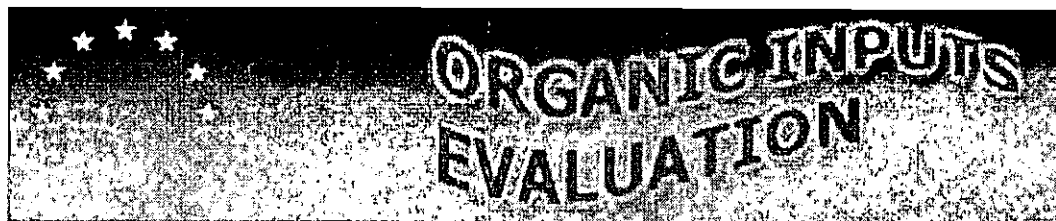
Organic farming is characterized by a strict regulation of plant protection products, fertilizers and soil conditioners, which precludes the use of the vast majority of all available compounds. The European Regulation 2092/91 defines which substances are allowed in organic farming. Nevertheless, the range of products allowed varies greatly between countries.

The articles in this volume describe the evaluation procedures for plant protection products used in organic agriculture. They summarize the situation in various (mainly European) countries and the evaluation procedures and criteria of international institutions. The collection is not exhaustive, but it gives a picture of the areas where the regulations are similar across countries, and where there are major differences. It also shows the extent to which organic regulations/standards and (non-organic) legislation on pesticide usage are responsible for national differences.

The articles are based on presentations made at the workshop 'Inventory of existing procedures for evaluation of plant protection products used in organic agriculture', held on September 25–26, 2003 in Frick, Switzerland. The workshop was part of the EU Concerted Action project 'ORGANIC INPUTS EVALUATION', carried out under the Quality of Life Work Programme, 5th Framework Programme.



Draft Criteria for Evaluation of Plant Protection Products, Fertilizers and Soil Conditioners Used in Organic Agriculture



**Proceedings of a workshop
held September 23-24, 2004 in Rome, Italy**

Edited by: Bernhard Speiser, FiBL

Published by: FiBL

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Foreword

This volume contains documents which were prepared in the course of the workshop "Draft Criteria for Evaluation of Plant Protection Products, Fertilizers and Soil Conditioners Used in Organic Agriculture", held in Rome on September 23-24, 2004. This workshop was part of the European Union (EU) Concerted Action project 'ORGANIC INPUTS EVALUATION' (QLK5-CT-2002-02565). For more information on this project see the last page of this volume or visit the project website www.organicinputs.org.

Prior to the workshop, a working group prepared two criteria matrices (hereafter called 'matrix A' and 'matrix B', and the participants tried out both matrices and reported their experience in a questionnaire. Because the emphasis is on testing the matrices, these results are presented here in anonymous form ('eval 1', 'eval 2' etc.). During the workshop, a revised matrix was developed (hereafter called 'matrix C'). Matrix C will serve as a basis for the future work in this project, and will be further developed by the working groups. For the latest information, please visit the project website www.organicinputs.org, or consult the project co-ordinator (via the project website).

This volume aims at illustrating the state-of-the-art of the project for the workshop mentioned above. At present, all of the matrices are work in progress, and represent notes on further directions of the work, rather than final statements. It goes without saying that they need scientific improvements as well as editorial corrections. However, this will be part of the future work in the project, and was therefore not attempted when editing this volume.

Matrix A

Note: the original matrix A is in Microsoft Excel format and in the cells "average", the average of the scores is calculated automatically.

CRITERIA MATRIX FOR INPUTS (F&SC AND PPP) EVALUATION - 30.08.2004				
To be filled in by each expert member of the evaluation panel				
Instruction: fill in cells; Score: marks from 1 to 5, 1=very negative ... 5=very good; explanations in <i>italics</i>				
Identification box				
Common name of the input:				
Scientific name of the input:				
Dossier code:				
	Score	Evaluation (in words)	Requested additional data/ analysis	Suggested restrictions
1 Respect of organic agriculture (OA) principles				
1		Is the raw material/active ingredients consistent with the principles of OA as formulated in IFOAM Basic Standards or Codex Alimentarius guidelines? Which principles may be affected?		
2		Is the input manufacturing (considering co-formulants/inerts as well and other products used too even if not resulting in final product) consistent with the principles of OA? Which principles may be affected?		
3		Is the intended use consistent with the principles of OA? Which principles may be negatively affected?		
4		Does the use of the input significantly influence (support or reduce) the systems approach of OA? Which elements of the systems approach may be influenced and how?		
Chapter 1 average				
Chapter 1 threshold		4		
2 Necessity and alternatives				
1		Needs and effects on yield quantity and yield security compared with alternatives		
2		Needs and effects on yield quality and marketability compared with alternatives		
3		Is it preferable/comparable in terms of farmers cost to already allowed inputs?		
4		How widely is it needed (a specific crop, a specific area, a specific pedologic condition... and how common is such a situation)?		
Chapter 2 average				
Chapter 2 threshold		3.5		
3 Source/nature and manufacturing process				
1		Is the nature of ingredients acceptable?		
2		Is it locally produced or imported and transported? In case of relevance define an area of use or a maximum transportation distance in the restrictions		
3		What is the degree of re-newability of all ingredients (score depending on the speed of renewability)? (Degradation pattern)		
4		To which extent is the manufacturing process preserving natural resources?		

5	The manufacturing process undergone by raw materials is acceptable? <i>Life-cycle assessment of all final product components up to selling form (including packaging)</i>				
6	The manufacturing process is energy, water.. resources consuming?				
7	Are process by-products (even if not present in final product) acceptable concerning their environmental fate? Are they recycled? <i>(Life-cycle assessment)</i>				
8	Is the extraction or manufacturing process potentially detrimental to the landscape ?				
Chapter 3 average					
Chapter 3 threshold		3			
4	Environment				
1	Does the manufacturing process risk to pollute water?				
2	Does the manufacturing process risk to pollute soil?				
3	Does the manufacturing process risk to pollute air?				
4	Is the input potentially containing dangerous xenobiotics (including veterinary or medical residues)? - <i>Analysis of suspected xenobiotics</i>				
5	Is the input potentially containing heavy metals? - <i>Analysis of suspected heavy metals</i>				
6	Is the input (intended as final product, co-adjuvants included) degraded, in normal field conditions, to mineral forms within acceptable time?				
7	Is it or its metabolites potentially toxic to non-target micro-organisms? <i>(List of degradates and associated data; data about bioaccumulation)</i>				
8	Is it or its metabolites potentially toxic to non-target insects and mites? <i>(Tox data from registration dossier)</i>				
9	Is it or its metabolites potentially toxic to non-target mammals and other animal? <i>(Tox data from registration dossier)</i>				
10	Is it or its metabolites potentially polluting water? <i>(Tox data from registration dossier)</i>				
11	Is it or its metabolites potentially polluting the air? <i>(Tox data from registration dossier)</i>				
12	Is it or its metabolites potentially detrimental to native botanical species?				
13	Is it potentially detrimental to ecological balance of all species?				
14	Is it suspected to induce resistance in target-pest/disease populations?				
15	Is it potentially phytotoxic?				
16	Is its use potentially detrimental to soil conservation? (degradation, erosion, lost of organic matter....)				
Chapter 4 average					
Chapter 4 threshold		4			

6	Human health and quality of the products				
1	Is the manufacturing potentially dangerous to workers?				
2	Is the input risky for health of farm workers (during application)? (<i>Epidemiological studies</i>)				
3	Is there any risk of residues on the crop/goods where the input has been used?				
4	Is the input or its residues risky to consumers (when crop is eaten)? - <i>Analysis of residues</i>				
5	How does the input affects products nutritional quality?				
6	How does the input affect products organoleptic quality (taste, flavour, crunchyness...) and processing properties?				
7	How does the input affect product security (for human/animal consumption)?				
8	How does the input affect products shelf-life quality?				
9	Is it or its metabolites suspected or proven to be mutagenic or carcinogenic? (<i>Bibliographic research on health impact</i>)				
10	How does the input affects processing quality and storage potential?				
Chapter 5 average					
Chapter 5 threshold		3.5			
6	Socio-economic aspects				
1	How is the input or its ingredients perceived by consumers and public opinion?				
2	How would it affect the economics of farmers?				
3	How would it affect the economics of local community?				
4	How would it affect the local communities development?				
5	What is the effect on animal welfare?				
Chapter 6 average					
Chapter 6 threshold		3			
Criteria average sum					
Global threshold		24			

Matrix B

Introduction

The following input criteria matrix for the evaluation of agricultural inputs has been developed within the EU funded Project QLK5-CT-2002-02565: ORGANIC INPUTS EVALUATION and is a test version. Its intended use might be as follows (this has to be discussed at the next workshop):

1. The applicant fills in the matrix, leaving the 'summary & conclusions' line blank.
2. Organic farming experts and/or interested MS verify and complete the answers, and fill in the 'summary & conclusions' line.
3. An institution to be determined yet (the SCOF? A working group of interested SCOF members? The Commission? or ...?) prepares a **consolidated report** for the detailed questions & summary; where no consensus can be reached, the scope of varying interpretation is indicated in the consolidated report, together with the range of scores.
4. In the decision-making process, politicians will normally use the consolidated summary report. For full transparency, however, the consolidated full matrix is supplied together with the summary report.

General Instructions

- The relevant facts about the substance should be summarized in the column "description". *Note: if permitted alternatives are available, the properties of the substance have to be described also in relation to the alternatives throughout this form!*
- The interpretation of these facts for organic production should be given in the column "score" as follows:

++	very positive
+	positive
±	both positive and negative / neither positive nor negative
00	not to evaluate
-	negative
--	very negative (note: substances with a score - - are normally rejected)
- In the last line of each table, the facts should be summarized and conclusions drawn.
- There are no instructions concerning the way to make overall score for each main criteria, because this involves an individual priority setting with regard to the different subcriteria. However a justification should be given, in which way the summarised score is made.
- Similarly, there is no fixed rule ("formula") for the final decision on the substance, because this is a political decision beyond science.

1 Description / fact sheet about the substance and its use

1.0 Author information

Name & Institution of author	
Date	
Status of document (<i>application, review or consolidated report</i>)	

1.1 Compound identification

Common name(s) of substance	
Other name(s)	
Chemical / biological name/identity	
Special codes (CAS number, etc.)	

1.2 Characterization

Chemical composition	
Formula weight	
Source of the substance	
Further description (e.g. manufacturing process, extraction method, use of inerts/co-formulants, etc.)	

1.3 Application and uses

Main application (as fertilizer or soil conditioner, crop protectant or growth regulator, plant strengthener, etc.)	
Describe the problem to be solved with the substance. How many farmers are affected, what is the economic impact, etc.?	
Intended use (crop, timing & dosage of application, restrictions on use etc.)	
Is there a risk of phytotoxic side-effects on crops?	
Expected formulation (approximatively)	
Intended effect on crops / target species	
Are permitted alternatives available? If yes: which?	
Historic use of the substance	

1.4 General and organic regulatory status

Substance generally authorized for the intended use in EU member states or other countries?	
Substance generally listed for the intended use in Codex Alimentarius standards or guidelines?	
What is the organic status in other regulations (e.g. USDA, etc.)	
What is the organic status in private organic standards (e.g. IFOAM Basic Standards, other relevant standards)	

2 Principles of organic agriculture

Criteria	Description	Score
<i>Note: explain which principles of organic agriculture are affected in which way</i>		
2.1 Is the the raw material/active ingredient itself consistent with the principles of organic agriculture (e.g. as formulated in IFOAM		



Basic Standards or Codex Alimentarius Guidelines)?		
2.2 Is the production or manufacturing of the raw material/active ingredient (inclusive use of inerts) consistent with the principles of organic agriculture		
2.3 Is the intended use consistent with the principles of organic agriculture?		
2.4 Will the input negatively affect or positively support the system approach of organic agriculture (e.g. change in agricultural practices (such as reduction of crop rotation)?		
Summary & conclusions		

3 Necessity and alternatives

Criteria	Description	Score
<i>Note: Explain why the substance is necessary and what alternatives (methods, practices or inputs) exist. The evaluation should also take into account whether the crop is adapted to the local conditions</i>		
3.1 Need and effect on yield quantity and yield security compared with alternatives		
3.2 Need and effect on yield quality or marketability compared with alternatives		
3.3 Economic effects (costs, benefits, application, labour, availability, storage etc.) compared with alternatives		
3.4 Other effects		
Summary & conclusions		

4 Origin/source and manufacturing process

Criteria	Description	Score
<i>Note: Document how the substance is made</i>		
4.1 Does the substance occur in nature? Where? <i>(Note: substances which do not occur in nature are not permitted)</i>		
4.2 Describe materials of origin. Are they mineral, plant, animal, microbial, other? Where do they originate from? <i>(Note: substances of chemical origin are normally not permitted)</i>		
4.3 For animal products: do they not originate from factory farming?		
4.4 Are the materials of origin renewable?		
4.5 Describe the manufacturing processes. Are they mechanical, physical, thermic, chemical etc.? <i>(Note: substances which have undergone chemical processes are normally not permitted)</i>		
4.6 Does the manufacturing process preserve natural resources (no depletion)? Does the process consume excessive		

amounts of energy, water or other resources, or pollute the environment?		
4.7 Is the product or any of its ingredients a GMO or derived from a GMO? (Note: GMO and substances derived from a GMO are not permitted)		
4.8 If the substance is synthetic and nature-identical is the natural form not available in sufficient quantities and qualities? (Note: nature-identical substances are only allowed for exceptional cases such as pheromones)		
Summary & conclusions		

5 Environment

Criteria	Description	Score
<i>Note: 5.3 – 5.7 have to be assessed for the entire lifecycle of the substance from production to use and degradation, including also the manufacturing process and by-products of manufacture.</i>		
5.1 Does the substance contain potentially dangerous xenobiotics or microorganisms or heavy metals?		
5.2 Environmental fate of the substance (degradation, metabolites, accumulation in the food chain or environment etc.)		
5.3 Effects on animals (mention particularly farm animals, bees, beneficial insects, wildlife and endangers species).		
5.4 Effects on plants (mention particularly crops and endangered species).		
5.5 Effects on soil (including soil fertility & erosion) & microorganisms		
5.6 Effects on the ecosystem, e.g. water, air, landscape etc		
5.7 Effects on non-living/abiotic ecosystem (water, air, landscape etc)		
Summary & conclusions		

6 Human health and product quality

Criteria	Description	Score
<i>Note: 6.1 – 6.4 have to be assessed for the entire lifecycle of the substance from production to use and degradation. Document all impacts on human health and product quality</i>		
6.1 Health hazards for the workers from production, application and post application.		
6.2 Residues of the substance in the harvest, and their effects on consumer health (e.g. acute toxicity, allergic reactions, carcinogenicity etc.)		



6.4 Effect on overall product quality (nutritional value, flavour, taste, eating properties, appearance, cooking, processing and storage properties, hygiene, food safety etc.)		
Summary & conclusions		

7 Socio-economic implications / public perception

Criteria	Description	Score
<i>Note: 7.1 – 7.6 have to be assessed for the entire lifecycle of the substance from production to use and degradation. Provide existing studies regarding public and consumer perceptions regarding the substance</i>		
7.1 Public perception concerning consistency with organic farming principles		
7.2 Public perception concerning origin		
7.3 Public perception concerning environmental effects		
7.4 Public perception concerning human health & product quality		
7.5 conditions of living / rural development		
7.5 Social justice and fair trade issues		
7.6 Effects on animal welfare		
7.7 Other effects such as cultural or religious implications		
Summary & conclusions		

Consolidated answers to questionnaire

General comments

Are the matrices too long? Or too short?	eval 1, eval 2, eval 6, eval 9, eval 10: ok eval 5: Too long (matrix A) if evaluation is requested in words for each item. Should be limited to 10 questions maximum per item. eval 3: OK except environment from matrix A eval 8: matrix A is too long. eval 11: acceptable
Are they clearly understandable? Or confusing? What could be improved?	eval 1: generally ok eval 2: Mostly clear, sometimes unclear eval 3: They are OK – but questions are too open ended – need clear guidance notes to clarify the parameters eval 5: Yes, the matrices are clearly understandable. Their use however a bit confusing who does what (applicant/ expert). eval 6: Clearly understandable. In the matrix B avoid "et ceteras", it should be clearly listed, which points have to be answered, the "etc." might have the unwanted effect that not all of the written points before the "etc." are dealt with! eval 9: No problem eval 10: When referring to "principles of organic farming", this is very hard to answer, as there are many different ways to look at this. eval 11: Some typing errors, ok, I personally prefer matrix A.
Do the matrices cover all aspects which are necessary for organic evaluation of a compound? If not: what is missing? What is superfluous?	eval 1: Generally ok eval 2, eval 5: yes eval 3: OK except that there need to be restrictions as a question on matrix A (rather than a column). Also matrix A needs to have more on public perception as per matrix B. eval 6: One aspect is missing, which should be addressed separately in context with the "necessity" or the "socio-economic" section: how urgently do the organic farmers themselves want/need a certain input to be taken up in the annex II? eval 9: Concerning matrix B: $1.2.4 = 4.5$ and $1.2.3 = 4.2$, from my viewpoint one should be taken out (preferably 1.2.#) eval 10: I'm not sure. When new products are to be evaluated, the questions should normally be reviewed. eval 11: Little attention to formulation additives

The two criteria matrices

What are the <u>advantages</u> of matrix A?	eval 1: Not filled in, just looked through eval 2: ?? eval 3: Scores automatically calculated. Spreadsheet better eval 5: That all substances are evaluated in a comparable manner and "politics" are as much as possible left out of the evaluation process. Adding scores clearly identifies problem areas. eval 6: The criteria formulated as questions, which forces the reviser more to give clear answers. The scoring system, at
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What are the <u>disadvantages</u> of matrix A? How could they be improved?	least as an attempt, to give a total evaluation score as a basis for acceptance or rejection of an input, although it might be improved (for instance in sections with only few data available, the total average of the few answerable questions are rather meaningless). The boxes for requested data and suggested restrictions. To be forced to give answers as clear as possible, if this is not possible, you have identified a knowledge/data gap! eval 8: Excel format – easier to go through questionnaire eval 9: Option for giving examples for restrictions, The marks allow a quicker evaluation process at the end. eval 10: Easier with 1-5 scale. Fast overview of results in summary (average). eval 11: It is more clear and attractive. eval 1: Not filled in, just looked through eval 2: Unclear, how to deal with geographic variation; Answers clear, but unclear what marks to give; Some questions are too detailed; For each question, there should be <u>detailed guidance</u> on how to set marks. No effect=5? Or =3 ? eval 3: No 1st section on description, application/use and regulatory status (conventional and organic). eval 5: It is too much work for the evaluator to do evaluations with text and scores. Let the evaluation part be provided by the applicants so the evaluation is shortened. The expert can add scores and concentrate on "hot discussion issues" or lack of information. eval 6: The scoring system (see also above): the weighting of the score thresholds for the sections should be explained and fine-tuned! The important GMO question is not addressed directly. It is tedious to be asked again and again having no data to rely upon (especially in the sections "product quality" and "socio-economics")! eval 8: Too long. Scores are subjective. Cannot establish thresholds. eval 9: - eval 10: The excel file is difficult to send and also to print out. eval 11: Averaging in field D21 did not work, possibly my problem, to the score system "does not apply" should be added.
What are the <u>advantages</u> of matrix B?	eval 1: Ok to fill in. The questions require input from people with different backgrounds. eval 2: Open questions give flexibility to deal with geographic variation. eval 3: Simpler to fill in – slightly shorter. Good first sheet. Better questions on public perception. eval 5: Short system is nice. Information provided by applicants already "according to the system" will end up with long lists of descriptions. More difficult to obtain clear overview. Scores do not indicate what is "good or bad", which leaves too much room for discussion, politics etc. later in the consolidated report. eval 6: Generally, the formulation of the criteria appeared somehow clearer and more consistent to me. Very useful!

	find the summary & conclusions at the end of each section. eval 8: Shorter, better structured questions. eval 9: - eval 10: Easier to read and to print eval 11: ?
What are the <u>disadvantages</u> of matrix B? How could they be improved?	eval 1, eval 2: - eval 3: No scoring system eval 5: Unclear "what really the problem is with a substance" Makes a clear evaluation more complex. eval 6: The scoring system: it remains to the expert by what criteria he gives a "+" or "-" at the end of each section, this should be made more congruently for better comparability of different reviews. eval 9: The missing column for RESTRICTIONS, the scoring system. eval 8: - eval 10: Use matrix A scale (1-5) and counting averages eval 11: The score system is more difficult and less transparent
How should we continue? – with matrix A, B, or a combination (<i>in this case, specify how it should be combined</i>)?	eval 1: A lot of overlap exists, good possibilities to merge. eval 2: matrix B system for fact-finding; guidance for decision-making based on ideas of matrix A system. eval 3: Combine – Spreadsheet, score from matrix A First section from matrix B. Take out some matrix A environment questions. Use the public perception questions. Also need to produce guidance notes – this is also needed to explain the threshold scores. eval 5: Combination. Let the applicants provide the information. Use largely the questions from matrix B, but add the "score" system from matrix A and be clear with thresholds about what is acceptable and what is not. eval 6: A combination of the two matrices which actually are very similar already concerning the criteria as well as their classification in sections; from matrix A the scoring system might be overtaken, the boxes for data request and restrictions, from matrix B the "between-summaries"; a combined version should contain the complete list of criteria from both matrices. eval 9: matrix A plus point 1 of matrix B. eval 10: Use the best from both matrixes. matrix A with modifications from the matrix B document would probably be best. eval 11: matrix A with possibly some modifications

Comments versus marks/scores

Do you prefer text comments or marks/scores? Why?	eval 1: I prefer text, scores are more unprecise. eval 2: Text for fact-finding; Scores for decision-making. eval 3: Scores – much easier to see total and impact. eval 5: Marks/scores because it forces each reviewer to apply a comparable approach. Text comments can be limited to issues only that need further discussion. eval 6: Both is necessary: the text comments give the background and the reason for the scoring, without comments the scoring/marking is meaningless!
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	eval 8: Comments + marks eval 9: Marks, better evaluation eval 10: Both text and scores, otherwise too difficult to understand eval 11: Both will be necessary
In the case of marks: should the performance of a compound in one chapter (e.g. "environment") be (i) The average of all subcriteria? (ii) The minimum mark from all subcriteria? (iii) A separate assessment made (and publicly justified) by the experts? <i>Note: (i) is the case in the matrix A system; (iii) is the case in the matrix B system.</i>	eval 1: Prefer iii. As if one criteria is unacceptable (e.g. environmental impact) then this should overrule other criteria. eval 2: iii eval 3: Average of all subcriteria as per matrix A (i) eval 5: To me, a separated assessment is included also in the matrix A system, if a score is low. To work only with the average is too limited. It should also include a phrase like "the lowest score should not be below 3", for instance. eval 6: The case (ii) makes no sense, I think, because then the criteria in the single sections would have to be weighted completely comparable which is impossible. So, one "-" from a single, possibly less important aspect might skip a product out, although the other criteria are positive. I would combine (i) (fine-tuning necessary as mentioned above) averaging each section, and (iii), that the score has to be summarized and justified by the expert, as in existing matrix B. eval 8: A separate assessment (it cannot be put in terms of average)! eval 9: ii eval 10: Generally (i) would be good. Also separate assessments could sometimes be advantageous; however see below. eval 11: It depends on the item; it might possibly be a criterion to refuse application in OA if a PPP is toxic to bees; thus the average mark for example for "environment" may be acceptable this one point may be a reason for rejection.
Should there be a mark which leads to inevitable rejection of the compound?	eval 1: Yes. If one criteria is unacceptable (e.g. environmental impact), then it should overrule other criteria. eval 2, eval 5, eval 9, eval 10: yes eval 6: Yes, because this might reflect too many negative aspects of an input from the viewpoint of organic agriculture. eval 8: Not sure... eval 3: Yes – there could be some trigger values (e.g. obviously GM; factory farming; chemical synthesis) eval 11: possibly yes
In both systems, the performance of a compound in one chapter (e.g. "environment") is summarized. In matrix A, this is done "automatically" by calculating the average mark; in matrix B, this is a separate assessment made (and publicly justified) by the experts. What do you prefer?	eval 1, eval 2, eval 9: separate eval 3: Scoring preferred eval 5: Also in the matrix A system a consolidated report should be made. But at least the scores of separate experts are comparable in the matrix A system. eval 6: a combination of both eval 8: The latter. It's NOT mathematics! eval 10: matrix A in general. However, this is not always enough, so sometimes the extra assessment would be needed eval 11: The mark system of matrix A is more transparent, however, attention should be paid to the notes in cases as well.

Comments on individual questions

Which questions should be left out, rephrased, added? Etc.

matrix A Area 1, OA principles	eval 3: NO first sheet of description, application and uses and regulatory status eval 5: Organic principles are so vaguely formulated that it is difficult to use them as real criteria eval 6: 1.1 : add EC-regulation 2092/91 to IFOAM Basic Standards and Codex guidelines! eval 8: Doesn't seem a good idea to list the principles for each question eval 10: More description (with principles)
Area 2, Necessity	eval 2: 2.4: results in a good / bad mark? eval 5: Take 2.3. from matrix B. 2.4 Important question eval 6: Add a question about the farmers' need of the input eval 8: 4.2: Difficult to assess
Area 3, Source	eval 2: 3.1: this is not a question; this should be the outcome of area 3; 3.2: Today, transportation distance is not a criterion in EC 2092/91. Thus, it makes no sense to include it here "through the back door". Varies greatly for different MS; 3.5: selling form is for commercial products, not for active ingredients. Varies too quickly; 3.6: all processes consume some resources; 3.7: selling form is for commercial products, not for active ingredients. Varies too quickly! Problems of confidentiality! eval 5: 3.3: should be rephrased, is unclear. Factory farming question should be added. GMO question should be added 3.6: needs to be rephrased into <u>excessive</u> amounts of energy Native english speaker should go through formulations eval 6: Add a question directly asking for GMO's (e.g. matrix B 4.7) eval 8: 4.2: difficult to assess; 4.8: belongs to environment eval 9: 3.2: I doubt that transportation distance limits are supportive for the use of specific means (excluding the purchase of farm yard manure or composts); 3.7: How realistic is 3.7, if intermediate compounds are not mentioned by the applying company?
Area 4, Environment	eval 2: 4.1-4.3: depends on national laws and individual factories; 4.6: adjuvants: only for commercial products eval 3: Too many eval 5: Too many questions which are unnecessary, considering the option of giving an evaluation in words; combine 4.1. until 4.3. and 4.7 until 4.9. eval 6: 4.1 to 4.3 could be combined. For the case that the input is an organism (microbe, microbial metabolite, beneficial insect for release etc.) add a question asking if this organism is a native or an alien species? eval 8: 4.1 to 4.3 belong to source. Too exhaustive eval 9: 4.12: Instead of NATIVE BOTANICAL take "non-target"
Area 5, Human health	eval 2: 5.1: should only be evaluated <u>with</u> safety precautions 5.8/5.10: shelf life appears twice eval 5: ok. Native english speakers should go through formu-

	lations eval 6: Concerning product quality, I found the greatest gap in information, at least for the spinosad case! eval 8: Too exhaustive eval 9: 5.8: Overlapping with 5.10 (One should be taken out)
Area 6, Socio-economics	eval 2: 6.2: will always be positive; otherwise, the input is not used eval 3: Not enough on public perception eval 5: use questions from matrix B eval 6: Like above, great lack of hard data! eval 8: 6.2 to 6.4: difficult to assess
<u>Matrix B</u> Area 1, Description	eval 2: Important general information eval 3: Good and useful eval 5: ok. 1.3.4 and 1.3.7 might overlap with questions later on eval 6: 1.3: not fully clear to me, what is meant by "expected formulation" eval 8: Necessary
Area 2, Principles of OA	eval 5: Organic principles are so vaguely formulated that it is difficult to use them as real criteria eval 6: 2.1: add EC reg. 2092/91
Area 3, Necessity	eval 2: Is it necessary to produce everything everywhere? Political guidance needed eval 5: 2.4 from matrix A is an important consideration that is missing
Area 4, Origin	eval 2: Clear definitions missing eval 5: 4.6 belongs more to "environment"
Area 5, Environment	eval 6: 4.2: add a criterium concerning the "native/alien" origin of species eval 8: 5.6: doesn't seem necessary, since it repeats previous questions (biotic factors) plus 5.7 (abiotic factors)
Area 6, Human health	eval 5: I would specify the question more. For instance health issues in manufacturing and application separately. Also food security asks for more specific questioning (see matrix A). 6.3. is ok.
Area 7, Socio-economics	eval 2: Varies greatly from country to country, person to person! eval 5: well done eval 6: 7.7 cultural & religious implications: here an example would be helpful what is thought of by this criterium! eval 9: How profound are the answers for these points?

Matrix C

Note: the original matrix C is in Microsoft Excel format.

CRITERIA MATRIX FOR INPUTS (F&SC AND PPP) EVALUATION – Improved, 23.9.2004				
To be filled in by each expert member of the evaluation panel				
Red=possible exclusion criteria				
Instructions for evaluators				
1. The field «Score» must always be filled in, except where not applicable or where information is missing. Meaning of scores: -2=very negative; -1=negative; 0=neutral; 1=positive; 2=very positive; na=not applicable; im=information missing 2. Whether the field «Evaluation (in words)» must always be filled in, or only where this provides additional information, will be decided later by the working group in charge. 3. The fields «Requested additional data/ analysis» and «Suggested restrictions» must only be filled in where applicable.				
Identification box				
Common name of the input:				
Scientific name of the input:				
Dossier code:				
	Score	Evaluation (in words)	Requested additional data/ analysis	Suggested restrictions
1 Respect of organic agriculture (OA) principles				
1.1 Is the intended use consistent with the principles of OA *? (Take note of 'Organic Revision' project when finished)				
1.2 To what extent does the input influence (support or reduce) the systems approach of OA? Which elements of the systems approach may be influenced and how? * note: the principles of OA include: promotion of agroecosystem health, biodiversity, soil biological activity and long-term fertility, biological cycles, recycling of plant and animal wastes to return nutrients to the land, use of farm-derived in preference to off-farm inputs, use of renewable resources, healthy use of soil, water and air, minimizing all forms of pollution (adapted from Codex Alimentarius)				
2 Necessity and alternatives				
2.1 To what extent is it a need for OA (a specific crop, area, pedologic condition... and how common is such a situation)?				
2.2 What is the need for the substance in terms of yield quantity, yield security, yield quality and marketability, and profitability (compared with alternatives)				
2.3 Can the substance replace the use of other substances with inferior properties?				
2.4 Are there alternative (products or methods) with comparable effects?				
3 Source/nature and manufacturing process				
3.1 Describe materials of origin. Are they mineral, plant, animal, microbial, or synthetic? Where do they originate from? If the substance is synthetic and nature-identical: is the natural form not available in sufficient quantities and qualities?				
3.2 For animal products: do they originate from factory farming? (definition of factory farming lacking at present)				

3.3	Are the material's ingredients renewable, and how fast?				
3.4	Is the product or any of its ingredients a GMO or derived from a GMO? <i>(to be elaborated further)</i>				
3.5	Describe the manufacturing processes. Are they mechanical, physical, thermic, chemical etc.?				
3.6	Does the manufacturing process preserve natural resources (no depletion)? Does the process consume excessive amounts of energy, water or other resources, or pollute the environment?				
4	Environment				
4.1	Does the manufacturing process risk to pollute the environment?				
4.2	Does the substance or its metabolites risk to pollute the environment?				
4.3	Does the substance contain potentially dangerous xenobiotics, microorganisms or heavy metals?				
4.4	Environmental fate of the substance (degradation, metabolites, accumulation in the food chain or environment etc.). <i>If known, indicate speed of degradation.</i>				
4.5	Effects on animals <i>(mention particularly farm animals, bees, beneficial insects, wildlife and endangered species).</i>				
4.6	Effects on plants <i>(mention particularly crops and native botanicals).</i>				
4.7	Effects on soil (including soil fertility & erosion) & microorganisms				
4.8	Effects on the ecosystem, e.g. water, air, landscape etc				
4.9	Effects on non-living/abiotic ecosystem (water, air, landscape etc)				
5	Human health and quality of the products				
5.1	Is the manufacturing process harmful to human health?				
5.2	Is the use of the substance harmful to human health? (report personal protective equipment requirements)				
5.3	Are there reported adverse health effects of the substance or its metabolites?				
5.4	Is the substance a food or feed grade product?				
5.5	Is there a toxicologically relevant risk of residues of the substance on the crop/goods after use?				
5.6	Does the substance affect product safety for human consumption?				
6	Quality of the products				
6.1	How does the input affect product organoleptic quality (taste, flavour, texture...) and processing properties?				
6.2	How does the input affect products storage properties and shelf-life?				
7	Animal health and welfare				
7.1	What is the effect on animal health and welfare?				

8	Socio-economic aspects				
8.1	Public perception concerning consistency with organic agriculture (OA) principles				
8.2	Public perception concerning origin				
8.3	Public perception concerning environmental effects				
8.4	Public perception concerning human health & safety				
8.5	Public perception concerning product quality				
8.6	Effect on conditions of living / rural development				
8.7	Social justice and fair trade issues				
8.8	Other effects, such as cultural, ethical or religious implications				

About the 'ORGANIC INPUTS EVALUATION' project

The 'ORGANIC INPUTS EVALUATION' project is an EU Concerted Action project carried out under the Quality of Life Work Programme, 5th Framework Programme. It is funded by the Commission of the European Communities (QLK5-CT-2002-02565; full title: Harmonised and Standardised procedures for evaluation of plant protection products, fertilizers and soil conditioners for use in organic agriculture) and co-funded by the Swiss Federal Office for Education and Science (BBW 02.0113). The project lasts from January 2003 until December 2005.

The objective of this Concerted Action project is to develop recommendations for harmonized and standardized procedures for the evaluation of plant protection products, as well as for fertilizers and soil conditioners authorized for use in organic agriculture according to Council Regulation 2092/91. The project proceeds in three phases:

- Inventories of current evaluation procedures in the participating countries (separately for plant protection products and fertilizers and soil conditioners).
- Elaboration of standardized evaluation procedures.
- Recommendations for evaluation procedures and identification of research needs.

The following institutions are participating in this project:

- Danish Agricultural Research Centre for Organic Farming (DARCOF), Denmark
- Research Institute of Organic Agriculture (FiBL), Switzerland
- EcoS Consultancy, United Kingdom
- Istituto Sperimentale per le Nutrizione delle Piante, Italy
- Associazione Italiana per l'Agricoltura Biologica, Italy
- Louis Bolk Instituut, The Netherlands
- Soil Association, United Kingdom
- Ludwig Boltzmann Institut for Biological Agriculture, Austria
- Austria Bio Garantie / InfoXgen, Austria
- Associação Portuguesa de Agricultura Biologica, Portugal
- Universität Gesamthochschule Kassel, Germany
- Danish Plant Directorate, Denmark

For more information on this project, please visit the project website www.organicinputs.org.

Inert Ingredients Ordered Alphabetically by Chemical Name - List 1 - EPA**Updated August 2004**

CAS	PREFIX	NAME	List No.
103-23-1		Adipic acid, bis(2-ethylhexyl) ester	1
108-90-7		benzene, chloro	1
110-80-5		Ethylene glycol monoethyl ether	1
110-54-3		Hexane	1
123-31-9		Hydroquinone	1
78-59-1		Isophorone	1
108-95-2		Phenol	1
117-81-7		Phthalic acid, bis(2-ethylhexyl) ester C1980	1

Inert Ingredients Ordered Alphabetically by Chemical Name - List 2 - EPA

Updated August 2004

CAS	PREFIX	NAME	List No.
75-05-8		Acetonitrile	2
123-79-5		Adipic acid, dioctyl ester	2
95-14-7	1,2,3-	Benzotriazole	2
5131-66-8	1-	Butoxy-2-propanol	2
124-16-3	1-(	Butoxyethoxy)-2-propanol	2
85-68-7		Butyl benzyl phthalate	2
97-88-1		Butyl methacrylate	2
106-88-7	1,2-	Butylene oxide	2
75-68-3	1-	Chloro-1,1-difluoroethane	2
88-04-0	4-	Chloro-3,5-dimethylphenol	2
95-49-8	2-	Chlorotoluene	2
95-48-7	o-	Cresol	2
1319-77-3		Cresylic acid	2
110-82-7		Cyclohexane	2
108-94-1		Cyclohexanone	2
131-17-9		Diallyl phthalate	2
84-74-2		Dibutyl phthalate	2
27134-27-6		Dichloroaniline	2
75-71-8		Dichlorodifluoromethane	2
75-43-4		Dichloromonofluoromethane	2
97-23-4		Dichlorophene	2
111-42-2		Diethanolamine	2
84-66-2		Diethyl phthalate	2
112-34-5		Diethylene glycol monobutyl ether	2
111-90-0		Diethylene glycol monoethyl ether	2
111-77-3		Diethylene glycol monomethyl ether	2
75-37-6	1,1-	Difluoroethane	2
131-11-3		Dimethyl phthalate	2
30025-38-8		Dipropylene glycol monoethyl ethyl	2
64742-56-9		Distillate (petroleum), solvent dewaxed light par2	2
64742-46-7		Distillates (petroleum) hydrotreated middle	2
64742-14-9		Distillates (petroleum), acid treated light	2
68602-80-2		Distillates (petroleum), C12-30 aromatic	2
68477-31-6		Distillates (petroleum), cat. reformer fractionato	2
64741-53-3		Distillates (petroleum), heavy naphthenic	2
64741-51-1		Distillates (petroleum), heavy paraffinic	2
64742-52-5		Distillates (petroleum), hydrotreated heavy naph2	2
64742-54-7		Distillates (petroleum), hydrotreated heavy para2	2
64742-47-8		Distillates (petroleum), hydrotreated light	2
64742-55-8		Distillates (petroleum), hydrotreated light paraff 2	2
64741-59-9		Distillates (petroleum), light catalytic cracked	2
64741-52-2		Distillates (petroleum), light naphthenic	2
64741-50-0		Distillates (petroleum), light paraffinic	2
64742-65-0		Distillates (petroleum), solvent-dewaxed heavy	2
111-76-2		Ethanol, 2-butoxy	2
100-41-4		Ethylbenzene	2
68476-30-2		Fuel oil, No. 2	2
68476-80-2		Fuel oil, No. 2	2
68476-31-3		Fuel oil, No. 4	2

68553-00-4	Fuel oil, No. 6	2
68476-33-5	Fuel oil, residual	2
68334-30-5	Fuels, diesel	2
67891-79-6	Heavy aromatic distillate (petroleum)	2
64427-33-4	Hi-Sol 10 (9CI)	2
25339-17-7	Isodecyl alcohol	2
64365-06-6	Isoparaffinic Petroleum Hydrocarbons	2
88-69-7	o- Isopropylphenol	2
99-89-8	p- Isopropylphenol	2
618-45-1	m- Isopropylphenol	2
64742-81-0	Kerosine (petroleum), hydrodesulfurized	2
67891-80-9	Light aromatic distillate (petroleum)	2
149-30-4	2- Mercaptobenzothiazole	2
141-79-7	Mesityl oxide	2
107-98-2	2- Methoxy-1-methylethanol	2
25498-49-1	[2-(2- Methoxymethylethoxy)methylethoxy]propanol	2
96-29-7	Methyl ethyl ketoxime	2
108-10-1	Methyl isobutyl ketone	2
80-62-6	Methyl methacrylate	2
29385-43-1	Methyl-1H-benzotriazole	2
64665-57-2	Methyl-1H-benzotriazole, sodium salt	2
75-45-6	Monochlorodifluoromethane	2
64741-65-7	Naphtha (petroleum), heavy alkylate	2
64741-41-9	Naphtha (petroleum), heavy straight run	2
68478-07-9	Naphtha (petroleum), light steam-cracked arom	2
68527-23-1	Naphtha (petroleum), light steam-cracked arom	2
79-24-3	Nitroethane	2
75-52-5	Nitromethane	2
100-02-7	4- Nitrophenol	2
25154-52-3	Nonylphenol	2
64771-72-8	Paraffins (petroleum), normal C5-20	2
68476-86-8	Petroleum gases, liquefied, sweetened	2
29387-86-8	Propylene glycol monobutyl ether	2
64741-67-9	Residues, petroleum, catalytic reformer fraction	2
64742-96-7	Solvent naphtha (petroleum), heavy aliphatic	2
64742-94-5	Solvent naphtha (petroleum), heavy aromatic	2
64742-89-8	Solvent naphtha (petroleum), light aliphatic	2
64742-95-6	Solvent naphtha (petroleum), light aromatic	2
64742-88-7	Solvent naphtha (petroleum), medium aliphatic	2
8052-41-3	Stoddard solvent	2
108-88-3	Toluene	2
76-13-1	1,1,2- Trichloro-1,2,2-trifluoroethane	2
71-55-6	1,1,1- Trichloroethane	2
75-69-4	Trichlorofluoromethane	2
102-71-6	Triethanolamine	2
20324-33-8	Tripropylene glycol monomethyl ether	2
1330-20-7	Xylene	2

Inert Ingredients Ordered Alphabetically by Chemical Name - List 3 Updated August 2004 - EPA

CAS	PREFIX NAME	List No.
6798-76-1	Abietic acid, zinc salt	3
14351-66-7	Abietic acids, sodium salts	3
123-86-4	Acetic acid, butyl ester	3
108419-35-8	Acetic acid, C11-14 branched, alkyl ester	3
90438-79-2	Acetic acid, C6-8-branched alkyl esters	3
108419-32-5	Acetic acid, C7-9 branched, alkyl ester C8-rich	3
2016-56-0	Acetic acid, dodecylamine salt	3
110-19-0	Acetic acid, isobutyl ester	3
141-97-9	Acetoacetic acid, ethyl ester	3
93-08-3	2'- Acetonaphthone	3
67-64-1	Acetone	3
828-00-2	6- Acetoxy-2,4-dimethyl-m-dioxane	3
32388-55-9	Acetyl cedrene	3
1506-02-1	6- Acetyl-1,1,2,4,4,7-hexamethyl tetralin	3
21145-77-7	Acetyl-1,1,3,4,4,6-hexamethyltetralin	3
61788-48-5	Acetylated lanolin	3
74-86-2	Acetylene	3
141754-64-5	Acrylic acid, isopropanol telomer, ammonium salt	3
25136-75-8	Acrylic acid, polymer with acrylamide and diallyldimethylam	3
25084-90-6	Acrylic acid, t-butyl ester, polymer with ethylene	3
25036-25-3	Acrylonitrile-methyl methacrylate-vinylidene chloride copoly	3
1406-16-2	Activated ergosterol	3
124-04-9	Adipic acid	3
9010-89-3	Adipic acid, polymer with diethylene glycol	3
9002-18-0	Agar	3
61791-56-8	beta- Alanine, N-(2-carboxyethyl)-, N-tallow alkyl derivs., disodium	3
14960-06-6	beta- Alanine, N-(2-carboxyethyl)-N-dodecyl-, monosodium salt	3
	Alanine, N-coco alkyl derivs.	3
68427-35-0	Albert Yellow	3
37311-02-7	Alcohol C8-C10 ethoxylated & propoxylated	3
68585-34-2	Alcohols, (C10-16), ethoxylated, monoether with sulfuric ac	3
68891-38-3	Alcohols, (C12-14), ethoxylated, monoethers with sulfuric a	3
66455-15-0	Alcohols, C10-14, ethoxylated	3
68603-18-9	Alcohols, C10-16, distillation residues	3
68002-97-1	Alcohols, C10-16, ethoxylated	3
69227-22-1	Alcohols, C10-16, ethoxylated propoxylated	3
68526-86-3	Alcohols, C11-14-iso-, C13- rich	3
66455-14-9	Alcohols, C12-13, ethoxylated	3
68439-50-9	Alcohols, C12-14, ethoxylated	3
68439-51-0	Alcohols, C12-14, ethoxylated propoxylated	3
68131-39-5	Alcohols, C12-15, ethoxylated	3
68551-12-2	Alcohols, C12-16, ethoxylated	3
68213-23-0	Alcohols, C12-18, ethoxylated	3
68951-67-7	Alcohols, C14-15, ethoxylated	3
67762-27-0	Alcohols, C16-18	3
68603-17-8	Alcohols, C16-18, distn. residues	3
68439-49-6	Alcohols, C16-18, ethoxylated	3
68002-96-0	Alcohols, C16-18, ethoxylated propoxylated	3
68987-81-5	Alcohols, C6-10, ethoxylated propoxylated	3
68603-15-6	Alcohols, C6-12	3
68439-45-2	Alcohols, C6-12, ethoxylated	3

Inert Ingredients Ordered Alphabetically by Chemical Name - List 3 Updated August 2004

	Alcohols, C8-15, ethoxylated propoxylated	3
71243-46-4	Alcohols, C8-16, ethoxylated	3
69013-18-9	Alcohols, C8-18, ethoxylated propoxylated	3
68439-46-3	Alcohols, C9-11, ethoxylated	3
8027-33-6	Alcohols, lanolin	3
61791-28-4	Alcohols, tallow, ethoxylated	3
9049-05-2	Algin gum	3
9005-32-7	Alginic acid	3
68551-18-8	Alkanes, C10-14-iso-	3
68551-19-9	Alkanes, C12-14-iso-	3
68439-56-5	Alkenes, C13-18 alpha-, sulfonated, sodium salts	3
68439-57-6	Alkenes, C14-16 alpha-, sulfonated, sodium salts	3
63148-69-6	Alkyd resins (alcohols, polyhydric, polyesters)	3
70206-24-5	Alkyl imidazolinium methyl sulfate (derived from oleic acid)	3
68122-86-1	Alkyl imidazolinium methyl sulfates (derived from tallow acid)	3
	Alkyl(C10-14) poly(oxyethylene)poly(oxypropylene) conden	3
68585-36-4	Alkyl(C10-14)oxypoly(ethyleneoxy)ethyl phosphate	3
70592-80-2	Alkyl(C10-16) dimethylamine oxide	3
	Alkyl(C11-15) phenoxypoly(oxyethylene)ethanol	3
68439-70-3	Alkyl(C12-16) dimethylamine oxide	3
68955-55-5	Alkyl(C12-18) dimethyl amine oxide	3
37281-47-3	Alkyl(C8-10) polyethoxypolypropoxybenzene ether	3
97-59-6	Allantoin	3
107-18-6	Allyl alcohol	3
8001-97-6	Aloe vera gel	3
7429-90-5	Aluminum (metal)	3
300-92-5	Aluminum hydroxide distearate	3
12141-46-7	Aluminum oxide silicate	3
68140-00-1	Amides, coco, N-(hydroxyethyl)-	3
68603-42-9	Amides, coco, N,N-bis(2-hydroxyethyl)	3
68155-09-9	Amides, coco, N-[3-(dimethylamino)propyl], N-oxides	3
68425-47-8	Amides, soya, N,N-bis(hydroxyethyl)	3
61790-31-6	Amides, tallow, hydrogenated	3
68155-33-9	Amines, C14-18-alkyl, ethoxylated	3
68390-99-8	Amines, C14-18-alkyldimethyl, N-oxides	3
68155-40-8	Amines, C16-18 and C18-unsatd. alkyl, ethoxylated	3
68439-72-5	Amines, C8-18 and C18-unsatd. alkyl, ethoxylated	3
61791-14-8	Amines, coco alkyl, ethoxylated	3
61791-24-0	Amines, soya alkyl, ethoxylated	3
61790-33-8	Amines, tallow alkyl	3
148373-01-7	Amines, tallow alkyl, ethoxylated, compds. with polyethylen	3
124-68-5	2- Amino-2-methyl-1-propanol	3
27277-00-5	2- Amino-4,5-dihydro-6-methyl-4-propyl-5-triazolo-(1,5-C)-pyra	3
150-13-0	p- Aminobenzoic acid	3
111-41-1	2-[(Aminoethyl)amino]ethanol	3
139-13-9	Aminotriethanoic acid	3
68037-05-8	Ammonium C6-10-alkyl polyoxyethylene sulfate	3
1111-78-0	Ammonium carbamate	3
94313-89-0	Ammonium diisodecyl sulfosuccinate	3
	Ammonium dodecyl(polyoxyethylene)phosphate	3
16919-19-0	Ammonium fluosilicate	3
540-69-2	Ammonium formate	3

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7727-54-0	Ammonium persulfate	3
1762-95-4	Ammonium thiocyanate	3
628-63-7	Amyl acetate	3
9000-90-2	Amylase, alpha-	3
104-46-1	p- Anethole	3
63589-10-6	9,10- Anthracenedione, 1,4-bis(aminopolyoxyalkylene)-	3
77847-18-8	2- Anthracenesulfonic acid, 1-amino-9,10-dihydro-4-[(4-methoxy-3	3
70571-81-2	2- Anthracenesulfonic acid, 1-amino-9,10-dihydro-4-[(4-methoxy-3	3
4368-56-3	2- Anthracenesulfonic acid, 4-[[3-(acetylamino)phenyl]amino]-	3
87-25-2	2- Anthracenesulfonic acid, 1-amino-4-(cyclohexylamino)-9,10-3	3
28300-74-5	Anthranilic acid, ethyl ester	3
1309-64-4	Antimony potassium tartrate	3
488-30-2	Antimony trioxide	3
7440-37-1	D- Arabinonic acid	3
38916-42-6	Argon	3
37767-39-8	DL- Aspartic acid, N-(3-carboxy-1-oxo-3-sulfopropyl)-N-octadecyl	3
3401-73-8	L- Aspartic acid, N-(3-carboxy-1-oxosulfopropyl)-N-octadecyl,	3
8052-42-4	L- Aspartic acid, N-(3-carboxy-2-sulfopropyl)-, N-octadecyl, tet	3
51-55-8	Asphalt	3
8024-32-6	Atropine	3
123-77-3	Avocado oil	3
51142-18-8	Azodicarboxamide	3
2457-01-4	Bactopeptone	3
513-77-9	Barium 2-ethylhexanoate	3
28987-17-9	Barium carbonate	3
73398-89-7	Barium nonylphenate	3
8007-93-0	Barium zinc methylbenzoate-2-ethylhexanoate	3
68584-15-6	Basic Violet 11:1	3
52821-24-6	Belladonna Leaf	3
100-52-7	1,3- Benzenedicarboxylic acid, polymer with 5-amino-1,3,5-trim	3
123-11-5	1H- Benz(de)isoquinoline-1,3(2H)-dione, 2-(3-hydroxypropyl)-6-3	3
97-56-3	Benzaldehyde	3
4468-42-2	Benzaldehyde, 4-methoxy-	3
83-66-9	Benzenamine, 2-methyl-4-[(2-methylphenyl)azo]-	3
119345-04-9	Benzene, (1-ethylbutyl)-	3
717-74-8	Benzene, 1-(1,1-dimethylethyl)-2-methoxy-4-methyl-3,5-dim	3
25168-05-2	Benzene, 1,1'-oxybis-, tetrapropylene derivs., sulfonated, so	3
160611-49-4	Benzene, 1,3,5-tris(1-methylethyl)-	3
6031-02-3	Benzene, chloromethyl-	3
877-24-7	Benzene, ethenyl-, telomer with 2,5-furandione and (1-meth	3
60-12-8	Benzene, (1-methylpentyl)-	3
959-55-7	1,2- Benzenedicarboxylic acid, monopotassium salt	3
4129-84-4	Benzeneethanol	3
93-92-5	Benzenemethanaminium, N,N-dimethyl-N-octyl, chloride	3
80-54-6	Benzenemethanaminium, N-[4-[[4-(diethylamino)phenyl][4-[[3	3
127519-17-9	Benzenemethanol, alpha.-methyl-, acetate	3
84268-33-7	Benzenepropanal, 4-(1,1-dimethylethyl)-. alpha.-methyl-	3
6683-19-8	Benzenepropanoic acid, 3-(2H-benzotriazol-2-yl)-5-(1,1-dim	3
3622-84-2	Benzenepropanoic acid, 3-(2H-benzotriazol-2-yl)-5-(1,1-dim	3
	Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydrox	3
	Benzenesulfonamide, N-butyl-	3

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82833-23-6	Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-[(2-hydroxy-3	
27344-41-8	Benzenesulfonic acid, 2,2'-(4,4'-biphenylylenedivinylene)di-3	
	Benzenesulfonic acid, 2,5-dichloro-4-(4,5-dihydro-3-methyl-3	
244-88-0	Benzenesulfonic acid, 2-amino-5-[(4-amino-3-sulfophenyl)(4	
35536-14-7	Benzenesulfonic acid, 4-C10-13-sec-alkyl derivs.	3
6416-68-8	Benzenesulfonic acid, 5-(2H-naphtho[1,2-d]triazol-2-yl)-2-(23	
68584-22-5	Benzenesulfonic acid, C10-16-alkyl derivs.	3
68584-23-6	Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts	3
68584-24-7	Benzenesulfonic acid, C10-16-alkyl derivs., compds. with 2-3	
68584-25-8	Benzenesulfonic acid, C10-16-alkyl derivs., compds. with tr 3	
68584-26-9	Benzenesulfonic acid, C10-16-alkyl derivs., magnesium sal 3	
68584-27-0	Benzenesulfonic acid, C10-16-alkyl derivs., potassium salts 3	
68081-81-2	Benzenesulfonic acid, C10-16-alkyl derivs., sodium salts	3
70892-46-5	Benzenesulfonic acid, C12-18-alkyl derivs. sodium salts	3
	Benzenesulfonic acid, C8-24-alkyl derivs.	3
	Benzenesulfonic acid, C8-24-alkyl derivs., ammonium, mag	
	Benzenesulfonic acid, C8-24-alkyl derivs., monoethanolami 3	
70528-83-5	Benzenesulfonic acid, dodecyl-, branched, calcium salts	3
319926-68-6	Benzenesulfonic acid, dodecyl-, branched, compds. with N, 3	
	Benzenesulfonic acid, mono-(C8-24)alkyl derivs., calcium s 3	
68953-91-3	Benzenesulfonic acid, mono-C7-17-alkyl derivs., calcium sa 3	
68648-98-6	Benzenesulfonic acid, mono-C7-17-branched alkyl derivs.	3
	Benzenesulfonic acid, mono-C8-24-alkyl derivs., compds. w 3	
68649-00-3	Benzenesulfonic acid, mono-C9-17-branched alkyl derivs.,	3
70146-13-3	Benzenesulfonic acid, oxybis(decyl-, disodium salt	3
70191-76-3	Benzenesulfonic acid, oxybis(hexadecyl-, disodium salt	3
5850-86-2	Benzenesulfonic acid, 4-[(2-hydroxy-1-naphthalenyl)azo]-3-r	
27251-75-8	1,2,4- Benzenetricarboxylic acid, triisooctyl ester	3
59431-98-0	1,2,4- Benzenetricarboxylic acid, tris(1-methylheptyl) ester	3
3319-31-1	1,2,4- Benzenetricarboxylic acid, tris(2-ethylhexyl) ester	3
187230-40-6	1,2,4- Benzenetricarboxylic acid, tris(decyl) ester, mixt.	3
	1H- Benzimidazole-6,3'-disulfonic acid, 2-octadecyl-1-(phenylm	8
2634-33-5	1,2- Benzisothiazolin-3-one	3
94-09-7	Benzocaine	3
4707-47-5	Benzoic acid, 2,4-dihydroxy-3,6-dimethyl-, methyl ester	3
52337-77-6	Benzoic acid, 2-methyl-, barium salt	3
68092-47-7	Benzoic acid, 3-methyl-, barium salt	3
61847-48-1	Benzoic acid, 4-[[[(2,5-dichlorophenyl)amino]carbonyl]-2-[[2-3	
67874-52-6	Benzoic acid, 4-methyl-, barium salt	3
68411-27-8	Benzoic acid, C12-15-alkyl esters	3
93-89-0	Benzoic acid, ethyl ester	3
119-61-9	Benzophenone	3
487-06-9	2H-1- Benzopyran-2-one, 5,7-dimethoxy-	3
85665-95-8	7- Benzothiazolesulfonic acid, 2-[4-[[4-[[3-[[5-(aminocarbonyl)-3	
2440-22-4	2-(2H- Benzotriazol-2-yl)-4-methylphenol	3
98730-04-2	2H-1,4- Benzoxazine, 4-(dichloroacetyl)-3,4-dihydro-3-methyl-	3
94-36-0	Benzoyl peroxide	3
140-11-4	Benzyl acetate	3
100-51-6	Benzyl alcohol	3
120-51-4	Benzyl benzoate	3
5437-45-6	Benzyl bromoacetate	3
103-41-3	Benzyl cinnamate	3

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61789-75-1	Benzyl dimethyl (tallow alkyl) ammonium chloride	3
9086-75-3	Benzyl ether of octylphenoxypolyethoxy ethanol	3
1214-39-7	N6- Benzyladenine	3
70750-46-8	Betaines, bis(hydroxyethyl) tallow alkyl	3
67952-68-5	Bicyclo[2.2.1]heptan-2-ol, ethyl-1,3,3-trimethyl-	3
18172-67-3	Bicyclo[3.1.1]heptane, 6,6-dimethyl-2-methylene-, (1S,5S)-	3
58-85-5	Biotin	3
6152-33-6	[1,1'- Biphenyl]-2-ol, sodium salt, tetrahydrate	3
41556-26-7	Bis(1,2,2,6,6-pentamethyl-4-piperidiny) decandioate	3
97298-48-1	Bis(1-methylheptyl) 2-butenedioate	3
56970-73-1	Bis(1-methylheptyl) maleate	3
52829-07-9	Bis(2,2,6,6-tetramethyl-4-piperidiny)sebacate	3
58145-14-5	1-[Bis(2-aminoethyl)amino]ethanol	3
68555-36-2	Bis(2-chloroethyl)ether, polym. w. N,N'-bis[3-(dimethylamino)]	3
103-24-2	Bis(2-ethylhexyl) azelate	3
71786-60-2	N,N- Bis(2-hydroxyethyl)-C12-18-alkylamine	3
61791-47-7	Bis(2-hydroxyethyl)cocoamine oxide	3
120-40-1	N,N- Bis(2-Hydroxyethyl)dodecanamide	3
6737-68-4	1,4- Bis(2-methylanilino)anthraquinone	3
32687-78-8	1,2- Bis(3,5-di-tert-butyl-4-hydroxyhydrocinnamoyl)hydrazide	3
24936-68-3	2,2- Bis(4-hydroxyphenyl)propane polycarbonate SRU	3
68911-87-5	Bis(hydrogenated tallow alkyl)dimethyl ammonium salts wit	3
140-95-4	N,N'- Bis(hydroxymethyl)urea	3
26635-94-9	N,N'- Bis(polyoxyethylene)cetylamine	3
26635-93-8	N,N'- Bis(polyoxyethylene)oleylamine	3
26635-92-7	N,N'- Bis(polyoxyethylene)stearylamine	3
29887-08-9	1,4- Bis[(2-ethylhexyl)amino]anthraquinone	3
23089-26-1	Bisbalol	3
25068-38-6	Bisphenol A - epichlorohydrin condensate	3
115793-94-7	Bisphenol A, polymer with isophoronediamine, C,C,C-trimet	3
25036-25-3	Bisphenol A-Bisphenol A diglycidyl ether polymer	3
480-16-0	Bois d'Arc	3
1303-96-4	Borax	3
11113-50-1	Boric acid	3
10043-35-3	Boric acid (H3BO3)	3
12179-04-3	Boric acid (H2B4O7), disodium salt, pentaborate	3
11130-12-4	Boric acid, sodium salt, pentahydrate	3
76-49-3	endo- Bornyl acetate	3
1303-86-2	Boron oxide (B2O3)	3
6104-58-1	Brilliant Blue G (C.I. Acid Blue 90)	3
6104-59-2	Brilliant Blue R (C.I. Acid Blue 83)	3
35691-65-7	2- Bromo-2-(bromomethyl)pentanedinitrile	3
52-51-7	2- Bromo-2-nitro-propane-1,3-dio	3
115-39-9	Bromophenol blue	3
76-59-5	Bromothymol blue	3
12713-03-0	Burnt umber	3
9003-17-2	Butadiene resin	3
26254-89-7	Butanal, 2,2-diethyl-	3
5468-75-7	Butanamide, 2,2'-[(3,3'-dichloro[1,1'-biphenyl]-4,4'-diyl)bis(a	3
27360-07-2	Butane, 1,1-bis(ethenyloxy)-, polymer with ethenol & etheny	3
28805-58-5	Butanedioic acid, octenyl-	3
68479-64-1	Butanedioic acid, sulfo-, mono[2-[(1-oxo-9-octadecenyl)ami	3

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2610-05-1	C.I. Direct Blue 1, tetrasodium salt	3
51814-79-7	C.I. Direct blue 189	3
12222-04-7	C.I. Direct Blue 199	3
2503-73-3	C.I. Direct blue 78, tetrasodium salt	3
1330-38-7	C.I. Direct Blue 86	3
2610-11-9	C.I. Direct Red 81, disodium salt	3
75768-93-3	C.I. Direct Red 81, triethanolamine salt	3
6227-14-1	C.I. Direct Violet 9, disodium salt	3
2870-32-8	C.I. Direct Yellow 12	3
8005-72-9	C.I. Direct Yellow 28	3
3214-47-9	C.I. Direct Yellow 50, tetrasodium salt	3
2475-46-9	C.I. Disperse Blue 3	3
128-95-0	C.I. Disperse Violet 1	3
4404-43-7	C.I. Fluorescent Brightening Agent 28	3
2353-45-9	C.I. Food Green 3, disodium salt	3
4548-53-2	C.I. Food Red 1, disodium salt	3
2783-94-0	C.I. Food Yellow 3	3
104-23-4	C.I. Food Yellow 6	3
12227-62-2	C.I. Pigment Black 11	3
14038-43-8	C.I. Pigment Blue 27	3
57455-37-5	C.I. Pigment Blue 29	3
81-77-6	C.I. Pigment Blue 60	3
1345-27-3	C.I. Pigment Brown 7	3
1344-98-5	C.I. Pigment Green 23	3
12656-57-4	C.I. Pigment Orange 20	3
12236-62-3	C.I. Pigment Orange 36	3
3433-63-1	C.I. Pigment Orange 5	3
12656-85-8	C.I. Pigment Red 104	3
4948-15-6	C.I. Pigment Red 149	3
2786-76-7	C.I. Pigment Red 170	3
3049-71-6	C.I. Pigment Red 178	3
59487-23-9	C.I. Pigment Red 187	3
43035-18-3	C.I. Pigment Red 247	3
2425-85-6	C.I. Pigment Red 3	3
7023-61-2	C.I. Pigment Red 48, calcium salt	3
15782-05-5	C.I. Pigment Red 48:3	3
5280-66-0	C.I. Pigment red 48:4	3
6410-41-9	C.I. Pigment Red 5	3
27757-95-5	C.I. Pigment Red 52	3
5858-82-2	C.I. Pigment Red 52, disodium salt	3
5281-04-9	C.I. Pigment Red 57:1	3
6471-49-4	C.I. Pigment Red No. 23	3
3564-21-4	C.I. Pigment Red No. 48, disodium salt	3
6358-30-1	C.I. Pigment Violet 23	3
2512-29-0	C.I. Pigment Yellow 1	3
12225-21-7	C.I. Pigment Yellow 100	3
15790-07-5	C.I. Pigment Yellow 104	3
5045-40-9	C.I. Pigment Yellow 109	3
5590-18-1	C.I. Pigment Yellow 110	3
68187-51-9	C.I. Pigment Yellow 119	3
30125-47-4	C.I. Pigment Yellow 138	3
5979-28-2	C.I. Pigment Yellow 16	3

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51274-00-1	C.I. Pigment Yellow 42	3
13515-40-7	C.I. Pigment Yellow 73	3
6358-31-2	C.I. Pigment Yellow 74	3
12225-18-2	C.I. Pigment Yellow 97	3
74204-30-1	C.I. Reactive Blue 52	3
72152-45-5	C.I. Reactive Green 12	3
72139-15-2	C.I. Reactive Red 56	3
4197-25-5	C.I. Solvent Black 3	3
116-75-6	C.I. Solvent Blue 104	3
71872-84-9	C.I. Solvent Blue 104	3
17354-14-2	C.I. Solvent Blue 35	3
14233-37-5	C.I. Solvent Blue 36	3
4395-65-7	C.I. Solvent Blue 68	3
71819-49-3	C.I. Solvent Blue 98	3
128-80-3	C.I. Solvent Green 3	3
6358-69-6	C.I. Solvent Green 7	3
3118-97-6	C.I. Solvent Orange 7	3
71819-51-7	C.I. Solvent Red 164	3
27354-18-3	C.I. Solvent Red 169	3
5098-94-2	C.I. Solvent Red 2	3
85-86-9	C.I. Solvent Red 23	3
1320-06-5	C.I. Solvent Red 27	3
509-34-2	C.I. Solvent Red 49	3
81-48-1	C.I. Solvent Violet 13	3
67990-27-6	C.I. Solvent Yellow 107	3
3321-10-6	C.I. Solvent yellow 30	3
8003-22-3	C.I. Solvent Yellow 33	3
2481-94-9	C.I. Solvent Yellow 56	3
4645-07-2	C.I. Solvent Yellow 72	3
12271-01-1	C.I. Solvent Yellow 85	3
70267-73-1	C.I. Yellow 184, sodium salt	3
	C10-12-alkanedioic acids, diethanolamine salts	3
37332-31-3	C8-12 triglycerides	3
68459-31-4	C9-19-fatty acid ester phthalic alkyd	3
136-51-6	Calcium 2-ethylhexanoate	3
68478-54-6	Calcium 2-ethylhexanoate/isononanoate complexes	3
13463-98-4	Calcium abietate	3
9005-35-0	Calcium alginate	3
	Calcium and sodium salts of sugar derived acids	3
68442-82-0	Calcium carbonate dimethylhexanoate	3
10137-74-3	Calcium chlorate	3
64175-94-6	Calcium chloride hydroxide hypochlorite, dihydrate	3
7789-80-2	Calcium iodate	3
53988-05-9	Calcium isononanoate	3
61789-36-4	Calcium naphthenate	3
27253-33-4	Calcium neodecanoate	3
25987-55-7	Calcium polyacrylate	3
69012-32-4	Calcium silicate slag	3
79-92-5	Camphene	3
76-22-2	Camphor	3
25038-54-4	epsilon-Caprolactam polymer	3
1333-86-4	Carbon black	3

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4365-60-0	(2- Carboxyethyl)triphenylphosphonium hydroxide, inner salt	3
9007-20-9	Carboxypolymethylene resin	3
65072-00-6	Caseins, hydrolyzates	3
8007-24-7	Cashew, nutshell liq.	3
105839-17-6	Castor oil, epoxidized	3
61788-85-0	Castor oil, hydrogenated, ethoxylated	3
8007-20-3	Cedarleaf oil	3
9004-36-8	Cellulose acetate butyrate	3
9004-58-4	Cellulose, ethyl 2-hydroxyethyl ether	3
9004-57-3	Cellulose, ethyl ether	3
68610-92-4	Cellulose, omega-ether with ethoxylated 2-hydroxy-3-(trimethyl-3	
8001-75-0	Ceresin wax	3
13423-76-8	Cerium chloride (CeCl ₃), hydrate	3
56-95-1	Chlorhexidine diacetate	3
9005-03-5	Chlorinated rubber	3
63449-39-8	Chlorinated wax	3
10049-04-4	Chlorine dioxide	3
587-65-5	2- Chloroacetanilide	3
593-70-4	Chlorofluoromethane	3
479-61-8	Chlorophyll	3
2530-87-2	(3- Chloropropyl)trimethoxysilane	3
106-43-4	4- Chlorotoluene	3
1308-38-9	Chrome oxide (Cr ₂ O ₃)	3
85828-89-3	Chromium, 2-[(4,5-dihydro-3-methyl-5-oxo-1-phenyl-1H-pyr-3	
14297-82-6	Chrysanthemic anhydride	3
104-55-2	Cinnamaldehyde	3
104-54-1	Cinnamic alcohol	3
5392-40-5	Citral	3
100852-66-2	Citric acid, bis(dimethylamine) salt	3
52217-48-8	Citric acid, dimethylamine salts	3
78871-22-4	Citric acid, triethylamine salts	3
60789-81-3	Citric acid, tris(dimethylamine) salt	3
94266-47-4	Citrus, ext.	3
8007-45-2	Coal tar	3
13586-82-8	Cobalt 2-ethylhexanoate	3
513-79-1	Cobalt carbonate	3
51789-51-3	Cobalt naphthenate	3
27253-31-2	Cobalt neodeconoate	3
6700-85-2	Cobalt octanoate	3
1560-69-6	Cobalt propionate	3
10124-43-3	Cobalt sulfate	3
71839-88-8	Cobaltate(1-), bis[2,4-dihydro-4-[[2-(hydroxy-kO)-5-nitrophe-3	
61789-40-0	N-(Coco alkyl) amido propyl dimethyl betaine	3
68424-94-2	(Coco alkyl)dimethyl betaines	3
61788-93-0	Coco alkyl dimethylamines	3
61788-90-7	Coco alkyl dimethylamines, N-oxides	3
61789-18-2	Coco alkyl trimethyl quaternary ammonium chlorides	3
62563-36-4	N- Coco beta-aminopropionic acid	3
	Cocoamphocarboxyglycinate, disodium salt	3
61788-47-4	Coconut oil fatty acids	3
67762-35-0	Coconut oil, ethoxylated	3
72245-05-7	Coconut oil, polymer with isophthalic acid, trimellitic anhydr-3	

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97553-00-9	Cod oil, sulfonated	3
64-86-8	Colchicine	3
	Condensation product of sorbitol epichlorohydrin with the oil	3
14302-13-7	Copper (polychlor-polybrom)phthalocyanine green	3
142-71-2	Copper acetate	3
1184-64-1	Copper carbonate	3
12069-69-1	Copper hydroxy carbonate ($\text{Cu}_2(\text{OH})_2\text{CO}_3$)	3
1338-02-9	Copper naphthenate	3
3251-23-8	Copper nitrate	3
68155-92-0	Copper phthalocyaninedisulfonic acid, compd. w. 2-ethyl-N-3	3
16040-69-0	Copper, (2,9,16,23-tetrachlorophthalocyaninato(2-))	3
68411-04-1	Copper, (29H, 31H-phthalocyaninato(2-)-N29, N30, N31, N32)	3
68987-63-3	Copper, (29H,31H-phthalocyaninato(2-)-N29, N30, N31, N32)	3
12239-87-1	Copper, (chlorophthalocyaninato(2-))	3
53457-65-0	Copper, [29H,31H-phthalocyaninato(2-)-N29,N30,N31,N32-3	3
9037-22-3	Corn starch amylopectin	3
122436-67-3	m- Cresol, polymer with formaldehyde and sulfanilic acid	3
25035-26-1	Crotonic acid, vinyl acetate, vinyl propionate copolymer	3
98-82-8	Cumene	3
1317-39-1	Cuprous oxide	3
108-80-5	Cyanuric acid	3
99-85-4	1,4- Cyclohexadiene, 1-methyl-4-(1-methylethyl)-	3
99-86-5	1,3- Cyclohexadiene, 1-methyl-4-(1-methylethyl)-	3
70788-30-6	Cyclohexanepropanol, 2,2,6-trimethyl-, alpha.-propyl-	3
108-93-0	Cyclohexanol	3
98-52-2	Cyclohexanol, 4-(1,1-dimethylethyl)-	3
66068-84-6	Cyclohexanol, 4-(5,5,6-trimethylbicyclo[2.2.1]hept-2-yl)-	3
14765-30-1	Cyclohexanone, 2-(1-methylpropyl)-	3
6485-40-1	2- Cyclohexen-1-one, 2-methyl-5-(1-methylethenyl)-, (5R)-	3
14576-08-0	Cyclohexene, 4-(1-methoxy-1-methylethyl)-1-methyl-	3
53980-88-4	2- Cyclohexene-1-octanoic acid, 5(or6)-carboxy-4-hexyl-	3
119239-21-3	Cyclohexyl methacrylate, 2-hydroxyethyl methacrylate, isod	3
65530-85-0	alpha-(Cyclohexylmethyl)-omega-hydro-poly(difluoromethylene)	3
1222-05-5	Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7	3
24851-98-7	Cyclopentaneacetic acid, 3-oxo-2-pentyl-, methyl ester (7C3	3
69430-24-6	Cyclosiloxanes, di-Me	3
99-87-6	p- Cymene	3
541-02-6	Decamethylcyclopentasiloxane	3
112-31-2	Decanal	3
14433-7602	Decanamide, N,N-dimethyl- (tolerance exemption pending)	3
129757-67-1	Decanedioic acid, bis(2,2,6,6-tetramethyl-4-piperidiny) este	3
82919-37-7	Decanedioic acid, methyl 1,2,2,6,6-pentamethyl-4-piperidiny	3
7011-83-8	Decanoic acid, 4-hydroxy-4-methyl-, gamma.-lactone	3
14167-87-4	Decyl diphenyl phosphate	3
36445-71-3	Decyl phenoxybenzenedisulfonic acid, disodium salt	3
1322-98-1	Decylbenzenesulfonic acid, sodium salt	3
64147-40-6	Dehydrated castor oil	3
80584-98-1	Dehydroabietylamine, ethoxylated	3
51344-62-8	Dehydroabietylamine-ethylene oxide condensate (1:2)	3
520-45-6	Dehydroacetic acid	3
3734-33-6	Denatonium benzoate	3
5116-95-0	Di(tridecyl) acid phosphate	3

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13143-60-9	Di-2-ethylhexyl ether	3
123-42-2	Diacetone alcohol	3
79620-91-0	Diacetyl tartaric acid esters of mono and diglycerides of edi	3
	Diacetyl tartaric esters of mono and diglycerides of edible fa	3
68515-42-4	Dialkyl(C7-11-branched and linear) phthalate	3
5700-49-2	1,2- Diaminoethane, dihydroiodide	3
55008-57-6	Diaminoethyl methacrylate, copolymer with N-vinylpyrrolido	3
78491-02-8	Diazolidinyl urea	3
120-46-7	Dibenzoylmethane	3
109-46-6	N,N'- Dibutyl thiourea	3
25417-20-3	Dibutyl naphthalenesulfonic acid, sodium salt	3
78-88-6	2,3- Dichloro-1-propene	3
39105-95-8	2,2- Dichloro-N-isopropylacetanilide	3
25167-81-1	Dichlorophenol	3
61789-76-2	Dicoco alkylamine	3
461-58-5	Dicyanodiamide	3
	Dicyclopentadiene, polymer with (mixed styrene and alpha-	3
56863-02-6	Diethanolamide of linoleic acid	3
68133-37-9	Diethanolamine ethylenediaminetetraacetate	3
7487-79-8	Diethanolamine laurate	3
13961-86-9	Diethanolamine oleate	3
32345-29-2	O,O- Diethyl O-phenyl phosphorothioate	3
762-04-9	Diethyl phosphite	3
109-89-7	Diethylamine	3
54399-38-8	2-(Diethylamino)ethyl methacrylate, polymer with dodecyl met	3
111-46-6	Diethylene glycol	3
28348-27-8	Diethylene glycol, polyester with maleic acid and sebacic ac	3
111-40-0	Diethylenetriamine	3
67-43-6	1,1,4,7,7- Diethylenetriaminepentaacetic acid	3
100-37-8	Diethylethanolamine	3
3710-84-7	N,N- Diethylhydroxylamine	3
105-55-5	N,N'- Diethylthiourea	3
1675-54-3	Diglycidyl ether of Bisphenol A	3
106-11-6	Diglycol monostearate	3
68586-19-6	2-(Dihydrocyclopentadienyloxy)ethyl methacrylate	3
150-25-4	N,N-(2- Dihydroxyethyl)glycine	3
67859-56-7	2,3- Dihydroxypropyl 3-(hexylthio)propionate	3
141-04-8	Diisobutyl adipate	3
108-83-8	Diisobutyl ketone	3
27213-90-7	Diisobutyl naphthalenesulfonic acid, sodium salt	3
121-54-0	p- Diisobutylphenoxyethoxyethyl dimethyl benzyl ammonium c	3
26761-40-0	Diisodecyl phthalate	3
25550-98-5	Diisodecylphenyl phosphite	3
28553-12-0	Diisononylphthalate	3
1330-86-5	Diisooctyl adipate	3
1330-76-3	Diisooctyl maleate	3
110-97-4	Diisopropanolamine	3
6938-94-9	Diisopropyl adipate	3
4107-98-6	N,N- Diisopropylaniline	3
69009-90-1	Diisopropylbiphenyl	3
1322-93-6	Diisopropyl naphthalenesulfonic acid, sodium salt	3
27923-56-4	Diisopropylphenols	3

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9006-65-9	Dimethicone	3
61789-72-8	Dimethyl benzyl hydrogenated tallow ammonium chloride	3
	Dimethyl dialkyl ammonium chloride polymer	3
56343-50-1	N,N- Dimethyl dichloroacetamide	3
107-64-2	Dimethyl dioctadecyl ammonium chloride	3
122-19-0	Dimethyl octadecyl benzyl ammonium chloride	3
65447-77-0	Dimethyl succinate-1-(2-hydroxyethyl)-4-hydroxy-2,2,6,6-tet3	3
67-68-5	Dimethyl sulfoxide	3
68308-74-7	N,N- Dimethyl tall-oil fatty amides	3
55470-69-4	N,N- Dimethyl-1,3-propandiamine dodecyl-4-benzenesulfonate	3
112-69-6	N,N- Dimethyl-1-hexadecylamine	3
107-54-0	3,5- Dimethyl-1-hexyn-3-ol	3
78-66-0	3,6- Dimethyl-4-octyne-3,6-diol	3
15414-89-8	1,3- Dimethyl-5,5-dimethylhydantoin	3
124-40-3	Dimethylamine	3
73455-30-8	Dimethylamine ethylenediaminetetraacetate	3
87-01-4	7-(Dimethylamino)-4-methylcoumarin	3
21245-02-3	4-(Dimethylamino)benzoic acid, 2-ethylhexyl ester	3
103-87-7	4-((Dimethylamino)methyl)phenol	3
120-65-0	2-((Dimethylamino)methyl)phenol	3
99-07-0	m-(Dimethylamino)phenol	3
25338-55-0	Dimethylaminomethylphenol	3
151-05-3	Dimethylbenzylcarbonyl acetate	3
98-94-2	N,N- Dimethylcyclohexanamine	3
2605-79-0	N,N- Dimethyldodecylamine oxide	3
73138-28-0	Dimethyldioctadecylammonium bentonite	3
1643-20-5	N,N- Dimethyldodecylamine oxide	3
7126-91-8	N,N- Dimethylhexadecylamine N-oxide	3
77-71-4	5,5- Dimethylhydantoin	3
28804-88-8	Dimethylnaphthalene	3
27178-87-6	Dimethylnaphthalenesulfonic acid, sodium salt	3
2605-78-9	N,N- Dimethyloctylamine N-oxide	3
62073-57-8	Dimethylol urea-formaldehyde-monomethylol urea polymer3	3
6440-58-0	Dimethylol-5,5-dimethylhydantoin	3
2664-42-8	N,N- Dimethyloleamide	3
14351-50-9	N,N- Dimethyloleylamine oxide	3
51200-87-4	4,4- Dimethyloxazolidine	3
6623-40-1	Dimethylsulfamic acid	3
3332-27-2	N,N- Dimethyltetradecylamine N-oxide	3
101-25-7	N,N'- Dinitrosopentamethylenetetramine	3
	o,p- Dinonylphenol, ethoxylated, phosphated, ammonium salt	3
	o,p- Dinonylphenol, ethoxylated, phosphated, calcium salt	3
72067-21-1	o,p- Dinonylphenol, ethoxylated, phosphated, potassium salt	3
70903-62-7	o,p- Dinonylphenol, ethoxylated, phosphated, sodium salt	3
	o,p- Dinonylphenol, ethoxylated, phosphated, zinc salt	3
2915-53-9	Dioctyl maleate	3
4468-42-2	1,3- Dioxolan-2-one, 4-ethyl-	3
6413-10-1	1,3- Dioxolane-2-acetic acid, 2-methyl-, ethyl ester	3
26544-23-0	Diphenyl isodecyl phosphite	3
4712-55-4	Diphenyl phosphite	3
10101-66-3	Diphosphoric acid, ammonium manganese(3+) salt (1:1:1)	3
53404-44-7	Dipotassium 12-sulfato-9-octadecenoate	3

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25265-71-8	Dipropylene glycol	3
27138-31-4	Dipropylene glycol dibenzoate	3
29911-28-2	Dipropylene glycol monobutyl ether	3
32686-95-6	Dipropylene glycol, monobenzoate	3
	Dipropylenetriamine amide of tall-oil fatty acid reacted with	3
94-91-7	N,N'-Disalicylidene-1,2-diaminopropane	3
25167-32-2	Disodium 2,2'-oxybis(4-dodecylbenzenesulfonate)	3
7575-62-4	Disodium 4-dodecyl-2,4'-oxydibenzenesulfonate	3
68515-65-1	Disodium cocoamidoisopropyl sulfosuccinate	3
129291-73-2	Disodium dodecylimidazolinum dicarboxylate	3
53404-45-8	Disodium monoethanolamine phosphate	3
52587-57-9	Disodium N-tallow beta-iminodipropionate	3
12008-41-2	Disodium octaborate	3
12280-03-4	Disodium octaborate, tetrahydrate	3
39354-45-5	Disodium salt of lauryl alcohol polyethylene glycol ether sulf3	3
1330-43-4	Disodium tetraborate	3
68477-30-5	Distillates (petroleum), cat. reformer fractionator residue, int3	3
7681-57-4	Disulfurous acid, disodium salt	3
68410-69-5	N,N'-Ditallow N"-methyl N"-polyethoxyamido ammonium methos3	3
489-01-0	2,6-Di-tert-butyl-4-methoxyphenol	3
661-19-8	1-Docosanol	3
112-54-9	Dodecanal	3
124-22-1	1-Dodecanamine	3
112-18-5	1-Dodecanamine, N,N-dimethyl	3
683-10-3	1-Dodecanaminium, N-(carboxymethyl) - N,N - dimethyl-, hyd3	3
111-82-0	Dodecanoic acid, methyl ester	3
3234-84-2	Dodecanoic acid, octadecyl ester	3
112-53-8	1-Dodecanol	3
32612-48-9	Dodecanol, ethoxylated, monoether with sulfuric acid, amm3	3
29658-97-7	Dodecenylsuccinic acid	3
19780-11-1	Dodecenylsuccinic anhydride	3
70955-37-2	Dodecyl and higher aliphatic ketones	3
4542-57-8	Dodecyl ether	3
112-55-0	Dodecyl mercaptan	3
2235-54-3	Dodecyl sulfate, ammonium salt	3
3097-08-3	Dodecyl sulfate, magnesium salt	3
4706-78-9	Dodecyl sulfate, potassium salt	3
2687-96-9	1-Dodecyl-2-pyrrolidone	3
59219-59-9	4-(Dodecylamino)-4-oxo-3-sulfobutanoic acid, disodium salt	3
27176-87-0	Dodecylbenzenesulfonic acid	3
93858-51-6	Dodecylbenzenesulfonic acid, 3-methoxypropylamine salt	3
1331-61-9	Dodecylbenzenesulfonic acid, ammonium salt	3
12068-09-6	Dodecylbenzenesulfonic acid, butylamine salt	3
14356-36-6	4-Dodecylbenzenesulfonic acid, butylamine salt	3
26264-06-2	Dodecylbenzenesulfonic acid, calcium salt	3
114795-97-0	Dodecylbenzenesulfonic acid, compd. with 1,2-propanediam8	3
12068-07-4	Dodecylbenzenesulfonic acid, compd. with 1,2-propanediam8	3
60816-37-7	Dodecylbenzenesulfonic acid, compd. with 1,3-propanediam8	3
125220-70-4	Dodecylbenzenesulfonic acid, compd. with 1,3-propanediam8	3
12068-13-2	Dodecylbenzenesulfonic acid, compd. with tert-dodecylamin3	3
26545-53-9	Dodecylbenzenesulfonic acid, diethanolamine salt	3
29061-61-8	Dodecylbenzenesulfonic acid, diisopropylamine salt	3

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37452-11-2	Dodecylbenzenesulfonic acid, dimethylamine salt	3
67952-66-3	Dodecylbenzenesulfonic acid, ethylenediamine salt	3
26264-05-1	Dodecylbenzenesulfonic acid, isopropylamine salt	3
26836-07-7	Dodecylbenzenesulfonic acid, monoethanolamine salt	3
12068-08-5	Dodecylbenzenesulfonic acid, morpholine salt	3
68084-55-9	Dodecylbenzenesulfonic acid, N-(2-aminoethyl)ethanolamin3	
60816-39-9	Dodecylbenzenesulfonic acid, N,N-dimethyl-1,3-propanedia3	
27177-77-1	Dodecylbenzenesulfonic acid, potassium salt	3
2211-98-5	4- Dodecylbenzenesulfonic acid, sodium salt	3
25155-30-0	Dodecylbenzenesulfonic acid, sodium salt	3
12068-15-4	Dodecylbenzenesulfonic acid, strontium salt	3
27323-41-7	Dodecylbenzenesulfonic acid, triethanolamine salt	3
23061-63-0	Dodecylbenzenesulfonic acid, triethylamine salt	3
12068-16-5	Dodecylbenzenesulfonic acid, zinc salt	3
59227-89-3	N- Dodecylcaprolactam	3
40382-75-0	Dodecylnaphthalenesulfonic acid, sodium salt	3
27193-86-8	Dodecylphenol	3
67953-82-6	4- Dodecylphenol, polymer with ethylenediamine and formalde3	
12068-17-6	ar-(Dodecylphenoxy)benzenedisulfonic acid, disodium salt	3
67993-50-4	Dodecylphenoxybenzene, disulfo deriv.	3
30260-72-1	Dodecylphenoxybenzenedisulfonic acid	3
28519-02-0	Dodecylphenoxybenzenedisulfonic acid, disodium salt	3
7631-98-3	N- Dodecylsarcosine, sodium salt	3
68911-49-9	Dried blood	3
15059-52-6	Dysprosium chloride (DyCl3), hexahydrate	3
26885-07-4	N- Eicosanoyl-N-methyltaurine, sodium salt	3
27636-21-1	Epichlorohydrin, polymer with hexamethylenediamine	3
68083-64-7	Epichlorohydrin, polymer with hexamethylenetetramine	3
26658-42-4	Epichlorohydrin, polymer with tetraethylenepentamine	3
8016-11-3	Epoxidized linseed oil	3
61788-72-5	Epoxidized octyl tallate	3
8013-07-8	Epoxidized soybean oil	3
	Epoxidized tall-oil fatty acids with tall-oil rosin	3
57345-19-4	5H-3,5a- Epoxynaphth[2,1-c]oxepin, dodecahydro-3,8,8,11a-tetrame3	
1120-34-9	Erucic acid, methyl ester	3
5022-96-6	Essential Oils	3
26161-33-1	Ethanaminium, N,N,N-trimethyl-2-[(2-methyl-1-oxo-2-prope3	
74-84-0	Ethane	3
60-29-7	Ethane, 1,1'-oxybis-	3
6153-56-6	Ethanedioic acid, dihydrate	3
107-21-1	1,2- Ethanediol	3
102-60-3	1',1",1'''-(Ethanediylnitriilo)tetrakis(2-propanol)	3
2917-94-4	Ethanesulfonic acid, 2-[2-[2-[4-(1,1,3,3-tetramethylbutyl)phe3	
108-01-0	Ethanol, 2-(dimethylamino)-	3
112-25-4	Ethanol, 2-(hexyloxy)-	3
1541-67-9	Ethanol, 2,2'-(dodecylimino)bis-	3
18924-67-9	Ethanol, 2,2'-(hexadecylimino)bis-	3
10213-78-2	Ethanol, 2,2-(octadecylimino)bis-	3
18924-66-8	Ethanol, 2,2'-(tetradecylimino)bis-	3
68171-29-9	Ethanol, 2,2',2''-nitriolotris-, tris(dihydrogen phosphate) (est3	
120-56-9	Ethanol, 2,2'-[1,2-ethanediylbis(oxy)]bis-, dibenzoate	3
112-60-7	Ethanol, 2,2'-[oxybis(2,1-ethanediylloxy)]bis-	3

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61693-41-2	Ethanol, 2,2'-iminobis-, compd. with hexadecyl dihydrogen ph	3
73246-96-5	Ethanol, 2,2'-iminobis-, N-soya alkyl derivs	3
120-88-5	Ethanol, 2,2'-oxybis- dibenzoate	3
25446-78-0	Ethanol, 2-[2-(tridecyloxy)ethoxy]ethoxy]-, hydrogen sulfa3	3
56633-27-3	Ethanol, 2-amino-, sulfate (salt)	3
112-07-2	Ethanol, 2-butoxy-, acetate	3
141-43-5	Ethanolamine	3
118-93-4	Ethanone, 1-(2-hydroxyphenyl)-	3
9011-06-7	Ethene, 1,1-dichloro-, polymer with chloroethene	3
24937-79-9	Ethene, 1,1-difluoro-, homopolymer	3
104-28-9	2- Ethoxyethyl p-methoxycinnamate	3
51344-60-6	Ethoxylated abietylamine	3
61524-98-9	Ethoxylated hydroabiethyl alcohol	3
9004-87-9	Ethoxylated isooctylphenol	3
61790-81-6	Ethoxylated lanolin	3
68511-39-7	Ethoxylated linear C12-15-sec-alcohol sulfate	3
139895-03-7	Ethoxylated Me alpha-glucopyranoside dioleate	3
127252-82-8	Ethoxylated methyl beta-glucopyranoside dioleate	3
86893-19-8	Ethoxylated methyl glucoside dioleate	3
61790-85-0	Ethoxylated N-(tallow alkyl)trimethylene diamines	3
11096-42-7	Ethoxylated nonylphenol complex with Iodine	3
	Ethoxylated sorbitan polysorbate	3
63132-78-5	Ethoxylated tallow amine hydrochloride	3
25035-97-6	Ethyl acrylate - vinyl chloride polymer	3
9003-32-1	Ethyl acrylate polymer	3
9010-88-2	Ethyl acrylate, copolymer with methyl methacrylate	3
26376-86-3	Ethyl acrylate-2-ethylhexyl acrylate copolymer	3
106-68-3	Ethyl amyl ketone	3
6895-43-8	Ethyl bixin	3
139-87-7	Ethyl diethanolamine	3
110-73-6	Ethyl ethanolamine	3
97-63-2	Ethyl methacrylate	3
122-51-0	Ethyl orthoformate	3
120-47-8	Ethyl p-hydroxybenzoate	3
121-32-4	Ethyl vanillin	3
104-76-7	2- Ethyl-1-hexanol	3
78-21-7	4- Ethyl-4-hexadecylmorpholinium, ethyl sulfate	3
10096-64-7	4- Ethyl-4-octadecylmorpholinium, ethyl sulfate	3
7747-35-5	7a- Ethyldihydro-1H,3H,5H-oxazolo(3,4-c) oxazole	3
9010-77-9	Ethylene - acrylic acid copolymer	3
3586-55-8	Ethylene glycol bis(semiformal)	3
627-83-8	Ethylene glycol distearate	3
2807-30-9	Ethylene glycol monopropyl ether	3
111-60-4	Ethylene glycol monostearate	3
11111-34-5	Ethylene oxide-propylene oxide copolymer, tetraether with (3	3
9010-79-1	Ethylene propylene copolymer	3
25212-83-3	Ethylene-acrylic acid copolymer, ammonium salt	3
25750-82-7	Ethylene-acrylic acid copolymer, sodium salt	3
123-26-2	N,N'- Ethylenebis(12-hydroxyoctadecanamide)	3
107-15-3	Ethylenediamine	3
60816-63-9	Ethylenediaminetetraacetic acid, triethylamine salt	3
149-57-5	2- Ethylhexanoic acid	3

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15956-58-8	2- Ethylhexanoic acid, manganese salt	3
7580-31-6	2- Ethylhexanoic acid, nickel salt	3
22464-99-9	2- Ethylhexanoic acid, zirconium salt	3
29710-25-6	2- Ethylhexyl 12-hydroxystearate	3
6197-30-4	2- Ethylhexyl 2-cyano-3,3-diphenylacrylate	3
103-11-7	2- Ethylhexyl acrylate	3
60381-61-5	2- Ethylhexyl acrylate, polymer with vinyl toluene	3
1070-03-7	2- Ethylhexyl dihydrogen phosphate	3
1241-94-7	2- Ethylhexyl diphenyl phosphate	3
29383-26-4	2- Ethylhexyl hydroxystearate	3
29806-73-3	2- Ethylhexyl palmitate	3
118-60-5	2- Ethylhexyl salicylate	3
72214-01-8	2- Ethylhexyl sulfate	3
5466-77-3	2- Ethylhexyl-p-methoxycinnamate	3
80-39-7	N- Ethyl-p-tolylsulfonamide	3
8047-99-2	N- Ethyltoluenesulfonamide	3
13759-92-7	Europium chloride (EuCl ₃), hexahydrate	3
61788-61-2	Fatty acid esters, tallow, Me ester	3
68650-50-0	Fatty acids C18-unsatd., dimers, polymers with ethylenedia	3
	Fatty acids, C12-18, esters with sorbitan, ethoxylated	3
61788-89-4	Fatty acids, C18-unsatd., dimers	3
68647-95-0	Fatty acids, C18-unsatd., dimers, compds. with coco alkylar	3
	Fatty acids, C18-unsatd., dimers, hydrogenated, polymers v	3
	Fatty acids, C18-unsatd., dimers, hydrogenated, polymers v	3
	Fatty acids, C18-unsatd., dimers, hydrogenated, polymers v	3
68082-28-0	Fatty acids, C18-unsatd., dimers, polymers with ethylene gl	3
147900-93-4	Fatty acids, C18-unsatd., trimers, compds. with oleylamine	3
68937-83-7	Fatty acids, C6-10 methyl esters	3
68409-80-3	Fatty acids, C6-19-branched, calcium salts	3
68551-41-7	Fatty acids, C6-19-branched, calcium salts, overbased	3
68551-42-8	Fatty acids, C6-19-branched, manganese salts	3
58748-27-9	Fatty acids, C8-10, propylene esters	3
67701-05-7	Fatty acids, C8-18 and C18 unsatd.	3
61790-63-4	Fatty acids, coco, compds. with diethanolamine	3
	Fatty acids, coco, dimethylammonium betaine	3
68938-15-8	Fatty acids, coco, hydrogenated	3
61788-59-8	Fatty acids, coco, Me esters	3
91031-95-7	Fatty acids, coco, monoesters with anhydro-D-mannitol	3
68154-36-9	Fatty acids, coco, monoesters with sorbitan	3
	Fatty acids, coco, reaction products with 2-[(2-aminoethyl)a	3
132647-09-7	Fatty acids, coco, reaction products with 2-[(2-aminoethyl)a	3
61791-08-0	Fatty acids, coco, reaction products with ethanolamine, eth	3
	Fatty acids, dehydrated castor-oil, polymers with maleic an	3
61791-07-9	Fatty acids, soya, ethoxylated	3
61790-12-3	Fatty acids, tall-oil	3
61790-66-7	Fatty acids, tall-oil, compds. with diethanolamine	3
61711-55-3	Fatty acids, tall-oil, compds. with oleylamine	3
61791-01-3	Fatty acids, tall-oil, diesters with polyethylene glycol	3
68187-85-9	Fatty acids, tall-oil, esters with ethylene glycol	3
68188-27-2	Fatty acids, tall-oil, esters with pentaerythritol	3

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	Fatty acids, tall-oil, esters with polyethylene glycol mono(hydrogen maleate), compds. with amides from diethylenetriamine and tall-oil fatty acids	3
222716-38-3		
91051-70-6	Fatty acids, tall-oil, esters with propylene glycol	3
61791-00-2	Fatty acids, tall-oil, ethoxylated	3
100684-	Fatty acids, tall-oil, maleated, compds. with triethanolamine	3
20-6		
61791-48-8	Fatty acids, tall-oil, monoesters with sorbitan	3
61790-86-1	Fatty acids, tall-oil, monoesters with sorbitan, ethoxylated	3
67700-71-4	Fatty acids, tall-oil, polymer with maleic anhydride, pentaery3	
38605-55-0	Fatty acids, tall-oil, polymers with bisphenol A, epichlorohyd3	
68139-80-0	Fatty acids, tall-oil, polymers with C18-unsatd. fatty acid dirB	
66070-62-0	Fatty acids, tall-oil, polymers with glycerol, pentaerythritol a 3	
66071-79-2	Fatty acids, tall-oil, polymers with glycerol, pentaerythritol, p3	
68015-39-4	Fatty acids, tall-oil, polymers with glycerol, phthalic anhydrid3	
68309-24-0	Fatty acids, tall-oil, polymers with maleic anhydride	3
67700-92-9	Fatty acids, tall-oil, polymers with pentaerythritol and phthal3	
68919-76-6	Fatty acids, tall-oil, reaction products with N-(2-hydroxyethy3	
68390-56-7	Fatty acids, tallow, hydrogenated, dimers, diketene derivs.	3
61788-67-8	Fatty acids, vegetable-oil, sulfated, sodium salts	3
	FD&C Green No. 5	3
	FD&C Orange No. 5	3
1694-09-3	FD&C Violet No. 1	3
10138-04-2	Ferric ammonium sulfate	3
10045-89-3	Ferrous ammonium sulfate	3
2321-07-5	Fluorescein	3
568-63-8	Fluorescein, 2',4',5',7'-tetraiodo, disodium salt { Benzoic a3	
16423-68-0	Fluorescein, 2',4',5',7'-tetraiodo, disodium salt { Spiro(isob3	
548-26-5	Fluorescein, 2',4',5',7'-tetrabromo-, disodium salt { Benzoic3	
17372-87-1	Fluorescein, 2',4',5',7'-tetrabromo-, disodium salt { Spiro(is3	
30846-35-6	Formaldehyde, polymer with 4-nonylphenol and oxirane	3
55845-06-2	Formaldehyde, polymer with nonylphenol and oxirane	3
63428-91-1	Formaldehyde, polymer with p-tert-amylphenol, methyloxira3	
54579-44-1	Formaldehyde, polymer with p-tert-butylphenol and Bisphen3	
30704-63-3	Formaldehyde, polymer with p-tert-butylphenol and oxirane	3
30704-64-4	Formaldehyde, polymer with p-tert-butylphenol, methyloxira3	
64-18-6	Formic acid	3
	Fragrance (components must be reported to EPA prior to a3	
104-67-6	2(3H)- Furanone, 5-heptyldihydro-	3
9036-66-2	D- Galacto-L-arabian	3
121-79-9	Gallic acid, propyl ester	3
68477-33-8	Gases (petroleum), C3-4, isobutane rich	3
68410-46-8	Gelatins, reaction products with glutaraldehyde	3
77-06-5	Gibberellic acid	3
12002-43-6	Gilsonite	3
85261-20-7	D- Glucitol, 1-deoxy-1(methylamino)-, N-C10 acyl derivs.	3
87246-72-8	D- Glucitol, 1-deoxy-1(methylamino)-, N-C12 acyl derivs.	3
87157-58-2	D- Glucitol, 1-deoxy-1(methylamino)-, N-C14 acyl derivs.	3
5961-18-2	D- Glucitol, 1-deoxy-1(methylamino)-, N-C18 acyl derivs.	3
64519-82-0	D- Glucitol, 6-O-alpha-D-glucopyranosyl-, mixt. with 1-O-alpha 3	
10094-62-9	D-alpha- Glucoheptonic acid, sodium salt, dihydrate	3

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133-42-6	Gluconic acid	3
526-95-4	D- Gluconic acid	3
299-27-4	D- Gluconic acid, monopotassium salt	3
35087-77-5	D- Gluconic acid, potassium salt	3
90-80-2	delta- Gluconolactone	3
110615-47-9	D- Glucopyranose, oligomeric, C10-16-alkyl glycosides	3
132778-08-6	D- Glucopyranose, oligomeric, C9-11-alkyl glycosides	3
68515-73-1	D- Glucopyranose, oligomeric, decyl octyl glycosides	3
29781-81-5	(alpha-D- Glucopyranoside, decyl	3
53956-04-0	alpha-D- Glucopyranosiduronic acid, (3beta, 20beta)-20-carboxy-11-	3
56-86-0	L- Glutamic acid	3
142-47-2	Glutamic acid, sodium salt	3
111 30-8	Glutaraldehyde	3
68153-76-4	Glycerides, C14-18 mono- and di-, ethoxylated	3
68990-54-5	Glycerides, C14-22 mono-, acetates	3
68990-53-4	Glycerides, C14-22-linear, mono-	3
68201-46-7	Glycerides, coco mono- and di-, ethoxylated	3
66105-29-1	Glycerides, coco mono-, ethoxylated	3
67254-73-3	Glycerides, mixed mono- and di-	3
	Glycerides, palm-oil mono- and d-, hydrogenated,	
67784-88-7	ethoxylated	3
82980-39-0	Glycerides, wheat germ-oil	3
37220-82-9	Glycerine oleate	3
31671-74-6	Glycerol, 2-methylamino deriv.	3
26446-35-5	Glyceryl monoacetate	3
1323-38-2	Glyceryl monoricinoleate	3
	Glycine of tall oil fatty acids	3
38011-25-5	Glycine, N,N'-1,2-ethanediylbis-, disodium salt	3
79-14-1	Glycolic acid	3
2836-32-0	Glycolic acid, sodium salt	3
496-46-8	Glycouril	3
107-22-2	Glyoxal	3
	Gravel	3
506-93-4	Guanidine nitrate	3
6706-59-8	L- Gullitol	3
9000-28-6	Gum Ghatti	3
9000-65-1	Gum Tragacanth	3
343-27-1	Harmine hydrochloride hydrate	3
1652-63-7	3-(((Heptadecafluorooctyl)sulfonyl)amino)-N,N,N-trimethyl-1-pro3	
21652-27-7	(Z)-2-(8- Heptadecenyl)-2-imidazoline-1-ethanol	3
28984-69-2	2-(Heptadecenyl)-4,4(5H)-oxazolidimethanol	3
95-38-5	2-(8- Heptadecenyl)-4,5-dihydro-1H-imidazole-1-ethanol	3
62449-33-6	2-(8- Heptadecenyl)-4,5-dihydro-1H-imidazole-1-ethanol, monohy3	
5910-79-2	Heptadecyl sulfate, sodium salt	3
142-82-5	Heptane	3
693-33-4	1- Hexadecanaminium, N-(carboxymethyl)-N.N-dimethyl-, inne3	
629-70-9	1- Hexadecanol acetate	3
3539-43-3	1- Hexadecanol, dihydrogen phosphate	3
65138-84-3	1- Hexadecanol, dihydrogen phosphate, compd. with diethano3	
65143-89-7	Hexadecyl phenoxybenzenedisulfonic acid, disodium salt	3
1120-01-0	Hexadecyl sulfate, sodium salt	3
25067-11-2	Hexafluoropropene, polymer with tetrafluoroethylene	3

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28182-81-2	Hexamethylene diisocyanate homopolymer	3
100-97-0	Hexamethylenetetramine	3
4080-31-3	Hexamethylenetetramine chloroallyl chloride	3
51229-78-8	Hexamethylenetetramine chloroallyl chloride, cis isomer	3
24360-05-2	Hexamethylenetetramine hydrogen chloride	3
77348-43-7	1,6- Hexanediamine, polymer with polymethylenepolyphenylene3	
68955-64-6	Hexanedinitrile, hydrogenated, high-boiling fraction, phosph3	
108-63-4	Hexanedioic acid, bis(1-methylheptyl) ester	3
627-93-0	Hexanedioic acid, dimethyl ester	3
	Hexanethiol, telomer with butyl 2-propenoate and	
190012-21-6	1- ethenylbenzene	3
	Hexanethiol, telomer with butyl acrylate, styrene,	
	1- methacrylic acid, and methyl methacrylate	3
142-62-1	Hexanoic acid	3
68609-68-7	1- Hexanol, 2-ethyl-, manuf. of by-products from, distn. residue8	
88230-35-7	Hexanol, acetate, branched and linear	3
3452-97-9	1- Hexanol,3,5,5-trimethyl-	3
3681-71-8	3- Hexen-1-ol, acetate, (3Z)-	3
101-86-0	Hexyl cinnamic aldehyde	3
6259-76-3	Hexyl salicylate	3
107-41-5	Hexylene glycol	3
118-56-9	Homomenthyl salicylate	3
8020-83-5	Hydrocarbon oils	3
68476-40-4	Hydrocarbons, C3-4	3
68956-56-9	Hydrocarbons, terpene processing by-products	3
10034-85-2	Hydrogen iodide	3
7722-84-1	Hydrogen peroxide	3
30968-45-7	Hydrogenated methyl abietate	3
61790-59-8	Hydrogenated tallow alkyl amine acetate	3
25214-69-1	Hydrolyzed polyacrylonitrile	3
9015-54-7	Hydrolyzed protein	3
150-78-7	Hydroquinone dimethyl ether	3
3896-11-5	2-(2- Hydroxy-3-tert-butyl-5-methylphenyl)-5-chloro-2H-benzotria3	
131-57-7	2- Hydroxy-4-methoxy benzophenone	3
4065-45-6	2- Hydroxy-4-methoxybenzophenone-5-sulfonic acid	3
1843-05-6	2- Hydroxy-4-n-octyloxybenzophenone	3
3147-75-9	2-(2- Hydroxy-5-tert-octylphenyl)benzotriazole	3
150-76-5	p- Hydroxyanisole	3
2050-08-0	2- Hydroxybenzoic acid, pentyl ester	3
118-58-1	2- Hydroxybenzoic acid, phenylmethyl ester	3
27136-73-8	1-(2- Hydroxyethyl)-2-(heptadecenyl)imidazoline	3
95-19-2	1-(2- Hydroxyethyl)-2-(heptadecyl)imidazoline	3
142-78-9	N-(2- Hydroxyethyl)dodecanamide	3
544-31-0	N-(2- Hydroxyethyl)hexadecanamide	3
111-57-9	N-(2- Hydroxyethyl)octadecanamide	3
8029-76-3	Hydroxylated lecithin	3
52299-20-4	2-[(Hydroxymethyl)amino]-2-methyl propanol	3
70161-44-3	N-(Hydroxymethyl)glycine, monosodium salt	3
90371-20-3	2- Hydroxypropyl acrylate polym. w. vinyl chloride and vinyl ac3	
41618-91-1	2- Hydroxypropyl acrylate, copolymer with vinyl acetate and vi3	
39421-75-5	Hydroxypropyl guar gum	3
7373-11-7	2- Hydroxypropylamine nitrite	3

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134-31-6	8- Hydroxyquinoline sulfate	3
6303-21-5	Hypophosphorus acid	3
68630-92-2	1H- Imidazole-1-propanoic acid, 3-[2-(2-carboxyethoxy)ethyl]-2-3	
39236-46-9	Imidazolinidyl urea	3
68390-66-9	2- Imidazolinium, 1-(carboxymethyl)-1-(2-hydroxyethyl)-2-coco3	
	2- Imidazolinium, 1-(carboxymethyl)-1-(2-hydroxyethyl)-2-norc3	
	Imidazolium compds, 2-(C16-18 alkyl)-1-(2-(C16-18 amido)3	
	Imidazolium compds, 2-heptadecyl-4,5-dihydro-1-methyl-1-3	
68650-39-5	Imidazolium compounds, 1-[2-(carboxymethoxy)ethyl]-1-(ca3	
68604-71-7	Imidazolium compounds, 1-{2-(2-carboxyethoxy)ethyl}-1(or 3	
72749-55-4	Imidazolium compounds, 2-(C17 and C17-unsatd. alkyl)-1-{3	
68630-96-6	1H- Imidazolium, 1-(2-carboxyethyl)-4,5-dihydro-3-(2-hydroxyet 3	
61702-73-6	1H- Imidazolium, 1,1-bis(carboxymethyl)-4,5-dihydro-2-undecyl-3	
68527-99-1	1H- Imidazolium, 1,3-bis(carboxymethyl)-4,5-dihydro-1-(2-hydro3	
7758-05-6	Iodic acid (HIO3), potassium salt	3
55406-53-6	3- Iodo-2-propynyl butyl carbamate	3
1335-46-2	Ionone, methyl-	3
85763-69-5	Iron, C3-13-carboxylate naphthenate complexes	3
125496-22-2	Isoarachidyl neopentanoate	3
89-65-6	D- Isoascorbic acid	3
124-76-5	Isoborneol	3
125-12-2	Isobornyl acetate	3
2755-56-1	Isobornyl propanoate	3
75-28-5	Isobutane	3
68457-75-0	Isobutylated, styreneated cresols	3
6104-30-9	Isobutylenediurea	3
28348-65-4	Isobutylnaphthalenesulfonic acid, sodium salt	3
97-85-8	Isobutyric acid, isobutyl ester	3
29761-21-5	Isodecyl diphenyl phosphate	3
36311-34-9	Isohexadecanol	3
26952-21-6	Isooctanol	3
26401-27-4	Isooctyl diphenyl phosphite	3
78-78-4	Isopentane	3
121-91-5	Isophthalic acid	3
29387-84-6	3- Isopropoxy-1-propanol	3
108-21-4	Isopropyl acetate	3
63393-93-1	Isopropyl lanolin	3
142-91-6	Isopropyl palmitate	3
112-10-7	Isopropyl stearate	3
75-31-0	Isopropylamine	3
60828-92-4	Isopropylamine salt of oleoylisopropanolamide deriv. of sulf 3	
586-62-9	Isopropylamine sulfate	3
59189-82-1	4- Isopropylidene-1-methylcyclohexene	3
28348-64-3	4,4'- Isopropylidenediphenol C12-15-alkyl phosphites	3
42065-76-9	Isopropyl naphthalenesulfonic acid, sodium salt	3
2682-20-4	Isopropylsulfamic acid	3
26172-55-4	3(2H)- Isothiazolone, 2-methyl-	3
27458-92-0	3(2H)- Isothiazolone, 5-chloro-2-methyl-	3
61789-91-1	Isotridecyl alcohol	3
8013-10-3	Jobba bean oil	3
8008-20-6	Juniper tar oil	3
	Kerosene (deodorized)	3

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	Kukui nut oil	3
68458-88-8	Lanolin, ethoxylated propoxylated	3
6487-39-4	Lanthanum carbonate octahydrate	3
17272-45-6	Lanthanum chloride (LaCl3), hexahydrate	3
6272-74-8	N- Lauroyl ester of colaminoformylmethylpyridinium chloride	3
4337-75-1	N- Lauroyl-N-methyltaurine, sodium salt	3
61181-29-1	Lauryl methacrylate, copolymer with ethylene glycol dimeth	3
151-41-7	Lauryl sulfate	3
90063-37-9	Lavender, <i>Lavandula angustifolia</i> , ext.	3
9005-53-2	Lignin solids	3
8062-05-1	Lignin, alkali	3
68201-23-0	Lignin, alkali, oxidized, sodium salt	3
105859-97-0	Lignin, alkali, reaction products with disodium sulfite and for	3
8062-15-5	Lignosulfonic acid	3
8061-53-8	Lignosulfonic acid, ammonium salt	3
68611-14-3	Lignosulfonic acid, ethoxylated, sodium salts	3
8061-54-9	Lignosulfonic acid, magnesium salt	3
37314-65-1	Lignosulfonic acid, potassium salt	3
68512-34-5	Lignosulfonic acid, sodium salt, sulfomethylated	3
8032-32-4	Ligroine	3
	Lime Green Pigment	3
138-86-3	alpha- Limonene	3
115-95-7	Linalool acetate	3
78-70-6	Linalyl alcohol	3
3999-01-7	Linoleamide	3
60-33-3	Linoleic acid	3
37189-83-6	Linoleic acid dimer-diethylenetriamine polymer	3
68514-43-2	Linseed oil, maleated, ammonium salt	3
67700-81-6	Linseed oil, polymer with isophthalic acid and trimethylolpro	3
67922-98-9	Linseed oil, polymer with maleic anhydride and pentaerythr	3
69309-52-4	Linseed oil, polymer with maleic anhydride and tung oil	3
69070-64-2	Linseed oil, polymer with pentaerythritol and phthalic anhyd	3
68153-88-8	Linseed oil, tung oil, 4-(t-butyl)phenol, bisphenol A, formalde	3
68952-63-6	Linseed oil, tung oil, di-tert-butylphenol, bisphenol A, formal	3
554-13-2	Lithium carbonate	3
13453-71-9	Lithium chlorate	3
7447-41-8	Lithium chloride	3
1310-65-2	Lithium hydroxide	3
53320-86-8	Lithium magnesium sodium silicate	3
27253-30-1	Lithium neodecanoate	3
68917-19-1	Magnolia flower (or oil)	3
110-16-7	Maleic acid	3
108-31-6	Maleic anhydride	3
9006-26-2	Maleic anhydride polymer w/ethene	3
68139-89-9	Maleic anhydride, compd. with tall-oil fatty acids	3
113221-69-5	Maleic anhydride, polymer with ethyl acrylate and vinyl acet	3
37449-19-7	Manganese isooctanoate	3
1336-93-2	Manganese naphthenate	3
93918-16-2	Manganese neononoate	3
1313-13-9	Manganese oxide (MnO2)	3
68609-86-9	Manganese, 2-ethylhexanoate naphthenate complexes	3
69-65-8	D- Mannitol	3

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	Manure	3
8002-50-4	Menhaden oil	3
34363-01-4	p- Menth-1-ene, dimer	3
1490-04-6	Menthol	3
29066-34-0	(+/-)- Menthyl acetate	3
2492-26-4	2- Mercaptobenzothiazole, sodium salt	3
79-41-4	Methacrylic acid	3
25035-69-2	Methacrylic acid, polymer with butyl acrylate and methyl me3	3
25035-68-1	Methacrylic acid, polymer with styrene and ethyl acrylate	3
5536-61-8	Methacrylic acid, sodium salt	3
5413-50-5	4,7- Methano-1H-inden-6-ol, 3a,4,5,6,7,7a-hexahydro-, acetate	3
17511-60-3	4,7- Methano-1H-inden-6-ol, 3a,4,5,6,7,7a-hexahydro-, propano3	3
77-53-2	1H-3a,7- Methanoazulen-6-ol, octahydro-3,6,8,8-tetramethyl-, (3R,3a3	3
131-56-6	Methanone, (2,4-dihydroxyphenyl)phenyl-	3
20324-32-7	1-(2- Methoxy-1-methylethoxy)-2-propanol	3
70657-70-4	2- Methoxy-1-propyl acetate	3
108-65-6	1- Methoxy-2-propyl acetate	3
104-45-0	1- Methoxy-4-propylbenzene	3
34590-94-8	(2- Methoxymethylethoxy)propanol	3
67-56-1	Methyl alcohol	3
8050-13-3	Methyl ester of rosin, partially hydrogenated	3
78-93-3	Methyl ethyl ketone	3
112-63-0	Methyl lineoleate	3
26300-51-6	Methyl methacrylate, copolymer with acrylic acid and butyl a8	3
25852-37-3	Methyl methacrylate, copolymer with butyl acrylate	3
25608-33-7	Methyl methacrylate, copolymer with butyl methacrylate	3
25322-99-0	Methyl methacrylate, copolymer with butyl methacrylate and3	3
110-43-0	Methyl n-amyl ketone	3
112-39-0	Methyl palmitate	3
119-36-8	Methyl salicylate	3
112-61-8	Methyl stearate	3
512-42-5	Methyl sulfate, sodium salt	3
74499-22-2	Methyl tallate	3
	2-[Methyl(polyfluoroalkylsulfonyl)amino]ethyl methacrylate, po 3	3
68425-13-8	2- Methyl-1,3-butadiene, homopolymer (as latex)	3
2163-42-0	2- Methyl-1,3-propanediol	3
123-92-2	3- Methyl-1-butanol, acetate	3
110-12-3	5- Methyl-2-hexanone	3
872-50-4	N- Methyl-2-pyrrolidinone	3
93385-03-6	11- Methyl-3,6,9,12-tetraoxaoctacosan-1-ol acetate	3
2445-77-4	3- Methylbutanoic acid, 2-methylbutyl ester	3
88-24-4	2,2'- Methylenebis(4-ethyl-6-tert-butylphenol)	3
101-68-8	1,1'- Methylenebis(4-isocyanatobenzene)	3
119-47-1	2,2'- Methylenebis(6-tert-butyl-p-cresol)	3
39310-05-9	Methylenebis(isocyanatobenzene) homopolymer	3
4316-73-8	N- Methylglycine, sodium salt	3
68140-76-1	1,1'-(Methylimino)bis[3-chloro-2-propanol], polymer with N,N,N',NB	3
61791-41-1	N- Methyl-N-(tall-oil acyl)taurine, sodium salt	3
1321-94-4	Methylnaphthalene	3
12068-04-1	Methylnaphthalenesulfonic acid, isopropylamine salt	3
26264-58-4	Methylnaphthalenesulfonic acid, sodium salt	3
110-25-8	N- Methyl-N-oleoylglycine	3

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137-20-2	N- Methyl-N-oleoyltaurine, sodium salt	3
7346-80-7	N- Methyl-N-oleyltaurine, sodium salt	3
60883-84-3	Methylnonylnaphthalenesulfonic acid, sodium salt	3
3737-55-1	N- Methyl-N-palmitoyltaurine, sodium salt	3
120-94-5	N- Methylpyrrolidine	3
68425-58-1	alpha- Methylstyrene, polymer with styrene and vinyltoluene	3
8049-99-8	Milorganite	3
8023-74-3	Mink oil	3
67254-79-9	Mixed fatty acids	3
	Mixed fatty and rosin acids	3
62258-49-5	Modified polyterpene type hydrocarbon resins	3
1317-33-5	Molybdenum disulfide	3
10102-40-6	Molybdic acid (H ₂ MoO ₄), disodium salt, dihydrate	3
79-11-8	Monochloroacetic acid	3
78-96-6	Monoisopropanolamine	3
27636-82-4	Monomethylol-5,5-dimethylhydantoin	3
10058-23-8	Monopotassium peroxymonosulfate	3
37222-66-5	Monopotassium peroxymonosulfate, mixt. with K ₂ SO ₄ and	3
110-91-8	Morpholine	3
1095-66-5	Morpholine oleate	3
1541-81-7	Morpholine, 4-dodecyl-	3
8030-30-6	Naphtha	3
91-20-3	Naphthalene	3
79234-36-9	2,7- Naphthalenedisulfinic acid, 5-(benzoylamino)-3-{{2-(4-cyclo	3
68155-60-2	1,5- Naphthalenedisulfonic acid, 3,3'-[[6-{bis(2-hydroxyethyl)ami	3
79255-98-4	1,5- Naphthalenedisulfonic acid, 3-[[4-[(6-amino-1-hyd3	3
72828-83-2	2,7- Naphthalenedisulfonic acid, 5-(benzoylamino)-3-{{2-(2-cyclo	3
79255-97-3	1,3- Naphthalenedisulfonic acid, 7-[[4-[(6-amino-1-hydroxy-3-su	3
6416-66-6	2,7 Naphthalenedisulfonic acid,3-[(5-chloro-2-phenoxyphenyl)a	3
67786-14-5	2- Naphthalenesulfonic acid, 6-amino-4-hydroxy-5-{{2-(trifluoro	3
104199-39-5	Naphthalenesulfonic acid, C6-9-alkyl Me derivs., sodium sa	3
26545-58-4	Naphthalenesulfonic acid, isopropylisohexyl-, sodium salt	3
9017-33-8	Naphthalenesulfonic acid, methylenebis-, disodium salt	3
9069-80-1	Naphthalenesulfonic acid, polymer with formaldehyde	3
532-02-5	2- Naphthalenesulfonic acid, sodium salt	3
68442-09-1	Naphthalenesulfonic acid, sodium salt, isopropylated	3
9008-63-3	Naphthalenesulfonic acid, sodium salt, polymer with formald	3
	Naphthalenesulfonic acid/parametaldehyde condensate, amB	3
108171-28-4	Naphthalenesulfonic acids, mixed mono- di- and trimethyl-,	3
86352-09-2	Naphthalenesulfonic acids, polymers with formaldehyde, so	3
1342-07-9	2- Naphthalenol, 1-(phenylazo)-	3
1338-24-5	Naphthenic acid	3
64755-04-0	Naphthenic acids, reaction products with polyethylenepolya	3
3738-00-9	Naphtho[2,1-b]furan, dodecahydro-3a,6,6,9a-tetramethyl-	3
135-19-3	beta- Naphthol	3
85-86-3	2- Naphthol, 1-(4-o-tolylazo-o-tolylazo)-	3
26896-20-8	Neodecanoic acid	3
55172-98-0	Neodecanoic acid, barium salt	3
73227-23-3	Neodymium tris(2-ethylhexanoate)	3
126-30-7	Neopentyl glycol	3
17557-23-2	Neopentyl glycol diglycidyl ether	3

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7791-20-0	Nickel chloride (NiCl ₂), hexahydrate	3
	Nickel complex of diethyl hexyl acid phosphate	3
59-67-6	Nicotinic acid	3
15245-12-2	Nitric acid, ammonium calcium salt	3
6419-19-8	Nitrilotris(methylenephosphonic acid)	3
66507-71-9	2,2',2''-Nitrilotrisethanol polym. w. 1,4-dichloro-2-butene and N,N,N3	
10024-97-2	Nitrous oxide	3
104-61-0	Nonanoic acid, 4-hydroxy-, gamma.-lactone	3
112-05-0	Nonanoic fatty acid	3
143-08-8	1- Nonanol	3
71243-86-2	Nonene, hydroformylation products, high-boiling, sulfated, s3	
66197-78-2	Nonylphenol ether with (C ₂ H ₄ O) ₉ phosphate	3
9051-57-4	Nonylphenol, ethoxylated, monoether with sulfuric acid, am 3	
	p- Nonylphenol, ethoxylated, phosphated, calcium salt	3
106151-63-7	p- Nonylphenol, ethoxylated, phosphated, dipotassium salt	3
37523-33-4	p- Nonylphenol, polymer with propylene oxide and formaldehy 3	
54612-36-1	Nonylphenylpolyoxyethylene sulfosuccinate	3
110-30-5	Octadecanamide, N,N'-1,2-ethanediybis-	3
55349-01-4	Octadecanamide, N,N'-1,6-hexanediybis[12-hydroxy-	3
3010-24-0	1- Octadecanaminium, N,N-bis(2-hydroxyethyl)-N-methyl-, chl 3	
13081-97-5	Octadecanoic acid, 2,2-bis(hydroxymethyl)-1,3-propanediyl 3	
22047-49-0	Octadecanoic acid, 2-ethylhexyl ester	3
177771-31-2	Octadecanoic acid, ester with 1,2-propanediol, phosphate, a8	
177771-33-4	Octadecanoic acid, monoester with 1,2,3-propanetriol, phos3	
112-92-5	1- Octadecanol	3
3687-46-5	9- Octadecenoic acid (Z)-, decyl ester	3
1847-55-8	cis-9- Octadecenyl sulfate, sodium salt	3
16058-19-8	(Z)-2-(9- Octadecenyl)-2-imidazoline-1-ethanol	3
2082-79-3	Octadecyl 3-(3',5'-di-tert-butyl-4'-hydroxyphenyl)propionate 3	
1120-04-3	Octadecyl sulfate, sodium salt	3
624-15-7	2,6- Octadien-1-ol, 3,7-dimethyl-	3
106-24-1	2,6- Octadien-1-ol, 3,7-dimethyl-, (E)-	3
106-25-2	2,6- Octadien-1-ol, 3,7-dimethyl-, (Z)-	3
105-87-3	2,6- Octadien-1-ol, 3,7-dimethyl-, acetate, (E)-	3
5146-66-7	2,6- Octadienenitrile, 3,7-dimethyl-	3
556-67-2	Octamethylcyclotetrasiloxane	3
107-75-5	Octanal, 7-hydroxy-3,7-dimethyl-	3
7378-99-6	1- Octanamine, N,N-dimethyl-	3
557-09-5	Octanoic acid, zinc salt	3
18312-04-4	Octanoic acid, zirconium salt	3
111-87-5	1- Octanol	3
78-69-3	3- Octanol, 3,7-dimethyl	3
58654-67-4	2- Octanone, 5-methyl-	3
106-22-9	6- Octen-1-ol, 3,7-dimethyl-	3
18479-58-8	7- Octen-2-ol, 2,6-dimethyl-	3
53219-21-9	7- Octen-2-ol, 2-methyl-6-methylene-, dihydro deriv.	3
3391-86-4	1- Octen-3-ol	3
106-23-0	6- Octenal, 3,7-dimethyl-	3
26221-73-8	1- Octene, polymer with ethene	3
68526-82-9	Octyl alcohol bottoms	3
6969-49-9	n- Octyl salicylate	3
142-31-4	Octyl sulfate, sodium salt	3

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2687-94-7	1- Octyl-2-pyrrolidone	3
5333-42-6	2- Octyldodecanol	3
1806-26-4	para- Octylphenol	3
67554-50-1	Octylphenol	3
52623-95-7	tert- Octylphenol, ethoxylated and phosphated	3
8007-70-3	Oil of anise	3
8013-76-1	Oil of bitter almond	3
8008-51-3	Oil of camphor	3
8000-27-9	Oil of Cedarwood	3
8000-29-1	Oil of citronella	3
8008-56-8	Oil of lemon	3
8007-02-1	Oil of lemongrass	3
68855-99-2	Oils, Litsea cubeda	3
68213-57-0	Oils, menhaden, polymerized	3
68606-94-0	Oils, orange, sweet, terpene	3
8014-09-3	Oils, patchouli	3
8016-35-1	Oiticica oils	3
64743-02-8	alpha- Olefin wax	3
69898-00-6	alpha- Olefins	3
67785-94-8	Oleic acid amide of tetraethylene pentamine	3
93-83-4	Oleic acid diethanolamide	3
142-15-4	Oleic acid, 2-sulfoethyl ester, sodium salt	3
68443-05-0	Oleic acid, sulfonated, sodium salt	3
7347-29-7	Oleoyl imidazoline	3
13127-82-7	Oleyl diethanolamide	3
7722-71-6	Oleyl ether phosphate (acid)	3
37310-83-1	Oleyl ether phosphate (neutral)	3
7173-62-8	N- Oleyl-1,3-propanediamine	3
112-90-3	Oleylamine	3
8050-07-5	Olibanum	3
61791-34-2	Onium compounds, morpholinium, 4-ethyl-4-soya alkyl, Et s3	3
470-67-7	7- Oxabicyclo[2.2.1]heptane, 1-methyl-4-(1-methylethyl)-	3
144-62-7	Oxalic acid	3
59720-42-2	H,3H,5H- Oxazolo[3,4-c]oxazole, methanol deriv.	3
56709-13-8	H,3H,5H- Oxazolo[3,4-c]oxazole, poly(oxymethylene) deriv.	3
6542-37-6	H,3H,5H- Oxazolo[3,4-c]oxazole-7a,(7H)-methanol	3
68153-22-0	Oxidized poly(methylene)	3
68459-87-0	Oxirane, methyl-, polymer with alpha-butyl-omega-hydroxyp3	3
68439-30-5	Oxirane, methyl-, polymer with oxirane, 8-methylnonyl ethe	3
9082-00-2	Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-pro3	3
68551-07-5	Oxo alcohol still bottoms (C8-18 alcohols)	3
68130-43-8	Oxo alcohol still bottoms, sulfated, sodium salt	3
79-83-4	D- Pantothenic acid	3
9001-73-4	Papain	3
8012-95-1	Paraffin oils	3
64742-51-4	Paraffin wax, hydrotreated	3
63231-60-7	Paraffin waxes and hydrocarbon waxes, microcryst	3
64742-43-4	Paraffin waxes, clay treated	3
8000-68-8	Parsley apiole	3
8007-44-1	Pennyroyal oil	3
504-60-9	1,3- Pentadiene	3
115-77-5	Pentaerythritol	3

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28188-24-1	Pentaerythritol tristearate	3
29733-18-4	Pentanedioic acid, diisodecyl ester	3
1119-40-0	Pentanedioic acid, dimethyl ester	3
71-41-0	1- Pentanol	3
68959-25-1	3- Pentanol, 1-(2-hydroxyethoxy)-2,2,4-trimethyl-	3
140-01-2	Pentasodium diethylenetriaminepentaacetate	3
59867-71-6	Pentyl phenyl acid phosphate	3
73049-73-7	Peptone type IV from soybean	3
7632-04-4	Perboric acid, sodium salt	3
8024-43-9	Perfumes, jasmin	3
64742-16-1	Petroleum resins	3
61789-86-4	Petroleum sulfonic acids, calcium salts	3
68608-26-4	Petroleum sulfonic acids, sodium salts	3
64742-42-3	Petroleum wax, clay-treated, microcryst.	3
12751-36-9	Pharmamedia	3
66-71-7	1,10- Phenanthroline	3
143-74-8	Phenol Red	3
25973-55-1	Phenol, 2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylpropyl)-	3
23328-53-2	Phenol, 2-(2H-benzotriazol-2-yl)-6-dodecyl-4-methyl-	3
90-72-2	Phenol, 2,4,6-tris[(dimethylamino)methyl]-	3
97-53-0	Phenol, 2-methoxy-4-(2-propenyl)-	3
68937-41-7	Phenol, isopropylated, phosphate (3:1)	3
26523-78-4	Phenol, nonyl-, phosphite (3:1)	3
9003-35-4	Phenol, polymer with formaldehyde	3
40798-65-0	Phenol, polymer with formaldehyde, sodium salt	3
61788-44-1	Phenol, styrenated	3
52277-29-9	Phenolsulfonic acid - formaldehyde - urea condensate, sod	3
102980-04-1	Phenolsulfonic acid-phenol-formaldehyde-urea condensate	3
122-99-6	Phenoxy ethanol	3
1254-78-0	Phenyl didecyl phosphite	3
93-56-1	Phenyl glycol ether	3
2116-84-9	Phenyl trimethyl siloxane	3
122-40-7	2-(Phenylmethylene)-heptanal	3
132-27-4	o- Phenylphenol, sodium salt	3
18472-87-2	Phloxine B	3
10294-56-1	Phosphorous acid	3
65996-94-3	Phosphate rock and Phosphorite, calcined	3
15827-60-8	Phosphonic acid, [[[phosphonomethyl]imino]bis[2,1-ethaned	3
9071-85-6	Phosphonic acid, diester with ethoxylated nonylphenol	3
37971-36-1	2- Phosphonobutane-1,2,4-tricarboxylic acid	3
298-07-7	Phosphoric acid, bis(2-ethylhexyl) ester	3
69011-04-7	Phosphoric acid, butyl ester, manganese(2+) salt	3
16298-74-1	Phosphoric acid, dibutyl ester, sodium salt	3
12645-53-3	Phosphoric acid, isooctyl ester	3
64114-42-7	Phosphoric acid, monobutyl ester, disodium salt	3
68909-59-1	Phosphoric acid, mono-C8-10-alkyl esters, monosodium sa	3
78-40-0	Phosphoric acid, triethyl ester.	3
115-86-6	Phosphoric acid, triphenyl ester	3
101-02-0	Phosphorous acid, triphenyl ester	3
68515-49-1	Phthalic acid, di-C9-11-branched alkyl esters, C10-rich	3
1382-04-3	Phthalic acid, polym. w. 1,3-dihydro-1,3-dioxo-5-isobenzofu	3
85-44-9	Phthalic anhydride	3

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85-41-6	Phthalimide	3
88-89-1	Picric Acid	3
8011-48-1	Pine tar	3
120-57-0	Piperonaldehyde	3
51-03-6	Piperonyl butoxide	3
61789-60-4	Pitch	3
70559-25-0	Poly (oxy-1,2-ethanediyl), alpha[2,4,6-tris(1-phenylethyl)phenyl]-hydroxy-	3
79070-11-4	Poly(difluoromethylene), .alpha.-chloro-.omega.-(2,2-dichlo	3
65530-66-7	Poly(difluoromethylene), .alpha.-fluoro-.omega.-[2-[(2-methy	3
9016-00-6	Poly(oxy(dimethylsilylene))	3
68132-96-7	Poly(oxy(methyl-1,2-ethanediyl)), alpha-[2-(diethylmethylam	3
9079-34-9	Poly(oxy-1,2-ethanediyl), .alpha., .alpha', .alpha".alpha."'-[3	3
104810-47-1	Poly(oxy-1,2-ethanediyl), alpha-(3-(3-(2H-benzotriazol-2-yl)	3
26401-47-8	Poly(oxy-1,2-ethanediyl), alpha-(4-dodecylphenyl)-omega-h	3
68478-94-4	Poly(oxy-1,2-ethanediyl), alpha, alpha'-[[[3-(decyloxy)propy	3
104810-48-2	Poly(oxy-1,2-ethanediyl), alpha-[3-[3-(2H-benzotriazol-2-yl)-3	3
32171-27-0	Poly(oxy-1,2-ethanediyl), alpha-[4-(1-phenylethyl)phenyl]-omega-hydro	3
65545-80-4	Poly(oxy-1,2-ethanediyl), alpha-hydro-omega-hydroxy-, eth	3
108816-88-8	Poly(oxy-1,2-ethanediyl), alpha-isodecyl-omega-hydroxy-, p	3
68954-84-7	(Poly(oxy-1,2-ethanediyl), alpha-nonylphenyl)-omega-hydro	3
68891-21-4	Poly(oxy-1,2-ethanediyl), .alpha.-(dinonylphenyl)-.omega.-hy	3
37205-87-1	Poly(oxy-1,2-ethanediyl), .alpha.-(isononylphenyl)-.omega.-h	3
62147-77-7	Poly(oxy-1,2-ethanediyl), .alpha., .alpha.'-[[[4-(2,5-disulfophe	3
86356-61-8	Poly(oxy-1,2-ethanediyl), .alpha., .alpha.'-[[[4-[(6-methoxy-2-	3
27252-83-1	Poly(oxy-1,2-ethanediyl), .alpha.-acetyl-.omega.-(acetyloxy)	3
27252-87-5	Poly(oxy-1,2-ethanediyl), .alpha.-acetyl-.omega.-2-propenyl-	3
69011-84-3	Poly(oxy-1,2-ethanediyl), .alpha.-sulfo-.omega.-(octylphenox	3
53610-02-9	Poly(oxyethylene) nonylphenyl carboxymethyl ether	3
61757-59-3	Poly(oxyethylene)tridecylacetate, sodium salt	3
25791-96-2	Poly(oxypropylene) glycerol triether	3
9017-80-5	Poly(trimethyl vinylbenzyl ammonium chloride)	3
25104-37-4	Poly(vinyl ethyl ether)	3
9042-19-7	Poly[oxy(methyl-1,2-ethanediyl)], alpha-2-propeny-omega-hydroxy	3
42557-13-1	Poly[oxy[methyl(3,3,3-trifluoropropyl)silylene]], alpha-(trimet	3
130547-87-4	Poly[oxy-1,2-ethanediyl(dimethyliminio)-1,3-propanediylimin	3
25014-41-9	Polyacrylonitrile	3
68908-35-0	Polyacrylonitrile, oxidized	3
9003-28-5	Poly-alpha-butylene	3
9003-29-6	Polybutylene	3
68083-14-7	Polydimethyldiphenyl siloxane copolymer	3
27536-89-6	Polyethylbenzene	3
68239-42-9	Polyethylene glycol beta-methyl glucoside ether (4:1)	3
68412-53-3	Polyethylene glycol branched-nonylphenyl ether phosphate	3
68584-47-4	Polyethylene glycol branched-nonylphenyl ether phosphate	3
68649-55-8	Polyethylene glycol branched-nonylphenyl ether sulfate am	3
67906-06-3	Polyethylene glycol ether with 2,2'-methylenebis(4,6-bis(tert	3
50643-20-4	Polyethylene glycol hexadecyl ether phosphate	3
26027-37-2	Polyethylene glycol monoether with oleic acid mono-ethano	3
27731-61-9	Polyethylene glycol monomyristyl sulfate, ammonium salt	3

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39464-70-5	Polyethylene glycol phenyl ether phosphate	3
61791-06-8	Polyethylene glycol sesquiester of tallow acids	3
32492-61-8	Polyethylene glycol, ether with Bisphenol A (2:1)	3
127087-87-0	Polyethylene glycol, mono(p-nonylphenyl) ether, branched	3
9046-09-7	Polyethylene glycol mono tributylphenyl ether	3
25265-93-4	Polyethylene polysulfide	3
	Polyethylene/octene copolymer	3
67905-86-6	N- Polyethylenepolyamine N-oleylamine hydrochloride	3
117989-77-2	Polyethylene-polypropylene glycol block polymer, monobutyl	3
9087-53-0	Polyethylene-polypropylene glycol hexadecyl ether	3
25618-55-7	Polyglycerine	3
25722-70-7	Polyglycidol	3
9003-27-4	Polyisobutylene	3
68071-29-4	Polyisoprene, phenol modified	3
54811-79-9	Polymer of sebacoyl chloride & polymethylenepolyphenyl is	3
	Polymerized fatty acid* phosphate *(100% C12-C18)	3
9016-87-9	Polymethylenepolyphenylene isocyanate	3
	Poly-oxo aluminum stearate	3
37281-78-0	Polyoxpropylene oleate butyl ether	3
	Polyoxyalkylene glycol	3
	Polyoxyalkylene siloxane	3
64130-91-2	Polyoxyethylene (tert-amyl)phenol-formaldehyde resin	3
9002-93-1	Polyoxyethylene 4-(1,1,3,3-tetramethylbutyl)phenyl ether	3
68412-54-4	Polyoxyethylene branched-C9-alkylphenol	3
71549-82-1	Polyoxyethylene C12-13-alkyl ester of phosphoric acid, mono	3
70247-86-8	Polyoxyethylene C4-18-alkyl ester of phosphoric acid, mono	3
68155-01-1	Polyoxyethylene cetyl and oleyl ethers	3
	Polyoxyethylene esters of mono & dicarboxylic acids & oil s	3
9043-30-5	Polyoxyethylene isotridecyl ether	3
68648-38-4	Polyoxyethylene lanolin alcohol	3
9004-77-7	Polyoxyethylene monobutyl ether	3
34398-01-1	Polyoxyethylene monoundecyl ether	3
63428-93-3	Polyoxyethylene p-(tert-amyl)phenol-formaldehyde resin	3
113609-83-9	Polyoxyethylene polyoxypropylene block polymer, mono(4-	3
108137-17-3	Polyoxyethylene polyoxypropylene block polymer, mono(n	3
66988-47-4	Polyoxyethylene polyoxypropylene mono(4-nonylphenyl) et	3
69029-39-6	Polyoxyethylene polyoxypropylene mono(di-sec-butylpheny	3
37251-69-7	Polyoxyethylene polyoxypropylene mono(nonylphenyl) ethe	3
64175-88-8	Polyoxyethylene polyoxypropylene monoisopropanolamide	3
54175-92-4	Polyoxyethylene polyoxypropylene monoisopropanolamide	3
37211-54-4	Polyoxyethylene polyoxypropylene tert-C12-13-alkyl amine	3
63466-93-3	Polyoxyethylene polyoxypropylene, ether with dipropylene	3
13081-34-0	Polyoxyethylene S-ether with dodecylmercaptan	3
	Polyoxyethylene sorbitan ditallate	3
54846-79-6	Polyoxyethylene sorbitan heptaoleate	3
	Polyoxyethylene sorbitan tetrataillate	3
24938-91-8	Polyoxyethylene tridecyl ether	3
69011-36-5	Polyoxyethylene trimethyldecyl alcohol	3
106392-12-5	Polyoxyethylene-polyoxypropylene block copolymer	3
68649-29-6	Polyoxyethylene-polyoxypropylene mono-C10-16-alkyl ethe	3
9002-81-7	Polyoxymethylene	3
68648-12-4	Polyoxypropylene ditall-oil ester	3

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68458-48-0	Polyphosphoric acid, esters with polyethylene glycol decyl e3	
52673-60-6	Polypropylene glycol alpha-methyl glucoside ether (4:1)	3
61849-72-7	Polypropylene glycol beta-methyl glucoside ether (4:1)	3
9046-10-0	Polypropylene glycol bis(2-aminopropyl) ether	3
70750-53-7	Polyterpene resins, synthetic	3
5002-84-0	Polytetrafluoroethylene	3
68988-56-7	Polytrimethylhydrosilylsiloxane	3
63148-65-2	Polyvinyl butyral resin	3
24991-31-9	Polyvinyl butyrate	3
3164-85-0	Potassium 2-ethylhexanoate	3
10043-67-1	Potassium aluminum sulfate	3
12045-78-2	Potassium borate tetrahydrate	3
7758-01-2	Potassium bromate	3
3811-04-9	Potassium chlorate	3
37281-48-4	Potassium cresyl phosphate	3
7681-11-0	Potassium iodide (KI)	3
	Potassium N-coco-N-hydroxyethyl amino-3-ethoxy-propane	3
7757-79-1	Potassium nitrate	3
7758-09-0	Potassium nitrite	3
7722-64-7	Potassium permanganate	3
70693-62-8	Potassium peroxymonosulfate sulfate (K5(HSO5)2(HSO4)	3
9069-79-8	Potassium salt of naphthalenesulfonic acid - formaldehyde	3
61790-50-9	Potassium salt of wood rosin acids	3
67785-93-7	Potassium sulfatoricinoleate	3
10117-38-1	Potassium sulfite	3
13845-36-8	Potassium tripolyphosphate	3
27731-62-0	Polyethylene glycol monomyristyl sulfate, sodium salt	3
51-05-8	Procaine hydrochloride	3
62139-30-0	Propanaminium, N-(3-aminopropyl)-2-hydroxy-N,N-dimethy	3
74-98-6	Propane	3
7443-25-6	Propanedioic acid, {(4-methoxyphenyl)methylene}-, dimethy	3
37086-84-3	1,2- Propanediol, 1-benzoate	3
19224-26-1	1,2- Propanediol, dibenzoate	3
38193-60-1	1- Propanesulfonic acid, 2-methyl-2-[(1-oxo-2-propenyl)amino	3
	Propanetricarboxylic acid, 2-hydroxy-, copper(2+) sodium	
65330-59-8	1,2,3- salt(1:1:2)	3
8030-84-0	1,2,3- Propanetricarboxylic acid, 2-hydroxy-, magnesium potassiu	3
8064-49-1	1,2,3- Propanetricarboxylic acid, 2-hydroxy-, mixt. with(1,1-dimeth	3
763-69-9	Propanoic acid, 3-ethoxy-, ethyl ester	3
29911-27-1	2- Propanol, 1-(1-methyl-2-propoxyethoxy)-	3
197178-94-2	Propanol, 1(or 2)-(2-propenyloxy)-,benzoate	3
1569-02-4	2- Propanol, 1-ethoxy-	3
770-35-4	2- Propanol, 1-phenoxy-	3
93385-02-5	1- Propanol, 2-(tetradecyloxy)-,acetate	3
75-65-0	2- Propanol, 2-methyl-	3
78-83-1	1- Propanol, 2-methyl-	3
555-31-7	2- Propanol, aluminum salt	3
707-19-7	Propargyl alcohol	3
26590-05-6	2- Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, p3	
	Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride,	
	polymer with 2-propenoic acid, sodium salt, reaction	
34066-68-2	2- products with disodium (disulfite)	3

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25153-46-2	Propenoic acid, 2-ethylhexyl ester, polymer with	
105-16-8	2- ethenylbenzene	3
53633-54-8	2- Propenoic acid, 2-methyl-, 2-(diethylamino)ethyl ester	3
	2- Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, po	3
	Propenoic acid, 2-methyl-, butyl ester, telomer	
	with 2-[(1,1-dimethylethyl)amino]ethyl 2-methyl-	
	2-propenoate, 1-dodecanethiol, methyl 2-	
	methyl-2-propenoate and rel-(1R,2R,4R)-1,7,7-	
	trimethylbicyclo[2.2.1]hept-2-yl 2-methyl-2-	
115593-69-6	2- propenoate L	3
	Propenoic acid, 2-methyl-, methyl ester, polymer with ethyl	
	2-propenoate, 2-methoxyethyl 2-propenoate, zinc bis(2-	
	methyl-2-propenoate) and zinc di-2-propenoate, 2,2'-	
	azobis[2-methylbutanenitrile]- and 2,2'-azobis[2-	
348137-48-4	2- methylpropanenitrile]- initiated	3
25036-16-2	2- Propenoic acid, 2-methyl-, polymer with butyl-2-propenoate	3
	Propenoic acid, butyl ester, polymer with 1,1-	
9011-09-0	2- dichloroethene	3
33438-19-6	2- Propenoic acid, butyl ester, polymer with ethyl 2-propenoate	3
54452-17-4	2- Propenoic acid, polymer with ethenylbenzene, sodium salt	3
26793-35-1	2- Propenoic acid, polymer with N,N-dimethyl-2-propenamide	3
123-38-6	Propionaldehyde	3
1569-01-3	1- Propoxy-2-propanol	3
111-43-3	n- Propyl ether	3
108-32-7	Propylene glycol cyclic carbonate	3
90762-96-5	Propylene glycol di-tert-butyl ether	3
	Propylene glycol isobutyl ether and higher homologs	3
84540-57-8	Propylene glycol monomethyl ether acetate	3
1330-80-9	Propylene glycol monooleate	3
30136-13-1	Propylene glycol monopropyl ether	3
69671-09-6	Propylene-ethylene thioether	3
	Protein colloid	3
118-71-8	4H- Pyran-4-one, 3-hydroxy-2-methyl-	3
118-47-8	1H- Pyrazole-3-carboxylic acid, 4,5-dihydro-5-oxo-1-(4-sulfophe	3
111636-30-7	1H- Pyrazole-3-carboxylic acid, 4,5-dihydro-5-oxo-1-(4-sulfophe	3
68648-44-2	Pyrethrum marc	3
2110-18-1	Pyridine, 2-(3-phenylpropyl)-	3
499-83-2	2,6- Pyridinedicarboxylic acid	3
68783-78-8	Quaternary ammonium compounds, dimethylditallow alkyl,	3
68915-32-2	Quassia, extract	3
68607-27-2	Quaternary ammonium compounds, (hydrogenated tallow a3	
68187-69-9	Quaternary ammonium compounds, (hydrogenated tallow a3	
71011-24-0	Quaternary ammonium compounds, benzyl(hydrogenated t	3
121888-68-4	Quaternary ammonium compounds, benzyl(hydrogenated t	3
121888-67-3	Quaternary ammonium compounds, benzylbis(hydrogenate	3
61789-73-9	Quaternary ammonium compounds, benzylbis(hydrogenate	3
68424-85-1	Quaternary ammonium compounds, benzyl-C12-16-alkyldin	3
33391-01-5	Quaternary ammonium compounds, benzyl-C12-18-alkyldin	3
33989-01-5	Quaternary ammonium compounds, benzyl-C12-18-alkyldin	3
71011-27-3	Quaternary ammonium compounds, bis(hydrogenated tallo	3
61789-81-9	Quaternary ammonium compounds, bis(hydrogenated tallo	3

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64755-05-1	Quaternary ammonium compounds, bis(hydroxyethyl)methyl	3
70750-47-9	Quaternary ammonium compounds, coco alkylbis(hydroxyethyl)	3
61791-10-4	Quaternary ammonium compounds, coco alkylbis(hydroxyethyl)	3
61789-77-3	Quaternary ammonium compounds, di(coco alkyl)dimethyl	3
68153-33-3	Quaternary ammonium compounds, di-C10-16-alkyldimethyl	3
73398-64-8	Quaternary ammonium compounds, di-C8-18-alkyldimethyl	3
	Quaternary ammonium compounds, pentamethyltallow	
68607-29-4	alkyltrimethylenedi-, dichlorides	3
61790-41-8	Quaternary ammonium compounds, trimethylsoya alkyl, chl	3
73891-88-0	Quebracho extract	3
1047-16-1	Quino[2,3-b]acridine-7,14-dione, 5,12-dihydro-	3
84-88-8	5- Quinolinesulfonic acid, 8-hydroxy-	3
59-40-5	N-(2- Quinoxaliny)l)sulfanilide	3
	Reaction product of aminoketones and formaldehyde	3
28514-75-2	Rescorcinol, bis(xylylazo)-	3
61789-65-9	Resin acids and rosin acids, aluminum salts	3
68649-89-8	Resin acids and rosin acids, ammonium salts	3
9007-13-0	Resin acids and rosin acids, calcium salts	3
68334-35-0	Resin acids and rosin acids, calcium zinc salts	3
8050-31-5	Resin acids and rosin acids, esters with glycerol	3
8050-15-5	Resin acids and rosin acids, hydrogenated, Me esters	3
9008-34-8	Resin acids and rosin acids, manganese salts	3
64365-17-9	Resin and rosin acids, hydrogenated, esters with pentaeryt	3
9010-69-9	Resin and rosin acids, zinc salts	3
108-46-3	Resorcinol	3
127-47-9	Retinol, acetate	3
96949-21-2	Rhamsan Gum	3
37299-86-8	Rhodamine Wt	3
83-88-5	Riboflavin	3
8050-09-7	Rosin	3
61790-51-0	Rosin acids, sodium salts	3
68152-55-6	Rosin, fumarated, polymer with ethylene glycol	3
65997-10-6	Rosin, fumarated, polymer with glycerol	3
68152-62-5	Rosin, maleated, polymer with pentaerythritol, formaldehyde	3
65997-05-9	Rosin, partially dimerized	3
65997-06-0	Rosin, partially hydrogenated	3
68554-37-0	Rosin, polymer with pentaerythritol, phthalic anhydride and	3
67700-49-6	Rosin, polymer with p-tert-butylphenol, formaldehyde and g	3
73728-37-7	Rubber, cyclized	3
15662-33-6	Ryanodine	3
81-07-2	Saccharin	3
128-44-9	Saccharin sodium	3
82385-42-0	Saccharin, sodium salt hydrate	3
69-72-7	Salicylic acid	3
20662-14-0	Scandium chloride (ScCl ₃), hexahydrate	3
8002-13-9	Seeds, rape	3
9000-59-3	Shellac	3
25512-39-4	Silane, (chloropropyl)trimethoxy-	3
78-07-9	Silane, triethoxyethyl-	3
2031-67-6	Silane, triethoxymethyl-	3
2761-24-2	Silane, triethoxypentyl-	3
67762-84-9	Silanes and siloxanes, 3-cyanopropyl Me, di-Me, 3-hydroxy 3	

Inert Ingredients Ordered Alphabetically by Chemical Name - List 3 Updated August 2004

68440-90-4	Siloxanes and Silanes, methyl octyl	3
69668-36-9	Siloxanes and silicones, 2-Me, 3-hydroxypropyl Me, Me 2-(73	
71750-79-3	Siloxanes and silicones, 3-[(2-aminoethyl)amino]propyl Me, 3	
68937-54-2	Siloxanes and silicones, di-Me, 3-hydroxypropyl Me, ethoxy3	
70131-67-8	Siloxanes and Silicones, di-Me, hydroxy-terminated	3
63148-55-0	Siloxanes and Silicones, di-Me, hydroxy-terminated, ethoxy3	
68037-64-9	Siloxanes and silicones, di-Me, Me hydrogen, react. prods. 3	
63148-52-7	Siloxanes and silicones, di-Me, Me Ph	3
67762-94-1	Siloxanes and silicones, di-Me, Me vinyl	3
68554-65-4	Siloxanes and silicones, di-Me, polymers with Me silsesquiox3	
68937-56-4	Siloxanes and silicones, di-Me,[(methylsilyldiyl)tris(oxy)tris3	
70914-12-4	Siloxanes and silicones, di-Me, 3-hydroxypropyl Me, ethers w8	
67762-97-4	Siloxanes and silicones, ethoxy Me	3
63148-56-1	Siloxanes and silicones, Me 3,3,3-trifluoropropyl	3
87244-72-2	Siloxanes and Silicones, polyoxyalkylene-	3
68957-00-6	Siloxanes and silicones, di-Me, Me hydrogen, reaction produ3	
25455-73-6	Silver oxide (Ag ₂ O ₂)	3
8050-81-5	Simethicone	3
64742-61-6	Slack wax	3
12199-37-0	Smectite-group minerals	3
61789-31-9	Soap, coconut oil	3
3006-15-3	Sodium 1,4-dihexyl sulfosuccinate	3
127-39-9	Sodium 1,4-diisobutyl sulfosuccinate	3
5324-84-5	Sodium 1-octanesulfonate	3
126-92-1	Sodium 2-ethylhexyl sulfate	3
7631-90-5	Sodium bisulfite	3
7775-09-9	Sodium chlorate	3
3926-62-3	Sodium chloroacetate	3
68608-66-2	Sodium chloroacetate, react. prods. w. 4,5-dihydro-2-undec3	
7775-11-3	Sodium chromate	3
28348-53-0	Sodium cumenesulfonate	3
139-05-9	Sodium cyclamate	3
142-87-0	Sodium decyl sulfate	3
53404-78-7	Sodium di(monoethanolamine) phosphate	3
3246-20-6	Sodium dinonyl sulfosuccinate	3
2673-22-5	Sodium ditridecylsulfosuccinate	3
3467-00-8	Sodium dodecyl diphenyl oxide sulfonate	3
100092-50-0	Sodium dodecylphenyl polyoxyethylene phosphates	3
6381-77-7	Sodium erythorbate	3
16893-85-9	Sodium fluosilicate	3
149-44-0	Sodium formaldehyde sulfoxylate	3
12389-75-2	Sodium hydrogen ferric diethylenetriaminepentacetate	3
13721-43-2	Sodium hypophosphate	3
84501-72-4	Sodium isononanoate	3
60874-90-0	Sodium isopropyl isobutyl naphthalenesulfonate	3
66988-04-3	Sodium isostearoyl-2-lactylate	3
7775-19-1	Sodium metaborate	3
5026-62-0	Sodium methylparaben	3
16589-43-8	Sodium methylsiliconate	3
7631-95-0	Sodium molybdate	3
	Sodium mono and di-C8-13-alkyl phenoxy benzene disulfon3	
132-43-4	Sodium N-cyclohexyl-N-palmitoyltaurate	3

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7632-00-0	Sodium nitrite	3
60840-87-1	Sodium N-oleoyl taurine	3
29169-69-5	Sodium N-oleyl taurine	3
13393-71-0	Sodium octylphenoxy diethoxyethyl sulfate	3
15630-89-4	Sodium pentadecylsulfate	3
10101-50-5	Sodium percarbonate	3
54193-36-1	Sodium permanganate	3
35285-69-9	Sodium polymethacrylate	3
54-21-7	Sodium propylparaben	3
68441-84-9	Sodium salicylate	3
12788-84-0	Sodium salt of cresol sulfonic acid condensed with urea forr	3
78330-30-0	Sodium salt of n-coco beta amino butric acid	3
10102-18-8	Sodium salt of oleic acid amide of protein hydrolysate	3
13845-18-6	Sodium salts of alpha-sulfo-omega-hydroxypoly(oxy-1,2-eth3	3
7757-83-7	Sodium selenite	3
20526-58-3	Sodium sulfamate	3
64665-10-7	Sodium sulfite	3
3026-63-9	Sodium sulfosuccinate	3
63182-08-1	Sodium tributylphenylsulfonate	3
	Sodium tridecyl sulfate	3
	Sodium vinylbenzenesulfonate, polymer with divinylbenzene	3
	Solvent mixed ketones	3
90093-37-1	Soprophor 3D33 (9CI) (Phosphoric acid esters of polyethoxylated tristyril and distyrylphenol)	3
29116-98-1	Sorbitan dioleate	3
1338-39-2	Sorbitan monolaurate	3
1338-43-8	Sorbitan monooleate	3
3007-43-0	Sorbitan sesquioleate	3
26266-58-0	Sorbitan trioleate	3
26653-19-5	Sorbitan tristearate	3
61790-88-3	Sorbitan, tall-oil fatty acids triesters, ethoxylated	3
68308-53-2	Soya fatty acids	3
68122-64-5	Soybean oil polymerized	3
67762-12-3	Soybean oil, polymer w. glycerol, maleic acid, pentaerythritol	3
70131-70-3	Soybean oil, polymer with benzoic acid, pentaerythritol, pht	3
67700-73-6	Soybean oil, polymer with ethylene glycol, linseed oil, penta	3
67700-76-9	Soybean oil, polymer with ethylene glycol, pentaerythritol ar	3
67762-11-2	Soybean oil, polymer with fumaric acid, pentaerythritol and	3
66070-61-9	Soybean oil, polymer with glycerol and pentaerythritol	3
66070-65-3	Soybean oil, polymer with glycerol, linseed oil, pentaerythrit	3
66071-86-1	Soybean oil, polymer with isophthalic acid and pentaerythrit	3
67762-15-6	Soybean oil, polymer with maleic anhydride, pentaerythritol	3
66070-60-8	Soybean oil, polymer with pentaerythritol and phthalic anhy	3
67989-28-0	Soybean oil, polymer with pentaerythritol, toluenediisocyan	3
133636-82-5	Spiro[bicyclo[3.1.1]heptane-3,1'-[2]cyclohexen]-4'-one,2,6,6	3
8008-80-8	Spruce oil	3
111-01-3	Squalane	3
12142-33-5	Stannate (SnO3(2-)), dipotassium (9CI)	3
56780-58-6	Starch, 2-hydroxy-3-(trimethylammonio)propyl ether, chlorid	3
53124-00-8	Starch, hydrogen phosphate, 2-hydroxypropylether	3
3758-54-1	Stearamidopropyl dimethyl 2-hydroxyethyl ammonium dihyd	3
17157-03-8	Stearic acid, calcium zinc salt	3

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14492-68-3	Stearoyl colaminoformylmethylpyridinium chloride	3
18312-31-7	Stearyl octanoate	3
55819-53-9	(3- Stearylamidopropyl)dimethylammonium lactate	3
9014-01-1	Subtilisin	3
126-14-7	Sucrose octaacetate	3
5329-14-6	Sulfamic acid	3
68422-69-5	Sulfated butyl oleate	3
68514-08-9	Sulfite liquors and cooking liquors, spent, alkali-treated, me	3
42808-36-6	Sulfonated butyl oleate, sodium salt	3
68988-76-1	Sulfonated oleic acid	3
68648-72-6	Sulfonic acids, C12- and C16-2-alkene, sodium salts	3
5138-18-1	Sulfosuccinic acid	3
7758-98-7	Sulfuric acid copper (2+) salt(1:1)	3
68516-16-5	Sulfuric acid, C6-10-alkyl esters	3
	Sulfuric acid, C8-10-alkyl esters, compds. with isopropanola3	3
68611-55-2	Sulfuric acid, mono-C10-16-alkyl esters	3
117875-77-1	Sulfuric acid, mono-C10-16-alkyl esters, compds. with trieth3	3
	Sulfuric acid, monododecyl ester, compds. with	
	hydrolyzed hexamethylenediamine-N,N"-1,6-	
	hexanedylbis[N'-cyanoguanidine]-N,N'-(methylenedi-4,1-	
	phenylene)bis[N-	
	oxiranylmethyl)oxiranemethanamine]polymer	
441045-43-8	hydrochloride	3
	Sulfuric acid, monosodium salt, compd. with 1-dodecanami	3
8002-26-4	Tall oil	3
67746-05-8	Tall oil fatty acid isophthalic alkyd	3
	Tall oil fatty acid soap N-C16-18-alkyl trimethylenediamine	3
68953-36-6	Tall oil fatty acids, reaction products with tetraethylene pent	3
8052-10-6	Tall oil rosin	3
69278-92-8	Tall oil, calcium zinc salt	3
61789-01-3	Tall oil, epoxidized, 2-ethylhexyl esters	3
68647-71-2	Tall oil, potassium salt	3
65071-95-6	Tall-oil, ethoxylated	3
61791-53-5	N- Tallow alkyltrimethylenediamines oleates	3
	Tallow bis(2-hydroxyethyl)glycinate	3
68122-54-3	Tallow, ethoxylated	3
8030-78-2	Tallowtrimethylammonium chloride	3
1401-55-4	Tannins	3
87-69-4	Tartaric acid	3
68647-73-4	Tea tree oil	3
68917-71-5	Terpenes and terpenoids, lime oil	3
68647-72-3	Terpenes, orange oil	3
98-55-5	alpha- Terpeneol	3
80-26-2	alpha- Terpeneol acetate	3
58985-18-5	Terpeneol, dihydro-, acetate	3
79-34-5	1,1,2,2- Tetrachloroethane	3
1897-45-6	2,4,5,6- Tetrachloroisophthalonitrile	3
1191-50-0	Tetradecyl sulfate, sodium salt	3
36366-93-5	Tetraethylene glycol monophenyl ether	3
112-57-2	Tetraethylenepentamine	3
533-74-4	Tetrahydro-3,5-dimethyl-2H-1,3,5-thiadiazine-2-thione	3
109-99-9	Tetrahydrofuran	3

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97-99-4		Tetrahydrofurfuryl alcohol	3
20780-48-7		Tetrahydrolinalyl acetate	3
85-40-5		Tetrahydrophthalimide	3
131-55-5	2,2',4,4'-	Tetrahydroxybenzophenone	3
3555-47-3		Tetrakis(trimethylsiloxy)silane	3
126-86-3	2,4,7,9-	Tetramethyl-5-decyne-4,7-diol	3
140-66-9	-(1,1,3,3-	Tetramethylbutyl)phenol	3
3884-95-5	-(1,1,3,3-	Tetramethylbutyl)phenol	3
27193-28-8	(1,1,3,3-	Tetramethylbutyl)phenol	3
113213-81-3	-(1,1,3,3-	Tetramethylbutyl)phenoxy-omega-polyoxypropylene block p3	3
		Tetrapropyl succinic acid	3
67-03-8		Thiamin hydrochloride	3
7128-64-5	2,2'-(2,5-	Thiophenediyl)bis(5-tert-butylbenzoxazole)	3
10124-41-1		Thiosulfuric acid, calcium salt (1:1)	3
534-13-4		Thiourea, N, N'-dimethyl-	3
89-83-8		Thymol	3
18282-10-5		Tin oxide	3
12045-88-4		Tincalconite (B4Na2O7.5H2O)	3
13693-11-3		Titanium sulfate	3
84961-66-0		Tobacco dust	3
36148-84-2	dl-alpha-	Tocopherol linoleate	3
104-87-0	p-	Tolualdehyde	3
104-15-4	p-	Toluenesulfonic acid	3
30526-22-8		Toluenesulfonic acid, potassium salt	3
12068-03-0		Toluenesulfonic acid, sodium salt	3
36452-21-8	1,3,5-	Triazine-2,4,6(1H,3H,5H)-trione, disodium salt	3
39277-28-6	1,3,5-	Triazine-2,4,6-triamine, polymer with formaldehyde and ar-n3	3
78-51-3		Tributoxyethyl phosphate	3
72749-59-8		Tri-C6-12-alkyl methyl ammonium chloride	3
5137-55-3		Tricapryl methyl ammonium chloride	3
76-06-2		Trichloronitromethane	3
27519-02-4	(Z)-9-	Tricosene	3
5116-94-9		Tridecyl acid phosphate	3
112-70-9		Tridecyl alcohol	3
9046-01-9		Tridecyl alcohol, ethoxylated, phosphated	3
	(POE) 6	Tridecyl ether phosphate, reaction product with POE (5) soy3	3
60883-89-8		Tridecylbenzenesulfonic acid, dimethylamine salt	3
60883-90-1		Tridecylbenzenesulfonic acid, propylamine salt	3
637-39-8		Triethanolamine hydrochloride	3
139-96-8		Triethanolamine lauryl sulfate	3
2717-15-9		Triethanolamine oleate	3
10017-56-8		Triethanolamine phosphate	3
77-93-0		Triethyl citrate	3
121-44-8		Triethylamine	3
35365-94-7		Triethylamine phosphate	3
112-27-6		Triethylene glycol	3
112-24-3		Triethylenetetramine	3
123465-33-8		Triglycerides, C8-12	3
122-20-3		Triisopropanolamine	3
1323-19-9		Triisopropyl naphthalenesulfonic acid, sodium salt	3
2934-07-8	2,4,6-	Triisopropylphenol	3
552-30-7		Trimellitic acid anhydride	3

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1067-25-0	Trimethoxysilylpropane	3
139-08-2	Trimethyl tetradecylphenyl ammonium chloride	3
6846-50-0	2,2,4- Trimethyl-1,3-pentanediol diisobutyrate	3
112-02-7	N,N,N- Trimethyl-1-hexadecanaminium chloride	3
1632-73-1	1,3,3- Trimethyl-2-norbornanol	3
512-13-0	1,3,3- Trimethyl-2-norbornanol, (1S-endo)-	3
470-08-6	1,3,3- Trimethyl-2-norbornanol, (1S-exo)-	3
52836-31-4	2,2,5- Trimethyl-3-dichloroacetyl-1,3-oxazolidine	3
123-17-1	2,6,8- Trimethyl-4-nonanol	3
593-81-7	Trimethylamine, hydrochloride	3
25551-13-7	Trimethylbenzene	3
69011-15-0	Trimethylbenzylammonium resin	3
58430-94-7	3,5,5- Trimethylhexyl acetate	3
60933-42-8	Trimethylnaphthalenesulfonic acid, sodium salt	3
77-99-6	Trimethylolpropane	3
9040-80-6	Trimethylolpropane, polymer with toluene diisocyanate and	3
75673-43-7	3,4,4- Trimethyloxazolidine	3
25265-77-4	2,2,4- Trimethylpentane-1,3-diol monoisobutyrate	3
89-04-3	Tri-n-octyl trimellitate	3
4270-70-6	Triphenylsulfonium chloride	3
24800-44-0	Tripropylene glycol	3
2718-67-4	Tris(2-butoxyethyl) phosphite	3
77-86-1	Tris(hydroxymethyl)aminomethane	3
109909-39-9	2,4,6- Tri-sec-butylphenol, ethoxylated, monoether with sulfuric ac	3
139-89-9	Trisodium N-(2-hydroxyethyl)ethylenediaminetriacetate	3
5064-31-3	Trisodium nitrilotriacetate	3
13419-59-5	Trisodium sulfosuccinate	3
8001-20-5	Tung oil	3
9005-90-7	Turpentine	3
8006-64-2	Turpentine oil	3
112-42-5	1- Undecanol	3
17675-60-4	Urea, (aminoiminomethyl)-, phosphate	3
13547-17-6	Urea, N,N"-methylenebis-	3
35674-65-8	Urea, N,N"-1,3-propanediylbis[N'-octadecyl-	3
69-93-2	Uric acid	3
109-52-4	n- Valeric acid	3
58748-38-2	Vinyl acetate, crotonic acid, vinyl neodecanoate terpolymer	3
68928-85-8	Vinyl acetate, crotonic acid, vinyl neodecanoate, glycidyl me	3
35239-21-5	Vinyl chloride, polymer with butyl acrylate, N-methylolacryla	3
25154-85-2	Vinyl chloride-isobutyl vinyl ether copolymer	3
25013-15-4	Vinyl pyrrolidone, polym. w. trimethylolpropane trimethacryl	3
88-12-0	N- Vinyl-2-pyrrolidone	3
60177-39-1	Vinylbenzene - vegetable oil copolymer	3
9017-79-2	Vinylbenzyltrimethylammonium chloride, polymer with divinyl	3
136445-69-7	Vinylbenzyltrimethylammonium hydroxide, polym. w. divinyl	3
58-95-7	Vinylpyrrolidone, copolymers with alpha-alkenes >C10	3
68920-06-9	Vitamin E acetate	3
25321-41-9	Xylene range aromatic solvent	3
26447-10-9	Xylenesulfonic acid	3
28088-63-3	Xylenesulfonic acid, ammonium salt	3
	Xylenesulfonic acid, calcium salt	3

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36729-43-8	Xylenesulfonic acid, magnesium salt	3
1300-72-7	Xylenesulfonic acid, sodium salt	3
36729-46-1	Xylenesulfonic acid, zinc salt	3
	N,N'-1,3- xylyl bix(12-hydroxystearamide)	3
	Yeast hydrolysate enzymatic # 103304	3
10361-91-8	Ytterbium chloride (YbCl ₃)	3
10025-94-2	Yttrium chloride (YCl ₃), hexahydrate	3
90147-57-2	Yucca extractives (from Yucca, Agavaceae)	3
9010-66-6	Zein	3
136-53-8	Zinc 2-ethylhexoate	3
7646-85-7	Zinc chloride	3
20427-58-1	Zinc hydroxide	3
12001-85-3	Zinc naphthenate	3
59766-35-7	Zinc oxide sulfate (Zn ₄ O ₃ (SO ₄))	3
7446-26-6	Zinc pyrophosphate	3
68813-94-5	Zinc sulfate, basic	3
7446-19-7	Zinc sulfate, monohydrate	3
72854-21-8	Zirconium naphthenate	3

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CAS	PREFIX NAME	List No.
62-54-4	Acetic acid, calcium salt	4A
127-08-2	Acetic acid, potassium salt	4A
127-09-3	Acetic acid, sodium salt	4A
8007-69-0	Almond oil	4A
1327-43-1	Aluminum magnesium silicate	4A
1327-44-2	Aluminum potassium silicate	4A
	Animal feed items conforming to 40 CFR 180.950(b)	4A
	Animal glue	4A
50-81-7	L- Ascorbic acid	4A
137-66-6	Ascorbyl palmitate	4A
8012-89-3	Beeswax	4A
1302-78-9	Bentonite	4A
85409-30-5	Bentonite, sodian	4A
1863-63-4	Benzoic acid, ammonium salt	4A
2090-05-3	Benzoic acid, calcium salt	4A
553-70-8	Benzoic acid, magnesium salt	4A
582-25-2	Benzoic acid, potassium salt	4A
532-32-1	Benzoic acid, sodium salt	4A
68409-75-6	Bone meal	4A
123-95-5	Butyl stearate	4A
5743-26-0	Calcium acetate, monohydrate	4A
471-34-1	Calcium carbonate	4A
6107-56-8	Calcium octanoate	4A
12168-85-3	Calcium oxide silicate (Ca3O(SiO4))	4A
10101-41-4	Calcium sulfate, dihydrate	4A
10034-76-1	Calcium sulfate, hemihydrate	4A
68476-78-8	Cane syrup	4A
120962-03-0	Canola oil	4A
7440-44-0	Carbon	4A
124-38-9	Carbon dioxide	4A
13397-26-7	Carbonic acid, calcium salt (calcite)	4A
546-93-0	Carbonic acid, magnesium salt (1:1)	4A
298-14-6	Carbonic acid, monopotassium salt	4A
144-55-8	Carbonic acid, monosodium salt	4A
	Cardboard	4A
8015-86-9	Carnauba wax	4A
9000-40-2	Carob gum (locust bean gum)	4A
9000-07-1	Carrageenan	4A
8001-79-4	Castor oil	4A
8001-78-3	Castor oil, hydrogenated	4A
	Cat food	4A
9004-34-6	Cellulose	4A
9004-35-7	Cellulose acetate	4A
9004-32-4	Cellulose carboxy methyl ether, sodium salt	4A
9004-62-0	Cellulose, 2-hydroxyethyl ether	4A
9004-64-2	Cellulose, 2-hydroxypropyl ether	4A
9004-65-3	Cellulose, 2-hydroxypropyl methyl ester	4A
9000-11-7	Cellulose, carboxymethyl ether	4A
9004-67-5	Cellulose, methyl ether	4A

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51395-75-6	Cellulose, mixture with cellulose carboxymethyl ether, sodium salt	4A
65996-61-4	Cellulose, pulp	4A
68442-85-3	Cellulose, regenerated	4A
77-92-9	Citric acid	4A
813-94-5	Citric acid, calcium salt (2:3)	4A
7693-13-2	Citric acid, calcium salt (2:3)	4A
3609-96-9	Citric acid, dipotassium salt	4A
144-33-2	Citric acid, disodium salt	4A
5949-29-1	Citric acid, monohydrate	4A
866-83-1	Citric acid, monopotassium salt	4A
18996-35-5	Citric acid, monosodium salt	4A
7778-49-6	Citric acid, potassium salt	4A
994-36-5	Citric acid, sodium salt	4A
866-84-2	Citric acid, tripotassium salt	4A
8100-05-6	Citric acid, tripotassium salt, monohydrate	4A
68-04-2	Citric acid, trisodium salt	4A
6132-04-3	Citric acid, trisodium salt, dihydrate	4A
6858-44-2	Citric acid, trisodium salt, pentahydrate	4A
68514-76-1	Citrus pulp, orange	4A
	Clam shells	4A
8002-31-1	Cocoa	4A
8001-31-8	Coconut oil	4A
68916-18-7	Coffee grounds	4A
	Commonly consumed food commodities conforming to 40 CFR 180.950(a)	4A
61789-98-8	Cork	4A
68525-86-0	Corn flour	4A
8001-30-7	Corn oil	4A
8029-43-4	Corn syrup	4A
68131-37-3	Corn syrup solids	4A
9005-25-8	Cornstarch	4A
	Cotton	4A
68424-10-2	Cottonseed meal	4A
8001-29-4	Cottonseed oil	4A
53988-07-1	Decanoic acid, diester with 1,2,3-propanetriol (9CI)	4A
26402-22-2	Decanoic acid, monoester with 1,2,3-propanetriol	4A
9004-53-9	Dextrins	4A
50-99-7	Dextrose	4A
61790-53-2	Diatomaceous earth (less than 1% crystalline silica)	4A
143-07-7	Dodecanoic acid	4A
142-18-7	Dodecanoic acid, 2,3-dihydroxypropyl ester	4A
27638-00-2	Dodecanoic acid, diester with 1,2,3-propanetriol (9CI)	4A
27215-38-9	Dodecanoic acid, monoester with 1,2,3-propanetriol (9CI)	4A
16389-88-1	Dolomite (CaMg(CO ₃) ₂)	4A
	Douglas fir bark	4A
	Edible fats and oils conforming to 40 CFR 180.950(c)	4A
	Egg shells	4A
68476-25-5	Feldspar group minerals	4A
8016-13-5	Fish oil	4A
8031-18-3	Fuller's earth	4A
110-17-8	Fumaric acid	4A

Inert Ingredients Ordered Alphabetically by Chemical Name - List 4A Updated August 2004

7010-52-1	Gellan gum (tolerance pending approval)	4A
93476-37-9	Glue (as depolymerized animal collagen)	4A
56-81-5	Glycerol (glycerin) 1,2,3 propanetriol	4A
7782-42-5	Graphite	4A
9000-30-0	Guar gum	4A
13397-24-5	Gypsum	4A
1317-60-8	Hematite (Fe ₂ O ₃)	4A
57-10-3	Hexadecanoic acid	4A
26657-95-4	Hexadecanoic acid, diester with 1,2,3-propanetriol (9CI)	4A
26657-96-5	Hexadecanoic acid, monoester with 1,2,3-propanetriol	4A
8028-66-8	Honey	4A
68514-28-3	Humic acid, potassium salt	4A
68131-04-4	Humic acid, sodium salt	4A
68334-00-9	Hydrogenated cottonseed oil	4A
68514-74-9	Hydrogenated palm oils	4A
84681-71-0	Hydrogenated rapeseed oil	4A
8016-70-4	Hydrogenated soybean oil	4A
8013-17-0	Invert sugar	4A
12068-86-9	Iron magnesium oxide (Fe ₂ MgO ₄)	4A
1317-61-9	Iron oxide (Fe ₃ O ₄)	4A
1309-37-1	Iron oxide (Fe ₂ O ₃)	4A
12259-21-1	Iron oxide (Fe ₂ O ₃), hydrate	4A
1345-25-1	Iron oxide (FeO)	4A
110-27-0	Isopropyl myristate	4A
1332-58-7	Kaolin	4A
97-64-3	Lactic acid, ethyl ester	4A
138-22-7	Lactic acid, n-butyl ester	4A
D-		
63-42-3	(+)- Lactose	4A
64044-51-5	Lactose, monohydrate	4A
8006-54-0	Lanolin	4A
61789-99-9	Lard	4A
8002-43-5	Lecithins	4A
8030-76-0	Lecithins, soya	4A
68916-91-6	Licorice extract	4A
12001-27-3	Lime (chemical) dolomitic	4A
1317-65-3	Limestone	4A
8001-26-1	Linseed oil (unboiled)	4A
1309-48-4	Magnesium oxide	4A
12207-97-5	Magnesium oxide silicate (Mg ₃ O(Si ₂ O ₅) ₂), monohydrate	4A
1343-90-4	Magnesium silicate, hydrate	4A
14987-04-3	Magnesium silicon oxide (Mg ₂ Si ₃ O ₈)	4A
10034-99-8	Magnesium sulfate heptahydrate	4A
6915-15-7	Malic acid	4A
8002-48-0	Malt extract	4A
9050-36-6	Maltodextrin	4A
38131-12-4	Meat meal	4A
12003-38-2	Mica	4A
12001-26-2	Mica group minerals	4A
8052-35-5	Molasses	4A
1318-93-0	Montmorillonite	4A

Inert Ingredients Ordered Alphabetically by Chemical Name - List 4A Updated August 2004

1327-36-2	Mullite	4A
37244-96-5	Nepheline syenite	4A
7727-37-9	Nitrogen	4A
134134-87-5	Oat protein	4A
25496-72-4	9- Octadecanoic acid (9Z)-, monoester with 1,2,3 propanetriol	4A
1002-89-7	Octadecanoic acid, ammonium salt	4A
1592-23-0	Octadecanoic acid, calcium salt	4A
557-04-0	Octadecanoic acid, magnesium salt	4A
12694-22-3	9- Octadecanoic acid, monoester with oxybis (propanediol)	4A
593-29-3	Octadecanoic acid, potassium salt	4A
822-16-2	Octadecanoic acid, sodium salt	4A
557-05-1	Octadecanoic acid, zinc salt	4A
111-03-5	9- Octadecenoic acid (Z)-, 2,3-dihydroxypropyl ester (9CI)	4A
143-18-0	9- Octadecenoic acid (9Z)-, potassium salt	4A
143-19-1	9- Octadecenoic acid (9Z)-, sodium salt	4A
7492-30-0	9- Octadecenoic acid, 12-hydroxy-, monopotassium salt, (9Z, 12Z)	4A
5323-95-5	9- Octadecenoic acid, 12-hydroxy-, monosodium salt, (9Z, 12Z)	4A
49553-76-6	9- Octadecenoic acid, ester with 1,2,3-propanetriol	4A
71012-10-7	9- Octadecenoic acid, monoester with tetraglycerol	4A
	Octanoic acid, diester with 1,2,3-propanetriol (9CI)	4A
36354-80-0	Octanoic acid, monoester with 1,2,3-propanetriol	4A
26402-26-6	Octanoic acid, sodium salt	4A
1984-06-1	Octadecanoic acid, diester with 1,2,3-propanetriol (9CI)	4A
1323-83-7	Octadecanoic acid, ester with 1,2,3-propanetriol (9CI)	4A
1099-07-3	Octadecanoic acid, monoester with 1,2,3-propanetriol (9CI)	4A
31566-31-1	9- Octadecenoic acid (9Z)-, diester with 1,2,3-propanetriol (9CI)	4A
25637-84-7	Oils, wheat	4A
68917-73-7	Oleic acid	4A
112-80-1	Olive oil	4A
8001-25-0	Oyster shells	4A
8002-75-3	Palm oil	4A
	Paper	4A
68991-42-4	Paprika	4A
8002-74-2	Paraffin wax	4A
8002-03-7	Peanut oil	4A
	Peat moss	4A
130885-09-5	Perlite	4A
93763-70-3	Perlite, expanded	4A
26499-65-0	Plaster of Paris	4A
9002-88-4	Polyethylene	4A
7646-93-7	Potassium bisulfate	4A
7447-40-7	Potassium chloride	4A
764-71-6	Potassium octoate	4A
24634-61-5	Potassium sorbate	4A
9007-48-1	1,2,3- Propanetriol, homopolymer (9Z)-9-octadecenoate	4A
9009-32-9	1,2,3- Propanetriol, homopolymer, octadecanoate	4A
1332-09-8	Pumice	4A
68553-81-1	Rice bran oil	4A
9006-04-6	Rubber	4A

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8001-23-8	Safflower oil	4A
	Sawdust	4A
8008-74-0	Sesame seed oil	4A
63231-67-4	Silica Gel	4A
112926-00-8	Silica gel, precipitated, crystalline-free	4A
112945-52-5	Silica, amorphous, fumed (crystalline free)	4A
7699-41-4	Silica, amorphous, precipitated and gel	4A
10279-57-9	Silica, hydrate	4A
60676-86-0	Silica, vitreous	4A
13776-74-4	Silicic acid (H ₂ SiO ₃), magnesium salt (1:1)	4A
12003-51-9	Silicic acid (H ₄ SiO ₄), aluminum sodium salt (1:1:1)	4A
12736-96-8	Silicic acid, aluminum potassium sodium salt	4A
1335-30-4	Silicic acid, aluminum salt	4A
1344-00-9	Silicic acid, aluminum sodium salt	4A
1344-95-2	Silicic acid, calcium salt	4A
1343-88-0	Silicic acid, magnesium salt	4A
7631-86-9	Silicon dioxide (crystalline-free forms only)	4A
1393-03-9	Soapbark (Quillaja saponin)	4A
9005-38-3	Sodium alginate	4A
7647-14-5	Sodium chloride	4A
50-70-4	Sorbitol	4A
8001-22-7	Soybean oil	4A
8002-24-2	Sperm oil	4A
57-11-4	Stearic acid	4A
57-50-1	Sugar	4A
7704-34-9	Sulfur	4A
7778-18-9	Sulfuric acid, calcium salt (1:1)	4A
7778-80-5	Sulfuric acid, dipotassium salt	4A
7757-82-6	Sulfuric acid, disodium salt	4A
7727-73-3	Sulfuric acid, disodium salt, decahydrate	4A
7487-88-9	Sulfuric acid, magnesium salt (1:1)	4A
68937-99-5	Sunflower seeds	4A
61789-97-7	Tallow	4A
544-63-8	Tetradecanoic acid	4A
589-68-4	Tetradecanoic acid, 2,3-dihydroxypropyl ester	4A
53563-63-6	Tetradecanoic acid, diester with 1,2,3-propanetriol (9CI)	4A
27214-38-6	Tetradecanoic acid, monoester with 1,2,3-propanetriol (9CI)	4A
13429-27-1	Tetradecanoic acid, potassium salt	4A
57-13-6	Urea	4A
121-33-5	Vanillin	4A
1318-00-9	Vermiculite	4A
	Vinegar (maximum of 8% acetic acid in solution)	4A
1406-18-4	Vitamin E	4A
7732-18-5	Water	4A
8006-95-9	Wheat germ oil	4A
8042-47-5	White mineral oil (petroleum)	4A
68917-75-9	Wintergreen oil	4A
13983-17-0	Wollastonite (Ca(SiO ₃))	4A
11138-66-2	Xanthan gum	4A
68876-77-7	Yeast	4A

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1318-02-1	Zeolites (excluding erionite (CAS Reg. No. 66733-21-9))	4A
68989-22-0	Zeolites, NaA	4A
12063-19-3	Zinc iron oxide	4A
1314-13-2	Zinc oxide	4A

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CAS	PREFIX	NAME	
64-19-7		Acetic acid	4B
26337-35-9		Acetic acid ethenyl ester, polymer with carbon monoxide and ethene	4B
137091-12-4		Acetic acid ethenyl ester, polymer with ethanol and alpha-2-propenyl-omega-hydroxypoly(oxy-1,2-ethandiyl)	4B
99607-70-2		Acetic acid, [(5-chloro-8-quinolinyl)oxy]-, 1-methylhexyl ester (9CI)	4B
631-61-8		Acetic acid, ammonium salt	4B
108419-34-7		Acetic acid, C9-11-branched alkyl esters, C10-rich	4B
108-24-7		Acetic anhydride	4B
98-86-2		Acetophenone	4B
77-90-7		Acetyl tributyl citrate	4B
91994-94-4		Acetylated lanolin alcohol	4B
9003-06-9		Acrylamide - acrylic acid resin	4B
130353-60-5		Acrylic acid - divinyl benzene copolymer	4B
25987-66-0		Acrylic acid butyl ester, polymer with methacrylic acid, methyl methacrylate and styrene	4B
24968-79-4		Acrylic acid methyl ester, polymer with acrylonitrile	4B
27012-62-0		Acrylic acid methyl ester, polymer with acrylonitrile and 1,3-butadiene	4B
9003-01-4		Acrylic acid polymer	4B
9003-04-7		Acrylic acid polymer, sodium salt	4B
151006-66-5		Acrylic acid terpolymer, partial sodium salt	4B
25750-84-9		Acrylic acid, butyl ester, polymer with ethylene	4B
25119-83-9		Acrylic acid, copolymer with butyl acrylate	4B
25987-30-8		Acrylic acid, polymer with acrylamide, sodium salt	4B
25604-01-3		Acrylic acid, polymer with acrylonitrile, ethyl acrylate and N-(hydroxymethyl)acrylamide	4B
25135-39-1		Acrylic acid, polymer with ethyl acrylate and methylmethacrylate	4B
89678-90-0		Acrylic acid, styrene, .alpha.-methyl styrene copolymer, ammonium salt	4B
52831-04-6		Acrylic acid-alpha-methylstyrene-styrene copolymer	4B
97953-25-8		Acrylic acid-sodium acrylate-sodium-2-methylpropanesulfonate copolymer	4B
27756-15-6		Acrylic acid-stearyl methacrylate copolymer	4B
9003-18-3		Acrylonitrile--butadiene copolymer	4B
137-08-6	beta-	Alanine, N-(2,4-dihydroxy-3,3-dimethyl-1-oxobutyl)-, calcium salt (2:1), (R)- (9CI) (CA IN)	4B
68131-40-8		Alcohols, C11-15-secondary, ethoxylated	4B
68551-13-3		Alcohols, C12-15, ethoxylated propoxylated	4B
70632-06-3		Alcohols, C12-15, ethoxylated, carboxylated, sodium salts	4B
69227-21-0		Alcohols, C12-18, ethoxylated propoxylated	4B
68526-94-3		Alcohols, C12-20, ethoxylated	4B
68920-66-1		Alcohols, C16-18 and C18-unsatd., ethoxylated	4B
68891-29-2		Alcohols, C8-10, ethoxylated, monoether with sulfuric acid, ammonium salt	4B
68920-69-4		Alcohols, C9-11, propoxylated	4B

Inert Ingredients Ordered Alphabetically by Chemical Name - List 4B Updated August 2004

154518-36-2	Alcohols, C9-11-iso-, C10-rich, ethoxylated propoxylated	4B
97043-91-9	Alcohols, C9-16, ethoxylated	4B
68527-08-2	Alkenes, C>10 .alpha.-, polymd.	4B
142-03-0	Aluminum acetate, basic	4B
7446-70-0	Aluminum chloride	4B
21645-51-2	Aluminum hydroxide	4B
6028-57-5	Aluminum octanoate	4B
1344-28-1	Aluminum oxide	4B
10043-01-3	Aluminum sulfate	4B
68425-44-5	Amides, coco, N-(hydroxyethyl), ethoxylated	4B
61791-26-2	Amines, tallow alkyl, ethoxylated	4B
7784-25-0	Ammonium alum	4B
7803-63-6	Ammonium bisulfate	4B
12124-97-9	Ammonium bromide	4B
12125-02-9	Ammonium chloride	4B
3012-65-5	Ammonium citrate, dibasic	4B
1336-21-6	Ammonium hydroxide	4B
6484-52-2	Ammonium nitrate	4B
7722-76-1	Ammonium phosphate (monobasic)	4B
68333-79-9	Ammonium polyphosphate	4B
7783-20-2	Ammonium sulfate	4B
147-81-9	Arabinose (8Cl, 9Cl) (CA INDEX NAME)	4B
94775-78-0	Ascophyllum nodosum, ext	4B
374602-90-1	Ashes (residues), sunflower seed hull	4B
12174-11-7	Attapulgate	4B
7727-43-7	Barium sulfate (1:1)	4B
8029-31-0	Beer	4B
69011-22-9	Benzene, diethenyl-, polymer with etenylbenzene and ethenylethylbenzene, sulfonated, sodium salts	4B
68890-80-2	Benzene, ethenyl-, polymer with 2,5-furandione, 2-butoxyethyl ester, ammonium salt	4B
68648-89-5	Benzene, ethenyl-, polymer with 2-methyl-1,3-butadiene, hydrogenated	4B
65-85-0	Benzoic acid	4B
10191-41-0	Benzopyran-6-ol,3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-2H-1-trimethyltridecyl)-	4B
60864-33-7	Benzyl ether of 1,1,3,3-tetramethylbutylphenoxypolyethoxy ethanol	4B
61791-31-9	N,N- Bis(2-hydroxyethyl)(coconut oil alkyl)amine	4B
87823-33-4	Bis(6-isocyanatohexyl)-2H-1,3,5-oxadiazine-2,4,6-3,5- (3H,5H)-trione, polymer with diethylenetriamine	4B
1318-23-6	Boehmite (Al(OH)O)	4B
9003-55-8	Butadiene-styrene copolymer	4B
106-97-8	n- Butane	4B
110-15-6	Butanedioic acid	4B
106-65-0	Butanedioic acid, dimethyl ester	4B
9018-04-6	Butanediol, copolymer with 4,4'-diphenylmethane	4B
71-36-3	1,4- diisocyanate and polytetramethylene glycol	4B
	1- Butanol	4B

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689-82-7	2- Butenedioic acid (Z)-, monopotassium salt	4B
32649-30-2	2- Butenedioic acid (Z)-, polymer with ethenol, sodium salt	4B
139871-83-3	Butenedioic acid (Z)-, polymer with ethenol and ethenyl 2- acetate, sodium salt	4B
70549-17-6	Butyl acrylate-2-ethylhexyl acrylate-2-hydroxyethyl acrylate-styrene copolymer	4B
63744-68-3	Butyl acrylate-ethyl acrylate-methacrylic acid-methyl methacrylate-styrene copolymer	4B
65405-40-5	Butyl acrylate-vinyl acetate-acrylic acid copolymer	4B
26160-96-3	Butylated polyvinylpyrrolidone	4B
50769-39-6	Butylpolyethoxyethanol esters of phosphoric acid	4B
96-48-0	gamma- Butyrolactone	4B
1328-53-6	C.I. Pigment Green 7	4B
10043-52-4	Calcium chloride	4B
1305-62-0	Calcium hydroxide	4B
1305-78-8	Calcium oxide	4B
10103-46-5	Calcium phosphate	4B
4075-81-4	Calcium propionate	4B
68187-71-3	Calcium salts of tall-oil fatty acids	4B
15974-07-9	Calcium zinc phosphate (CaZn2(PO4)2)	4B
8028-89-5	Caramel	4B
10361-29-2	Carbonic acid, ammonium salt	4B
506-87-6	Carbonic acid, diammonium salt	4B
584-08-7	Carbonic acid, dipotassium salt	4B
497-19-8	Carbonic acid, disodium salt	4B
598-62-9	Carbonic acid, manganese(2+) salt (1:1)	4B
1066-33-7	Carbonic acid, monoammonium	4B
9000-71-9	Caseins	4B
9005-42-9	Caseins, ammonium complexes	4B
9005-46-3	Caseins, sodium complexes	4B
68071-54-5	Castor oil, dehydrated, polymer with p-tert-butylbenzoic acid, glycerol and phthalic anhydride	4B
61791-12-6	Castor oil, ethoxylated	4B
125303-89-1	Castor oil, hydrogenated, polymer with adipic acid, ethylenediamine and 12-hydroxyoctadecanoic acid	4B
71820-36-5	Castor oil, maleic anhydride, and polyethylene glycol copolymer	4B
68187-84-8	Castor oil, oxidized	4B
68187-76-8	Castor oil, sulfated, sodium salt	4B
8023-84-		
5	Catnip	4B
65997-15-1	Cement, portland, chemicals	4B
36653-82-4	Cetyl alcohol	4B
29710-31-4	Cetyl octanoate	4B
8021-99-6	Charcoal, bone	4B
97765-70-3	Cheese	4B
9012-76-4	Chitosan	4B
64754-90-1	Chlorinated polyethylene	4B

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	(3.beta.)		
57-88-5	-	Cholest-5-en-3-ol	4B
67-48-1		Choline chloride	4B
70131-50-9		Clay	4B
8001-69-2		Cod liver oil	4B
20427-59-2		Copper (II) C2449hydroxide	4B
147-14-8		Copper phthalocyanine blue	4B
66071-94-1		Corn, steep liquor	4B
68917-18-0		Cornmint oil	4B
63393-89-5		Coumarone - indene resin	4B
14464-46-1		Cristobalite	4B
73811-65-7		Croscarmellose sodium	4B
527-09-3		Crustacea (raw and processed forms)	4B
10016-20-3	alpha-	Cupric gluconate	4B
		Cyclodextrin	4B
128446-33-3	1-alpha-	Cyclodextrin, 2-hydroxypropyl ethers	4B
111-20-6		Decanedioic acid	4B
334-48-5		Decanoic acid	4B
112-30-1	1-	Decanol	4B
21662-09-9	4-	Decenal, (4Z)-	4B
41444-55-7		Decyl glucoside	4B
37764-25-3	N,N-	Diallyl-2,3-dichloroacetamide	4B
7783-28-0		Diammonium phosphate	4B
121776-33-8	3-(	Dichloroacetyl)-5-(2-furanyl)-2,2-dimethyloxazolidine	4B
135590-91-9		Diethyl-1-(2,4-dichlorophenyl)-5-methyl-2-pyrazolin-3,5-	4B
115-10-6		dicarboxylate	4B
67762-90-7		Dimethyl ether	4B
39464-64-7		Dimethyl silicone polymer with silica	4B
		Dinonylphenol, ethoxylated, phosphated	4B
20727-33-7		Diocetyl* sodium sulfosuccinate (* octyl is 1-methylheptyl)	4B
188027-78-3	5H-1,3-	Dioxolo[4,5-f]benzimidazole, 6-chloro-5-[(3,5-	4B
7722-88-5		dimethyl-4-isoxazolyl)sulfonyl]-2,2-difluoro	4B
7558-79-4		Diphosphoric acid, tetrasodium salt	4B
		Disodium phosphate	4B
9004-82-4		Dodecanol, ethoxylated, monoether with sulfuric acid,	4B
25719-52-2		sodium salt	4B
		Dodecyl 2-methylacrylate polymer	4B
26183-44-8		Dodecyl alcohol, ethoxylated, monoether with sulfuric acid	4B
151-21-3		Dodecyl sulfate, sodium salt	4B
		Dried crickets	4B
		Dried mealworms	4B
9006-50-2		Egg white	4B
		Eggs (raw and processed forms)	4B

Inert Ingredients Ordered Alphabetically by Chemical Name - List 4B Updated August 2004

	Ethanaminium, N,N,N-trimethyl-2-[(2-methyl-1-oxo-2-propenyl)oxy]-, chloride, polymer with methyl 2-methyl-2-propenoate	4B
36347-52-1	Ethanol	4B
64-17-5	Ethene, methoxy-, homopolymer	4B
9003-09-2	Ethoxyquin	4B
91-53-2	Ethyl acetate	4B
141-78-6	Ethyl acrylate-methacrylic acid copolymer	4B
25212-88-8	Ethyldiaminetetraacetic acid (EDTA) disodium copper (II) salt	4B
73637-19-1	Ethyldiaminetetraacetic acid (EDTA) disodium manganese	4B
73637-20-4	Ethyldiaminetetraacetic acid (EDTA) disodium zinc salt, dihydrate	4B
73513-47-0	Ethyldiaminetetraacetic acid (EDTA) iron(III) sodium salt	4B
15708-41-5	Ethyldiaminetetraacetic acid (EDTA) monosodium salt	4B
17421-79-3	Ethyldiaminetetraacetic acid (EDTA) tripotassium salt, dihydrate	4B
65501-24-8	Ethylene oxide-propylene oxide copolymer	
26316-40-5	ethylenediamine ether	4B
24937-78-8	Ethylene, polymer with vinyl acetate	4B
139-33-3	Ethylenediaminetetraacetic acid (EDTA), disodium salt	4B
150-38-9	Ethylenediaminetetraacetic acid (EDTA), trisodium salt	4B
5964-35-2	Ethylenediaminetetraacetic acid (EDTA), tetrapotassium salt	4B
60-00-4	Ethylenediaminetetraacetic acid (EDTA)	4B
61916-40-3	Ethylenediaminetetraacetic acid (EDTA) disodium copper(II)	4B
14729-89-6	Ethylenediaminetetraacetic acid (EDTA) disodium iron(II) salt	4B
15375-84-5	Ethylenediaminetetraacetic acid (EDTA) disodium manganese	4B
62-33-9	Ethylenediaminetetraacetic acid (EDTA), calcium disodium	4B
12276-01-6	Ethylenediaminetetraacetic acid (EDTA), copper (II) salt	4B
20824-56-0	Ethylenediaminetetraacetic acid (EDTA), diammonium salt	4B
14025-15-1	Ethylenediaminetetraacetic acid (EDTA), disodium copper(I)	4B
6381-92-6	Ethylenediaminetetraacetic acid (EDTA), disodium salt, dihydrate	4B
14025-21-9	Ethylenediaminetetraacetic acid (EDTA), disodium zinc salt	4B
7379-27-3	Ethylenediaminetetraacetic acid (EDTA), potassium salt	4B
7379-28-4	Ethylenediaminetetraacetic acid (EDTA), sodium salt	4B
64-02-8	Ethylenediaminetetraacetic acid (EDTA), tetrasodium salt	4B
67401-50-7	Ethylenediaminetetraacetic acid (EDTA), tetrasodium salt, trihydrate	4B
17572-97-3	Ethylenediaminetetraacetic acid (EDTA), tripotassium salt	4B
17099-81-9	Ethylenediaminetetraacetic acid (EDTA), iron(III) salt	4B
67762-38-3	Fatty acids, C16-18 & C18-unsaturated, Me esters	4B
67701-08-0	Fatty acids, C16-18 and C18-unsaturated	4B
162627-18-1	Fatty acids, C18-unsaturated, trimers, reaction products with triethylenetetramine	4B
68525-90-6	Fatty acids, C8-18, esters with sorbitol, ethoxylated	4B
68553-02-6	Fatty acids, coco, esters with polyethylene glycol ether with glycerol (3:1)	4B
68154-33-6	Fatty acids, coco, esters with sorbitan, ethoxylated-	4B
68919-53-9	Fatty acids, soya, Me esters	4B
68424-50-0	Fatty acids, tall-oil, C12-15-alkyl esters, sulfated, sodium salts	4B
91790-90-7	Fatty acids, tall-oil, hexaester with sorbitol, ethoxylated	4B
68650-09-9	Fatty acids, tall-oil, mixed esters with glycerol and polyethylene glycol	4B

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31790-92-9	Fatty acids, tall-oil, pentaester with sorbitol, ethoxylated	4B
67761-93-2	Fatty acids, tall-oil, polymer with ethylene glycol, pentaerythritol, and phthalic anhydride	4B
66070-75-5	Fatty acids, tall-oil, polymers with bisphenol A and epichlorohydrin	4B
68605-57-2	Fatty acids, tall-oil, polymers with bisphenol A, epichlorohydrin, rosin and tung oil	4B
68413-17-2	Fatty acids, tall-oil, polymers with isophthalic acid, pentaerythritol and walnut oil	4B
68038-31-3	Fatty acids, tall-oil, polymers with pentaerythritol, phthalic anhydride and rosin	4B
68648-20-4	Fatty acids, tall-oil, sesquiesters with sorbitol, ethoxylated	4B
61790-37-2	Fatty acids, tallow	4B
61790-38-3	Fatty acids, tallow, hydrogenated	4B
8005-44-5	Fatty alcohols	4B
860-22-0	FD&C Blue No. 2	4B
25956-17-6	FD&C Red No. 40	4B
7705-08-0	Ferric chloride	4B
10028-22-5	Ferric sulfate	4B
563-71-3	Ferrous carbonate	4B
5905-52-2	Ferrous lactate	4B
7720-78-7	Ferrous sulfate	4B
7782-63-0	Ferrous sulfate heptahydrate	4B
	Fish (raw and processed forms)	4B
97675-81-5	Fish meal	4B
59-30-3	Folic acid	4B
57-48-7	D- Fructose	4B
	Furandione, polymer with ethylbenzene, sulfonated,	
68037-40-1	2,5- sodium salt (CA INDEX NAME)	4B
9000-70-8	Gelatin	4B
527-07-1	Gluconic acid, sodium salt	4B
4468-02-4	D- Gluconic acid, zinc complex	4B
29836-26-8	(beta-D- Glucoopyranoside, octyl	4B
	(alpha-	
29781-80-4	D- Glucopyranoside, octyl	4B
59947-99-8	beta-D- Glucoside, decyl	4B
54549-23-4	D- Glucoside, octyl	4B
100403-		
33-1	Glycerides, animal, reaction products with sucrose	4B
58424-61-3	Glycerides, C16-18 and C18-unsatd. mono- and di-	4B
68002-70-0	Glycerides, C16-22	4B
100403-39-2	Glycerides, palm-oil, reaction products with sucrose	4B
61789-14-8	Glycerides, tallow sesqui-, hydrogenated	4B

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100403-40-5	Glycerides, tallow, reaction products with sucrose	4B
100403-41-6	Glycerides, vegetable-oil, reaction products with sucrose	4B
102-76-1	Glyceryl triacetate	4B
139-44-6	Glyceryl tris(12-hydroxystearate)	4B
19019-43-3	Glycine, N-(carboxymethyl)-N-[2-[(carboxymethyl)amino]ethyl]-, trisodium salt	4B
68411-97-2	Glycine, N-methyl-, N-coco acyl derivs. (CA INDEX NAME) (Pending)	4B
3624-77-9	Glycine, N-methyl-N-(1-oxo-9-octadecenyl)-, sodium salt (9CI) (CA INDEX NAME) (Pending)	4B
97-78-9	Glycine, N-methyl-N-(1-oxododecyl)-	4B
142-48-3	Glycine, N-methyl-N-(1-oxooctadecyl)-	4B
136-55-0	Glycine, N-methyl-N-(1-oxooctadecyl)-, sodium salt	4B
52558-73-3	Glycine, N-methyl-N-(1-oxotetradecyl)-	4B
30364-51-3	Glycine, N-methyl-N-(1-oxotetradecyl)-, sodium salt	4B
26635-76-7	Glycols, polyethylene, mono(oleylamines)-ethyl ester	4B
9000-01-5	Ground grass seed	4B
12173-47-6	Gum Arabic	4B
7440-59-7	Hectorite	4B
	Helium	4B
111-70-6	1- Heptanol	4B
68511-11-5	Hexanedioic acid, polymer with 1,4-butanediol and 1,2-propanediol, didodecanoate	4B
125826-44-0	Hexanedioic acid, polymer with 2,2-dimethyl-1,3-propanediol, 1,6-hexanediol, hydrazine, 3-hydroxy-2-(hydroxymethyl)-2-methylpropanoic acid and 1,1'-methylenebis[4-isocyanatocyclohexane], compd. with N,N-diethylethanamine	4B
	Hexanedioic acid, polymer with N-(2-aminoethyl)-1,3-propanediamine, aziridine, (chloromethyl)oxirane, 1,2-ethanediamine, N,N"-1,2-ethanediylbis[1,3-propanediamine], formic acid and .alpha.-hydro.omega.-hydroxypoly(oxy-1,2-ethanediyl)	
114133-44-7		4B
111-27-3	1- Hexanol	4B
928-96-1	3- Hexen-1-ol, (Z)-	4B
25213-02-9	1- Hexene, polymer with ethene	4B
7647-01-0	Hydrogen chloride	4B
2809-21-4	1- Hydroxyethylidene-1,1-diphosphonic acid	4B
70142-34-6	12- Hydroxystearic acid-polyethylene glycol copolymer	4B

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120-72-9	1H- Indole	4B
7439-89-6	Iron (Fe)	4B
20344-49-4	Iron hydroxide oxide (Fe(OH)O)	4B
27458-93-1	Isooctadecanol	4B
70425-89-7	Isooctyl acrylate-stearyl methacrylate-acrylic acid copolymer	4B
163520-33-0	Isoxazolecarboxylic acid, 4,5-dihydro-5,5-diphenyl-, ethyl 3- ester	4B
50-21-5	Lactic acid	4B
814-80-2	Lactic acid, calcium salt (2:1)	4B
515-98-0	Lactic acid, monoammonium salt	4B
97676-23-8	Leaves, apple	4B
8061-52-7	Licorice extract (licorice and licorice derivatives)	4B
8061-51-6	Lignosulfonic acid, calcium salt	4B
	Lignosulfonic acid, sodium salt	4B
5989-27-5	d- Limonene	4B
8001-26-1	Linseed oil (boiled)	4B
67746-08-1	Linseed oil, polymd.	4B
66071-03-2	Linseed oil, polymd., oxidized	4B
7786-30-3	Magnesium chloride	4B
1309-42-8	Magnesium hydroxide	4B
18917-93-6	Magnesium lactate	4B
10377-60-3	Magnesium nitrate	4B
26099-09-2	Maleic acid homopolymer	4B
25119-68-0	Maleic acid monobutyl ester-vinyl methyl ether copolymer	4B
25087-06-3	Maleic acid monoethyl ester-vinyl methyl ether copolymer	4B
31307-95-6	Maleic acid monoisopropyl ester-vinyl methyl ether copolymer	4B
9011-16-9	Maleic anhydride - methylvinyl ether copolymer	4B
37199-81-8	Maleic anhydride, polymer with 2,4,4-trimethylpentene, sodium salt	4B
25266-02-8	Maleic anhydride-1-octadecene copolymer	4B
60092-15-1	Maleic anhydride-methylstyrene copolymer, sodium salt	4B
7785-87-7	Manganese sulfate	4B
1344-43-0	Manganous oxide	4B
66402-68-4	Metakaolin	4B
100934-04-1	Methacrylic acid-methyl methacrylate-polyethylene glycol methyl ether methacrylate copolymer	4B
63-68-3	L- Methionine	4B
103-26-4	Methyl cinnamate	4B
61788-60-1	Methyl esters of cottonseed oil	4B
119724-54-8	Methyl methacrylate-methacrylic acid- monomethoxypolyethylene glycol methacrylate copolymer	4B
112-62-9	Methyl oleate	4B
99-76-3	Methyl p-hydroxybenzoate	4B
124-10-7	Methyl tetradecanoate	4B

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25153-40-6	Methyl vinyl ether-maleic acid copolymer	4B
62386-95-2	Methyl vinyl ether-maleic acid copolymer calcium sodium salt	4B
68514-61-4	Milk (raw and processed forms)	4B
9084-06-4	Milk, hydrolyzed	4B
58846-77-8	Naphthalenesulfonic acid, polymer with formaldehyde, sodium salt	4B
7697-37-2	N-Decyl glucoside	4B
	Nitric acid	4B
	Nitrogen fixing bacteria	4B
26027-38-3	p- Nonylphenol, ethoxylated	4B
9081-17-8	Nonylphenol, ethoxylated, monoether with sulfuric acid	4B
9014-90-8	Nonylphenol, ethoxylated, monoether with sulfuric acid, sodium salt	4B
57451-03-3	Nonylphenol, ethoxylated, monoether with sulfuric acid, triethanolamine salt	4B
51609-41-7	4- Nonylphenol, ethoxylated, phosphate ester	4B
51811-79-1	Nonylphenol, ethoxylated, phosphate ester	4B
37340-60-6	Nonylphenol, ethoxylated, phosphate ester, sodium salt	4B
58128-22-6	Octadecanoic acid, 12-hydroxy-, homopolymer, octadecanoate	4B
837-12-7	Octadecanoic acid, aluminum salt	4B
143-28-2	9- Octadecen- 1 -ol, (9Z)-	4B
544-60-5	9- Octadecenoic acid (9Z)-, ammonium salt	4B
124-07-2	Octanoic acid	4B
41444-50-2	Octyl glucoside	4B
31800-88-1	Octyloxypoly(ethyleneoxy)ethyl phosphate	4B
72869-69-3	Oils, apricot	4B
8015-73-4	Oils, basil	4B
8021-28-1	Oils, Fir	4B
8000-46-2	Oils, geranium	4B
8007-08-7	Oils, ginger	4B
8016-20-4	Oils, grapefruit	4B
68153-10-6	Oils, lard, sulfated, sodium salts,	4B
8022-15-9	Oils, lavandin	4B
128497-20-1	Oils, Macadamia	4B
68201-51-4	Oils, menhaden, oxidized	4B
9000-50-4	Oils, oakmoss-resinoid (CA INDEX NAME)	4B
68514-75-0	Oils, orange-juice	4B
132538-94-4	Oils, orange-juice, citrus sinensis	4B
8014-19-5	Oils, palmarosa	4B
8000-25-7	Oils, rosemary	4B
8022-56-8	Oils, sage	4B
8016-85-1	Oils, tangerine	4B
8016-96-4	Oils, vetiver	4B
8002-72-0	Onions, oil	4B
8008-57-9	Orange oil	4B
97766-30-8	Orange, sweet, valencia, ext.	4B

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71525-07-3	1- Oxa-4-azaspiro[4.5]decane, 4-(dichloroacetyl)-	4B
68441-17-8	Oxidized polyethylene	4B
61725-89-1	Oxirane methyl-, polymer with oxirane, tridecyl ether	4B
39362-51-1	Oxirane, methyl-, polymer with oxirane, acetate	4B
9038-29-3	Oxirane, methyl-, polymer with oxirane, decyl ether	4B
68585-15-9	Oxirane, methyl-, polymer with oxirane, mono C6-C10 alkyl ethers, phosphates	4B
85637-75-8	Oxirane, methyl-, polymer with oxirane, mono[2-(2-butoxyethoxy) ethyl] ether	4B
134180-76-0	Oxirane, methyl-, polymer with oxirane, mono[3-[1,3,3,3-tetramethyl-1-[(trimethylsilyl)oxy]disiloxanyl]propyl] ether	4B
9041-33-2	Oxirane, methyl-, polymer with oxirane, mono-2-propenyl ether	4B
56090-69-8	Oxirane, methyl-, polymer with oxirane, monoacetate, 2-propenyl ether	4B
61827-84-7	Oxirane, methyl-, polymer with oxirane, octyl ether	4B
7782-44-7	Oxygen	4B
68476-82-4	Peanut meal	4B
	Peanut shells	4B
	Peanuts (raw and processed forms)	4B
	Pecan shell flour	4B
9000-69-5	Pectin	4B
78-23-9	Pentaerythritol monostearate	4B
115-83-3	Pentaerythritol tetrastearate	4B
8009-03-8	Petrolatum	4B
7664-38-2	Phosphoric acid	4B
7757-93-9	Phosphoric acid, calcium salt (1:1)	4B
7758-23-8	Phosphoric acid, calcium salt (2:1)	4B
7757-86-0	Phosphoric acid, magnesium salt (1:1)	4B
13092-66-5	Phosphoric acid, magnesium salt (2:1)	4B
7757-87-1	Phosphoric acid, magnesium salt (2:3)	4B
7778-53-2	Phosphoric acid, tripotassium salt	4B
7779-90-0	Phosphoric acid, zinc salt (2:3)	4B
8002-09-3	Pine oil	4B
80-56-8	alpha- Pinene	4B
25719-60-2	beta- Pinene homopolymer	4B
125997-17-3	Poly(oxy-1,2-ethandiyl), .alpha.-acetyl-.omega.-[3-{1,3,3,3-tetramethyl-1-[(trimethylsilyl)oxy]disiloxanyl]propoxy)-	4B
63908-64-5	Poly(oxy-1,2-ethandiyl), .alpha.-hydro-.omega.-hydroxy-, mono-C10-12-alkyl ethers, phosphates	4B
68601-19-5	Poly(oxy-1,2-ethandiyl), .alpha.,.alpha.'-[[methyl[3-(tridecyloxy)propyl]imino]di-2,1-ethandiyl	4B
73050-08-5	Poly(oxy-1,2-ethandiyl), .alpha.,.alpha.'-phosphinobis[.omega.-hydroxy-, di-C13-15-alkyl ethers, sodium salts	4B

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67674-67-3	Poly(oxy-1,2-ethanediyl), .alpha.-3-[1,3,3,3-tetramethyl-1- [(trimethylsilyl)oxy]disiloxanyl]propyl]-omega.-hydroxy-	4B
143819-63-0	Poly(oxy-1,2-ethanediyl), .alpha.-hydro.-omega.-hydroxy-, monoether with (hydroxymethyl)decane	4B
119432-41-6	Poly(oxy-1,2-ethanediyl), .alpha.-sulfo.-omega.-[tris(1- phenylethyl)phenoxy]- ammonium salt	4B
59800-21-4	Poly(oxy-1,2-ethanediyl), alpha-hydro-omega-hydroxy-, ether with D-glucitol (6:1), (z)-9-octadecenoate	4B
68130-47-2	Poly(oxy-1,2-ethanediyl), alpha-hydro-omega-hydroxy- mono-C8-10-alkyl ethers, phosphates	4B
69364-63-2	Poly(oxy-1,2-ethanediyl), alpha-isohexadecyl-omega- hydroxy-	4B
73033-25-2	Poly(oxy-1,2-ethanediyl), alpha-isotridecyl-omega-hydroxy- , phosphate	4B
27252-80-8	Poly(oxy-1,2-ethanediyl), alpha-methyl-omega- (2-propenyloxy)- (CA INDEX NAME)	4B
27306-78-1	Poly(oxy-1,2-ethanediyl), alpha-methyl-omega- [3-[1,3,3,3-tetramethyl-1- [(trimethylsilyl)oxy]disiloxanyl]propoxy]-(2- propenyloxy)-	4B
73050-07-4	Poly(oxy-1,2-ethanediyl), .alpha.- (butoxyhydroxyphosphinyl)-.omega.-hydroxy-,C13-15-alkyl ethers,sodium salts	4B
27274-31-3	Poly(oxy-1,2-ethanediyl), .alpha.-2-propenyl-.omega.- hydroxy-	4B
78330-24-2	Poly(oxy-1,2-ethanediyl), .alpha.-hydro.-omega.-hydroxy-, mono-C11-14-isoalkyl ethers, C13-rich, phosphates	4B
73050-09-6	Poly(oxy-1,2-ethanediyl), .alpha.-phosphono.-omega.- hydroxy-,C13-15-alkyl ethers, disodium salts	4B
127036-24-2	Poly(oxy-1,2-ethanediyl), .alpha.-undecyl-.omega.-hydroxy- , branched and linear	4B
25038-59-9	Poly(oxy-1,2-ethanediyl)oxycarbonyl-1,4-phenyleneca rbonyl	4B
56388-96-6	Poly(oxyethylene)tridecylacetic acid	4B
102900-02-7	Poly(oxyethylene/oxypropylene) monoalkyl(C6-C10)ether sodium fumarate adduct	4B
63231-81-2	Poly(vinylpyrrolidone-1-hexadecene)	4B
27937-16-4	Poly[imino(1-oxo-1,12-dodecanediyl)]	4B
9064-13-5	Poly[oxy(methyl-1,2-ethanediyl)], alpha-(methylphenyl)- omega-hydroxy-	4B
74775-06-7	Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(1-oxopropyl)- .omega.-(tetradecyloxy)-	4B
176022-82-5	Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-[2-[bis(2- hydroxyethyl)amino]propyl]-.omega.-hydroxy-, ether with .alpha.-hydro.-omega.-hydroxypoly(oxy-1,2- ethanediyl) (1:2), mono-C12-16-alkyl ethers	4B
9003-05-8	Polyacrylamide	4B
63428-83-1	Polyamide resins	4B
25322-68-3	Polyethylene glycol	4B

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9014-85-1	Polyethylene glycol ether with 1,4-diisobutyl-1,4-dimethylbutynediol (2:1)	4B
41928-09-0	Polyethylene glycol ether with 2,2'-methylenebis(4-(tert-octyl)phenol) (2:1)	4B
60874-89-7	Polyethylene glycol ether with methylenebis(diamylphenol)	4B
55069-68-6	Polyethylene glycol hexaether with sorbitol, diester with dodecanoic and oleic acids	4B
99734-09-5	Polyethylene glycol mono(tristyrylphenyl)ether	4B
59139-23-0	Polyethylene glycol nonylphenyl ether phosphate ethanolamine salt	4B
67922-57-0	Polyethylene glycol nonylphenyl ether phosphate magnesium salt	4B
52503-15-8	Polyethylene glycol nonylphenyl ether phosphate potassium salt	4B
68650-28-2	Polyethylene glycol-polyisobutenyl anhydride-tall oil fatty acid copolymer	4B
132175-04-3	Polyethylene glycol-polyisobutenyl anhydride-tall oil fatty acid copolymer	4B
9003-68-3	Polyethylene terephthalate	4B
24938-04-3	Polyethylene terphthalate - polyethylene isophthalate film	4B
9038-95-3	Polyethylene-polypropylene glycol, monobutyl ether	4B
63705-03-3	Polyglycerol diisostearate	4B
66070-87-9	Polyglyceryl phthalate ester of coconut oil fatty acid	4B
30938-41-1	Polymer of n-butyl acrylate, methyl methacrylate, methacrylic acid and aminopropyl methacrylate	4B
9003-49-0	Polymer of vinyl acetate, n-butyl acrylate, vinyl chloride, and acrylic acid	4B
9011-14-7	Polymerized butyl acrylate	4B
9036-19-5	Polymethyl methacrylate	4B
60828-78-6	Polyoxyethylene (1,1,3,3-tetramethylbutyl)phenyl ether	4B
9014-93-1	Polyoxyethylene 2,6,8-trimethyl-4-nonyl ether	4B
9005-07-6	Polyoxyethylene dinonylpheno	4B
9005-08-7	Polyoxyethylene dioleate	4B
26636-40-8	Polyoxyethylene distearate	4B
9002-92-0	Polyoxyethylene docosyl ether	4B
9014-92-0	Polyoxyethylene dodecyl mono ether	4B
8050-33-7	Polyoxyethylene dodecylpheno	4B
51192-09-7	Polyoxyethylene ester of rosin	4B
9004-98-2	Polyoxyethylene glycerin monooleate	4B
26183-52-8	Polyoxyethylene mono(cis-9-octadecenyl) ether	4B
26636-39-5	Polyoxyethylene monodecyl ether	4B
9004-95-9	Polyoxyethylene monoicosyl ether	4B
9004-81-3	Polyoxyethylene monohexadecyl ether	4B
9005-00-9	Polyoxyethylene monolaurate	4B
9004-96-0	Polyoxyethylene monooctadecyl ether	4B
9004-99-3	Polyoxyethylene monooleate	4B
27306-79-2	Polyoxyethylene monostearate	4B
9016-45-9	Polyoxyethylene monotetradecyl ether	4B
51617-79-9	Polyoxyethylene nonylpheno	4B
	Polyoxyethylene octadecylpheno	4B

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37280-82-3	Polyoxyethylene polyoxypropylene phosphate	4B
9005-64-5	Polyoxyethylene sorbitan monolaurate	4B
9005-65-6	Polyoxyethylene sorbitan monooleate	4B
9005-66-7	Polyoxyethylene sorbitan monopalmitate	4B
9005-67-8	Polyoxyethylene sorbitan monostearate	4B
9005-70-3	Polyoxyethylene sorbitan trioleate	4B
9005-71-4	Polyoxyethylene sorbitan tristearate	4B
31307-92-3	Polyoxyethylene sorbitol	4B
57171-56-9	Polyoxyethylene sorbitol hexaoleate	4B
9011-29-4	Polyoxyethylene sorbitol hexastearate	4B
61824-34-8	Polyoxyethylene sorbitol pentaoleate	4B
63089-86-1	Polyoxyethylene sorbitol tetraoleate	4B
163436-84-8	Polyoxyethylene tristyrylphenol phosphate, potassium salt	4B
9003-11-6	Polyoxyethylene-polyoxypropylene copolymer	4B
37286-64-9	Polyoxypropylene monomethyl ether	4B
25231-21-4	Polyoxypropylene monostearyl ether	4B
68458-49-1	Polyphosphoric acids, esters with polyethylene glycol nonylphenyl ether	4B
9003-07-0	Polypropylene	4B
25322-69-4	Polypropylene glycol	4B
31394-71-5	Polypropylene glycol monooleate	4B
9003-53-6	Polystyrene resin	4B
53504-41-9	Polyurethane	4B
9003-20-7	Polyvinyl acetate	4B
9002-89-5	Polyvinyl alcohol	4B
9002-86-2	Polyvinyl chloride resin	4B
9003-39-8	Polyvinylpyrrolidone	4B
25086-89-9	Polyvinylpyrrolidone-vinyl acetate copolymer	4B
61789-30-8	Potassium coconut oil soap	4B
1310-58-3	Potassium hydroxide	4B
14977-37-8	Potassium magnesium sulfate (Mg2K2(SO4)3)	4B
7758-11-4	Potassium phosphate (dibasic)	4B
7778-77-0	Potassium phosphate, monobasic	4B
69669-25-6	Potassium salts of fatty acids (C12-C20)	4B
67701-09-1	Potassium salts of fatty acids (C8-18 and C18 unsatd.)	4B
59766-31-3	Potassium titanium oxide (K2Ti8O17)	4B
78266-09-8	Propanesulfonic acid, 2-hydroxy-3-(2-propenyloxy)- 1-, monosodium salt, polymer with 2-propenoic acid	4B
17217-76-4	Propanetricarboxylic acid, 2-hydroxy-, iron (3+) salt (1:1), 1,2,3- trihydrate	4B
74504-64-6	Propanetriol, homopolymer, dodecanoate	4B
79-09-4	Propanoic acid	4B
67-63-0	2- Propanol	4B
71-23-8	1- Propanol	4B
90961-42-4	Propenenitrile, polymer with 1,2,4-triethenylcyclohexane, 2- hydrolyzed	4B
9003-18-3	2- Propenenitrile, polymer with 1,3-butadiene	4B
9003-56-9	Propenenitrile, polymer with 1,3-butadiene and 2- ethenylbenzene	4B

Part Ingredients Ordered Alphabetically by Chemical Name - List 4B Updated August 2004

24938-16-7	Propenoic acid, 2-methyl-, butyl ester, polymer with 2-(dimethylamino)ethyl 2-methyl-2-propenoate and methyl 2-2- methyl-2-propenoate	4B
63150-03-8	Propenoic acid, 2-methyl-, dodecyl ester, polymer with eicosyl 2-methyl-2-propenoate, hexadecyl 2-methyl-2-propenoate, octadecyl 2-methyl-2-propenoate, pentadecyl 2-methyl-2-propenoate, tetradecyl 2-methyl-2-propenoate 2- and tridecyl 2-methyl-2-propenoate	4B
71394-17-7	Propenoic acid, 2-methyl-, polymer with butyl 2-methyl-2-propenoate, ethenylbenzene, 2-ethylhexyl 2-propenoate 2- and methyl 2--methyl-2-propenoate	4B
26873-77-8	Propenoic acid, 2-methyl-, polymer with ethenylbenzene, 2- 2-ethylhexyl 2-propenoate and 2-propene	4B
55989-05-4	Propenoic acid, 2-methyl-, polymer with ethyl 2-propenoate and methyl 2-methyl-2-propenoate, 2- ammonium salt	4B
41487-53-0	Propenoic acid, 2-methyl-, polymer with ethyl 2-propenoate, sodium salt	4B
39511-79-5	Propenoic acid, 2-methyl-.polymer with ethyl 2-propenoate 2- and methyl 2-methyl-2-propenoate, sodium salt	4B
30795-23-4	Propenoic acid, butyl ester, polymer with ethenylbenzene 2- and 2-ethylhexyl 2-propenoate	4B
29437-34-1	Propenoic acid, butyl ester, polymer with ethyl 2-propenoate and 2-propenenitrile	4B
25608-12-2	2- Propenoic acid, homopolymer, potassium salt	4B
25085-39-6	Propenoic acid, polymer with 1,3-butadiene and 2- ethenylbenzene	4B
86864-96-2	Propenoic acid, polymer with 2-hydroxypropyl 2-propenoate and sodium 2-propenoate	4B
114033-68-0	Propenoic acid, polymer with 2-propanol, reaction 2- products with sodium acrylate	4B
9033-79-8	2- Propenoic acid, polymer with sodium 2-propenoate	4B
94-13-3	Propyl p-hydroxybenzoate	4B
57-55-6	Propylene glycol	4B
9005-37-2	Propylene glycol alginate	4B
58-08-2	1H- Purine-2,6-dione, 3,7-dihydro-1,3,7-trimethyl-	4B
12269-78-2	Pyrophyllite	4B
28211-18-9	2- Pyrrolidinone, 1-ethenyl-, polymer with 1-eicosene	4B
73891-99-3	Rape oil, Me ester	4B
8023-77-6	Resins, oleo-, capsicum	4B
81-88-9	Rhodamine B (conforming to 40 CFR 180.2020)	4B
68152-57-8	Rosin, fumarated, polymer with ethylene glycol and pentaerythritol (CA INDEX NAME)	4B
68333-69-7	Rosin, maleated, polymer with pentaerythritol	4B
	Sand	4B
	Seeds, lettuce	4B
68909-20-6	Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	4B
68611-44-9	Silane, dichlorodimethyl-, reaction products with silica	4B

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1343-98-2	Silicic acid	4B
13870-28-5	Silicic acid (H ₂ Si ₂ O ₅), disodium salt	4B
6834-92-0	Silicic acid (H ₂ SiO ₃), disodium salt	4B
15593-82-5	Silicic acid (H ₆ Si ₂ O ₇), hexasodium salt	4B
10213-79-3	Silicic acid, disodium salt, pentahydrate	4B
1312-76-1	Silicic acid, potassium salt	4B
1344-09-8	Silicic acid, sodium salt	4B
63148-62-9	Silicones and siloxanes, dimethyl	4B
	Silkworm pupae	4B
117272-76-1	Siloxanes and silicones, 3-hydroxypropyl Me, ethers with polyethylene glycol mono-Me ether	4B
68554-64-3	Siloxanes and silicones, di-Me, 3-hydroxypropyl Me, ethers with polyethylene glycol mono-Me ether	4B
68938-54-5	Siloxanes and silicones, di-Me, 3-hydroxypropyl Me, ethers with polyethylene glycol mono-Me ether	4B
67762-87-2	Siloxanes and silicones, di-Me, 3-hydroxypropyl Me, ethers with polyethylene-polypropylene glycol	4B
68440-66-4	Siloxanes and silicones, di-Me, 3-hydroxypropyl Me, ethers with polypropylene glycol mono-Bu ether	4B
68937-55-3	Siloxanes and silicones, di-Me, 3-hydroxypropyl Me, ethoxylated propoxylated	4B
68037-62-7	Siloxanes and silicones, di-Me, Me hydrogen, reaction products with polyethylene glycol monoacetate	4B
67762-96-3	Siloxanes and silicones, di-Me, hydroxy-terminated, ethers with polypropylene glycol mono-Bu ether	4B
67701-10-4	Soap: (Fatty acids, C8-18 and C18-unsatd., sodium salts)	4B
7758-16-9	Sodium acid pyrophosphate	4B
25085-02-3	Sodium acrylate, polymer with acrylamide	4B
1302-42-7	Sodium aluminate	4B
7785-88-8	Sodium aluminum phosphate	4B
134-03-2	Sodium ascorbate	4B
577-11-7	Sodium bis(2-ethylhexyl) sulfosuccinate	4B
7681-38-1	Sodium bisulfate	4B
7647-15-6	Sodium bromide	4B
126-96-5	Sodium diacetate	4B
7558-80-7	Sodium dihydrogen phosphate	4B
1639-66-3	Sodium dioctyl sulfosuccinate	4B
7681-49-4	Sodium fluoride	4B
10124-56-8	Sodium hexametaphosphate	4B
1310-73-2	Sodium hydroxide	4B
7681-53-0	Sodium hypophosphite	4B
7631-99-4	Sodium nitrate	4B
7632-05-5	Sodium phosphate	4B
137-40-6	Sodium propionate	4B
533-96-0	Sodium sesquicarbonate	4B
8052-48-0	Sodium tallow soap	4B
868-18-8	Sodium tartrate	4B
7772-98-7	Sodium thiosulfate	4B
10102-17-7	Sodium thiosulfate, pentahydrate	4B
54116-08-4	Sodium tridecylpoly(oxyethylene) sulfate	4B
7758-29-4	Sodium tripolyphosphate	4B

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110-44-1	Sorbic acid	4B
26266-57-9	Sorbitan monohexadecanoate	4B
1338-41-6	Sorbitan monostearate	4B
68646-20-4	Sorbitol tall oil fatty acid sesquiester, ethoxylated	4B
68513-95-1	Soy flour	4B
68308-36-1	Soybean meal	4B
61791-23-9	Soybean oil, ethoxylated	4B
67762-09-8	Soybean oil, polymer with ethylene glycol, glycerol, pentaerythritol and phthalic anhydride	4B
58309-49-9	Soybean oil, polymer with isophthalic acid, linseed oil and trimethylolpropane	4B
66071-16-7	Soybean oil, polymer with maleic anhydride	4B
68131-29-3	Soybean oil, polymer with phthalic anhydride, trimellitic anhydride and trimethylolpropane	4B
8008-79-5	Soybeans (raw and processed forms)	4B
63798-35-6	Spearmint oil	4B
65996-63-6	Starch acetate adipate	4B
9063-38-1	Starch, acid-hydrolyzed	4B
9011-13-6	Starch, carboxymethyl ether, sodium salt	4B
25085-34-1	Styrene - maleic anhydride resin	4B
68630-83-1	Styrene acrylic acid copolymer	4B
9003-70-7	Styrene, polymer with methacrylic acid and polyethoxylated (Z)-2-butenedioic acid	4B
25750-06-5	Styrene-divinyl benzene copolymer resin matrix	4B
8002-33-3	Styrene-methyl methacrylate-2-ethylhexyl acrylate copolymer	4B
10025-67-9	Sulfated castor oil	4B
7664-93-9	Sulfur chloride	4B
68919-54-0	Sulfur Coated Urea	4B
8028-48-6	Sulfuric acid	4B
14807-96-6	Sunflower-oil fatty acids, Me ester	4B
8030-12-4	Sweet orange peel tincture	4B
104133-09-7	Talc	4B
811-97-2	Tallow, hydrogenated	4B
7320-34-5	Tetraethoxysilane, polymer with hexamethyldisiloxane	4B
58-56-0	1,1,1,2-Tetrafluoroethane	4B
13463-67-7	Tetrapotassium pyrophosphate	4B
68002-20-0	Thiamine mononitrate	4B
7758-87-4	Thumb tacks	4B
26915-70-8	Titanium dioxide	4B
15468-32-3	Tree nuts (raw and processed forms)	4B
105362-40-1	Triazine-2,4,6-triamine, polymer with formaldehyde, 1,3,5-methylated	4B
1317-95-9	Tricalcium phosphate	4B
132580-45-1	Tridecanol, ethoxylated, phosphate ester	4B
	Tridymite (SiO ₂)	4B
	Triethanolamine, compd. with poly(oxyethylene)	4B
	tristyrylphenyl ether phosphate	4B
	Tripoli	4B
	Alpha- Tris[1-(phenyl)ethyl]phenyl]-omega-[2,4,6- hydroxypoly(oxyethylene)poly(oxypropylene) copolymer	4B

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7601-54-9	Trisodium phosphate	4B
73-22-3	L- Tryptophan	4B
9011-05-6	Urea-formaldehyde resin	4B
28430-58-2	Vinyl acetate, polymer with methyl acrylate and methyl methacrylate	4B
25067-01-0	Vinyl acetate, polymer with n-butyl acrylate	4B
25085-41-0	Vinyl acetate-butyl acrylate-acrylic acid terpolymer	4B
25213-24-5	Vinyl alcohol-vinyl acetate copolymer	4B
9003-22-9	Vinyl chloride - vinyl acetate copolymer	4B
25086-48-0	Vinyl chloride, vinyl acetate and vinyl alcohol copolymer	4B
28062-44-4	Vinyl pyrrolidone-acrylic acid copolymer	4B
30581-59-0	Vinyl pyrrolidone-dimethylaminoethylmethacrylate copolymer	4B
25086-29-7	Vinylpyrrolidinone-styrene polymer	4B
68-26-8	Vitamin A	4B
12001-76-2	Vitamin B complex	4B
68-19-9	Vitamin B12	4B
67-97-0	Vitamin D3	4B
	Wheat (raw and processed forms)	LISTNO
130498-22-5	Wheat flour	4B
88608-58-2	Whey	4B
	Wood flour	4B
58-86-6	D- Xylose	4B
7440-56-6	Zinc (metallic)	4B
7779-88-6	Zinc nitrate	4B

Comparison of Materials Standards for Organic Food

Otto Schmid¹, Alex Beck², and Brian Baker³

Introduction

In order to continuously improve the IFOAM *Basic Standards*, reflect international consensus on what constitutes organic farming practices, and account for technological advances consistent with principles of Organic Agriculture, it is important to review and revise the lists of substances permitted in organic farming and processing. IFOAM has an interest in harmonizing these various standards. Organic farmers and handlers who sell into multiple markets with differing standards—many in resource-constrained developing countries—have an acute need to understand and resolve the differences between these standards.

The IFOAM Standards Committee compared the differences between the IFOAM Basic Standards and various national and international standards with respect to lists of crop production inputs as well as the additives and processing aids used to process organic food. The IFOAM Standards Committee commissioned the researchers to compare the Appendices that list such substances in the IFOAM *Basic Standards* with key international and National standards, including the United Nation's Codex Alimentarius guidelines for organically produced food; the European Union organic regulations; the Japanese Agricultural Standard for organic production and processing; and the US Department of Agriculture's National Organic Program. Table 1 summarizes the official names, standard-setting bodies, and authority for each of the standards.

Table 1: Overview of the standards compared

ID	Standard	Body	Authority
IBS	IFOAM Basic Standards	International Federation of Organic Agriculture Movements	<u>Approved by the IFOAM General Assembly, Victoria, Canada, August 2002</u>
Codex	Codex Alimentarius Guidelines for Organically Produced Food	United Nations Joint FAO/WHO Food Standards Programme	<u>CAC/GL 32-1999 as revised in 2001</u>
EU	European Council Regulation on organic production of agricultural products and indications referring thereto on agricultural products and foodstuffs	European Council	<u>EEC 2092/91 as amended through 15 March 2002</u>
JAS	Japan Agricultural Standards For Organic Agricultural Products and the Japan Agricultural Standards For Processed Foods From Organic Agricultural Products.	Japanese Ministry of Agriculture, Forestry Fisheries	Notifications No. 59 and No. 60, 20 January 2000 (Unofficial English Translation).
NOP	National Organic Program Rule	US Department of Agriculture	<u>7 CFR 205, 21 December 2000</u>

The IFOAM Basic Standards Appendices 1 and 2 are based on a world-wide consensus on crop inputs, and Appendix 4 reflects a consensus on the use of food additives and processing aids in organic processing. However when it comes to the judgment of equivalence between standards, relevant differences can be found with regard to the allowed additives and inputs. The study, which was made by FiBL (CH, D) and OMRI (USA) shows the need to work towards a better international harmonisation for evaluation of inputs and in particular for additives and processing aids for organic food.

¹ FiBL, (Research Institute of Organic Agriculture), Frick, CH; ² Büro Lebensmittelkunde & Qualität, FiBL, Oberlechtersbach, D; OMRI, Organic Materials Review Institute, Eugene (USA).

The study also considered other private standards, such as the AGOEL Standards from Germany and the OMRI Generic Materials List from the United States. The results of these comparisons are not included in the summary statistics, but helped to provide guidance on the implementation of EC 2092/91 and the NOP, respectively. The US National Organic Standards Board (NOSB) recommendations were also reviewed, particularly in reference to the US National Organic Program. While the NOSB recommendations do not have the force of law, they are a necessary step to adding synthetic substances to the National List, and were used to help determine the intent of some of the regulatory intent, particularly with respect to natural substances not on the prohibited non-synthetic list and synthetic substances not on the allowed synthetic substances list. Where NOSB recommendations were not available, the authors used standard references, such as the *Merck Index* and *Kirk-Othmer Encyclopedia of Chemical Technologies* to determine if a given substance is of natural or synthetic origin.

Crop Production Inputs

The study showed that the IFOAM Basic Standards (IBS) Appendices are largely consistent with a worldwide consensus on crop inputs. Most items on the IFOAM Appendices either reflected general agreement or had only minor differences in definitions and limitations. Most of the standards follow the IFOAM approach of a closed, positive list. This means that only items used on the list may be used, and that the list includes only those items that are allowed. Codex Alimentarius is a guideline to provide advice to governments on internationally agreed upon inputs. It is an indicative list that is not inclusive or exclusive. It can thus be characterized as an open, positive list approach. In this case, items not on the list may be allowed when considered against criteria, but again, the list contains only allowed and not prohibited items. The National Organic Program has an open, positive and negative list approach. This is based on whether substances are of natural or synthetic origin, and the list contains exceptions to the rule: only natural substances that are prohibited and synthetic substances that are allowed appear on the list. In comparing the IBS with the NOP, the researchers need to make a determination of the natural status of various inputs, either based on a determination of the NOSB, or the references cited at the end of this article allowance is based on a source being natural and not a synthetic analog or prepared by 'excluded methods' or genetic engineering.

Table 2. Summary of Crop Inputs Compared

Classification	Number of Substances
Substances permitted by all standards	36
Substances permitted by IFOAM and at minimum 3 standards	68
Substances permitted by IFOAM and 2 or fewer standards	19
Substances not on IFOAM's Appendices	42
Total number of substances considered	165

Out of over 123 separate listings on IFOAM Appendices 1 and 2, there was general agreement on 36 and only minor differences on almost 70. In some cases, the disagreements were based on semantics or questions about restrictions. The remaining 19 substances that are allowed by IFOAM but not recognized by at least three other sets of standards appear to reflect differences in structure and definitions in most cases. For example, IFOAM Appendix 1 lists coffee grounds, crop residues, mulch, dairy products and milk. These are not explicitly listed in other standards, but one could imply that they are allowed as food by-products. At the last round of revisions of the IFOAM *Basic Standards* in 2002 it helped to eliminate some lack of clarity. For example, the term "calcified seaweed" was considered to be too vague. Either this is a fossil product redundant with the listing for "maerl", or it might be calcified by other

means. Out of the 19 substances where the IFOAM *Basic Standards* appear to be in the minority, only seven are identified as raising substantial issues. These are listed in Table 3.

**Table 3: Substances in the IFOAM Basic Standards
Not Included in Other Standards**

Substance	Standard(s) where Not Included	Notes
Human excrement	EU, NOP (in sewage sludge), JAS	Prohibited as 'sewage sludge' in the NOP. Source separated natural human excrement not treated with synthetic substances may be subject to the 'manure' standards.
Calcium chloride	Codex, NOP (if synthetic)	Recommended to be added to the NOP National List of prohibited natural product
Potassium bicarbonate	Codex, EU, JAS	JAS excludes from their NOP equivalency agreement.
Basic slag	NOP	By-product of steel manufacturing.
Silicates	EU, NOP (if synthetic), JAS	Not in EU or JAS; natural ones allowed and synthetic ones prohibited by NOP
Seasalt and salty water (for crop protection)	Codex, EU, JAS	JAS says 'only mined salt' for soil fertility, and does not have it listed for crop protection. Recommended to be added to the NOP National List as a prohibited natural.
Sugar-beet lime	Codex, NOP, or JAS	EU restricts to 'Need recognized by the inspection authority or inspection body.'
Tobacco tea	EU, JAS, NOP	Prohibited by NOP; Not listed by JAS; derogation expired in EU. Pure nicotine is prohibited.

Compost, Manure, and Human Excrement

While organic farming standards throughout the world all recognize the importance of compost—many going beyond simply permitting its use and actually requiring some form of soil-building based on compost—the requirements for what is considered compost varies. Also, while all of the standards reviewed permit the cycling of animal manure, there are also differences in what sources and handling processes are allowed.

Compost:

Many regard compost as the foundation of an organic soil management program. The Annex II-A of EU Regulation 2092/91 lists 'composted animal excrements, including poultry manure and composted farmyard manure included' as well as the 'liquid animal excrements (slurry, urine, etc.)' forbid the application of compost and teas made from manure from factory farms. The English idiom 'factory farming' has been translated differently within the EU, reflecting the local idiom for industrial, intensive agriculture.¹ Composted manure is not permitted from factory farming; though this is not specifically linked to the related EU regulation on animal husbandry, as is the use of raw manure.

"Composted or fermented household waste" includes anaerobic fermentation for biogas production. The USDA does not recognize anaerobic compost as compost, but does not appear to restrict the use of such products when only vegetative matter is used. In the US, most biogas systems use some form of manure. This allowance in EU regulation might allow human waste, which is prohibited in the US rule, however there is a scheduled phase-out of March 2002.

The NOP Final Rule provides a restrictive definition of compost in section 205.2. Manure is either composted according to the definition, or it is not composted and considered raw. The

¹"No criteria or figures are supplied to define 'factory' farming as opposed to other kinds of farming." H.P. Schmidt and M. Haccius, *EU Regulation "Organic Farming"* (Weikersheim, D: Margraf Verlag 1998): 144.

key section for manure and compost use is section 205.203(c), which restricts the use of uncomposted (raw) manure) to crops for non-human consumption, or to be applied not less than 90-120 days prior to harvest. The NOP makes no separate provision for dehydrated ('processed') manure or other pathogen-reduction treatments. This is more restrictive in use and application than the EU requirement, which provides no definition or standard for compost production.

Probably the most controversial item to discuss is the status of human excrement. Standards in the industrial countries—Europe, Japan, and the United States—either implicitly do not allow or explicitly prohibit the use of human excrement or sewage sludge. The prohibition is often tied to a policy related to the handling of urban effluent where human excrement is mixed with household and industrial wastes. The resulting solids are known as sewage sludge. Codex and IFOAM both reflect the long-standing use of human excrement in agriculture in many parts of the world. Provided that the human excrement is source separated, the IFOAM Basic Standards permit the application to agricultural land, not to be directly applied on edible plant parts.

Raw manure: The EU regulation on Organic Agriculture governs the use of manure through regulations that are primarily concerned with farm structure and animal welfare. The restrictions regarding uncomposted 'farmyard manure,' 'dried farmyard manure and dehydrated poultry manure' state, "coming from extensive husbandry and only in the sense of Article 6 (5) of EEC No. 2328/91 as last amended by Regulation (EC) No 3669/93." This regulation is titled: 'On improving the efficiency of agricultural structures.' It provides specific stocking rates for cattle, horses, sheep, and goats, and the amendment ties these requirements to the Common Agricultural Policy's (CAP's) aid policies to promote extensification and reduce livestock concentration. This means that some types of raw manure can only come from farms with relatively low stocking rates, not from feedlot or confinement operations.

According to these EU requirements operations must have a forage area that is equal to two livestock units per hectare (LU/Ha). For cattle, this means 2 cows/hectare, which is equivalent to one cow for every 1.23 acres of land. A horse is considered equivalent to a cow, a calf is considered 0.6 of a cow (requires 0.74 acres), sheep and goats are converted by a factor of 0.15 (require 0.185 acres per animal), or one cow is equal to 6.67 sheep. A 100 head dairy farm would need at least 123 acres of pasture to qualify. A flock of 50 sheep could graze a 10 acre lot and comply. Swine stocking rates are not based on unit of land area. Instead a separate formula is used that is tied to past production on a given farm rather than density. The intent is to prevent EU funds from being used to expand hog production capacity. The egg and poultry sector are specifically excluded from Article 6 of EEC 2328/91. The organic EU rules at 2092/91 Annex II-A in the EU Organic Farming regulation provide a separate listing for poultry manure, though this listing also refers (perhaps in error) to EEC 2328/91.

By contrast, the NOP does not restrict the source of manure other than to require that, "The producer must manage plant and animal materials to maintain or improve soil organic matter content in a manner that does not contribute to contamination of crops, soil, or water by plant nutrients, pathogenic organisms, heavy metals or residues of prohibited substances" (205.203(c)). US organic farmers have traditionally used off-farm sources of manure from non-organic sources that may come from intensive livestock operations. Under the NOP rules, they are required to use these materials in a way that that does not contaminate soil, crops, or water by residues of prohibited substances.

The Japanese Agricultural Standards make no reference to raw manure, referring only to compost from animals. It is not clear if JAS allows manure, human excrement or sewage sludge.

Substances Not Allowed by IFOAM

Of greater concern perhaps are some 42 items that appeared in at least one other set of standards and did not appear on the IFOAM 2000 Appendix. However, only one — bleaching powder — appeared on more than one other list. This substance is also known as chloride of lime and is listed on IBS Appendix 2.

The IBS's 2002 edition revised some policies and added several substances that were implicitly allowed, but appeared on these other lists. For example, the standards now include a policy on non-active or inert ingredients in pest control formulations. The IBS also added ayurvedic and homeopathic preparations to Appendix 2. A few items on the JAS list appear to be the result of translation difficulties, and no official translation was available at the time of the study. One item (chiquette) on the EU list appears to be a problem with translation, rather than of differences in standards.

The comparison of crops inputs requires judgment. In some cases, a reference to Chemical Abstract Service (CAS) numbers would avoid ambiguity, although this is not always feasible for categories and for biological products. INS numbers made the task easier for food additives and processing aids. With the closed, positive list approach, items are often broad categories of inputs—such as 'animal by-products' or 'plant preparation' that would include certain specific inputs on other lists—for example one list might include 'animal products' while another list would include 'milk.' One could conclude that the standard that allows animal products also allows milk. However, the Japanese Agricultural Standards posed a number of specific problems summarised in Table 4.

The evaluation shows broad consensus of standards, and identifies key issues that require attention for international harmonisation of standards for crop inputs, additives and processing aids for organic production and processing.

Most substances that appear in another standard but not on the IFOAM Appendix 4 appear only on one standard.

Table 6: Additives and Processing Aids allowed by IFOAM and not two or more standards

181	Tannin	Not in EU, NOP; used for wine processing
220	Sulphur dioxide	Not on EU or JAS. Restricted to wine labelled as 'made from organically grown grapes' under the NOP.
224	Potassium metabisulfite	Not on Codex, EU, NOP, JAS. Used for wine processing.
331	Sodium citrate	Not on Codex, EU, or JAS. On Codex agenda.
332	Potassium citrate	Not on Codex, EU, or JAS. On Codex agenda.
333	Calcium citrate	Not on Codex or JAS. On Codex agenda.
507	Carrageenan	Not on JAS or NOP. NOSB recommended and proposed by NOP.
517	Ammonium sulfate	Not on Codex, EU, NOP.

In Codex Alimentarius Guidelines, in the European Commission regulation, in the US National Organic Program as well as in many national standards there is an on-going discussion about how to develop organic food processing (in particular for animal products and wine). The criteria developed in Appendix 5 of the IFOAM Basic Standards for new additives and processing aids could help in the further development of that area. In the discussions of the Codex Alimentarius Guidelines these criteria has already been taken as guidance for the evaluation process. These can be divided into two categories, wine ingredients and citrates, with carrageenan considered an anomaly that may have been omitted by the NOP by error.

Wine

The IFOAM Appendix IV contains a number of additives and processing aids that are restricted to use in wine. Some, but not all of these have been adopted by Codex and JAS. In particular, tannin, sulphur dioxide, and potassium metabisulphite are allowed by IFOAM but not allowed by at least two of the other standards. More interestingly, EU 2092/91 explicitly exempts wine from the regulation. Several competent authorities interpret this as permitting the allowance of a number of fining agents and sulfites that do not appear in Annex VI. The USDA's National Organic Program allows sulfur dioxide as a sulfiting agent only for wines labeled as 'made from organically grown grapes' and not for organic wines.' This required a statutory change in the Organic Foods Production Act because the original law prohibited all sulfites (7 USC 6510(a)(3)).

Citrates

All of the standards allow citric acid. This was historically produced from agricultural sources, but most commercially available product on the market is obtained from fermentation. IFOAM also allows the calcium, potassium, and sodium salts of citric acid. These are more buffered and provide a more stable form for many applications. The NOP allows all three and the EU allows calcium citrate, but not the sodium or potassium form.

Finally, there are three substances that appear on two or more other standards that are not on the IFOAM list. These are malic acid and karaya (karaga) gum. Malic acid is a naturally occurring substance found in apples. It is used similarly to ascorbic, citric, and tartaric acid,

but has a different flavour profile and other properties. IFOAM has received a dossier for its review. Karaga gum is a naturally occurring exudate from trees grown in West Africa and South Asia. Its uses and properties are similar to arabic gum, tragacanth gum and locust bean gum. As with these other gums, it is possible for the sources to be organic, and it is generally processed without the use of other additives. No dossier has been received. Finally, potassium hydroxide appears on the Codex, JAS, and NOP lists. In Codex and JAS, it is restricted to use for pH adjustment in sugar. The NOP prohibits it for use in the lye peeling of fruits and vegetables.

Another 22 substances appear at least one other list and can be divided into a few categories: cleaners, sanitizers, and disinfectants (chlorine materials; hydrogen peroxide, ozone); post-harvest handling materials (ethylene, lignin sulfonate, paraffin, sodium silicate, wax, wood rosin, and possibly sulfur); processed agricultural products (mono- and di-glycerides, glycerine); nutritional supplements (iron sulfate, potassium iodide).

The processed agricultural commodities can be addressed under NOP Section §6.2.1 and nutritional supplements by N§6.2.3. The draft standard in Chapter 11 is intended to address cleaning, sanitizing, and disinfecting. Ethylene is specifically addressed in section NOP Section 6.3.6, but the others are not directly addressed in section 6.3.

Of the remaining eight substances, two—magnesium stearate and potassium phosphate—are used only in products that are labeled as 'made with organic ingredients' and are not permitted in processed products labeled organic. Another two substances not on IFOAM Appendix 4 are closely related to coagulants, magnesium sulfate and nigari. Sodium phosphates are controversial because they are used to give some lower quality products texture and stability that is lacking without it. Also, the JECFA United Nations' Joint Expert Committee on Food Additives has established an average daily intake threshold for this product, indicating potential adverse health effects if consumed in higher quantities. Isopropanol is a solvent used for extraction.

Table 7: Products allowed by other standards but not by the IFOAM Basic Standards

INS	Class ¹	Name	Lists	Notes
296	NI	malic acid	Codex, EU, JAS	IFOAM dossier pending.
339	NI	sodium phosphates	NOP	Dairy products; on Codex agenda
416	NI	karaya (karaga) gum	Codex	Agricultural gum; potentially available from organic sources.
471	NI	mono- & di-glycerides	NOP	Restricted to drum drying of vegetables. Produced from various fats and oils.
518	NI	magnesium sulphate	NOP, JAS	Primarily used as a tofu coagulant. JAS lists nigari separately.
525	NI	Potassium hydroxide	NOP	Allowed by Codex and JAS for the adjustment of pH in sugar processing; allowed by NOP except for the peeling of fruits and vegetables.
529	PA	calcium oxide	JAS	Use not clear.
550	PA	sodium silicate	NOP	Post-harvest-floating fruit
905	NI	paraffin	JAS	Wax ingredient
	PA	Chlorine materials (calcium hypochlorite, sodium hypochlorite, chlorine dioxide)	NOP	Used as a food contact surface cleaner and as a wash water disinfectant.
	NI	colorings, natural	NOP	Possibly a drafting error.
	PA	ethylene	NOP	Appears in Section 6.
	NI	ferrous sulphate	NOP	Used as a nutritional supplement and is subject to the policy in IFOAM
	AD	glycerine	NOP	Produced by hydrolysis of fats and oils. Potentially available from organic plant or animal sources, but hydrolysis may not be possible.
	PA	hydrogen peroxide	NOP	Used as a washwater disinfectant.
	PA	isopropanol	EU	Used as a solvent for extraction.
	PA	lignin sulphonate	NOP	Used as a flotation agent.
	WI	magnesium stearate	NOP	Only in products labeled as 'made with organic ingredients.'
	NI	nigari	JAS	Only JAS has a specific listing for nigari, translated as 'crude sea water magnesium chloride.'
	NI	ozone	NOP	Primarily used as a washwater disinfectant.
	NI	potassium iodide	NOP	Used as a nutritional supplement, primarily for the fortification of salt.
	NI	potassium phosphate	NOP	Only in products labeled as 'made with organic ingredients.'
	NI	sulphur	JAS	Use not clear. Possibly used to treat dried fruit.
	PA	wax	JAS	Other standards are more specific and generally prohibit paraffin. IFOAM lists carnauba wax and beeswax. Organic sources may become available with forestry and beekeeping standards.
	NI	wood rosin	NOP	Wax ingredient. Potentially available from organic sources.

Table 8: Products allowed by two or more other Standards reviewed and not allowed by the IFOAM Basic Standards

INS #	Product (groups)	Comments
296	Malic acid	Allowed by Codex, EU, and JAS; Dossier under review by IFOAM; Petitioned to NOSB.
416	Karaya (karaga) gum	Allowed by Codex, EU and JAS; No dossier submitted to IFOAM. May possibly be considered an agricultural gum under NOP.
525	Potassium hydroxide	Allowed by Codex and JAS for the adjustment of pH in sugar processing; allowed by NOP except for the peeling of fruits and vegetables.

Further process of evaluation and harmonisation

The evaluation shows broad consensus of standards, and identifies key issues that require attention for international harmonisation of standards for crop inputs, additives and processing aids for organic production and processing. IFOAM may want to consider various actions to harmonize different standards, such as seeking clarification from the standard-setting bodies; requesting dossiers from IFOAM members that are subject to the conflicting standard; petitioning those standard-setting bodies that do not comply with the IBS to revise their standards; or simply maintain current IFOAM policies. The Standards Committee can use this analysis to determine the appropriate action.

Beside the IFOAM evaluation process the Codex Alimentarius is also addressing the evaluation and harmonisation of crop inputs and substances for processing at the next meeting. This will be discussed in the working group for organic farming in the Codex Committee on Food labelling in May 2004 in Canada. Finally, the Danish Organic Research Platform DARCOF and the FiBL, the Swiss Research Institute of Organic Agriculture are undertaking a 3 year research project have started, together with other partners within the EU which is about Organic Input Evaluation. The project "*Harmonised and standardised procedures for evaluation of plant protection products, fertilizers and soil conditioners for use in organic agriculture*" is coordinated by. There will be 2 workshops organised per year with experts from Europe, including several IFOAM member organisations, and the USA. This project is expected to:

- improve procedures for input evaluation;
- avoid confusion of the European consumers due to different rules;
- improve the credibility of organic produce of European origin;
- provide the policy makers a tool to improve legislation and standards on organic agricultural production;
- authorise newly developed inputs and to determine the conditions for their use more rapidly than at present, thus giving European organic farmers quick access to scientific progress and development possibilities.
- give the organic farmers in Europe more equal competitive conditions inside Europe and on the world market.
- react more quickly to rapidly socio-economic perception inputs to respect evolving consumer perception.

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Table A.1
Soil Amendments and Fertility Inputs with
General Agreement or Minor Differences Among Organic Standards

Bark	Gypsum	Seaweed and seaweed products
Bentonite	Hair	Slurry
Biodegradable processing by-products	Hoof and horn meal	Sodium Chloride
Biodynamic preparations	Kainite	Stone meal
Blood meal	Kieserite	Straw
Bone and bone meal	Limestone	Sulfur
Calcareous amendments	Magnesium amendments	Sulphate of potash
Chalk	Magnesium rock	Sylvanite
Clay	Magnesium sulfate	Trace elements
Compost	Marl (maerl)	Urine
Crop residues	Meat and meat meal	Vegetable residues
Dairy products	Microbiological preparations	Vermicastings
Epsom salt	Mulch	Vermiculite
Farmyard manure	Patentkali	Wood and woodshavings
Feather meal	Peat	Wood charcoal
Fish and fish products	Perlite	Woodash and wood charcoal
Fur	Phosphates	Wool
Green manure	Plant preparations and extracts	Worms
Guano	Potassium rock	Zeolite
	Pulverised rock	

See Table A.4 for annotations and limitations

Table A4 Comparison of IFOAM 2002 Appendix 1 with Codex, EU, NOP and JAS

IFOAM Material	IFOAM Status	Codex Status	EU Status	NOP Status	JAS Status
Calcium chloride	Allowed	Not listed separately	Foliar treatment of apple trees, after identification of deficit of calcium. Need recognized by inspection body or inspection authority.	Allowed from nonsynthetic sources without synthetic substances added. (205.203(d)(3)). Note: the NOSB has twice recommended that the natural source be prohibited with an annotation.	Not included in Table 1.
Chalk	Allowed	Allowed as Calcium carbonate of natural origin	Annex IIA lists 'Calcium carbonate of natural origin (for instance: chalk, marl, ground limestone, Breton ameliorant, (maërl), phosphate chalk)' and 'Magnesium and calcium carbonate of natural origin (for instance: magnesian chalk, ground magnesium limestone, etc.)' both as allowed.	Allowed at 205.203(d)(2).	Allowed. Table 1. Calcium carbonate fertilizer - GThose formed by pulverizing the natural ore (including calcium magnesia carbonate).
Clay	Allowed	Allowed	Allowed. Annex IIA: Clays (e.g. perlite, vermiculite, etc.).	Allowed at 205.203(d)(2).	Allowed. Table 1. Natural substance or those derived from natural substances without being treated chemically and added with no chemosynthetic substance.

Table A4 Comparison of IFOAM 2002 Appendix 1 with Codex, EU, NOP and JAS

IFOAM Material	IFOAM Status	Codex Status	EU Status	NOP Status	JAS Status
Compost	Allowed made from ingredients listed in this appendix any carbon based residues, spent mushroom waste, humus from worms and insects, urban composts from separated sources which are monitored for contamination	Composted animal excrements, including poultry--Need recognized by the certification body or authority. Manure and composted farmyard manure "Factory" farming sources not permitted. Composts from organic household refuse Need recognized by the certification body or authority.. Composts from plant residues ---Allowed	Annex IIA -- Three listings: (a) Composted animal excrements, including poultry manure and composted farmyard manure included. Product comprising a mixture of animal excrements and vegetable matter (animal bedding) Need recognized by the inspection body or inspection authority Indication of animal species Coming from extensive husbandry and only in the sense of Article 6 (5) of Council Regulation (EEC) No 2328/91 (OJ No L 218, 6.8.1991, p. 1), as last amended by Regulation (EC) No 3669/93 (OJ No L 338, 31.12.1993, p. 26) (b) Composted or fermented mixture of vegetable matter. Product obtained from mixtures of vegetable matter, which have been submitted to composting or to anaerobic fermentation for biogas production. Need recognised by the inspection body or inspection authority. (c) Composted mixture of vegetable matter. Allowed.	(1) Raw animal manure, which must be composted unless it is: (i) Applied to land used for a crop not intended for human consumption; (ii) Incorporated into the soil not less than 120 days prior to the harvest of a product whose edible portion has direct contact with the soil surface or soil particles; or (iii) Incorporated into the soil not less than 90 days prior to the harvest of a product whose edible portion does not have direct contact with the soil surface or soil particles;	Table 1, Five listings with the annotation "Those without chemosynthetic substance added:" (a) composts derived from agricultural products and their remainders; (b) composts derived from livestock and poultry excreta; (c) composts derived from food production industries, etc.; (d) composts derived from organic household refuse; (e) bark compost.
Crop residues	Allowed	Not listed separately	Not specifically listed	Allowed from nonsynthetic sources without synthetic substances added.	Not included in Table 1.
Dairy products	Restricted	Not listed separately		Allowed from nonsynthetic sources without synthetic substances added.	Not included in Table 1.
Epsom salt	Allowed	Allowed (magnesium-sulphate)	Allowed.	Allowed. Non-synthetic at 205.203(d)–either (2) or (3); Synthetic at 205.601(j)(5).	Allowed. Table 1: Magnesium sulfate. Those formed by crystallizing bittern or refining the natural magnesia sulfate ore.

Table A4 Comparison of IFOAM 2002 Appendix 1 with Codex, EU, NOP and JAS

IFOAM Material	IFOAM Status	Codex Status	EU Status	NOP Status	JAS Status
Farmyard manure	Restricted	Need recognized by certification body or authority if not sourced from organic production systems. 'Factory' farming sources not permitted.	Product comprising a mixture of animal excrements and vegetable matter (animal bedding) Need recognized by the inspection body or inspection authority Indication of animal species Coming from extensive husbandry and only in the sense of Article 6 (5) of Council Regulation (EEC) No 2328/91 (OJ No L 218, 6.8.1991, p. 1), as last amended by Regulation (EC) No 3669/93 (OJ No L 338, 31.12.1993, p. 26)	Allowed with the following restrictions: (1) Raw animal manure, which must be composted unless it is: (i) Applied to land used for a crop not intended for human consumption; (ii) Incorporated into the soil not less than 120 days prior to the harvest of a product whose edible portion has direct contact with the soil surface or soil particles; or (iii) Incorporated into the soil not less than 90 days prior to the harvest of a product whose edible portion does not have direct contact with the soil surface or soil particles	Not included in Table 1.
Feather meal	Restricted without preservatives	Not listed separately. See Processed animal products from slaughterhouses. Need recognized by the certification body & fish industry (sic) authority	Products or by-products of animal origin— Need recognized by the inspection body or inspection authority	Allowed from nonsynthetic sources without synthetic substances added.	Not included in Table 1.
Fish and fish products	Restricted without preservatives	Not listed separately. See Processed animal products from slaughterhouses. Need recognized by the certification body & fish industry (sic) authority	Fish meal: Need recognized by the inspection body or inspection authority.	Nonsynthetic version (without synthetic substances added) allowed; 205.601(j)(7) Liquid fish products - can be pH adjusted with sulfuric, citric or phosphoric acid. The amount of acid used shall not exceed the minimum needed to lower the pH to 3.5.	Listed as 'fish meal powder'
Fur	Restricted	Not listed separately. See Processed animal products from slaughterhouses. Need recognized by the certification body & fish industry (sic) authority	Products or by-products of animal origin— Need recognized by the inspection body or inspection authority	Allowed from nonsynthetic sources without synthetic substances added. Leather meal prohibited.	Not included in Table 1.
Green manure	Allowed	Not listed separately	Not specifically listed	Allowed from nonsynthetic sources without synthetic substances added.	Not included in Table 1.
Guano	Restricted	Need recognized by the certification body or authority.	Need recognized by the inspection body or inspection authority	Allowed from nonsynthetic sources without synthetic substances added.	Table 1: Nitrogen-rich guano - Those without chemo-synthetic substance added.

Table A4 Comparison of IFOAM 2002 Appendix 1 with Codex, EU, NOP and JAS

IFOAM Material	IFOAM Status	Codex Status	EU Status	NOP Status	JAS Status
Gypsum	Allowed	Allowed (calcium sulphate)	Product as specified by Directive 76/116/EEC, as amended by Directive 89/284/EEC. Only of natural origin.	Allowed at 205.203(d)(2).	Allowed. Table 1. Gypsum (calcium sulfate). Natural substance or those derived from natural substances without being treated chemically and adding no chemosynthetic substance.
Hair	Restricted	Not listed separately. See Processed animal products from slaughterhouses. Need recognized by the certification body & fish industries (sic) authority	Products or by-products of animal origin-- Need recognized by the inspection body or inspection authority	Allowed from nonsynthetic sources without synthetic substances added.	Not included in Table 1.
Hoof and horn meal	Restricted	Not listed separately. See Processed animal products from slaughterhouses. Need recognized by the certification body & fish industries (sic) authority	Products or by-products of animal origin-- Need recognized by the inspection body or inspection authority	Allowed from nonsynthetic sources without synthetic substances added.	Not included in Table 1.
Human excrement	Restricted. Source separated from separated sources which are monitored for contamination (see 4.4.5.)	Need recognized by certification body or authority. If possible aerated or composted. Not applied to crops intended for human consumption.	Not specifically listed	Sewage sludge prohibited at 205.105(g)	Not included in Table 1.
Kainit	Restricted--Mineral potassium with low chlorine content.	Rock potash, mined potassium salts (eg kainite, sylvite) Less than 60% chlorine.	Need recognized by inspection body or inspection authority	205.602(g). Prohibited unless derived from a mined source and applied in a manner that minimizes chloride accumulation in the soil.	Allowed. Table 1. Potassium chloride: Those formed by pulverizing or washing and refining the natural ore or those recovered from the natural brackish water.
Kieserite	Allowed	Not listed separately	Allowed.	Non-synthetic Allowed at 205.203(d)-- either (2) or (3).	Allowed. Table 1: Magnesium sulfate. Those formed by crystallizing bittern or refining the natural magnesite sulfate ore.

Table A4 Comparison of IFOAM 2002 Appendix 1 with Codex, EU, NOP and JAS

IFOAM Material	IFOAM Status	Codex Status	EU Status	NOP Status	JAS Status
Limestone	Allowed	Allowed	Allowed. Annex IIA lists 'Calcium carbonate of natural origin (for instance: chalk, marl, ground limestone, Breton ameliorant, (maërl), phosphate chalk)' and 'Magnesium and calcium carbonate of natural origin (for instance: magnesian chalk, ground magnesium limestone, etc.)'	Allowed at 205.203(d)(2).	Allowed. Table 1. Calcium carbonate fertilizer - Those formed by pulverizing the natural ore (including calcium magnesia carbonate).
Magnesium amendments	Restricted	See Magnesium rock	Allowed.	Allowed. Non-synthetic at 205.203(d)--either (2) or (3). Synthetic magnesium sulfate allowed at 205.601(j)(5).	Allowed. Table 1: Magnesium sulfate. Those formed by crystallizing bittern or refining the natural magnesia sulfate ore.
Magnesium rock	Allowed	Allowed	Allowed.	Allowed. Non-synthetic at 205.203(d)--either (2) or (3).	Allowed. Table 1. Calcium carbonate fertilizer - Those formed by pulverizing the natural ore (including calcium magnesia carbonate). Potassium magnesium. Those formed by washing and refining the natural ore. Magnesium hydroxide. Those formed by pulverizing the natural ore. Magnesium sulfate. Those formed by crystallizing bittern or refining the natural magnesia sulfate ore.
Magnesium sulfate	Allowed	Allowed (epsom salt)	Allowed.	Allowed. Non-synthetic at 205.203(d)--either (2) or (3); Synthetic at 205.601(j)(5).	Allowed. Table 1: Magnesium sulfate. Those formed by crystallizing bittern or refining the natural magnesia sulfate ore.
Marl (maërl)	Allowed	Allowed as Calcium carbonate of natural origin	Annex IIA lists 'Calcium carbonate of natural origin (for instance: chalk, marl, ground limestone, Breton ameliorant, (maërl), phosphate chalk)' as allowed.	Allowed at 205.203(d)(2).	Not included in Table 1.
Meat and meat meal	Restricted	Not listed separately. See Processed animal products from slaughterhouses. Need recognized by the certification body & fish industries (sic) authority	Products or by-products of animal origin--Need recognized by the inspection body or inspection authority	Allowed from nonsynthetic sources without synthetic substances added.	Not included in Table 1.

Table A4 Comparison of IFOAM 2002 Appendix 1 with Codex, EU, NOP and JAS

IFOAM Material	IFOAM Status	Codex Status	EU Status	NOP Status	JAS Status
Microbiological preparations	Allowed--Based on naturally occurring organisms	Not listed separately	Not specifically listed in Annex IIA.	Allowed from nonsynthetic sources without synthetic substances added.	Not included in Table 1.
Mulch	Allowed	Not listed separately	Not specifically listed	Allowed from nonsynthetic sources without synthetic substances added.	Not included in Table 1.
Patentkali	Restricted--Mineral potassium with low chlorine content.	Obtained by physical procedures but not enriched by chemical processes to increase its solubility Need recognized by the certification authority or body	Product obtained from crude potassium salt by a physical extraction process, and containing possibly also magnesium salts. Need recognised by the inspection body or inspection authority.	Allowed at 205.203(d)—either (2) or (3).	Allowed. Table 1. Potassium magnesium. Those formed by washing and refining the natural ore.
Peat	Allowed (prohibited for soil conditioning) (Note: -- the phrase 'without synthetic additives' may have been accidentally deleted).	Excluding synthetic additives; permitted for seed, potting module composts. Other use as recognized by certification body or authority.	Annex IIA: Use limited to horticulture (market gardening, floriculture, arboriculture, nursery).	Allowed from nonsynthetic sources without synthetic substances added.	Table 1: Natural substance or those derived from natural substances without being treated chemically and added with no chemosynthetic substance.
Perlite	See clay	Allowed under Clay	Allowed. Annex IIA: Clays (e.g. perlite, vermiculite, etc.).	Allowed at 205.203(d)(2).	Allowed. Table 1. Natural substance or those derived from natural substances without being treated chemically and added with no chemosynthetic substance.
Phosphates	Restricted	Natural phosphate rock Need recognized by certification body or authority. Cadmium should not exceed 90mg/kg P205.	Annex IIA: Two listings- (a) Soft ground rock phosphate - Product as specified by Council Directive 76/116/EEC (OJ No L 24, 30.1.1976, p. 21), as last amended by Directive 89/284/EEC (OJ No L 111, 22.4.1989, p. 34). Cadmium content less than or equal to 90 mg/kg of P205 (sic). (b) Aluminum calcium phosphate - Product as specified by Directive 76/116/EEC, as last amended by Directive 89/248/EEC; Cadmium content less than or equal to 90 mg/kg of P205 (sic). Use limited to basic soils (pH 7,5).	Allowed at 205.203(d)(2).	Allowed. Table 1: Natural rock phosphate. Including cadmium 90mg or less in 1kg in terms of phosphorous pentoxide. Fused magnesium phosphate. Natural substance or those derived from natural substances without being treated chemically and added with no chemosynthetic substance. Aluminum calcium phosphate. Those including cadmium 90mg or less in 1kg in terms of phosphorous pentoxide.

Table A4 Comparison of IFOAM 2002 Appendix 1 with Codex, EU NOP and JAS

IFOAM Material	IFOAM Status	Codex Status	EU Status	NOP Status	JAS Status
Plant preparations and extracts	Allowed	Not listed separately	Allowed. Annex IIA - Products and by-products of plant origin for fertilizers (for instance, oilseed cake meal, cocoa husks, malt culls, etc.) -- Allowed	Allowed from nonsynthetic sources without synthetic substances added.	Not listed in JAS; Lists various specific plant preparations and extracts.
Potassium	Mineral--Restricted--with low chlorine content (e.g. sulphate of potash, kainit, sylvanite, patentkali)	Rock potash, mined potassium salts (eg kainite, sylvinit) Less than 60% chlorine.	Annex IIA: Crude potassium salt (for instance: kainit, sylvinit, etc.) Need recognized by inspection body or inspection authority	Allowed from non-synthetic sources, without synthetic substances added (205.203(d)-(2) and (3)), except for potassium chloride, prohibited with an annotation at 205.602(g). See potassium chloride for the annotation.	Allowed. Table 1: Potassium chloride: Those formed by pulverizing or washing and refining the natural ore or those recovered from the natural brackish water. Potassium magnesium: Those formed by washing and refining the natural ore. Potassium sulfate: Those formed by washing and refining the natural ore.
Pulverised rock	Restricted--Natural	Not listed separately	No separate listing.	Allowed at 205.203(d)(2).	Not included in Table 1.
Seaweed and seaweed products	Restricted-- obtained by physical processes, extraction with water or aqueous acid and/or alkaline solution	Need recognized by certification body or authority.	Annex IIA: Seaweed's and seaweed products - As far as directly obtained by: (i) physical processes including dehydration, freezing and grinding (ii) extraction with water or aqueous acid and/or alkaline solution; (iii) fermentation; need recognized by the inspection body or inspection authority.	205.601(j)(1). Lists as "aquatic plant products (other than hydrolyzed)." Extraction process is limited to the use of potassium hydroxide or sodium hydroxide; solvent amount used is limited to that amount necessary for extraction.	Listed as "Dried algae and their powder"
Slurry	Restricted	If not from organic sources, need recognized by inspection body. Use preferably after controlled fermentation and/or appropriate dilution. "Factory" farming sources not permitted.	Use after controlled fermentation and/or appropriate dilution. Need recognized by the inspection body or inspection authority. Indication of animal species. Factory farming origin forbidden.	No separate category. See Farmyard manure.	Not included in Table 1.

Table A4 Comparison of IFOAM 2002 Appendix 1 with Codex, EU, NOP and JAS

IFOAM Material	IFOAM Status	Codex Status	EU Status	NOP Status	JAS Status
Sodium Chloride	Allowed	Only mined salt.	Allowed. Annex IIA - Only mined salt. Need recognized by inspection body or inspection authority.	Allowed under 205.203(d)(3). Nonsynthetic version (without synthetic substances added).	Allowed. To be mined salt.
Stone meal	Restricted--Natural	Allowed	Annex IIA: Allowed.	Allowed at 205.203(d)(2).	Not included in Table 1.
Straw	Allowed	Need recognized by the certification body or authority.	Not specifically listed	Allowed from nonsynthetic sources without synthetic substances added.	Not included in Table 1.
Sugarbeet lime	Allowed	Not listed separately. See Processed animal products from slaughterhouses. Need recognized by the certification body & fish industriessr (sic) authority	Need recognized by the inspection authority or inspection body.	Prohibited. Synthetic and not on the National List (205.105(a)).	Not included in Table 1.
Sulfur	Allowed	Need recognized by certification body	Product as specified by Directive 76/116/EEC, as amended by Directive 89/284/EEC. Need recognized by inspection body or inspection authority.	Allowed. Non-synthetic sources allowed at 205.203(d)(2) or (3); Synthetic sulfur is allowed as a plant or soil amendment at 205.601(j)(2).	Allowed. Table 1: Natural substance or those derived from natural substances without being treated chemically and added with no chemosynthetic substance.
Sulphate of potash	Restricted--Mineral potassium with low chlorine content.	Obtained by physical procedures but not enriched by chemical processes to increase its solubility Need recognized by the certification authority or body	Product obtained from crude potassium salt by a physical extraction process, and containing possibly also magnesium salts. Need recognised by the inspection body or inspection authority.	Allowed at 205.203(d)--either (2) or (3).	Allowed. Table 1: Potassium sulfate. Those formed by washing and refining the natural ore.
Sylvanite	Restricted--Mineral potassium with low chlorine content.	Rock potash, mined potassium salts (eg kainite, sylvanite) Less than 60% chlorine.	Need recognized by inspection body or inspection authority	Prohibited unless derived from a mined source and applied in a manner that minimizes chloride accumulation in the soil. 205.602(g).	Allowed. Table 1: Potassium chloride. Those formed by pulverizing or washing and refining the natural ore or those recovered from the natural brackish water.

Table A4 Comparison of IFOAM 2002 Appendix 1 with Codex, EU, NOP and JAS

IFOAM Material	IFOAM Status	Codex Status	EU Status	NOP Status	JAS Status
Trace elements	Restricted	(eg. boron, copper, iron, manganese, molybdenum, zinc) Need recognized by certification body or authority.	Trace elements included in Directive 89/530/EEC (OJ No L 281, 30.9.1989, p. 116). Need recognized by inspection body or inspection authority.	205.601(j)(6)(i) and (ii). Synthetic allowed; lists as micronutrients. Not to be used as a defoliant, herbicide, or desiccant. Those made from nitrates or chlorides are not allowed. Soil deficiency must be documented by testing. (i) Soluble boron products. (ii) Sulfates, carbonates, oxides, or silicates of zinc, copper, iron, manganese, molybdenum, selenium, and cobalt. Nonsynthetic trace elements are allowed.	Allowed. Table 1. Microelements: Those without chemosynthetic substance added, except for the microelements in the case of securing no normal growth of the crop by shortage of the microelements such as manganese and boron.
Urine	Restricted	If not from organic sources, need recognized by inspection body. Use preferably after controlled fermentation and/or appropriate dilution. "Factory" farming sources not permitted.	Use after controlled fermentation and/or appropriate dilution. Need recognized by the inspection body or inspection authority. Indication of animal species. Factory farming origin forbidden.	Allowed from nonsynthetic sources without synthetic substances added.	Not included in Table 1.
Vegetable residues	Allowed	Not listed separately	Not specifically listed	Allowed from nonsynthetic sources without synthetic substances added.	Not included in Table 1.
Vermicastings	Restricted	Allowed as 'Humus from earthworms'	Listed as Dejecta of worms (vermicompost) and insects	Allowed if culture does not contain prohibited (synthetic) substances (e.g. sewage sludge) or manure. If animal manure used in the culture, must be composted according to 205.203(c)(2).	Not included in Table 1.
Vermiculite	See clay	Allowed under Clay	Allowed. Annex IIA: Clays (e.g. perlite, vermiculite, etc.).	Allowed at 205.203(d)(2).	Allowed. Table 1. Natural substance or those derived from natural substances without being treated chemically and added with no chemosynthetic substance.
Wood and woodshavings	Restricted—provided it comes from untreated wood.	Woodwaste—Need recognized by the certification body or authority.	Sawdust and wood chips—Wood not chemically treated after felling	Nonsynthetic version (without synthetic substances added) allowed.	Not included in Table 1.

Table A4 Comparison of IFOAM 2002 Appendix 1 with Codex, EU, NOP and JAS

IFOAM Material	IFOAM Status	Codex Status	EU Status	NOP Status	JAS Status
Wood charcoal	Restricted--provided it comes from untreated wood.	Allowed	Not specifically listed		Table 1: Charcoal - Natural substances or those derived from natural substances without being treated chemically and added with no chemosynthetic substance.
Woodash and wood charcoal	Restricted--provided it comes from untreated wood.	Allowed	From wood not chemically treated after felling.	Allowed at 205.203(d)(4), except as prohibited in paragraph (e) of this section: Provided, That, the material burned has not been treated or combined with a prohibited substance or the ash is not included on the National List of nonsynthetic substances prohibited for use in organic crop production.	Table 1: Vegetation ash - Those without chemosynthetic substance added.
Wool	Restricted	Not listed separately. See Processed animal products from slaughterhouses. Need recognized by the certification body & fish industry's (sic) authority	Products or by-products of animal origin-- Need recognized by the inspection body or inspection authority	Allowed from nonsynthetic sources without synthetic substances added.	Not included in Table 1.
Worms	Allowed--Based on naturally occurring organisms	Allowed under Naturally occurring biological organisms (eg worms)	Annex IIA lists 'Dejecta of worms (vermicompost)' as Allowed.	Allowed if culture does not contain prohibited (synthetic) substances (e.g. sewage sludge) or manure. If animal manure used in the culture, must be composted according to 205.203(c)(2).	Not included in Table 1.
Zeolite	See clay	Allowed	Allowed. No separate listing, but considered a clay. Annex IIA: Clays (e.g. perlite, vermiculite, etc.).	Allowed at 205.203(d)(2).	Allowed. Table 1. Natural substance or those derived from natural substances without being treated chemically and added with no chemosynthetic substance.

Table A5 Comparison of IFOAM 2002 Appendix 2 with Codex, EU, NOP and JAS

IFOAM Material	IFOAM Status	Codex Status	EU Status	NOP Status	JAS Status
Algal preparations	Allowed	Not listed separately	Not listed in Annex IIB.	Allowed.	Allowed. Table 2. Chlorella extract liquid: Extraction process is limited to the use of potassium hydroxide or sodium hydroxide; solvent amount used is limited to that amount necessary for extraction.
Animal preparations and oils	Restricted	Plant and animal oils	Not listed in Annex IIB.	Allowed.	Not included in Table 2.
Bacillus thuringiensis	Allowed under Bacterial preparations	Not listed separately	Allowed. Annex IIB: Microorganisms (bacteria, viruses and fungi) e.g. Bacillus thuringiensis . . . Only products not genetically modified in the meaning of Directive 90/220/EEC (OJ No L 117, 8.5.1990, P.15).	Allowed. Non-synthetic, not prohibited. Biologicals restricted under 205.206.	Not included in Table 2.
Bacterial preparations	Allowed-- (e.g. Bacillus thuringiensis)	Micro-organisms (bacteria, viruses, fungi) e.g. Bacillus thuringiensis,	Allowed. Annex IIB: Microorganisms (bacteria, viruses and fungi) e.g. Bacillus thuringiensis . . . Only products not genetically modified in the meaning of Directive 90/220/EEC (OJ No L 117, 8.5.1990, P.15).	Allowed. Non-synthetic, not prohibited. Biologicals restricted under 205.206.	Not included in Table 2.
Beeswax	Restricted	Not listed separately.	Allowed. Annex IIB - Pruning agent.	Allowed.	Not included in Table 2.
Bentonite	See clay	Listed under Silicates, clay (Bentonite)	Not in Annex IIB	Allowed.	Allowed. Table 1. Natural substance or those derived from natural substances without being treated chemically and added with no chemosynthetic substance.
Biodynamic preparations	Allowed	Allowed under Herbal and biodynamic preparations	Not in Annex IIB	Allowed.	Not included in Table 2.
Calcium hydroxide	Allowed	Not listed separately	Not in Annex IIB	Allowed for plant disease control. Must be used in a manner that minimizes copper accumulation in the soil. 205.601(i)(3).	Allowed. Table 2: Slaked lime. Limited to the use for preparing Bordeaux mixture. Table 3.
Carbon dioxide	Allowed	Need recognized by certification body or authority.	Allowed without annotation on Annex IIB. Not on Annex IIB.	Allowed for post-harvest use 205.605(b)(8). Not on 205.601.	Allowed. Table 3.
Casein	Allowed under Dairy products	Allowed	Not in Annex IIB	Allowed.	Allowed. Table 2: Casein lime - Limited to the use for spreader.
Chitin nematocides	Allowed (natural origin)	Not listed separately	Not in Annex IIB	Allowed.	Not included in Table 2.

Table A5 Comparison of IFOAM 2002 Appendix 2 with Codex, EU, NOP and JAS

IFOAM Material	IFOAM Status	Codex Status	EU Status	NOP Status	JAS Status
Chloride of lime/soda	Restricted	Listed in Table 1 as Chloride of lime--Need recognized by the certification body or authority.	Not in Annex IIB	Prohibited. Synthetic and not on the National List. 205.105(a).	Allowed. Table 1. Bleaching powder.
Chromatic traps	Allowed under Physical methods	Not listed separately	Annex IIB III. Substances to be used in traps and/or dispensers. General conditions: The traps and/or dispensers must prevent the penetration of the substances in the environment and prevent contact of the substances with the crops under cultivation. the traps must be collected after use and disposed of safely	Allowed. 205.601(e)(7).	Not included in Table 2.
Clay	Allowed	Listed under Silicates, clay (Bentonite)	Not in Annex IIB	Allowed.	Allowed. Table 1. Natural substance or those derived from natural substances without being treated chemically and added with no chemosynthetic substance.
Coffee grounds	Allowed	Not listed separately	Not in Annex IIB	Allowed.	Not included in Table 2.

Table A5 Comparison of IFOAM 2002 Appendix 2 with Codex, EU, NOP and JAS

IFOAM Material	IFOAM Status	Codex Status	EU Status	NOP Status	JAS Status
Copper salts	Restricted—(e.g. sulfate, hydroxide, oxychloride, octanoate). Copper usage will be reduced after 2002 to max 8 kg/ha per year (on a rolling average basis), or less according to national laws or private label standards.	Need recognized by certification body or authority.	Until 31 December 2005 up to a maximum of 8 kg copper per hectare per year, and from 1 January 2006 up to 6 kg copper per ha per year, without prejudice to a more limited quantity if laid down under the specific terms of the general legislation on plant protection products in the Member State where the product is to be used. For perennial crops, Member States may, by derogation to the previous paragraph, provided that the maximum levels apply as follows:—the total maximum quantity used from 23 March 2002 until 31 December 2006 shall not exceed 38 kg copper per ha—from 1 January 2007, the maximum quantity which may be used each year per ha shall be calculated by subtracting the quantities actually used in the 4 preceding years from, respectively, 36, 34, 32 and 30 kg copper for the years 2007, 2008, 2009 and 2010 and following years. Need recognised by the inspection body or inspection authority.	Allowed at 205.601(i). Coppers, fixed - copper hydroxide, copper oxide, copper oxychloride, includes products exempted from EPA tolerance. Provided, That, copper-based materials must be used in a manner that minimizes accumulation in the soil and shall not be used as herbicides.	Allowed. Table 2. (a) sodium hydrogencarbonate / copper wettable powder (b) copper wettable powder (c) copper powdered agent (d) copper sulfate.
Corn gluten meal	Allowed—(weed control)	Not listed separately	Not in Annex IIB	Allowed.	Not included in Table 2.
Dairy products	Allowed—(e.g. milk, casein)	Not listed separately	Not in Annex IIB	Allowed.	Not included in Table 2.
Diatomaceous earth	Restricted	Need recognized by certification body or authority.	Not in Annex IIB	Allowed.	Allowed. Table 2: Limited to the use in storage facilities.
Ethyl alcohol	Allowed	Need recognized by certification body or authority.	Not in Annex IIB	Allowed.	Not included in Table 2.

Table A5 Comparison of IFOAM 2002 Appendix 2 with Codex, EU, NOP and JAS

IFOAM Material	IFOAM Status	Codex Status	EU Status	NOP Status	JAS Status
Fungal preparations	Restricted	Listed under Extract from mushroom (Shiitake fungus)	Allowed. Annex IIB. Microorganisms . . . fungi . . . Only products not genetically modified in the meaning of Directive 90/220/EEC (OJ No L 117, 8.5.1990, P.15).	Allowed. Non-synthetic, not prohibited. Biologicals restricted under 205.206.	Not included in Table 2.
Gelatine	Allowed	Allowed.	Allowed. Annex IIB. Insecticide	Synthetic and prohibited under 205.105; Non-synthetic sources not prohibited.	Not included in Table 2.
Granulosis virus	Allowed under Viral preparations	Not listed separately	Allowed. Annex IIB. Microorganisms . . . e.g. . . Granulose virus	Allowed. Non-synthetic, not prohibited. Biologicals restricted under 205.206.	Not included in Table 2.
Lecithin	Allowed	Need recognized by the certification body or authority.	Allowed. Annex IIB. Fungicide	Unbleached is non-synthetic and not prohibited.	Not included in Table 2.
Light mineral oils	Restricted (paraffin)	Listed under Paraffin oil--Need recognized by certification body or authority.	Allowed. Annex IIB. Mineral oils. Insecticide, fungicide only in fruit trees, vines, olive trees and tropical crops (e.g. bananas). Only during a period expiring 31 March 2002. Need to be recognized by the inspection body or inspection authority.	May include fractions outside the narrow range. 205.601(e)(5) oils, horticultural--narrow range oils as dormant, suffocating, and summer oils.	Allowed. Table 2: Petroleum oil aerosol. Petroleum oil emulsion.
Lime sulfur	Allowed (Calcium polysulfide)	Not listed separately	Allowed. Annex IIB. Fungicide, insecticide, acaricide. Need recognised by the inspection body or inspection authority	Allowed as an insecticide at 205.601(e)(4) and for disease control at 205.601(i)(5).	Not included in Table 2.
Mechanical traps	Allowed under Physical methods	Not listed separately	Annex IIB III. Substances to be used in traps and/or dispensers. General conditions: The traps and/or dispensers must prevent the penetration of the substances in the environment and prevent contact of the substances with the crops under cultivation.	Allowed. Sticky traps/barriers. 205.601(e)(7).	Not included in Table 2.
Milk	Allowed under Dairy products	Not listed separately	Not in Annex IIB	Allowed.	Not included in Table 2.

Table A5 Comparison of IFOAM 2002 Appendix 2 with Codex, EU, NOP and JAS

IFOAM Material	IFOAM Status	Codex Status	EU Status	NOP Status	JAS Status
Natural acids	Allowed (e.g. vinegar)	Need recognized by the certification body or authority.	Not in Annex IIB	Allowed.	Not included in Table 2.
Neem	Restricted (Azadirachta indica)	Need recognized by the certification body or authority.	Allowed. Annex IIB - Insecticide. Need recognised by the inspection body or inspection authority	Non-synthetic and not prohibited. Botanicals restricted under 205.206.	Not included in Table 2.
Paraffin	Allowed under Light mineral oil	Need recognized by certification body or authority.	Allowed. Annex IIB. Paraffin oils. Insecticide, acaricide	May include fractions outside the narrow range. 205.601(e)(5) oils, horticultural–narrow range oils as dormant, suffocating, and summer oils.	Allowed. Table 2: Limited to the use for spreader.
Parasites of insect pests	Restricted	Not listed separately	Not in Annex IIB	Allowed.	Not included in Table 2.
Perlite	See clay	Listed in Table 1 under Clay (eg. bentonite, perlite, zeolite)	Not in Annex IIB	Allowed.	Allowed. Table 1. Natural substance or those derived from natural substances without being treated chemically and added with no chemosynthetic substance.
Pheromones	Allowed - in traps and dispensers only	Allowed	Allowed. Annex IIB. Attractant; sexual behaviour disrupter. Only in traps and dispensers.	205.601(f). Synthetic allowed; lists as "as insect attractants—pheromones."	Allowed. Table 2. Sex pheromone agent.
Physical Methods	Allowed (e.g. chromatic traps, mechanical traps)	Not listed separately	Not in Annex IIB	Allowed. Non-synthetic and not prohibited.	Not included in Table 2.
Plant based repellents	Restricted	Not listed separately	Allowed. Annex IIB Plant oils . . . Allowed. Annex IIB. Insecticide, acaricide, fungicide and sprout inhibitor.	Allowed. Non-synthetic, not prohibited. Botanicals restricted under 205.206.	Allowed. Table 2. Repellant.
Plant oils	Allowed	Allowed	Allowed. Annex IIB Plant oils . . . Allowed. Annex IIB. Insecticide, acaricide, fungicide and sprout inhibitor.	Allowed. Non-synthetic, not prohibited. Botanicals restricted under 205.206.	Allowed. Table 2: Rape-seed oil emulsion. Nonsynthetic version (without synthetic substances added) allowed.
Plant preparations	Restricted	Listed under Natural plants preparations, excluding tobacco Need recognized by certification body or authority..	Allowed. Annex IIB Plant oils . . . Allowed. Annex IIB. Insecticide, acaricide, fungicide and sprout inhibitor.	Allowed. Non-synthetic, not prohibited. Botanicals restricted under 205.206.	Not included in Table 2.
Plastic mulches	Restricted	Not listed separately	Not in Annex IIB	Allowed. Plastic mulch and covers (petroleum-based other than polyvinyl chloride (PVC)). 205.601(b)(2)(ii).	Not included in Table 2.

Table A5 Comparison of IFOAM 2002 Appendix 2 with Codex, EU, NOP and JAS

IFOAM Material	IFOAM Status	Codex Status	EU Status	NOP Status	JAS Status
Potassium bicarbonate	Allowed	Not listed separately	Not in Annex IIB	Allowed for disease control without ennotation. 205.601(e)(7)	Not included in Table 2.
Potassium permanganate	Restricted	Need recognized by certification body or authority.	Allowed. Annex IIB. Fungicide, bactericide Only in fruit trees olive trees and vines.	Prohibited. Synthetic and not on the National List. 205.105(a).	Not included in Table 2.
Predators of insect pests	Restricted	Not listed separately	Not in Annex IIB	Allowed.	Not included in Table 2.
Propolis	Allowed	Need recognized by the certification body or authority.	Not in Annex IIB	Allowed. Non-synthetic and not prohibited at 205.602.	Not included in Table 2.
Pyrethrum	Restricted (Chrysanthemum cinerariaefolium)	Need recognized by the certification body or authority.	Allowed. Annex IIB. Insecticide. Need recognised by the inspection body or inspection authority.	Allowed. Non-synthetic and not prohibited. Botanicals restricted under 205.206.	Allowed. Table 2: Pyrethrum emulsion. To be extracted from Chrysanthemum cinerariaefolium.
Quassia	Restricted-- (Quassia amara)	Need recognized by the certification body or authority.	Allowed. Annex IIB. Insecticide, repellent.	Non-synthetic and not prohibited. Botanicals restricted under 205.206.(note: Quassia is not EPA registered).	Not included in Table 2.
Quicklime	Restricted	Not listed separately	Not in Annex IIB	Prohibited. Synthetic and not on the National List. 205.105(a).	Not included in Table 2.
Rotenone	Allowed-- (Derris elliptica, Lonchocarpus spp. Thephrosia spp.)	Need recognized by the certification body or authority.	Allowed. Annex IIB. Insecticide. Need to be recognized by the inspection body or inspection authority	Non-synthetic and not prohibited. Botanicals restricted under 205.206.	Allowed. Table 2: As emulsion, powder, and dust.
Ryania	Restricted (Ryania speciosa)	Need recognized by the certification body or authority.	Not in Annex IIB	Allowed. Non-synthetic, not prohibited. Botanicals restricted under 205.206.	Not included in Table 2.
Sabadilla	Allowed	Need recognized by the certification body or authority.	Not in Annex IIB	Allowed. Non-synthetic, not prohibited. Botanicals restricted under 205.206.	Not included in Table 2.
Seasalt and salty water	Allowed	Not listed separately	Not in Annex IIB	Allowed.	Not included in Table 2.
Silicates	Allowed-- (e.g. sodium silicates, quartz)	Allowed under Mineral powders (stone meal, silicates); Silicates, clay (Bentonite); and Sodium silicate	Not on Annex IIA or Annex IIB (Note: Appeared in the original Annex IIB. Schmidt and Haccius (1998) believe that this compound was omitted in the EC 1488/97 by an editorial mistake).	Allowed. Non-synthetic sources not prohibited.	Not included in Table 2.
Soda	Allowed	Not listed separately	Not in Annex IIB	Allowed.	Not included in Table 2.
Sodium bicarbonate	Restricted	Allowed	Not in Annex IIB	Allowed.	Allowed. Table 2. Sodium hydrogencarbonate wettable powder.

Table A5 Comparison of IFOAM 2002 Appendix 2 with Codex, EU, NOP and JAS

IFOAM Material	IFOAM Status	Codex Status	EU Status	NOP Status	JAS Status
Soft soap	Allowed	Allowed as potassium soap.	Allowed. Annex IIB - Insecticide	Allowed as an insecticide at 205.601(e)(6)	Not included in Table 2.
Sterilized insects	Restricted	Sterilized insect males Need recognized by certification body or authority.	Not in Annex IIB	Allowed.	Not included in Table 2.
Sulfur dioxide	Restricted	Not listed separately	Annex IIB lists Sulphur as a Fungicide, acaricide, repellent, but does not mention combustion.	Allowed. Underground rodent control only (smoke bombs). 205.601(g)(1)	Allowed. Table 2. Sulfur smoking agent.
Sulphur	Restricted	Need recognized by certification body or authority.	Allowed. Annex IIB - Fungicide, acaricide, repellent	Allowed at 205.601(e)(3), 205.601(i)(8), and 205.601(j)(2).	Allowed. Table 2. Sulfur powdered agent and wettable sulfur powder.
Tobacco tea	Restricted—pure nicotine is forbidden	Except pure nicotine—Need recognized by certification body or authority.	Allowed. Annex IIB - Extract from <i>Nicotiana tabacum</i> (aqueous solution). Insecticide. Only against aphids in subtropical fruit trees (e.g. oranges, lemons) and tropical crops (e.g. bananas). Used only at the start of the tropical crops. Need to be recognized by the inspection body or inspection authority. Only during a period expiring 31 March 2002.	Prohibited natural 205.602(f).	Not included in Table 2.
Vermiculite	See clay	Not listed separately	Not in Annex IIB	Allowed.	Allowed. Table 1. Natural substance or those derived from natural substances without being treated chemically and added with no chemosynthetic substance.
Viral preparations	Restricted	Not listed separately	Allowed. Annex IIB. Microorganisms . . . viruses.	Allowed. Non-synthetic, not prohibited. Biologicals restricted under 205.206.	Not included in Table 2.
Zeolite	See clay	Clay (eg. bentonite, perlite, zeolite) —	Not in Annex IIB	Allowed.	Allowed. Table 1. Natural substance or those derived from natural substances without being treated chemically and added with no chemosynthetic substance.

Table A.6 Comparison of IFOAM 2002 Appendix 4 with Codex, EU, NOP and JAS

INS #	Class ¹	Name	IFOAM ²	Codex Alimentarius ³	EU 2092/91 Annex VI ⁴	US NOP Final Rule ⁵	Japan Agricultural Standard ⁶
170	AD PA	calcium carbonate	Generally unrestricted.	Listed without Specific conditions.	for all purposes with the exception of colouring	Allowed	Allowed.
181	PA	tannin	Only for wine	Not listed.	Not listed.	Not listed	Limited to the use as a filtering aid
184	PA	tannic acid	Filtration aid for wine	Listed as a filtration aid.	Listed as a filtration aid.	Not listed	Not listed.
220	AD PA	sulfur dioxide	Only for wine	Allowed in wine products.	Not listed.	Allowed - for use only in wine labeled "made with organic grapes," Provided, That, total sulfite concentration does not exceed 100 ppm.	Not listed.
224	AD	potassium metabisulfite	Only for wine	Not listed.	Not listed.	Not listed	Not listed.
270	AD PA	lactic acid	Generally unrestricted	Allowed in fermented vegetable products.	Listed without Specific conditions.	Allowed	Limited to the use in processed vegetable products
290	AD PA	carbon dioxide	Generally unrestricted.	Allowed without conditions.	Listed without Specific conditions.	Allowed	Allowed.
296	AD	malic acid	Not listed	Listed without Specific conditions.	Listed without Specific conditions.	Not listed	Allowed as "dl-Malic acid."
300	AD	ascorbic acid	Allowed for use in fruits & vegetables - If not available in natural form.	Allowed if not available in natural form.	Listed without Specific conditions.	Allowed	Allowed.
306	AD	tocopherols	Generally unrestricted as mixed natural concentrates.	Allowed without conditions.	extracts/ Listed without Specific conditions.	Allowed - derived from vegetable oil when rosemary extracts are not a suitable alternative	Allowed as "Mixed tocopherol."
322	AD	lecithin	Generally unrestricted.	Allowed if obtained without the use of bleaches and organic solvents.	Listed without Specific conditions.	Allowed	Enzyme treated, enzyme decomposed, plant, and yolk lecithins are all "limited to those obtained without bleaching and organic solvent treatment"
330	AD PA	citric acid	Generally unrestricted.	Allowed in fruit and vegetable products.	Listed without Specific conditions. As additive and processing aid	Allowed—produced by microbial fermentation of carbohydrate substances	Limited to the use as a pH adjuster, or to be used on processed vegetable products and processed fruit products.
331	AD	sodium citrate	Generally unrestricted.	Not listed.	Not listed.	Allowed	Not listed.
332	AD	potassium citrate	Generally unrestricted.	Not listed.	Not listed.	Allowed	Not listed.
333	AD	calcium citrate	Generally unrestricted.	Not listed.	Listed without Specific conditions.	Allowed	Not listed.

Table A.6 Comparison of IFOAM 2002 Appendix 4 with Codex, EU, NOP and JAS

INS #	Class ¹	Name	IFOAM ²	Codex Alimentarius ³	EU 2092/91 Annex VI ⁴	US NOP Final Rule ⁵	Japan Agricultural Standard ⁶
334	AD PA	tartaric acid	Only for wine	Listed as 'tartaric acid and salts' to be used as a processing aid without Specific conditions.	L(+) allowed without Specific conditions.	Not listed	Allowed as both "dl-Tartaric acid" and "l-Tartaric acid."
335	AD PA	sodium tartrate	Generally unrestricted.	Allowed in cakes and confectionary.	Listed without Specific conditions.	Not listed	Listed as both "dl-sodium tartrate" and "l-sodium tartrate." Limited to the use in confectionery.
336	AD PA	potassium tartrate	Generally unrestricted.	Allowed in cereals, cakes, and confectionary.	Listed without Specific conditions.	Allowed - made from tartaric acid	Listed as both "dl-potassium bitartrate" and "l-potassium bitartrate" Limited to the use in processed grain products and confectionery.
337	PA	potassium sodium tartrate	Not listed	Not listed.	Not listed.	Allowed	Not listed.
339	AD	sodium phosphates	Not listed.	Not listed.	Not listed.	Allowed - for use only in dairy foods	Not listed.
341	AD	calcium phosphate	Mono-calcium phosphate is restricted only for raising flour.	Monocalcium phosphate (341i) allowed only for raising flour.	Monocalcium phosphate (341i) listed as a raising agent for self raising flour	Allowed (monobasic, dibasic, and tribasic)	Listed as "Mono calcium phosphate." Limited to the use as a raising agent on flour.
342	AD	ammonium phosphates	Restricted for use in wine to 0.3 g/l.	Not listed.	Not listed.	Prohibited	Not listed.
400	AD	alginic acid	Generally unrestricted.	Allowed without conditions.	Listed without Specific conditions.	Allowed	Allowed.
401	AD	sodium alginate	Generally unrestricted.	Allowed without conditions.	Listed without Specific conditions.	See alginates	Allowed.
402	AD	potassium alginate	Generally unrestricted.	Allowed without conditions.	Listed without Specific conditions.	See alginates	Not listed.
406	AD	agar agar	Generally unrestricted.	Allowed without conditions.	Listed without Specific conditions.	Allowed	Not listed.
407	AD	carrageenan	Generally unrestricted.	Allowed without conditions.	Listed without Specific conditions.	Not listed	Not listed.
410	AD	locust bean gum	Generally unrestricted	Allowed without conditions.	Listed without Specific conditions.	Allowed under 'gums'	Not listed.
412	AD	guar gum	Generally unrestricted.	Allowed without conditions.	Listed without Specific conditions.	Allowed under 'gums'	Allowed.
413	AD	tragacanth gum	Generally unrestricted.	Allowed without conditions.	Listed without Specific conditions.	Not listed	Allowed.

Table A.6 Comparison of IFOAM 2002 Appendix 4 with Codex, EU, NOP and JAS

INS #	Class ¹	Name	IFOAM ²	Codex Alimentarius ³	EU 2092/91 Annex VI ⁴	US NOP Final Rule ⁵	Japan Agricultural Standard ⁶
414	AD	arabic gum	Allowed only for milk products, fat products, confectioneries, sweets, eggs.	Allowed for milk, fat and confectionary products.	Listed without Specific conditions.	Allowed	Limited to the use in edible oil and fat, and confectionary.
415	AD	xanthan gum	Allowed only for fat, fruit and vegetable products, cakes and biscuits.	Allowed for fat products, fruit and vegetables, cakes & biscuits, salads.	Listed without Specific conditions.	Allowed	Allowed.
416	AD	karaya (karaga) gum	Not listed.	Allowed without conditions.	Listed without Specific conditions.	Not listed	Allowed.
422		glycerine	Not listed.	Not listed.	as plant extract	Allowed - produced by hydrolysis of fats and oils	Not listed.
440	AD	pectin	Unmodified pectin is generally unrestricted.	Unmodified allowed without specific conditions.	440(i) allowed without conditions.	Both high-methoxy (natural) and low-methoxy (synthetic) forms are allowed.	Allowed.
471	AD	mono/diglycerides	Not listed.	Not listed.	Not listed.	Allowed as 'glycerides (mono and di) - for use only in drum drying of food'	Not listed.
500	AD PA	sodium carbonates (includes bicarbonate)	Generally unrestricted.	Allowed for cakes & biscuits, confectionery	Listed without Specific conditions. As additive and processing aid	Allowed	Limited to the use in manufacturing prepared products from confectionary, sugar, beans, noodles and bread.
501	AD PA	potassium carbonate	Generally unrestricted.	Allowed in cereals, cakes & biscuits, confectionery	Allowed as an ingredient without conditions, and as a processing aid for the drying of grapes.	Allowed	Limited to the use in drying processed fruit products, or the use in processed grain products, prepared products from beans, noodles and bread, or confectionary
503	AD	ammonium bicarbonate	IFOAM lists "ammonium carbonates" as allowed in cereal, confectionery, cakes and biscuits.	Allowed without conditions.	Listed without Specific conditions.	Allowed as a leavening agent.	Not listed.
503	AD	ammonium carbonate	IFOAM lists "ammonium carbonates" as allowed in cereal, confectionery, cakes and biscuits.	Allowed without conditions.	Listed without Specific conditions.	Allowed as a leavening agent.	Allowed.

Table A.6 Comparison of IFOAM 2002 Appendix 4 with Codex, EU, NOP and JAS

INS #	Class ¹	Name	IFOAM ²	Codex Alimentarius ³	EU 2092/91 Annex VI ⁴	US NOP Final Rule ⁵	Japan Agricultural Standard ⁶
504	AD	magnesium carbonate.	Generally unrestricted.	Allowed without conditions.	Listed without Specific conditions.	Allowed - for use only in agricultural products labeled "made with organic (specified ingredients or food group(s))." prohibited in agricultural products labeled "organic"	Allowed.
508	AD	potassium chloride	Generally unrestricted.	Allowed in vegetables/canned fruit frozen fruit and Vegetables, vegetable sauces/ketchup and mustard	Not listed.	Allowed	Limited to the use in processed vegetable products, processed fruit products, seasonings or soup.
509	AD PA	calcium chloride†	Generally unrestricted.	Allowed in milk products/fat products/fruits and vegetables/soybean products	Allowed as a processing aid—coagulation agent	Allowed	Limited to the use as a coagulant, or in edible oil and fat, processed vegetable products, processed fruit products, and prepared products from beans.
511	AD PA	magnesium chloride	Allowed only for soybean products.	Allowed in soybean products.	Allowed as a coagulation agent. Listing refers to 'nigari.'	Allowed - derived from sea water	Limited to the use as a coagulant, or in prepared products from beans.
513	AD PA	sulfuric acid	Allowed only for pH adjustment of water in sugar processing.	Allowed as a processing aid pH adjustment of extraction water in sugar production.	Allowed as a processing aid for sugar production	Not listed	Limited to the use as a pH adjuster for adjusting pH of extraction water used in manufacturing of sugar.
516	AD	calcium sulfate	Allowed only for soybean products, confectionary, and in in baker's yeast.	Cakes & biscuits/soy bean products/bakers yeast. Carrier. As a production aid—coagulant.	Allowed as a processing aid—coagulation agent and as carrier	Not listed	Limited use as solidification agent, or processing confectionery, processed bean and yeast for bread.
517	AD	ammonium sulfate	Restricted for use in wine to 0.3 g/l.	Not listed.	Not listed.	Not listed	Not listed.
518	AD	magnesium sulfate	Not listed.	Not listed.	Not listed.	Allowed - nonsynthetic sources only.	Not listed. [NOTE: see "Nigari" for a separate listing.]

Table A.6 Comparison of IFOAM 2002 Appendix 4 with Codex, EU, NOP and JAS

INS #	Class ¹	Name	IFOAM ²	Codex Alimentarius ³	EU 2092/91 Annex VI ⁴	US NOP Final Rule ⁵	Japan Agricultural Standard ⁶
524	AD PA	sodium hydroxide	Allowed for sugar processing and for the surface treatment of traditional bakery products.	Allowed as an ingredient in cereal products, and as a processing aid for pH adjustment in sugar production.	Allowed for surface treatment of Laugengebäck / Processing aid for the sugar production and the production of Oil out of Brassica spp. (For Oil processing only up to the 31.3.02)	Allowed - prohibited for use in lye peeling of fruits and vegetables	Limited to the use as a pH adjuster in processing of sugar, or the use in processed grain products.
525	AD PA	potassium hydroxide	Not listed.	pH adjustment for sugar processing	Not listed.	Allowed - prohibited for use in lye peeling of fruits and vegetables	Limited to the use as a pH adjuster in processing of sugar.
526	AD PA	calcium hydroxide	Allowed as a food additive for maize tortilla flour and as a processing aid for sugar.	Allowed as a production aid without conditions.	Allowed as a processing aid without conditions.	Allowed	Allowed.
529	PA	calcium oxide	Not listed.	Not listed.	Not listed.	Not listed	Allowed as a processing aid.
550	PA	sodium silicate	Not listed.	Not listed.	Not listed.	Allowed as a floating agent in postharvest handling	Not listed.
551	PA	silicon dioxide (amorphous)	Allowed for wine, fruit, and vegetable processing.	Allowed as gel or colloidal solution.	Allowed as additive for realising agent for herbs and spices / as processing aid in the form of gel or colloidal solution to be used without conditions.	Allowed	Limited to the use as a gel or a colloidal solution
553	PA	talc	Generally unrestricted.	Allowed without conditions.	Listed without Specific conditions.	Not listed	Allowed.
558	AD PA	bentonite	Allowed only for fruit and vegetable processing.	Allowed without conditions.	Listed without Specific conditions.	Allowed	Allowed.
559	AD PA	kaolin	Generally unrestricted as a processing aid. Not listed as an ingredient.	Allowed without conditions.	Listed without Specific conditions.	Allowed	Allowed.
901	PA	beeswax	Generally unrestricted.	Allowed as a releasing agent.	Allowed as a releasing agent.	Not listed	Limited use as a separation agent.
903	AD PA	carnauba wax	Generally unrestricted.	Allowed as a releasing agent.	Allowed as a releasing agent.	Allowed	Limited use as a separation agent.
938	AD	argon†	Generally unrestricted.	Allowed without conditions.	Allowed without conditions.	Not listed	Not listed.
941	AD PA	nitrogen	Generally unrestricted.	Allowed without conditions.	Allowed without conditions.	Allowed - oil-free grades	Allowed.
948	AD PA	oxygen gas	Generally unrestricted.	Allowed without conditions.	Allowed without conditions.	Allowed - oil-free grades	Allowed.

Table A.6 Comparison of IFOAM 2002 Appendix 4 with Codex, EU, NOP and JAS

INS #	Class ¹	Name	IFOAM ²	Codex Alimentarius ³	EU 2002/91 Annex VI ⁴	US NOP Final Rule ⁵	Japan Agricultural Standard ⁶
	AD	acetic acid bacteria	See Preparations of microorganisms.	See Preparations of Microorganisms.	See Microorganism preparations.	Not listed	Not listed.
	PA	activated carbon	Generally unrestricted.	Allowed without conditions.	Listed as Processing aid without specific conditions	Not listed	Allowed.
	AD	alginates (as a class)	Not listed	See individual alginates.	See individual alginates.	Allowed	See individual alginates.
	AD	baking powder	See individual components.	Not listed.	Listed as carbonates, and tartrates,	Not listed	See individual components.
	PA	bleach (chlorine dioxide, calcium hypochlorite, sodium hypochlorite)	Not listed.	Not listed.	Not listed.	For disinfecting and sanitizing food contact surfaces, Except, That, residual chlorine levels in the water shall not exceed the maximum residual disinfectant limit under the Safe Drinking Water Act.	Not listed.
	PA	casein	Allowed only for wine.	Allowed without conditions.	Listed without Specific conditions.	Not listed	Allowed.
	PA	colloidal silica	Allows silicon dioxide as gel or colloidal solution in winemaking and fruit & vegetable processing.	Allows silicon dioxide as gel or colloidal solution.	Allows silicon dioxide as gel or colloidal solution	Not listed--see silicon dioxide	Includes silicon dioxide "Limited to the use as a gel or colloidal solution."
	AD	colorings, natural	Not listed.	Not listed.	Not listed.	Allowed	Not listed.
	AD	cornstarch	Not listed.	Not listed.	C.2.2. Lists starch from waxy maize and reis.	Allowed	Not listed.
	AD	cornstarch (modified)	Not listed.	Not listed.	C.2.2. Lists starch from waxy maize and reis.	Not listed	Not listed.
	AD	cultures, dairy	See Microorganism preparations.	See Preparations of microorganisms.	See Microorganism preparations.	Allowed	Not listed.
	PA	diatomaceous earth	Allowed only for sweeteners and wine.	Allowed without conditions.	Allowed without conditions.	Allowed	Allowed.
	PA	egg white albumen	Allowed only for wine.	Allowed as a processing aid.	Allowed without conditions.	Not listed	Allowed as a processing aid.
	AD PA	enzymes	See Microorganism preparations.	Any preparations of microorganisms and enzymes normally used in food processing, with the exception of microorganisms genetically engineered/ modified or enzymes derived from genetic engineering.	Any preparations of micro-organisms and enzymes normally used as processing aids in food processing, with the exception of micro-organisms genetically modified within the meaning of Article 2 (2) of Directive 90/220/EEC.	Allowed - must be derived from edible, nontoxic plants, nonpathogenic fungi, or nonpathogenic bacteria	Allowed as a processing aid. [NOTE: see Article 3 for the prohibition on additives, and specifically enzymes obtained from recombinant DNA technologies.]

Table A.6 Comparison of IFOAM 2002 Appendix 4 with Codex, EU, NOP and JAS

INS #	Class ¹	Name	IFOAM ²	Codex Alimentarius ³	EU 2092/91 Annex VI ⁴	US NOP Final Rule ⁵	Japan Agricultural Standard ⁶
	AD	enzymes, animal derived	See Microorganism preparations.	See enzymes.	See enzymes.	Not listed	See enzymes.
	PA	ethanol	Generally unrestricted as a processing aid.	Allowed as a solvent.	Allowed as a solvent.	Not listed	Allowed.
	PA	ethylene	Not listed in Appendix 4. Allowed in §7.1.7 for ripening.	Not listed.	Not listed.	Allowed for postharvest ripening of tropical fruit	Not listed.
	AD	ferrous sulfate	Not listed separately. See minerals.	Not listed.	Not listed.	Allowed - for iron enrichment or fortification of foods when required by regulation or recommended (independent organization)	Not listed.
	AD	flavours, natural	Organic flavoring extracts (including volatile oils); Volatile (essential) oils produced by means of solvents such as oil, water, ethanol, carbon dioxide and mechanical and physical processes; Natural smoke flavor; Natural flavoring preparations are only to be approved based on the IFOAM Procedure to Evaluate Additives and Processing Aids (Appendix 5)	Substances and products labelled as natural flavouring substances or natural flavouring preparations as defined in Codex Alimentarius 1A - 1995, Section 5.7.	Substances and products as defined in Article 1 (2) (b) (i) and 1 (2) (c) of Directive 88/388/EEC labelled as natural flavouring substances or natural flavouring preparations, according to Article 9 (1) (d) and (2) of that Directive.	Allowed - nonsynthetic sources only and must not be produced using synthetic solvents and carrier systems or any artificial preservative.	Those not chemically synthesized
	AD, PA	gelatine	Allowed only as a processing aid for wine, fruit, and vegetables.	Listed without Specific conditions.	Listed without Specific conditions.	Not listed	Allowed.
	AD	gums, vegetable	See individual gums.	See individual gums.	See individual gums.	Allowed	See individual gums.
		hazelnut shells	Not listed.	Listed without Specific conditions.	Listed without Specific conditions.	Not listed	Not listed.
	PA	hydrogen peroxide	Not listed.	Not listed.	Not listed.	Allowed	Not listed.
	AD, PA	isinglass	Allowed only as a processing aid for wine.	Listed without Specific conditions.	Listed without Specific conditions.	Not listed	Not listed.
	AD	kelp	Not listed.	Not listed.	Not listed.	Allowed - for use only as a thickener and dietary supplement	Not listed.
	AD	lactic acidophilus bacteria	See Preparations of microorganisms.	See Microorganism preparations.	See Microorganism preparations.	See cultures, dairy	See Microorganism preparations.

Table A.6 Comparison of IFOAM 2002 Appendix 4 with Codex, EU, NOP and JAS

INS #	Class ¹	Name	IFOAM ²	Codex Alimentarius ³	EU 2092/91 Annex VI ⁴	US NOP Final Rule ⁵	Japan Agricultural Standard ⁶
	PA	lignin sulfonate	Not listed.	Not listed.	Not listed.	Allowed as a floating agent in postharvest handling	Not listed.
	AD	magnesium stearate	Not listed	Not listed.	Not listed.	Allowed - for use only in agricultural products labeled "made with organic (specified ingredients or food group(s))." prohibited in agricultural products labeled "organic"	Not listed.
	AD	microorganism preparations.	These may be used as ingredient or processing aids with approval based on the IFOAM Procedure to Evaluate Additives and Processing Aids for Organic Food Products. Organic certified micro-organisms; Preparations of micro-organisms; Enzymes and enzyme preparations. See IBS 6.2.4.	Any preparations of microorganisms and enzymes normally used in food processing, with the exception of microorganisms genetically engineered/ modified or enzymes derived from genetic engineering.	(i) Any preparations of micro-organisms normally used in food processing, with the exception of micro-organisms genetically modified within the meaning of Article 2 (2) of Directive 90/220/EEC;	See individual organisms	Table 3 allows "Processing aids etc. derived from microorganisms." Article 4 prohibits the use of additives from rDNA sources.
	AD	minerals†	Restricted to where use is legally required or where severe dietary or nutritional deficiency can be demonstrated (6.2.3).	Only approved in so far as their use is legally required in the food products in which they are incorporated.	(ii) Micro-organisms genetically modified within the meaning of Article 2 (2) of Directive 90/220/EEC; if they have been included according to the decision procedure of Article 14.	Allowed in accordance with 21 CFR 104.20, Nutritional Quality Guidelines For Foods	Not listed.
	AD	nigari†	Not listed. Magnesium chloride is allowed in soy products. No standard for limit on other ingredients.	See magnesium chloride.	A.5. Minerals (including trace elements) and vitamins	Not listed separately.	English translation lists "Crude sea water magnesium chloride "[l]imited to the use as a coagulant, or in prepared products from beans"
	AD	ozone	Not listed. Oxygen is allowed, but molecular form is not specified.	Not listed.	Not listed.	Allowed	Not listed.
	AD	paraffin	Not listed.	Not allowed	Not listed.	Not listed	Limited to the use as a developer
	PA	perlite	Generally unrestricted.	Listed without Specific conditions.	Listed without Specific conditions.	Allowed - for use only as a filter aid in food processing	Allowed as a processing aid.

Table A.6 Comparison of IFOAM 2002 Appendix 4 with Codex, EU, NOP and JAS

INS #	Class ¹	Name	IFOAM ²	Codex Alimentarius ³	EU 2092/91 Annex VI ⁴	US NOP Final Rule ⁵	Japan Agricultural Standard ⁶
	AD	potassium iodide.	See minerals.	Not listed.	Not listed.	Allowed from a natural source. Synthetic - for use only in agricultural products labeled "made with organic (specified ingredients or food group(s))." prohibited in agricultural products labeled "organic"	Not listed.
	PA	preparations of bark	Allowed as a processing aid only for sugar.	Listed without Specific conditions.	Not listed.	Not listed	Allowed as a processing aid.
	PA	rice hulls	Not listed.	Not listed.	Not listed.	Not listed	Not listed.
	AD	salt (sodium chloride)	Not listed in Appendix 4. See §6.2.2 of Basic Standards	Lists "Salts (with sodium chloride or potassium chloride as basic components generally used in food processing)."	Lists "Salt (with sodium chloride or potassium chloride as basic components), generally used in food processing."	Allowed	Allowed.
	AD	sand, steamed	Not listed.	Not listed.	Not listed.	Not listed - see Silicon dioxide	Not listed.
	AD	seaweed	Not listed.	Not listed.	Not listed.	Not listed	Not listed.
	AD	smoke flavoring	See flavors, natural and yeast, smoked.	See flavors.	See flavors.	Not listed separately.	See flavors.
	AD	smoked yeast	See flavors, natural and yeast, smoked.	See Microorganism preparations.	See Microorganism preparations.	See yeast, smoked	See Microorganism preparations.
	AD	steam	Not listed.	Not listed.	Not listed.	See water	Not listed.
	AD	sulfites	See individual sulfites.	Not listed.	Not listed.	Listed individually	Fumigation preparation of sulfur is allowed in Table 2 (post-harvest pest control)
	AD	sulfur	Not listed.	Not listed.	Not listed.	Not listed	"Fumigation preparation of sulfur" is allowed in Table 2 (post-harvest pest control)
	AD	unmodified starches	Not listed	Not listed.	C.2.2. Sugars; starch; other products from cereals and tubers: Beet sugar Fructose Rice paper Starch from rice and waxy maize	Not listed	Not listed.
	PA	vegetable oils	Not listed	Listed as a greasing or releasing agent.	Listed as a greasing, releasing or antifoaming agent.	Not listed	Allowed as a processing aid.

Table A.6 Comparison of IFOAM 2002 Appendix 4 with Codex, EU, NOP and JAS

INS #	Class ¹	Name	IFOAM ²	Codex Alimentarius ³	EU 2092/91 Annex VI ⁴	US NOP Final Rule ⁵	Japan Agricultural Standard ⁶
	AD	vitamins†	Restricted to where use is legally required or where severe dietary or nutritional deficiency can be demonstrated (6.2.3).	Only approved in so far as their use is legally required in the food products in which they are incorporated.	Only authorized as far as their use is legally required in the foodstuffs in which they are incorporated.	Allowed in accordance with 21 CFR 104.20, Nutritional Quality Guidelines For Foods	Not listed.
	AD	water†	Not listed in Appendix 4. See §6.2.2 of Basic Standards	Drinking water.	Drinking water	Allowed - Must meet drinking water standards by statute.	Allowed.
	PC	wax	Not listed.	Not listed.	Not listed.	Listed individually	Aqueous preparation of wax permitted for post-harvest pest control.
	AD	wood rosin	Not listed.	Not listed.	Not listed.	Allowed	Not listed—see wax.
	AD	yeast	See Microorganism preparations.	See Microorganism preparations.	See Microorganism preparations.	Allowed - nonsynthetic, growth on petrochemical substrate and sulfite waste liquor is prohibited	See Microorganism preparations.
	AD	yeast, nutritional	See Microorganism preparations.	See Microorganism preparations.	See Microorganism preparations.	Allowed - see yeast	See Microorganism preparations.
	AD	yeast, smoked	See Microorganism preparations. See flavours.	See Microorganism preparations. See flavors, natural.	See Microorganism preparations. See flavors, natural.	Allowed - nonsynthetic smoke flavoring process must be documented.	See Microorganism preparations.
1AD=Additive; PA=Processing Aid							
2IFOAM Basic Standards 2002 (Passed in Victoria)							
3CAC/GL 32-1999 as amended through July 2001.							
4European Council Regulation 2092/91 as amended through March, 2002.							
57 CFR 205.							
6Japanese Ministry of Agriculture, Fisheries, and Forestry, Notifications No. 59 and No. 60, 20 January 2000 (Unofficial English Translation).							

IMO COMPARISON NOP FINAL RULE VS. REGULATION (EEC) N° 2092/91

Note: This comparison is not meant as a complete comparison between the NOP final Rule and EU-Regulation (EEC) N° 2092/91. Emphasis has been laid on aspects where NOP final rule exceeds the EU-Regulation, but some aspects where the EU exceeds the US have also been tried to describe.

	NOP	Regulation (EEC) N° 2092/91
Applicability	Certain Operations are exempt from certification and submission of an organic system plan: - any production / handling operation with organic sales total less than 5'000 USD - handler of products with less than 70% organic ingredients - retail foods establishment without processing	No exemptions for small operators, and handlers of products of the less than 70% category not possible in EU
Applicable products	- Honey/apiary & Fishery products not regulated - ☐ see remarks under "livestock general"	-honey/apiaries regulated
Regulated terms	US only regulates the term "organic", not its derivatives, diminutives, translations, or synonyms.	derivatives, diminutives, translations, or synonyms and the most common translation of "organic" are regulated.
Application for certification	- Operators applying for certification need to submit their organic production and handling system plan and detailed information on previous certifications or applications for certifications - The certification agency has to review the application to ensure that is complete, that the operator appears to comply with the organic standard considering the proposed measures to ensure compliance, and that the applicant has submitted sufficient proof of corrective actions regarding non-compliances identified by previous certifiers	- acc. IMO standard procedures an operator has applied for certification as soon as he has either signed the inspection contract (EU compulsory) or signed the IMO cost estimation. - For international inspections, there is no formal review of the applicants actual activities and compliance with the standard before the first inspection.
Certification	- Certification remains valid until revoked or suspended; but need to be updated annually. ☐ first certification very important, next inspection are only "surveillance" whether it still is ok.	- Certificate renewed every year
Organic Production Handling System Plan	- Each organic operator must develop an organic production or handling system plan that is agreed to by the handler/producer as well as the certification agent - The plan must include: description of practices to be performed and maintained, list of substances used as production or handling inputs, description of monitoring practices to verify that the plan is effectively implemented, a description of the record keeping system and all separation measures	Annex III, General Part, Chapter 3: At first inspection the operator must "draw up" - full description of the units and/or premises and/or activity - all practical measures to be taken to ensure compliance with this regulation → same requirements for first inspection, but no detailed production plan required for already certified operations → In the IMO procedures the Organic Production And handling System Plan = Basic Questionnaire + Update Questionnaires + approved request forms. Newly all request forms will be explicitly confirmed by the inspector
Record keeping	- the operators records must be kept available for at least 5 years.	-not regulated
Conversion Period	205.202: - conversion period for all crops 3 years prior	- Conversion period annual crops: 24 month

	NOP	Regulation (EEC) N° 2092/91
	to harvest - conversion period does not need to be necessarily certified, plot must only not have received unallowed inputs and must have been managed sustainably.	prior to sowing - The requirements of Annex I must have been fully met during the conversion period. - According to IMO interpretation there needs to be at least one inspection in the last year of conversion and one inspection before the first organic harvest.
Sustainability	205.200 : Improvement of natural resources (incl soil and water quality) required	Annex I 2.1. fertility and biological activities of the soil must be improved by.... (no explicit remark on water quality)
Fertilisation	205.203: - no burning of plant residues as disposal - animal manure must be composted unless... (see summary in 21.3) - Compost requirements (see summary in 21.3)	Annex II A binding Soil fertility measures as outlined in Annex I, 2.1
Drift	Organic areas must have....distinct, defined boundaries and buffer zones such as runoff diversions to prevent the unintended application of a prohibited substance to the crop or contact with a prohibited substance applied to adjoining land that is not under organic management.	No explicit requirement to have buffer zones, but risk of drift checked in all IMO inspection procedures.
Parallel & split Production	- Not prohibited, but commingling and contamination must be prevented by management practices and physical barriers - Storage of unallowed inputs on the organic unit not explicitly prohibited	- Parallel production prohibited unless requirement in Annex III, Part A, Par. 9 are fulfilled - Clearly separated production units - Storage of unallowed inputs on the organic unit not allowed
Seeds & Seedlings	- 205.204: conventional planting stock that has been under organic cultivation for at least 1 year may be considered as organic for production of perennial organic crops - treated seeds are NOT allowed (not even if untreated seeds are not commercially available), unless the treatment of propagation material with prohibited substances is demanded by phytosanitarian regulation - conventional annual seedlings may be used for production of organic crop when temporary variance has been granted.	- Art. 6, Par 2: mother plant has to be cultivated organically for at least 1 generation (annual crops) or 2 generation (perennial crops) - Treated seeds may be used if untreated seeds are not commercially available.
Weeding	205:206 (c) Weeding by means of flame/heat /electrical means allowed	Weeding by flames allowed in Annex I, Part A, 3 but not practice nor desirable and therefore usually not allowed by IMO
Inputs general	- non-synthetics are basically allowed, non-synthetics are basically not allowed, unless listed as "allowed synthetics" in the National List. There are also explicitly "prohibited nonsynthetics".	-positive list of allowed inputs everything else is basically not allowed
Agricultural inputs	Of the inputs listed in Annex II (Part A&B) the following products are <u>not permitted</u> under the NOP and therefore may not be authorised for projects exporting to the US: - Ash from burning own plant residues (→ included in ARNOP-List)	Annex II, Part A&B

	NOP	Regulation (EEC) N° 2092/91
	- synthetic pyrethroids in insect traps - Metaldehyd in slug traps Several products may be used according to NOP, that may not be allowed under the European Regulation.. Additionally allowed (amongst other inputs) - Ethylene in pineapple flowering! - Antibiotics to control plant diseases - Sodium chloride - Sodium nitrate for up to 20% of nutrient requir.	
Special products	No standard on organic mushroom production. From October 2002 onwards there will most probably be new mushroom standards applicable	Annex I, Par. 5
Building and installations	205.206 (f): the producer must not use lumber treated with arsenate or other prohibited materials for new installations or replacement purposes in contact with soil or livestock	Not regulated
Livestock general	Livestock does not include aquatic animals and bees □ no certification of honey or fishery products according to NOP., but may be sold as (95%) organic if certified according to a private/governmental organic standard by a NOP accredited certification agency.	Fishery product can only be certified according to private organic standards, apiaries need to be certified according to Regulation (EEC) N° 2092/91, Annex I C
Animals Conversion period	205.236 Conversion Period - Conversion period milk producing animals is 1 year, except when an entire herd is converted then the first 9 months a minimum of 80% feed either organic or from land under organic management and only for the last 3 months fodder only in accordance with 205.238 - Conversion period all livestock except dairy animals or poultry: last third of the gestation or hatching - Poultry: organic management from second day of live onwards	- Conversion period for dairy animals 3 months prior to marketing - Conversion period sheep, goats, pigs : 4 months only - Conversion period broiler: 10 weeks; layer: 6 weeks
Animals sources of slaughter stock	- Non-organic sources of slaughterstock are not allowed, except for day old poultry (205.236.b.2)	
Animal Feedstuff	205.237.a - US requires 100% organic feed, (but obviously organic according to NOP, i.e. no unallowed inputs for at least 3 years), but there is an emergency allowance - livestock bedding needs to be organic is consumed by the animals	EU allows up to 60% "in-conversion feed" and up to 25% conventional feed in a daily ration
Animal Medication	- 205.238.c (7) The producer must not withhold medical treatment from a sick animal in an effort to preserve its organic status. All appropriate medications must be used to restore an animal to health when	Not specified explicitly

	NOP	Regulation (EEC) N° 2092/91
	methods acceptable to organic production fail. Livestock treated with a prohibited substance must be clearly identified and shall not be sold, labeled, or represented as organically produced. - No animal treated with antibiotics may be sold as organic - Certain veterinary treatments that are allowed in the EU. Are prohibited in the US: ... e.g. parasiticides are prohibited for slaughter stock - Synthetic medication may only be used if they are specifically listed in the National List	- antibiotics may be used provided certain restrictions are followed
Moving organic livestock	Organic livestock may not be moved to non organic production units 205.236.b.1 (b) The following are prohibited: • (1) Livestock or edible livestock products that are removed from an organic operation and subsequently managed on a non-organic operation may be not sold, labeled, or represented as organically produced.	
Housing	- Thethering (Anbindehaltung) is not allowed in the US! (205.239.b)	-Thethering is allowed -far more restrictions and requirements regarding housing conditions
Disinfection stables	No acid listed in National list, but acidic acid allowed according to the OMRI List.	Citric acid, peracetic acid, and various other acids permitted
Facility pest management	- in an organic facility pest must be prevented by physical factors - if necessary pests can be controlled by traps, lures repellents with substances listed in the National List - under certain conditions, also not listed substances may be applied; but great care has to be taken (and documented) that the organic products are not contaminated.	- not directly regulated, but any contamination of organic products must be avoided.
Packaging Material	205.272 (b): prohibited is - Packaging material that contain a synthetic fungicide, preservative or fumigant - Use or reuse of any bag or container that has been in contact with any substance in such a manner as to compromise organic quality of the organic product places therein unless such a bag is thoroughly clean and free of contamination risk.	
Labelling	205.301 - 100% organic: Annex VI is not valid: no conventional ingredients of agricultural origin as defined in Annex VI, Part C are allowed and auxiliaries/additives must also be certified organic substances (e.g. only organically produced Lecithine etc. may be used) Allowed: water & salt. - organic: equivalent to the use of the term	- This category does not exist in the EU-Regulation - Organic = 95% organic as defined by

	NOP	Regulation (EEC) N° 2092/91
	"organic" = 95% product . At least 95% organically produced raw or processed agricultural products. Any remaining 5% must be organic or conventional (if commercially not available) agricultural products or nonagricultural substances according to National List (Part G) - "made with organic...": must contain at least 70% organically produced ingredients, no ingredients must be produced using prohibited methods (ionisation , GMO, sewage sludge). - Product with less than 70% organic ingredients: multi-ingredient products may represent the organic quality of specified ingredients with an indication that this ingredient is organic.	Regulation (EEC) N° 2092/91, Article 5, paragraph 3 a-c & Annex VI, Auxiliaries only according to Annex VI, conventional ingredients only up to 5 % and only if listed in Annex VI, Part C - 70% Products (EU-regulation Article 5a). EU Regulation is slightly stricter: conventional ingredients of agricultural origin may only be used to a max. of 30 % if listed in Annex VI, Part C (defines the unavailable organic products) or upon specific request. - Such products may not bear any indication of organic production acc. EU-Reg.
Labeling: Calculation of %	- the calculation of the applicable percentages of organic ingredients is described in §205.302 - the percentage is by calculating the share of certified organic product of the TOTAL weight/volume of the finished product	- Percentage is calculated as the percentage of organic <i>agricultural</i> ingredients of the total weight/volume of <i>agricultural</i> ingredients
Labeling during conversion period	- Not regulated	- Defined wording for labelling conversion products
Temporary variance	205.290 - temporary variances from the organic crop and livestock production standards may be established by the NOP Administrator in case of natural disasters, damage caused by wind, drought, flood, hail, earthquake, fire etc. - in such case the Administrator will inform certification agencies, the certification agent must then inform all concerned project that a temporary variance applies - temporary variance may not be granted for any use of unallowed inputs 205.672 - application of prohibited substance due to a federal or state emergency program, the operations certification status is not affected but: any harvested crop and any livestock that had contact with the prohibited substance cannot be sold as organic, with some exceptions for livestock	Not available, but factors such as natural calamities will be considered to a certain extent in the overall evaluation of a project and when assessing the severity of a deviation. EU-regulation Annex I - in case of state emergency pest programs the conversion period may be reduced to a strict minimum → this is not feasible under NOP, the full 3 years apply
Processing	- Products may not contain sulfites, nitrates or nitrites added during production/handling, except wine containing sulfites may be labels "made with organic grapes"	- Wine may only be labelled as "made from organic grapes" according to the EU-Regulation even if it does not contain any sulfites - Nitrates e.g. for sausages (Nitratpökelsalz) are presently accepted since animal product processing not covered by Annex VI!
Processing inputs	- The following processing inputs are allowed by EU and prohibited by US: activated carbon, agar, argon, carrageenan, casein, egg white albumen, ethanol solvent, gelatin, karaga gum,	The following processing inputs are allowed by US and prohibited by EU: hydrogen peroxide, ozone, potassium acid tartrate, potassium citrate, potassium iodide (nonsynthetic), and

	NOP	Regulation (EEC) N° 2092/91
	tragacanth gum, hazelnut shells, isinglass, malic acid, potassium alginate, rice meal, sodium tartrate, talc, and tartaric acid (l(+)-).	sodium citrate. -
Residues	205.671 - When residue testing detects prohibited substances at levels that are greater than 5 percent of the Environmental Protection Agency's tolerance for the specific residue detected or unavoidable residual environmental contamination, the agricultural product must not be sold, labeled, or represented as organically produced. The Administrator, the applicable State organic program's governing State official, or the certifying agent may conduct an investigation of the certified operation to determine the cause of the prohibited substance.	- No maximum levels for products in EU-Regulation; governmental food residue tolerance levels apply.

NATIONAL LIST (where stricter / distinctly different from Annex II of Regulation (EEC) N° 2092/91)

Disinfectants and sanitizers used in organic crop production (e.g. in irrigation system)

Allowed: Alcohols, ethanol, Isopropanol, Chlorine materials (residue chlorine levels lower than max. drinking water limit), Calcium hypochlorite, chlorine dioxide, Sodium hypochlorite, hydrogen peroxide, soap-based algicides.

Herbicides

Allowed NOP but not allowed EU: soap-based herbicides

Insecticides & Rodenticides

Allowed EU but not allowed NOP: Gelatine (insecticide), hydrolysed proteins (sometimes not considered plant protection product), tobacco dust; pyrethroids in traps

Allowed NOP but not allowed EU: ammonium carbonate (inspect traps), boric acid (no direct contact with crop/soil) Sulfur dioxide (underground rodent control), Vitamin D3, all soaps (EU: only Potassium soaps); all "biological & botanical" inputs explicitly allowed.

Slug or snail bait

None allowed! (EU allowed: Metaldehyd)

Plant disease control

Allowed NOP but not allowed EU: hydrated lime, hydrogen peroxide, potassium bicarbonate, streptomycin (fire blight control in apples and pears only), Tetracycline (fire blight control only), all mineral inputs

Allowed EU but not NOP: Lecithin (fungicide), potassium permanganat,

Plant or Soil Amendments, Fertilisers

Allowed NOP but not allowed EU: humic acids (naturally occurring deposits only), lignin sulfonate (chealing agent, dust suppressant, floatation agent), Liquid fish products (pH adjusted with sulfuric, citric or phosphoric acid), Vitamins B1, C and E.

allowed in EU but not acc. to NOP: ash from manure burning; use of trace elements is restricted to certain chemical forms (sulfonates, carbonates, oxides and silicat forms only and may not be used as defoliant, herbicide or desiccant);

Growth regulators:

Allowed NOP but not allowed EU: Ethylene (regulation pineapple flowering)

Floating Agents in Post harvest handling

Allowed NOP but no allowed EU: Lignin sulfonate, sodium silicate (tree fruit and fiber processing)

Allowed EU, but more restricted NOP: Aquatic plant extracts (strict restrictions regarding extraction methods)

Processing ingredients/ Auxiliaries

allowed by US and prohibited by EU: hydrogen peroxide, ozone, potassium acid tartrate, potassium citrate, potassium iodide (nonsynthetic), and sodium citrate.

allowed by EU but prohibited by US: activated carbon, agar, argon, carrageenan, casein, egg white albumen, ethanol solvent, gelatin, karaga gum, tragacanth gum, hazelnut shells, isinglass, malic acid, potassium alginate, rice meal, sodium tartrate, talc, and tartaric acid (l(+)-).

Conventional Ingredients:

Allowed NOP, not allowed EU: corn starch, lecithine and pectine (acc. annex VI, Part A allowed, but not as conventional ingredient)

IMO, MARCH 2002

Subpart G: The National List of Allowed and Prohibited Substances §205.600-205.619

Subpart G of the NOP Act limits the inputs for agriculture production and food processing to the substances, which are mentioned in the following tables. In the Regulation 2092/91 EU inputs are limited by Annex II A to E and Annex VI A to C.

Please consider the meaning of the different writing:

1. NOP-allowed substances highlighted with **grey background** are not granted by the Regulation 2092/91 EU.
2. Or, NOP-prohibited substances highlighted with **black letters** are allowed in the Regulation 2092/91 EU.
3. Notes, which are written with ⇒ Bradley Hand letters are additional comments, referring to the Regulation 2092/91 EU.

The tables are structured according to the paragraphs of subpart G of the NOP act:

Table 1: Irrigation and cleaning system

Table 2: Crop production

Table 3: Non-agricultural substances as ingredients and processing aids

Table 4: Nonorganically produced agricultural products as ingredients

Table 5: Evaluation criteria and amending the National List

For the National List of synthetic substances allowed for use in organic livestock production and of nonsynthetic substances prohibited for use in livestock production see subpart G §§ 205.603 to 205.609 of the NOP Act. These §§ are not included here, because Austria Bio Garantie has not applied for accreditation of livestock production according to NOP.

§ 205.601 Synthetic substances allowed for use in organic crop production

Table 1: Irrigation and cleaning systems

Substances allowed to use within irrigation systems:

As algicide, disinfectants and sanitizer

- Ethanol
- Isopropanol
- Calciumhypochlorite
- Chlorine dioxide
- Sodium hypochloride
- Hydrogen peroxide
- Soap based algicide

⇒ The **Regulation 2092/91 EU** mentions in Annex II subpart E the products granted for cleaning and disinfections of livestock buildings and installations, including equipments for production. The Regulation 2092/91 EU does not point out the irrigation system explicitly.

Table 2: Crop production:

The NOP grants the following synthetic substances. The substances with grey background are prohibited in the Regulations 2092/91 EU:		
Use	Substances	Restrictions / Remarks
As herbicides and weed barriers	➤ Soap based herbicides exclusively in farmstead maintenance and ornamental crops ➤ Mulches	Newspaper or other recycled papers without glossy or colored inks and plastic mulch and covers (petroleum-based other than PVC)
As compost feedstock	➤ Newspapers or other recycled paper	without glossy or colored inks
As animal repellents (for large animals)	➤ Soaps, ammonium	for use as a large animal repellent only, no contact with soil or edible portion of crop
As insecticides (including acaricides or mite control)	➤ Ammonium carbonate ➤ Boric acid ➤ Elemental sulfur ➤ Lime sulfur, including calcium polysulfide ➤ Oils, horticultural ➤ Insecticidal soaps ➤ Sticky traps or barriers (in general)	for use as bait in insect traps only, no direct contact with crop or soil. no direct contact with crop. narrow range oils as dormant, suffocating, and summer oils. ⇒ Regulation 2092/91 EU: Only fatty acid potassium salt (soft soap)
As insect attractants	➤ Pheromones	
As rodenticides	➤ Sulfur dioxide ➤ Vitamin D3	underground rodent control only (smoke bombs)
As slug or snail bait	➤ none allowed	
As plant disease control	➤ Coppers, fixed - copper hydroxide, copper oxide, copper oxychloride, includes products exempted from EPA tolerance. ➤ Copper sulfate ➤ Hydrated lime ➤ Hydrogen peroxide ➤ Lime sulfur ➤ Oils ➤ Potassium bicarbonate	Provided, that, copper-based materials must be used in a manner that minimizes accumulation in the soil and shall not be used as herbicides. Substance must be used in a manner that minimizes accumulation of copper in the soil. horticultural, narrow range oils as dormant, suffocating, and summer oils

The NOP grants the following synthetic substances. The substances with grey background are prohibited in the Regulations 2092/91 EU:

Use	Substances	Restrictions / Remarks
	➤ Elemental sulfur ➤ Streptomycin ➤ Tetracycline (oxytetracycline calcium complex)	for fire blight control in apples and pears only for fire blight control only
As synthetic plant and soil amendment	➤ Elemental sulfur ➤ Aquatic plant extracts (other than hydrolysed) ➤ Lignin sulfonate ➤ Humin acids ➤ Magnesium sulfate ➤ Micronutrients: soluble boron products, sulfates, carbonates, oxides or silicates of zinc, copper, iron, manganese, molybdenum, selenium and cobalt ➤ Liquid fish products ➤ Vitamin B1, C, E	Extraction process is limited to the use of potassium hydroxide or sodium hydroxide; solvent amount used is limited to that amount necessary for extraction. chelating agent, dust suppressant, floating agent naturally occurring deposits, water and alkali extracts only. with documented soil deficiency with soil deficiency documented by testing. Those from nitrates or chlorides are not allowed. ⇒ Regulation 2092/91 EU: no restrictions for nitrates or chlorides can be pH adjusted with sulfuric, citric or phosphoric acid. The amount of acid used shall not exceed the minimum needed to lower the pH to 3,5.
As plant growth regulators	➤ Ethylene	for regulation of pineapple flowering; ⇒ Regulation 2092/91 EU: allowed only for post harvest ripening of bananas
As floating agents in postharvest handling ⇒ Regulation 2092/91 EU: floating agents are treated as processing aid.	➤ Lignin sulfonate ➤ Sodium silicate	for tree fruit and fibre only.
As synthetic inert ingredients as classified by EPA List 4	See attached EPA List, Inerts of Minimal Concern ("epa_inerts_list4.pdf") Link: http://www.epa.gov/oppr001/inerts/inerts_list4.pdf Please contact us if you need the list, we will send it to you.	

⇒ The Regulation 2092/91 EU list in Annex II subpart A the allowed fertilisers of natural and mineral origin and the soil amendments. According to the law, substances mentioned in this part, may only be applied in exceptional cases.

⇒ Allowed pesticides are listed in Annex II subpart B of the Regulation 2092/91 EU. Pesticides are listed, distinguished by: of crop or animal origin, microorganism, substances only used in traps and other substances traditionally used in organic farming. According to the law, substances may be only used in cases of immediate threat to the crop.

The NOP prohibits the following NON-synthetic substances, the highlighted substances are allowed within the Regulations 2092/91 EU		
Non-synthetic substances not mentioned in the National List are granted to use in organic crop production.		
Use	Substances	Restrictions / Remarks
	➤ Ash from burning of manure ➤ Arsenic ➤ Lead salts ➤ Sodium fluoaluminat (mined) ➤ Strychnine ➤ Tabacco dust (nicotine sulfate) ➤ Potassium chloride ➤ Sodium nitrate	unless derived from a mined source and applied in a manner that minimizes chloride accumulation in the soil. unless use is restricted to no more than 20% of crop total N requirement.

⇒ The Regulation 2092/91 EU does not distinguish between synthetic and non-synthetic substances and lists the non-synthetic substances allowed in plant production as well. (Annex II A and B).

§ 205.605 Non-agricultural (non-organic) substances allowed as ingredients in or on processed products (except products labelled with “100% organic”)

Table 3: non-agricultural substances as ingredients and processing aids

The NOP grants the following non-synthetic and synthetic substances for use as ingredients or as processing aids. The substances with grey background are prohibited in the Regulations 2092/91 EU to use as ingredients as well as to use as processing aid, or not granted to use according to the NOP restrictions:	
NOP allowed NON-synthetic substances	Restrictions and conditions of the NOP Act
➤ Acids ➤ Alginic acid ➤ Citric acid ➤ Lactic acid	Produced by microbial fermentation of carbohydrate substances
➤ Bentonite	
➤ Calcium carbonate	
➤ Colors	Nonsynthetic sources only
➤ Dairy cultures	
➤ Calcium chloride	
➤ Diatomaceous earth	Food filtering aid only
➤ Flavours	Nonsynthetic sources only and must not be produced using synthetic solvents and carrier systems or any artificial preservative.
➤ Enzymes	Must be derived from edible, nontoxic plants, nonpathogenic fungi, or nonpathogenic bacteria
➤ Kaolin	

The NOP grants the following non-synthetic and synthetic substances for use as ingredients or as processing aids.

The substances with grey background are prohibited in the Regulations 2092/91 EU to use as ingredients as well as to use as processing aid, or not granted to use according to the NOP restrictions:

NOP allowed <u>NON-synthetic</u> substances	Restrictions and conditions of the NOP Act
➤ Magnesium sulfate	Nonsynthetic sources only
➤ Nitrogen	Oil-free grades
➤ Oxygen	Oil-free grades
➤ Perlite	For use only as a filter aid in food processing
➤ Potassium chloride	
➤ Potassium iodide	
➤ Sodium bicarbonate	
➤ Sodium carbonate	
➤ Waxes - nonsynthetic:	
➤ Carnauba wax	
➤ Wood resin	
➤ Yeasts:	Nonsynthetic, growth on petrochemical substrates and sulfite waste liquor ist prohibited
➤ Autolysate	
➤ Bakers	
➤ Brewers	
➤ Nutritional	
➤ Smoked	Nonsynthetic smoke flavoring process must be documented.

NOP allowed <u>synthetic</u> substances	Restrictions and conditions of the NOP Act
➤ Alginates	
➤ Ammonium bicarbonate	for use only as a leavening agent
➤ Ammonium carbonate	for use only as a leavening agent
➤ Ascorbic acid	
➤ Calcium citrate	
➤ Calcium hydroxide	
➤ Calcium phosphates (monobasic, dibasic, and tribasic)	
➤ Carbon dioxide	
➤ Ethylene	allowed for postharvest ripening of tropical fruit
➤ Ferrous sulfate	for iron enrichment or fortification of foods when required by regulation or recommended (independent organization)
➤ Glycerides (mono and di)	for use only in druin drying of food
➤ Glycerin	produced by hydrolysis of fats and oils
➤ Hydrogen peroxide	
➤ Lecithin - bleached	
➤ Magnesium carbonate	for use only in agricultural products labeled "made with organic" (specified ingredients or food group(s))," prohibited in agricultural products labeled "organic"
➤ Magnesium chloride	derived from sea water
➤ Magnesium stearate	for use only in agricultural products labeled "made with organic" (specified ingredients or food group(s))," prohibited in agricultural products labeled "organic"
➤ Nutrient vitamins and minerals	in accordance with 21 CFR 104.20, Nutritional Quality Guidelines For Foods
➤ Ozone	

NOP allowed <u>synthetic</u> substances	Restrictions and conditions of the NOP Act
➤ Pectin (low-methoxy)	
➤ Potassium acid tartrate	
➤ Potassium tartrate made from tartaric acid	
➤ Potassium carbonate	
➤ Potassium citrate	
➤ Potassium hydroxide	prohibited for use in lye peeling of fruits and vegetables
➤ Potassium iodide	for use only in agricultural products labelled "made with organic" (specified ingredients or food group(s))." prohibited in agricultural products labelled "organic"
➤ Potassium phosphate	for use only in agricultural products labelled "made with organic" (specific ingredients or food group(s))." prohibited in agricultural products labelled "organic"
➤ Silicon dioxide	
➤ Sodium citrate	
➤ Sodium hydroxide	prohibited for use in lye peeling of fruits and vegetables
➤ Sodium phosphates	for use only in dairy foods
➤ Sulfur dioxide	for use only in wine labelled "made with organic grapes." Provided, that, total sulfite concentration does not exceed 100 ppm.
➤ Tocopherols	derived from vegetable oil when rosemary extracts are not a suitable alternative
➤ Xanthan gum	
➤ Chlorine materials: ➤ Calcium hypochlorite ➤ Chlorine dioxide ➤ Sodium hypochlorite	Disinfecting and sanitizing food contact surfaces, Except, that residual chlorine levels in the water shall not exceed the maximum residual disinfectant limit under the Safe Drinking Water Act.
➤	⇒ substances for cleaning and disinfecting of processing equipment are no integral part of the Regulation 2092/91 EU
➤ Phosphoric acid	Cleaning of food-contact surfaces and equipment only ⇒ substances for cleaning and disinfecting of processing equipment are no integral part of the Regulation 2092/91 EU
Please notice, that only the ingredients and processing aids listed above are allowed by NOP. Other processing aids and ingredients of non-agricultural origin are prohibited by NOP, although they may be allowed by Regulation 2092/91 EU in general or for certain kinds of usage!	

⇒ **Annex VI part A and B of the Regulation 2092/91 EU** covers the ingredients of non-agricultural origin and processing aids which may be used in the preparation of foodstuffs composed of one or more ingredients of agricultural origin. Part A covers the substances of non-agricultural origin allowed to us as ingredients, including flavours, salt, microorganisms, minerals, vitamins, amino acids. Part B covers the substances of non-agricultural origin allowed to use as processing aids, including microorganisms and enzymes.

§ 205.606: Nonorganically produced agricultural products allowed as ingredients in or on processed products labelled as “organic” or “made with organic ingredients”.

Table 4: nonorganically produced agricultural products as ingredients

The NOP grants exclusively the following agricultural products to use as non-organic ingredients in or on processed organic products, or in products made with organic ingredients.	
NOP allowed NON-synthetic substances	Restrictions and conditions of the NOP Act
Cornstarch	native
Gums	water extracted only (arabic, guar, locust bean, carob bean)
Kelp	for use only as a thickener and dietary supplement
Lecithin	unbleached
Pectin	high-methoxy

In case of non-availability of organically produced agriculture products (crops), used as ingredients, the NOP allows for products labelled as “organic”, non-organically produced agricultural products within a limit of 5% non-organic substances (see subpart D § 205.301 (b)).

⇒ Annex VI part C of the Regulation 2092/91 EU covers the ingredients of agricultural origin, which can be used in non-organically quality. These non-organically produced ingredients are limited to the listed products and may be used only within a total limit of 5% of all agricultural ingredients. Some of the ingredients listed in table 4 above are listed in annex VI part A of the Regulation 2092/91 EU.

§ 205.600 Evaluation criteria for allowed and prohibited substances, methods, and ingredients
§ 205.607 Amending the National List

Table 5: Evaluation criteria and Amending the National List

Paragraph	The National List
205.600	Evaluation criteria for allowed and prohibited substances, methods, and ingredients. The following criteria will be utilized in the evaluation of substances or ingredients for the organic production and handling sections of the National List: 1. Synthetic and nonsynthetic substances considered for inclusion on or deletion from the National List of allowed and prohibited substances will be evaluated using the criteria specified in the Act (7 U.S.C. 6517 and 6518). 2. In addition to the criteria set forth in the Act, any synthetic substance used as a processing aid or adjuvant will be evaluated against the following criteria: ➤ The substance cannot be produced from a natural source and there are no organic substitutes; ➤ The substance's manufacture, use, and disposal do not have adverse effects on the environment and are done in a manner compatible with organic handling; ➤ The nutritional quality of the food is maintained when the substance is used, and the substance, itself, or its breakdown products do not have an adverse effect on human health as defined by applicable Federal regulations; ➤ The substance's primary use is not as a preservative or to recreate or improve flavors, colors, textures, or nutritive value lost during processing, except where the replacement of nutrients is required by law; ➤ The substance is listed as generally recognized as safe (GRAS) by Food and Drug Administration (FDA) when used in accordance with FDA's good manufacturing practices (GMP) and contains no residues of heavy metals or other contaminants in excess of tolerances set by FDA ➤ The substance is essential for the handling of organically produced agricultural products. 3. Non synthetics used in organic processing will be evaluated using the criteria specified in the Act (7 U.S.C. 6517 and 6518).
§ 205.607	Amending the National List. 1. Any person may petition the National Organic Standard Board for the purpose of having a substance evaluated by the Board for recommendation to the Secretary for inclusion on or deletion from the National List in accordance with the Act. 2. A person petitioning for amendment of the National List should request a copy of the petition procedures from the USDA at the following address: Program Manager, USDA/AMS/TMP/NOP, Room 2945, South Building, P.O. Box 96456, Washington, DC 20090-6456.



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PROCEDIMIENTO DE SOLICITUDES PARA APROBAR INSUMOS BAJO EL REGLAMENTO EUROPEO

Puesto que IMO se enfrenta con un aumento en el número de solicitudes recibidas para aprobar el uso de insumos, nos gustaría aclarar algunos aspectos importantes en este tema.

Consideraciones generales

Los proyectos certificados deberían darse cuenta de que el objetivo de la agricultura orgánica es alcanzar una producción sustentable, es decir, el sistema agrícola predial no debería depender de insumos externos. La minimización del uso de insumos externos es el pilar fundamental en un sistema de producción ecológica y un importante punto no sólo en el mejoramiento de la calidad de un producto, sino también en el fortalecimiento de la confianza de los consumidores en la producción orgánica.

En términos de fertilidad de suelo a largo plazo, la meta de un sistema de producción orgánica debe alcanzar ciclos cerrados de nutrientes y una máxima eficiencia en el uso de los nutrientes provenientes del mismo predio (cultivos de cobertura, compost, estiércol de los animales del predio, etc). Solamente en el caso que estas medidas no aseguren la fertilidad del suelo y el suficiente suministro de nutrientes, se puede recurrir a los fertilizantes listados en el Anexo II parte A del Reglamento Europeo (EEC N° 2092/91). Debido a que la mayoría de estos insumos debe ser aprobados por el organismo de control, el agricultor debe suministrar suficientes pruebas de la necesidad de usarlos (justificación de la necesidad). Tal justificación puede ser presentada a través de un análisis de suelo o por la recomendación del asesor agrícola.

Respecto de los principios orgánicos, la protección del cultivo debe basarse en la elección de variedades apropiadas, adecuados programas de rotación de cultivos, trabajo mecánico del suelo y protección de plagas con enemigos naturales. Solamente en caso de tratamientos inmediatos al cultivo, los agentes para protección de plantas que se encuentran listados en el Anexo II, parte B del Reglamento Europeo (EEC N° 2092/91) pueden ser usados. Nuevamente, la necesidad de uso de esos productos debe estar en conocimiento del organismo de certificación. Por lo tanto, cuando se presenta una solicitud para el uso de un producto específico para el control de plagas o enfermedades, el agricultor debe explicar las razones por las cuales considera esencial la aplicación del mismo (por favor, note que en agricultura orgánica el incremento en las producciones no se considera suficiente razón para el uso de agentes de protección de cultivos).

Puntos importantes respecto de las solicitudes de productos

Si de acuerdo a su consultor agrícola, Ud. considera necesario presentar la solicitud para el uso de un insumo y, éste está en conformidad con el Reglamento EEC N° 2092/91, le recomendamos que cuidadosamente seleccione el producto a aplicar y obtenga la aprobación antes del uso del producto. Todas las solicitudes para el uso de insumos deben ser acompañadas por una justificación de la necesidad de uso escrita por el consultor o por el productor mismo. Además, cuando solicite la aprobación para el uso de un fertilizante, debe adjuntar el programa de fertilización respectivo, preferiblemente acompañado de un análisis de suelo relevante.



Por otra parte, cuando presente una solicitud tenga en mente que IMO necesita completar los formularios de solicitud y chequearlos con tiempo. Por favor, siempre complete todos los cuadros requeridos en el formulario, con especial atención a entregar los nombres correctos de los productos su proveedor/fabricante, así como la dosis y la época de aplicación planeadas para la aplicación (en Kg/ha/año).

Hay tres diferentes tipos de insumos para los que puede presentar una solicitud:

Para el tipo A: Insumos certificados por IMO:

Presentada la justificación de necesidad de uso del producto y la solicitud, la aprobación del producto respectivo no tendrá ningún problema (a condición de que su certificación siga vigente).

Para el tipo B: Insumos certificados por otra certificadora conocida:

IMO reconoce certificados de productos emitidos por varias otras certificadoras. Sin embargo, existe un rango muy pequeño de insumos que no serán permitidos debido a que contienen los ingredientes polémicos o inaceptables de modo que su uso pueda poner en peligro la comercialización internacional de los productos orgánicos certificados. En un número de casos, la certificación también no se ha basado en una verificación física de los procedimientos de fabricación, así la seguridad del producto es inadecuado. Cuando se solicita el uso de un producto, por favor incluya siempre una copia del certificado respectivo (note que IMO puede considerar solamente certificados válidos, puesto que la composición de los insumos comercialmente disponibles se someten a menudo a cambios).

Para el tipo C: Insumos no certificados

Cuando solicite insumos no certificado es de vital importancia extrema que no sólo mencione los nombres correctos del producto y del fabricante, sino que también sean incluidas copias de los siguientes documentos:

- Hoja de información del producto y etiqueta (si es posible).
- Lista de todos los ingredientes incluyendo sus porcentajes respectivos (todos los ingredientes deben ser mencionados!!). Si la hoja de especificación del producto o la etiqueta, no contienen esta lista por favor solicite esta información al proveedor/fabricante. Por favor, entienda que IMO necesita la información completa sobre todos los ingredientes para poder asegurar que el producto respectivo cumple con el Reglamento europeo 2092/91 y su uso puede ser permitido.
- En ciertos casos algunas especificaciones adicionales del producto (tales como el origen de la materia prima o el método de extracción de los ingredientes) pueden ser necesarias y serán solicitadas al productor para una evaluación confiable.
- Se ha anticipado que en el futuro cercano solamente se podrán usar insumos certificados en agricultura orgánica.

Puntos importantes respecto de Semillas y plantas

Cuando solicite autorización para el uso de semillas y plantas, la presentación de una declaración No- OGM (en el formato IMO 4.4.9) es obligatoria en el caso de que contengan micro –organismos o material derivado de plantas que tienen riesgo de modificación genética.

Recuerde que desde Diciembre 2003 según el Reglamento EEC 2092/91, el uso de semilla y material de propagación convencional sólo se permite en el caso de que la variedad a usar no está disponible en calidad orgánica, siempre y cuando éstas no sean tratadas.

Antes de comprar la semilla convencional, por favor asegúrese de que la semilla no ha sido tratada (ni en Chile, ni en el país de origen) y que no tiene riesgo de modificación genética. Además, consulte a IMO si existe disponibilidad de la semilla o plantas que busca entre los otros proyectos certificados (ej. Semillas para cultivos de cobertura como avena), antes de comprarlas en calidad convencional.

Consideraciones finales

Es importante mencionar que la aprobación de una solicitud para el uso de un insumo por parte de IMO, es siempre considerada provisoria de acuerdo a la aprobación final que solamente es otorgada por las respectivas autoridades en el país importador. Desde hace un tiempo está siendo cada vez más difícil decidir cuando un insumo puede ser considerado equivalente a la lista del Anexo II del Reglamento N° 2092/91, IMO necesita evaluar todas las solicitudes.

TABLA DE INSUMOS

En base a las solicitudes para aprobación de insumos recibidas de nuestros clientes certificados, y ante las consultas de los mismos hemos elaborado las siguientes tablas de productos que se usan como pesticidas y fertilizantes. Estas tablas sólo pretenden ser una guía y no deben ser tomadas de manera ninguna como una recomendación de uso. Las tablas incluyen insumos no certificados que según los reglamentos respectivos están listados y se pueden utilizar, además de insumos certificados para los cuales tenemos el certificado respectivo actualizado. De todas maneras les recordamos que antes de la aplicación de cualquier insumo se debe solicitar la autorización respectiva presentando el formato correspondiente a la oficina de IMO Chile.

LISTA DE FERTILIZANTES DISPONIBLES EN CHILE QUE PODRIAN UTILIZARSE EN PRODUCCION ORGANICA

Nombre Comercial	Ing. Activo	Control	Certificado	Alcance
Ac. Bórico	Acido Bórico	Fertilizantes	NO	EU
Ausgm	Aminoácidos libres, Vitaminas Elementos nutritivos, Sust. Húmicos auxinas, citoquininas	Fertilizante	Ecocert France	EU
Allgrow (ex Bioplazma)	Minerales/Aminoácidos	Fertilizantes	Kray	EU
Elisfoliar Zn 55	Cinc 55%	Fertilizante Foliar	NO	EU
Borax decahidratado	Borax decahidratado	Fertilizante	NO	EU
Borax Deca	Borato de sodio decahidratado	Fertilizante	NO	EU
Boronat 32	Boronatocalcíta Ulenita, Nitroborecalcíta	Fertilizante	NO	EU
Biorend	Polímero derivado de Quitina	Fungicida Nematicida Bioestimulante	IMO	EU, NOP
Duetto	Materias de origen animal y vegetal	Fertilizante	Ecocert	EU
Fetrilon combi 2C	Quelatisados EDTA	Fertilizante	NO	EU
Fertigeso	Sulfato de Calcio hidratado	Enmienda	NO	EU
Ocano Rojo	Excremento de Aves Marinas	Abono Fertilizante	NO	EU, NOP
H.D.S.	Nitrogeno Organico	Fertilizante	NO	EU
Hemoprot	Sangre Animal			
Humus Liquido CASA	Ácidos húmicos y fúlvicos	Fertilizante	NO	EU
Kelpak	Concentrado <i>Ecklonia maxima</i> Macro y Micronutrientes	Bioestimulante Fertilizante	BCS IMO	EU, NOP, JAS EU, NOP
Magnecal 15	Dolomita	Enmienda	NO	EU
Mantrac	Manganeso	Fertilizante foliar	NO	EU

LISTA DE FERTILIZANTES DISPONIBLES EN CHILE QUE PODRIAN UTILIZARSE EN PRODUCCION ORGANICA

MYR Mg-Mn-Zn-Chlorose-Cu B-Ca-Fe-K-Azote	Aminoácidos vegetales	Fertilizante	Ecocert France	EU
Naturbos	Fermentación de aguas vegetales procedentes de molduración aceituna	Fertilizante líquido	NO	EU
Solubor	Boro (20.8%) Octaborato de Sodio tetrahidratado	Fertilizante foliar	NO	EU
Sulfato de Zinc	Sulfato de Zinc Heptahidratado	Fertilizante	NO	EU
Sulfato de Mg	Sulfato de Mg (sal de Epson, Sal Inglesa)	Fertilizante	NO	EU
Supomag (Kmag)	NPK-Mg-S	Fertilizante	NO	EU
Sulfato de K	Sulfato de K	Fertilizante	NO	EU
Zintrac 700	Sulfato de Zinc	Fertilizante foliar	NO	EU

LISTA DE PESTICIDAS DISPONIBLES EN CHILE QUE PODRIAN UTILIZARSE EN PRODUCCION ORGANICA

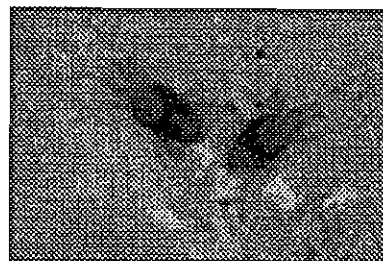
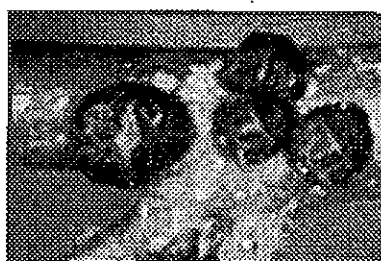
Nombre Comercial	Ing. Activo	Control	Certificado	Alcance
Azulfre 325-D	Azulfre Polvo	Fungicida	NO	EU-NOP
Azulfre Mojable	Azulfre Micronizado	Fungicida	NO	EU-NOP
Acoidal WG	Azulfre Mojable	Fungicida	NO	EU-NOP
Azulfre 350 Landia	Azulfre polvo	Fungicida	NO	EU-NOP
BC - 1000	Aminotriazole Ac. Ascórbico Proteínas, grasas, cenizas, extracto de M, glicerina, fibra	Fungicida	BCS	EU-NOP-JAS
Beauveria bassiana	Hongo Entomopatogeno	Insecticida	IMO	EU-NOP
Bioseb - T	Trichoderma harzianum Trichoderma polysporum	Fungicida	NO	EU
Bioseccidin	Acidos grasos vegetales	Insecticida-acaricida	NO	EU-NOP
Ecoend	Polimero derivado de Quitina	Fungicida Nematicida Bioestimulante	IMO	EU-NOP
BSP	Polisulfuro de Ca	Insecticida Fungicida Acaricida	NO	EU-NOP
B-T-O	Bacillus thuringiensis	Insecticida	NO	EU-NOP
Carpovirusine	Virus de la granulosis	Insecticida	NO	EU-NOP
Citroliv	Aceite Mineral	Insecticida	NO	EU-NOP
Cuprodul	Oxido cuproso (50%)	Fungicida Bactericida	NO	EU-NOP
Cobre Nordos 75	Oxido Cuproso (86.2%)	Fungicida	NO	EU-NOP
Dipel 2af/G	Bacillus thuringiensis	Insecticida	NO	EU-NOP

LISTA DE PESTICIDAS DISPONIBLES EN CHILE QUE PODRIAN UTILIZARSE EN PRODUCCION ORGANICA

Dowfate	Cloruro de Calcio	Bitter Fit	NO	EU-NOP
Fungicup	Oxicloruro de cobre 87%	Fungicida	NO	EU-NOP
Garlic Barrier	Extracto de Ajo	Repelente	CCOF	EU-NOP
Kumulus 60 WG	Azulfre Molable	Fungicida	NO	
Londex	Acido Palmítico Tocoferoles Ac. Grasos Aminoácidos	Bactericida	BCS	EU-NOP-JAS
Neem a	Azadirachtina	Insecticida	IMO	EU-NOP
Dico neem	Aceite de Neem Azadirachtina	Insecticida	BCS	EU-JAS NOP
Orchex 796-E	93% Aceite refinado de petróleo	Insecticida Fungicida	NO	EU-NOP
Dal-Cup	Oxicloruro de cobre	Fungicida	NO	EU-NOP
Polisulfuro de Ca-23	Polisulfuro de Ca 23%	Insecticida Fungicida Acaricida	NO	EU
Phyton 27	Sulfato de cobre Pentahidratado 21,36%	Fungicida Bactericida	BCS	EU
Potenona	Sust. Orgánica extracto de raíz de Lonchocarpus sp.	Insecticida Acaricida	NO	EU-NOP
Serenade	Bacillus subtilis raza QST 713	Biofungicida	IMO	EU
Sovaspray	Aceite mineral refinado	Insecticida	NO	EU-NOP
Stoffer	Aceite vegetal	Insecticida	NO	EU-NOP

LISTA DE PESTICIDAS DISPONIBLES EN CHILE QUE PODRIAN UTILIZARSE EN PRODUCCION ORGANICA

Sunspray	Acete Parafinico	Insecticida	NO	EU-NOP
Ultra-Fine Spray Oil		Acaricida		
Sunround WP	Caolinita 35%	Insecticida	NO	EU-NOP
		Pesticida		
3 Tac	Trichoderma	Fungicida	BCS	EU-NOP-JAS
Thiodus	Azufre micronizado mojable	Fungicida	NO	EU-NOP-JAS
Trichoderma ITAS	Trichoderma (polvo, liquido, pasta poda)	Insecticida	IMO	EU-NOP
Summer Ultra Sprays	Acete Parafinico	Insecticida	BCS	EU-NOP-JAS
		Acaricida		
Wins Sprays	Acete Parafinico 99%	Acaricida	NO	EU-NOP
		Insecticida		



ANÁLISIS COMPARATIVO DE CINCO ESTÁNDARES PARA LOS ALIMENTOS ORGÁNICOS.

Un estudio, comisionado por IFOAM, comparando las listas de insumos (insumos de producción agrícola, aditivos alimenticios y ayudantes para el procesamiento) publicados en los Estándares Básicos de IFOAM con varios estándares nacionales e internacionales que han sido completados recientemente. Los otros estándares incluidos en la comparación fueron la Guía de de producción orgánica de alimentos de Codex Alimentarius; el reglamento Orgánico de la Comunidad Europeo (2092/91); el Estándar Agrícola Orgánico de producción y procesamiento del Japón; y la National Organic Program de la USDA. Los Estándares Básicos de IFOAM no contienen una lista de insumos para la producción animal, por lo que los insumos de producción animal no fueron incluidos en este estudio.

A continuación se presenta el análisis de esta comparación también hecho por los investigadores que hicieron esta comparación. Las opiniones expresadas aquí son exclusivamente de los autores y no necesariamente reflejan el punto de vista de IFOAM, FiBL, OMRI, o cualquier organización involucrada en el establecimiento de estándares revisadas por este artículo.

Aparentemente existe un amplio consenso acerca de que esta permitido y que esta prohibido en la producción orgánica de cultivos a nivel mundial. Los Estándares Básicos de IFOAM (EBI), apéndices y otros estándares revisados son por lo general consistentes unos con los otros sobre la mayoría de los insumos usados en el cultivo, existiendo solo diferencias menores en las definiciones y limitaciones.

Como regla general, el EBI, Reglamentos de la UE y los Estándares Agrícolas Japoneses (JAS) solo permiten insumos – fertilizantes, abonos para suelos y productos para la protección de las plantas – para ser usados solo si aparecen en su lista de insumos permitidos. El Codex Alimentarius, siendo un servicio de guía que proporciona consejos a gobiernos acerca de productos que han sido acordados internacionalmente, tiene listas de insumos, pero son indicativos solamente, no siendo ni inclusiva ni exclusiva. Esta puede ser caracterizada como un acercamiento abierto y positivo, que en este caso, incluye items que podrían ser permitidos cuando son considerados contra los criterios. Las listas de Codex solo contienen insumos permitidos y no incluyen insumos prohibidos.

El Programa Orgánico Nacional (NOP) de la USDA tiene una lista positiva y negativa basada en si las sustancias son de origen natural o sintético. En general, el NOP permite sustancias naturales y prohíbe las sintéticas; La lista publicada contiene excepciones a esta regla. Así, sólo sustancias naturales que son prohibidas y sustancias sintéticas que son permitidas aparecen en la lista. Comparando IBI y el NOP, es necesario determinar si un cierto insumo es o no sintético. La determinación se baso ya sea en un voto del US Nacional Organic Standards Board (NOSB), o en las referencias citadas al final de este artículo. El permiso esta basado en un insumo viniendo de su fuente natural y no siendo un sintético similar o sin ser preparado por "métodos excluidos" incluyendo la ingeniería genética.

Como muestra la Tabla 1, una mayoría substancial de los insumos permitidos por IFOAM son permitidos por otros estándares, ya sea incondicionalmente o sólo con diferencias mínimas. Donde hay desacuerdos, es por lo general debido a semánticas o preguntas sobre restricciones. Las 19 sustancias restantes que están permitidas por IFOAM, pero no reconocidas por al menos 3 otros grupos de estándares, son en la mayoría de los casos un reflejo de las diferencias en estructura y definiciones. Con el acercamiento de la lista positiva cerrada, los ítems listados están por lo general en amplias categorías de insumos, tales como sub-productos animales o preparativos vegetales que incluirían ciertos insumos específicos en otras listas. Por ejemplo, una lista puede incluir "productos animales" mientras que otra puede incluir "leche". La tabla 2 provee una lista resumida de sustancias en las que hay un general o total acuerdo en su permiso como fertilizadores orgánicos, acondicionadores de suelo y productos de protección para plantas.

Tabla 1. Resumen comparativo de insumos de cosechas

Clasificación	Nº de sustancias
Sustancias permitidas por todos los estándares	36
Sustancias permitidas por IFOAM y un mínimo de tres otros estándares	68
Sustancias permitidas por IFOAM y dos o menos estándares	19
Sustancias no incluidas en los apéndices de IFOAM pero si listadas en otros estándares	42
Total sustancias consideradas	

ABONO VEGETAL, ESTIÉRCOL Y EXCREMENTO HUMANO

Todos los reglamentos y estándares orgánicos a lo largo del mundo reconocen la importancia del abono vegetal. Sin embargo, la definición y requerimiento para el abono varía, así como también las restricciones en los orígenes y usos del estiércol. Ambos, Codex y las regulaciones EU en la producción orgánica prohíben el uso de guano de fincas industriales. El IBI y las regulaciones EU restringen las tasas de aplicación de estiércol.

En contraste, el NOP necesita que el estiércol este compostado de acuerdo a la definición, restringido a cultivos no aptos para el consumo humano, aplicada no menos que 90 días previos a la cosecha, en el caso de cosechas que no estén contacto con el suelo, o aplicada no menos que 120 días antes de la cosecha, en el caso de cosechas que si tienen contacto con el suelo. Sin embargo, las normas NOP no restringen ni la fuente ni la tasa de aplicación.

La condición del excremento humano es uno de los asuntos más controversiales. Las normas generales de IFOAM por lo general prohíben el excremento humano; sin embargo, sí permite que entidades certificadoras anulen requerimientos de sanidad detallados, establecidos por la organización establecedora de estándares para prevenir la transmisión de pestes, parásitos y agentes infecciosos y para asegurar que el estiércol no se ha mezclado con otros desechos domésticos o industriales que podrían contener sustancias prohibidas. Excremento humano, separado de su fuente, también aparece en el Apéndice 2 con un requerimiento para el monitoreo de la contaminación y que no es aplicado a las partes comestibles de las plantas.

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La regulación EU prohíbe el uso de excremento humano. La norma NOP prohíbe aguas residuales. JAS no incluye excremento humano, estiércol animal o aguas residuales en su lista de fertilizantes.

Las pautas de Codex permiten un uso limitado de excremento humano en la agricultura orgánica, siempre que el excremento humano sea separado de su fuente de origen y no aplicado directamente a la parte comestible de las plantas.



SUSTANCIAS NO PERMITIDAS POR IFOAM

De gran preocupación son 42 ítems que no aparecían en la lista de sustancias permitidas en el Apéndice IFOAM 2002, pero están listadas en al menos otro grupo de estándares. No obstante, sólo 1 sustancia, polvos de blanquear (cloruro de calcio), está listada por más de un grupo de estándares. Los estándares JAS también incluían un número de fertilizantes que no están incluidos en otros estándares. En algunos casos, en referencia a números del Chemical Abstract Service (CAS) habrían evitado ambigüedad, aunque esto no es siempre factible para categorías y productos biológicos. Números proporcionados por el Sistema Internacional de Numeración (INS) facilitaron la tarea para aditivos de la comida y coadyuvantes de procesamiento. El Nitrato de sodio ha sido uno de los abonos de suelos mas discutidos y está actualmente prohibido por todos los estándares hasta cierto grado. El NOP permite que el nitrato de sodio sea usado hasta un 20% del nitrógeno abastecido en la cosecha; otros estándares o no listan la sustancia como permitida o categóricamente prohíben todo uso de esta.

Varios estándares han hecho excepciones para sustancias usadas en cebos, trampas y estructuras que no son parte de la unidad de producción. En el caso de JAS, estas incluyen carbonato de amonio y fosfato de diamonio usados como atrayentes para trampas y ácido bórico para control de plagas estructurales. Otros especifican el tipo de plaga para usar pesticidas específicos como el metaldehído como molusquicida; y piretroides como insecticidas para plagas específicas de moscas en la regulación EU; y vitamina D3 para roedores en el NOP.

ADITIVOS Y AYUDANTES DE PROCESAMIENTO

La clasificación sistemática de varias sustancias en los diferentes estándares representa un problema general al hacer comparaciones. Por ejemplo, sustancias conocidas como materiales usados para el procesamiento de comida en un estándar o país, puede ser listado como un ayudante de procesamiento en otro.

El sistema de clasificación para la preparación de microorganismos, enzimas y aromatizantes artificiales también pueden variar en los distintos estándares. Otro problema de clasificación sistemática es la diferenciación entre "agrícola" y "no-agrícola".

En general, todos los estándares reconocen que los productos agrícolas contenidos en productos procesados de comida, etiquetados como orgánicos deben ser orgánicos. Todos los estándares también permiten ingredientes agrícolas inorgánicos para ser usados en ciertas situaciones y se deja a criterio, ya sea de una autoridad competente, en el caso de EU, o a una certificadora como en el caso del NOP. Codex y JAS no tienen ningún método explícito para determinar cuando los ingredientes agrícolas inorgánicos pueden ser usados en productos orgánicos procesados.

En la Pauta Alimenticia de Codex, regulación EU, NOP, así como también en muchos otros estándares nacionales hay una discusión sobre como desarrollar procesamiento de comida orgánica, particularmente para productos animales y vino.

El criterio desarrollado en el Apéndice 5 de los Estándares Básicos de IFOAM para nuevos aditivos y ayudantes de procesamiento podrían servir en un próximo desarrollo en esta área. En discusiones sobre la Pauta Alimenticia de Codex este criterio ya ha sido tomado como guía para el proceso de evaluación.

Hay 3 sustancias que no están en la lista de IFOAM pero que sí están en dos o tres listas de estándares. Estas son ácido málico, goma baraya (karaga) e hidróxido de potasio. IFOAM ha recibido un expediente sobre el ácido málico para su consideración, la goma baraya (karaga) tiene propiedades similares a otras gomas vegetales y podría ser considerado un producto agrícola, el hidróxido de potasio es usado en el procesamiento de azúcar y otros procesos donde el ajuste de pH es importante.

Las sustancias individuales restantes pueden ser divididas en algunas categorías: limpieza, higiene, y desinfectantes; materiales usados para el manejo post-cosecha de productos agrícolas; productos agrícolas procesados, suplementos nutricionales; y sustancias usadas sólo en productos etiquetados como "hechos con ingredientes orgánicos".

UN MAYOR PROCESO DE EVALUACIÓN Y HARMONIZACIÓN

El resumen de las comparaciones muestra que hay un amplio consenso de estándares. Identifica temas claves que necesitan atención en orden para alcanzar armonización internacional de estándares para producción y procesos orgánicos. Se requiere más trabajo en la armonización de los distintos estándares alrededor del mundo. Al desarrollar un criterio y un proceso abierto y transparente, la comunidad orgánica puede entender y abordar las diferencias restantes.

Tabla 2. Insumos comúnmente permitidos en la producción orgánica

Fertilizadores y acondicionadores de suelo comúnmente permitidos en la producción orgánica:

- Origen animal y vegetal

- Guano
- Estiércol de granja, incluyendo orina y líquido.
- Productos animales, incluyendo harinas hechas de carne, hueso, cuerno y pezuña, y plumas pescado y productos de pescado, lana, piel, pelo y productos lácteos.
- Productos agrícolas procesados como madera y productos de madera, incluyendo cenizas de madera no tratada, corteza, carbón, aserrín y virutas.
- Alga marina y sus productos.
- Turba
- Preparaciones de plantas y extractos de compost, incluyendo lombrices y humus.

- Origen mineral

- Enmiendas calcáreas y de magnesio
- Piedra caliza, yeso, tiza, , cloruro de calcio
- Cloruros, Roca de Magnesio, kieserita y sales minerales.

- Potasio mineral, sulfato de potasa, cloruro de potasio, cloruros como kainita or sylvanita, y roca pulverizada
- Gredas, including bentonita, perlita, vermiculita and zeolita
- Cloruro de sodio
- Fosfatos naturales
- micronutrientes y elementos de rastreo
- azufre

- Microbiológico

- Productos procesados biodegradables de origen microbiano
- Preparaciones microbiológicas basadas en organismos naturales incidentes

Nota: algunos estandares pueden poner restricciones en insumos que son generalmente permitidos al prohibir fuentes específicas, usos o aplicaciones.

- Productos protectores de plantas Origen animal y vegetal

- Preparaciones de algas
- Preparaciones de animales y aceites
- Cera de abeja
- Productos lácteos, leche, caseína lecitina y gelatina.
- Ácidos naturales
- Neem
- Repelentes a base de plantas
- Aceites de plantas
- Preparaciones de base vegetal
- Propolis
- Pyrethrum
- Rotenone

- Origen Mineral

- Arcilla, ej.: bentonita, perlita, vermiculita, zeolita
- Sales de cobre
- Tierra de diatomos
- Mineral liviano, de gama reducida o aceites de parafina
- Azufre de cal

- Bicarbonato de sodio
- Azufre
- (Micro)organismos
- Preparaciones de hongos
- Preparaciones bacteriales, ej: *Bacillus thuringiensis*
- Preparaciones virales, ej: Granulosis virus
- Liberación de insectos
- Otros:
- Preparaciones biodinámicas
- Hidroxido de calcio
- Dioxido de carbono
- Alcohol etílico
- Abono, redes
- Feromonas

RÉGIMEN DE CERTIFICACIÓN DE LA SOIL ASSOCIATION

Nos complace anunciar que IMO a firmado un contrato con la Soil Association respecto de su régimen de certificación de productos para las siguientes categorías de productos: producción de cultivos, producción de miel, textiles y procesamiento.

Esto significa que todos aquellos productos IMO pueden emitir (a petición del cliente) un certificado de cumplimiento con la certificación SA el cual establece que los productos orgánicos son "SA Cert Symbol scheme accepted product" (Producto aceptado bajo el régimen de certificación de la S.A.).

Esto no da derecho al operador a usar la etiqueta de la Soil Association, pero sí significa que quien tenga la licencia de la Soil Association (por ejemplo para importar al Reino Unido) puede etiquetar el producto con la etiqueta de la Soil Ass. o usarla para un ingrediente contenido en productos etiquetados Soil Ass.

Esto definitivamente será un importante certificado adicional para los operadores certificados por IMO que exportan al Reino Unido. El certificado puede ser emitido también retrospectivamente y debido a que este implica poco trabajo sugerimos solicitar la emisión del certificado adicional sin costo, pero obviamente si es necesario invertir tiempo adicional de inspección y/o evaluación de criterios, este será cobrado.

Dependiendo de la categoría del producto un par de requerimientos adicionales deben ser cumplidos y deberían ser chequeados durante la inspección o por lo menos durante la evaluación antes de emitir este certificado adicional. Las preguntas adicionales serán anexadas a las correspondientes listas de chequeo y deberán ser chequeadas cuando un operador intente vender a alguien que tenga la licencia de la Soil Ass., es decir, en la mayoría de los casos de exportaciones al Reino Unido.



CERTIFICADOS DE CONTROL PARA EL REINO UNIDO

El DEFRA (Department for Environment, Food and Rural Affairs, la autoridad de importación del Reino Unido) ha señalado que los organismos de certificación de los terceros países deberían emitir un certificado de control en aquellos casos cuando el importador no puede presentar una licencia de importación válida o en caso de que existan licencias que no cubran a todos los operadores en el tercer país (por ejemplo, algunos proveedores que no se mencionan). Los exportadores, que postulen para obtener certificados de control para el Reino Unido deben indicar claramente el número de licencia de importación. Y recordar que IMO sólo está autorizado para emitir certificados para el Reino Unido a menos que la licencia de importación correspondiente haya sido enviada a nuestro departamento de Certificado de control (a la Sra. Lisa Raduner).

NOTICIAS

1.- LA MAYOR FERIA DEL VINO ECOLÓGICO EN NÜREMBERG

Alrededor de 250 proveedores de vino, cava y champán expondrán sus productos por primera vez en la BioFach 2005 en un pabellón propio. La producción de vino ecológico sigue creciendo en todas las regiones vinícolas del mundo. A la cabeza se encuentra Italia con 37.000 ha de cultivo de la vid, seguida de Francia con 15.000 ha, equivalentes a un 4 % y un 2 % de las superficies de cultivo de la vid en cada uno de esos países. España, con 12.000 ha, alcanza el 1 % de la superficie correspondiente. En Alemania se explotan de acuerdo con las directivas de cultivo ecológico 2.000 ha, lo que también equivale al 1 % de la cuota de superficie. Aquellos viticultores ecológicos que quieran participar todavía en el concurso del Premio Internacional del Vino de la BioFach 2005 deberán apresurarse. Los formularios de inscripción están en:

http://www.biofach.de/premio_vino
http://www.biofach.de/pabellon_vino

2.- EL COMERCIO JUSTO REGISTRA MEJORES VALORES DE ACEPTACIÓN

Según los estudios más recientes de la Oficina Federal alemana para el Medio Ambiente sobre la conciencia medioambiental de la población, se ha producido un claro aumento de la demanda de un comercio justo con los países en desarrollo. Cada vez hay más consumidores que ven este objetivo como parte importante para un desarrollo sostenible.

NOTICIAS

Si en el año 2000 eran sólo el 36 % de los encuestados los que estaban "completamente" de acuerdo con este objetivo, este año la aceptación alcanzó ya el 43 %. Si a ello se añade los que estaban "ampliamente" de acuerdo, la respuesta positiva aumentó en este periodo de tiempo del 78 % al 84 %.

Ello es debido sobre todo al esfuerzo conjunto de campañas como "fair feels good" y la realización de la "Semana Justa", dice la Verbraucherinitiative (Iniciativa de Consumidores) de Bonn. La fundación del "Forum del Comercio Justo" en el año 2002, que coordina el trabajo de numerosos actores del Comercio Justo, y que quiere reforzar el Comercio Justo en Alemania, está dando también de forma evidente sus primeros frutos.

<http://www.fair-feels-good.de>

3.- MEJORES DATOS ESTADÍSTICOS SOBRE LA AGRICULTURA ECOLÓGICA

El mercado europeo de productos ecológicos sigue creciendo, y la superficie explotada ecológicamente aumenta continuamente. Para, también en un futuro, poder planificar las inversiones y el fomento de la agricultura ecológica hacia objetivos concretos, los círculos políticos de toma de decisiones y los inversores necesitan datos fiables de la producción y los mercados. Un resumen del FiBL (Instituto de Investigación de Agricultura Ecológica) muestra claramente cual es el estado actual de los datos de la agricultura ecológica en Europa.

<http://www.fibl.org/english/shop/show.php?sprache=EN&art=1339>

4.- LA ORGANIZACIÓN MUNDIAL DEL COMERCIO PODRÍA OBLIGARNOS A COMER TRANSGÉNICOS.

Organizaciones ecologistas, agrarias y de consumidores se movilizan ante la actitud de EEUU por forzar la entrada de cultivos y alimentos transgénicos en la Unión Europea. Estados Unidos, respaldado por Canadá y Argentina, ha entablado un conflicto legal en el seno de la Organización Mundial del Comercio (OMC) para imponer los productos transgénicos en el mercado europeo. En caso de perder la disputa, la UE se vería obligada a abrir totalmente su mercado a los productos transgénicos, obviando las precauciones necesarias para proteger la salud humana y el medio ambiente. Los consumidores estarían forzados a comprarlos y la alimentación sin transgénicos desaparecería en pocos años. Estemos atentos!!!
Más información en:

<http://www.vidasana.org/noticias/noticia26.asp>

5.- YA SALIÓ EL LIBRO MÁS COMPLETO DE LA PRODUCCIÓN ORGÁNICA MUNDIAL "THE WORLD OF ORGANIC AGRICULTURE 2004", DE IFOAM.

Éste es el título del nuevo manual que reúne una gran cantidad de datos y hechos sobre el desarrollo de la agricultura ecológica a nivel mundial. La obra, de 170 páginas y en inglés, aporta una visión general mundial y puede comprarse en IFOAM (Federación Internacional de Movimientos de Agricultura Biológica) al precio de 16 euros o descargarse gratis de Internet.

Pedidos: n.sorensen@iffoam.org

Más información en:

<http://www.ifoam.org>

<http://www.vidasana.org/noticias/noticia25.asp>

AVISOS

1.- Rodrigo B. Österauer, busca tomar contacto con productores de los siguientes productos para comercializarlos en el exterior:

- 1.- Aceite de Rosa Mosqueta, uso cosmético y alimenticio.
- 2.- Hongos y champiñones deshidratados o en conserva.
- 3.- Aceite de Oliva y Palta.
- 4.- Té e Infusiones de Hierbas.
- 5.- Quinoa
- 6.- Manzana Deshidratada.
- 7.- Pasas y Ciruelas Secas.

Para mayor información: 779 30 44- 09 538 7193
E- mail contact.chile@laksmi.cl

2.- La empresa Biotropic con sede en Alemania está interesada en productores/exportadores orgánicos de Kiwi y manzana, orgánicos o en transición:

Para cualquier pregunta o duda contactarse con:

Fernando Von Winterhalder
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3.- Seminario, Primera Feria Latinoamericana de Agricultura Orgánica (FLAO): "Impacto de los Transgénicos en la Agricultura Orgánica Chilena".

25 de Noviembre 2004.
Auditorio Hernán Santa Cruz.
Oficina Regional de la FAO para América Latina y el Caribe.

Avenida Dag Hammarsköld 3241, Vitacura.
Valor por participante \$ 20.000

Gira Técnica, 1ª Feria Latinoamericana de Agricultura Orgánica. 23 y 24 de Noviembre

Inscripciones:

Enviar Formulario de Inscripción a Corporación de Investigación en Agricultura Alternativa (CIAL), al Fax: (56-2) 6650575.

Las inscripciones se cierran el día 18 de Noviembre de 2004.

Encargada Seminario y Gira Técnica: Fabiola Mellado Mansilla (fmellado@ccochile.cl)

Fono: (56-2) 6353051.n

Brand Name	Until	NOP	JAS	EU	Company	Phone and Fax	e-mail	Address
Nombre Comercial	Vigencia del Certificado	NOP	JAS	EU	Nombre de la Empresa	Teléfonos	Correo electrónico	Dirección
24GR	Sep-04	X		X	Biovert S.A.			Ctra. LV-9224 Km 8,8, 25137 Corbins (LLEIDA), España
3 TAC (WP)	Febrero de 2004							
3b112 S.C.	Febrero de 2004	x		x	Grupo Irec			Manosca Pasaja Oe8, Casa # N35-209 y Av. Occidental, Quito, ECUADOR
60PS	Sep-04	X		X	Biovert S.A.			Ctra. LV-9224 Km 8,8, 25137 Corbins (LLEIDA), España
A5 (SL)	Febrero de 2004							
Abono foliar y abono en polvo	Apr-02				Agroinagor S.A. de C.V.			Cantón Matasanos, Municipio El Parismal, EL SALVADOR
Abono Orgánico	Septiembre de 2001	x	x	x	Eco-Cibao			Km. 4, Carretera Jarabocoa, La Vega, entrada Salto Jimenoa, Jarabocoa, REPUBLICA DOMINICANA
ACADIAN TM Liquid Concentrate	Sep-04				Acadian Agritech / Acadian Seaplants Ltd.			30 Brown Avenuc, Dartmouth, Nova Scotia B3B 1X8, CANADA
AcadianTM Kelp Meal-Soil Application	Abr-04				Acadian Agritech / Acadian Seaplants Ltd,			30 Brown Avenue, Dartmouth, Nova Scotia B3B 1X8, CANADA
AC-BAN	Nov-04	X	X	X	AQUASERV Laboratorio			Sucre 422 entre Buenavista y Callejón Banaoro, Machala, ECUADOR

Brand Name	Until	NOP	JAS	EU	Company	Phone and Fax	e-mail	Address
Nombre Comercial	Vigencia del Certificado	NOP	JAS	EU	Nombre de la Empresa	Teléfonos	Correo electrónico	Dirección
Acoidal WG	Marzo de 2005				Quimetal Industria S.A.			Ejercito 16, Piso 4, Santiago Región Metropolitana, CHILE
AGRILIFE Conc.	Ene-03	x	x	x	Citrex Inc.			1394 Coral Way, Miami, Florida 33145, EE.UU
Agrocalcio	Abr-04	x	x	x	Calmosacorp Cía. Ltda.			Km. 2 Vía a la Costa Pasando Recinto Nueva Esperanza, ECUADOR
Agroxilato Mg	Jun-05	x	x	x	Codiagro S.A.			Pol. Ind. El Serrallo, nave 38, 12100 - Grao de Castellón, Castellón, SPAIN
AG-TIVA	Abr-05	X	X	X	Agricultura Creativa de Fermentos XPC, S.A.			B° Francisco Peralta, Aptos. La California, n°8A, 1487-1002, Paseo de los Estudiantes, Los Yóses, San José, COSTA RICA
ALGIFOL TM	Abril de 2004	x	x	x	NEOMED Pharma GmbH			Moltkestr. 38, 23564 Lubeck, Germany
Amecsoil Ca	Jun-05	x	x	x	Codiagro S.A.			Pol. Ind. El Serrallo, nave 38, 12100 - Grao de Castellón, Castellón, SPAIN
Añil	Apr-02				Agroinagor S.A. de C.V.			Cantón Matasanos, Municipio El Parisma, EL SALVADOR
ASC Soluble Seaweed Extract Powder	Sep-04				Acadian Agritech / Acadian Seaplants Ltd,			30 Brown Avenue, Dartmouth, Nova Scotia B3B 1X8, CANADA

Brand Name Nombre Comercial	Until Vigencia del Certificado	NOP NOP	JAS JAS	EU EU	Company Nombre de la Empresa	Phone and Fax Teléfonos	e-mail Correo electrónico	Address Dirección
ASENAT	Jun-04	X	X	X	AQUASERV Laboratorio	7 F		
Azufre Landia 350 Extra DP	Marzo de 2005				Quimetal Industria S.A.			Sucre 422 entre Buenavista y Callejón Banaoro, Machala, ECUADOR
BACILOS	Febrero de 2004				IBO			Ejercito 16, Piso 4, Santiago Región Metropolitana, CHILE
Bactirven	May-05				Arvensis S.A. De C.V.			Av. José A. Gómez, Manzana 10, Solar 17, Bod. 21
BANA-OIL	Enero de 2003	x	x	x	Punto Química Pesticidas Ecológicas S.A.			1o. De Mayo Nr. 1501-E esq. Marconi, Colonia Ferrocarriles C.P. 50071, Toluca-Edo de México, MEXICO
Batuguano	Oct-04				Agriluca Import/Export			2 José Bosmediano 724 y Pasaje Lafayette, Quito, ECUADOR
BC-1000	Mar-05	x	x	x	Chemise de Chile, S.A.			Zona Franca, Valle de Berroa, Municipio Habana del Este, Centro de Negocios Oficina 39, Ciudad de La Habana, CUBA
BIO MAR 15	Enero de 2004				Ecological Resources Inc.			El Totoral 601-A, Parque Ind. Buenaventura, Quilicura, Santiago, CHILE
BIO NATURE BN700 R2000 L 6-2-2	Jun-03	X		X	Bio Nature Technology Pte Ltd.			13876 SW 56th Street 296 Miami, FL 33175, EE.UU
								39 A Senoko Way, Singapore 758055

Brand Name	Until	NOP	JAS	EU	Company	Phone and Fax	e-mail	Address
Nombre Comercial	Vigencia del Certificado	NOP	JAS	EU	Nombre de la Empresa	Teléfonos	Correo electrónico	Dirección
Bio Tric	Feb-05	X	X	X	Bio-Tec S.A.			Polígono de Solidaridad 300 m al norte de la Gasolinera ESSO, El Playón, San Vicente, El SALVADOR
Biocastor	Jul-03	x	x	x	CESA Castor Ecuatoriana S.A.			Km. 1 Vía Manta - Montecristi, Manta, ECUADOR
BIOCIT	Enc-03	x	x	x	Citrex Inc.			1394 Coral Way, Miami, Florida 33145, EE.UU
Biocstrene 20LS	Sep-04	X		X	Biovert S.A.			Ctra. LV-9224 Km 8,8, 25137 Corbins (LLEIDA), España
Biogreen 988	Febrero de 2002				Oceania Trading Company			Unit Nos 407 A-410 A, 4th Floor Wisma Jaya, Jalan Pemanha, Bandar Seri Begawan 2085, Negara Brunei Darussalam Postal Address: P.O. Box 168, Salambigar Post Office, Bandar Seri Begawan BC1515, Negara Brunei Darussalam
BioLife	Feb-04				American Biologicals Inc.			23395 Janice Ave. Unit No. 18 Port Charlotte, Florida 33980 USA
BioLife	Mar-05				American Biologicals Inc.			23395 Janice Ave. Unit No. 18 Port Charlotte, Florida 33980 USA
BioLife	Enero de 2003				Marketing Arm International			Whidden Industrial Park, 23395 Janice Avenue, Unit 16, Port Charlotte, Florida 33980, EE.UU

Brand Name	Until	NOP	JAS	EU	Company	Phone and Fax	e-mail	Address
Nombre Comercial	Vigencia del Certificado	NOP	JAS	EU	Nombre de la Empresa	Teléfonos	Correo electrónico	Dirección
Biomix	Sep-04	X		X	Biovert S.A.			Ctra. LV-9224 Km.8,8, 25137 Corbins (LLEIDA), España
BioNim	Feb-04				American Biologicals Inc.			23395 Janice Ave. Unit No. 18 Port Charlotte, Florida 33980 USA
Bionim 0.4 SL	Oct-02				American Biologicals Inc.			23395 Janice Ave. Unit No. 18 Port Charlotte, Florida 33980 USA
Biorat	Julio de 2004				Labiofam, S.A.			
BIOREND	Nov-04				ActiGen			Alferez Real, 1083, Providence, Santiago, CHILE
BIORIEGO	Nov-04				ActiGen			Alferez Real, 1083, Providence, Santiago, CHILE
Bioswat	Octubre de 2004	x	x	x	Microflora de México, S. de R.L. M.I.			Arizona No. 3008, 31250 Chihuahua, MEXICO
BioTac	Feb-02				American Biologicals Inc.			23395 Janice Ave. Unit No. 18 Port Charlotte, Florida 33980 USA
BioTac	Enero de 2003				Marketing Arm International			Whidden Industrial Park, 23395 Janice Avenue, Unit 16, Port Charlotte, Florida 33980, EE.UU
BIOTENS (SL)	Febrero de 2004							
Boro	Febrero de 2004				IBO			Av. José A. Gómez, Manzana 10, Solar 17, Bod. 21

Brand Name	Until	NOP	JAS	EU	Company	Phone and Fax	e-mail	Address
Nombre Comercial	Vigencia del Certificado	NOP	JAS	EU	Nombre de la Empresa	Teléfonos	Correo electrónico	Dirección
BRALIC	Enero de 2005	x	x	x	Ingeniería Industrial, S.A. De C.V. /BRAVO			
Burner	Febrero de 2004				IBO			Av. José A. Gómez, Manzana 10, Solar 17, Bod. 21
Calcimer	Febrero de 2005				Químicas Meristem S.L.			Crta. Moncada-Naquera km. 1,7 46113, Valencia, ESPAÑA
Calcio	Febrero de 2004				IBO			Av. José A. Gómez, Manzana 10, Solar 17, Bod. 21
Carbonato de Calcio B-100 and B-150	Junio de 2005	x	x	x	La Colina/Induminas			Planta: 70 km (El Progreso) Vía a la Costa, Guayaquil - Playas, Cuenca, ECUADOR
Citrex	Abr-05	x	x	x	Citrex Inc.			1394 Coral Way, Miami, Florida 33145, EE.UU
CITRUPAR 80	Enero de 2004				Ecological Resources Inc.			13876 SW 56th Street 296 Miami, FL 33175, EE.UU
Cobre	Febrero de 2004				IBO			Av. José A. Gómez, Manzana 10, Solar 17, Bod. 21
Codiorgan Ca	Jun-05	x	x	x	Codiagro S.A.			Pol. Ind. El Serrallo, nave 38, 12100 - Grao de Castellón, Castellón, SPAIN
Codiorgan-G-Ca	Jun-05	x	x	x	Codiagro S.A.			Pol. Ind. El Serrallo, nave 38, 12100 - Grao de Castellón, Castellón, SPAIN

Brand Name	Until	NOP	JAS	EU	Company	Phone and Fax	e-mail	Address
Nombre Comercial	Vigencia del Certificado	NOP	JAS	EU	Nombre de la Empresa	Teléfonos	Correo electrónico	Dirección
ComCat	Septiembre de 2004	x	x	x	Polus & Partner			Freiherr-vom-Stein-Stabe 12, 64678 Lindenfels
Complex Arroz	Sep-04	X		X	Biovert S.A.			Ctra. LV-9224 Km 8,8, 25137 Corbins (LLEIDA), España
Correct-Plus	Feb-02				American Biologicals Inc.			23395 Janice Ave. Unit No. 18 Port Charlotte, Florida 33980 USA
Correct-Plus SL	Oct-02				American Biologicals Inc.			23395 Janice Ave. Unit No. 18 Port Charlotte, Florida 33980 USA
Crisant	Febrero de 2005				Químicas Meristem S.L.			Crta. Moncada-Naquera km. 1,7 46113, Valencia, ESPAÑA
Cropmax	Junio de 2004	X	X	X	Holland Farming B.V.			Kaapstanderweg 1H, 8342 RB Lelystad, The Netherlands
Cuprucul WG	Marzo de 2005				Quimetal Industria S.A.			Ejercito 16, Piso 4, Santiago Región Metropolitana, CHILE
Diss 4x4	Febrero de 2005	x	x	x	Ungerer S.A.			Cesar Teran López N 5525 y Guayacanes, ECUADOR
Diss Kart	Febrero de 2005	x	x	x	Ungerer S.A.			Cesar Teran López N 5525 y Guayacanes, ECUADOR
Diss Rotador	Febrero de 2005	x	x	x	Ungerer S.A.			Cesar Teran López N 5525 y Guayacanes, ECUADOR
DITERA WG	Octubre de 2004	x	x	x	Valent			Av. Alonso de Cordova No.5151, Of 604, Las Condes, Santiago, Región Metropolitana, CHILE
DULZEE ECO	Abr-04				Artal, Francisco R.			Polígono Industrial Fuente del Jarro, Villa de Madrid, 14, 46988 Paterna Valencia

Brand Name	Until	NOP	JAS	EU	Company	Phone and Fax	e-mail	Address
Nombre Comercial	Vigencia del Certificado	NOP	JAS	EU	Nombre de la Empresa	Teléfonos	Correo electrónico	Dirección
E-Codabor	Abr-04	x	x	x	Compañía de Agroquímicos S.A. (CODA)			Ctra. N-240 km 110, 25100 Almacelles (Lleida) ESPAÑA
E-Coda-Cu-L	Abr-04	x	x	x	Compañía de Agroquímicos S.A. (CODA)			Ctra. N-240 km 110, 25100 Almacelles (Lleida) ESPAÑA
E-Coda-Fel	Abr-04	x	x	x	Compañía de Agroquímicos S.A. (CODA)			Ctra. N-240 km 110, 25100 Almacelles (Lleida) ESPAÑA
E-Codahort	Abr-04	x	x	x	Compañía de Agroquímicos S.A. (CODA)			Ctra. N-240 km 110, 25100 Almacelles (Lleida) ESPAÑA
E-Codahumus	Abr-04	x	x	x	Compañía de Agroquímicos S.A. (CODA)			Ctra. N-240 km 110, 25100 Almacelles (Lleida) ESPAÑA
E-Codallium	Oct-04	x	x	x	Compañía de Agroquímicos S.A. (CODA)			Ctra. N-240 km 110, 25100 Almacelles (Lleida) ESPAÑA
E-Codamix	Abr-04	x	x	x	Compañía de Agroquímicos S.A. (CODA)			Ctra. N-240 km 110, 25100 Almacelles (Lleida) ESPAÑA
E-Coda-Mn-L	Abr-04	x	x	x	Compañía de Agroquímicos S.A. (CODA)			Ctra. N-240 km 110, 25100 Almacelles (Lleida) ESPAÑA
E-Coda-Oleo-K	Abr-05	x	x	x	Compañía de Agroquímicos S.A. (CODA)			Ctra. N-240 km 110, 25100 Almacelles (Lleida) ESPAÑA
E-Codargon	Abr-04	x	x	x	Compañía de Agroquímicos S.A. (CODA)			Ctra. N-240 km 110, 25100 Almacelles (Lleida) ESPAÑA
E-Codargon-Complex	Oct-04	x	x	x	Compañía de Agroquímicos S.A. (CODA)			Ctra. N-240 km 110, 25100 Almacelles (Lleida) ESPAÑA

Brand Name	Until	NOP	JAS	EU	Company	Phone and Fax	e-mail	Address
Nombre Comercial	Vigencia del Certificado	NOP	JAS	EU	Nombre de la Empresa	Teléfonos	Correo electrónico	Dirección
E-Codasal	Abr-04	x	x	x	Compañía de Agroquímicos S.A. (CODA)			Ctra. N-240 km 110, 25100 Almacelles (Lleida) ESPAÑA
E-Codavit	Octubre de 2004	x	x	x	Compañía de Agroquímicos S.A. (CODA)			Ctra. N-240 km 110, 25100 Almacelles (Lleida) ESPAÑA
E-Coda-Zn-L	Abril de 2004	x	x	x	Compañía de Agroquímicos S.A. (CODA)			Ctra. N-240 km 110, 25100 Almacelles (Lleida) ESPAÑA
Ecofresh	Julio de 2004	x	x	x	EcoProducts			Zona Industrial Pavas Apartado Postal 8-4550 San José, COSTA RICA
Ecofrut	Enero de 2003				Quimusa S.A.			Apartado 150 ZP 1150-La Uruca, San Jose COSTA RICA
E-Humustar-18	Octubre de 2004	x	x	x	Compañía de Agroquímicos S.A. (CODA)			Ctra. N-240 km 110, 25100 Almacelles (Lleida) ESPAÑA
Enorto	Sep-04	X		X	Biovert S.A.			Ctra. LV-9224 Km 8,8, 25137 Corbins (LLEIDA), España
Etamin	Febrero de 2005				Químicas Meristem S.L.			Crta. Moncada-Naquera km. 1,7 46113, Valencia, ESPAÑA
FASTER	Febrero de 2004				IBO			Av. José A. Gómez, Manzana 10, Solar 17, Bod. 21
FASTER-Micro	Febrero de 2004				IBO			Av. José A. Gómez, Manzana 10, Solar 17, Bod. 21
Feed Application	Abr-04				Acadian Agritech / Acadian Seaplants Ltd,			30 Brown Avenue, Dartmouth, Nova Scotia B3B 1X8, CANADA

Brand Name	Until	NOP	JAS	EU	Company	Phone and Fax	e-mail	Address
Nombre Comercial	Vigencia del Certificado	NOP	JAS	EU	Nombre de la Empresa	Teléfonos	Correo electrónico	Dirección
FERTIBIO	Enero de 2004				Ecological Resources Inc.			13876 SW 56th Street 296 Miami, FL 33175, EE.UU
Ferticesa	Jul-03	x	x	x	CESA Castor Ecuatoriana S.A.			Km. 1 Vía Manta - Montecristi, Manta, ECUADOR
Fertilizer BIO 80	Enero de 2004				Ecological Resources Inc.			13876 SW 56th Street 296 Miami, FL 33175, EE.UU
Fertilizer Bokashi	Jun-03				Calbri S.A. (parte de Futurcorp S.A.)			Km. 1 Vía San Juan Puebloviejo, Los Ríos, ECUADOR
Fertilizer Cochibiol	Marzo de 2004				Marabig S.A.			Cdla. Entreríos Mz. R1 Villa #34, Guayaquil, ECUADOR
Fertilizers Manvert (Manvert Hierro +Zinc)	Abr-04	X		X	Biovert S.A.			Ctra. LV-9224 Km 8,8, 25137 Corbins (LLEIDA), España
FERTIORGÁN BORO	Abr-04				Artal, Francisco R.			Polígono Industrial Fuente del Jarro, Villa de Madrid, 14, 46988 Paterna Valencia
FERTIORGAN CALCIO ECO	Abr-04				Artal, Francisco R.			Polígono Industrial Fuente del Jarro, Villa de Madrid, 14, 46988 Paterna Valencia
FLOWAL CINC	Abr-04				Artal, Francisco R.			Polígono Industrial Fuente del Jarro, Villa de Madrid, 14, 46988 Paterna Valencia
FLOWAL MANGANESO	Abr-04				Artal, Francisco R.			Polígono Industrial Fuente del Jarro, Villa de Madrid, 14, 46988 Paterna Valencia

Brand Name	Until	NOP	JAS	EU	Company	Phone and Fax	e-mail	Address
Nombre Comercial	Vigencia del Certificado	NOP	JAS	EU	Nombre de la Empresa	Teléfonos	Correo electrónico	Dirección
FOSFOBIO	Enero de 2004				Ecological Resources Inc.			13876 SW 56th Street 296 Miami, FL 33175, EE.UU
FULVITAL	Abr-04				Artal, Francisco R.			Polígono Industrial Fuente del Jarro, Villa de Madrid, 14, 46988 Paterna Valencia
Funbac 24 SL	Oct-02				American Biologicals Inc.			23395 Janice Ave. Unit No. 18 Port Charlotte, Florida 33980 USA
Gallinaza	Junio de 2004	x	x	x	Inc. Pipasa Corporación, Rica Foods, División Reproducción Sardinal, Puntarenas			Sobre carretera hacia Guanacaste 1 km. Al norte de la entrada a Sardinal, Puntarenas, COSTA RICA
Goteo	Sep-04	X		X	Biovert S.A.			Ctra. LV-9224 Km 8,8, 25137 Corbins (LLEIDA), España
Green Box MicroPlus	Enero de 2003				Green Box Natural GmbH			Franz Boecker Str. 68, 86633 Neuburg/Donau, Deutschland
Green Box x-12	Noviembre de 2003				Ressources Synergy Technologies GmbH			Hansastr. 16, 80686 Munich, ALEMANIA
Greentouch	May-03				Arconia GmbH			Nutta Gässli 134, 7208 Malans, Switzerland (related to RST Ressources System Technologies)
Grow More-Sea Weed Extract	Noviembre de 2002				Ecuaquímica C.A.			Ave. 10 de Agosto 6090 y Gaspar de Villarroel, Casilla 17 11-06044, Quito, ECUADOR
HAB	Febrero de 2004				IBO			Av. José A. Gómez, Manzana 10, Solar 17, Bod. 21

Brand Name	Until	NOP	JAS	EU	Company	Phone and Fax	e-mail	Address
Nombre Comercial	Vigencia del Certificado	NOP	JAS	EU	Nombre de la Empresa	Teléfonos	Correo electrónico	Dirección
Hierro	Febrero de 2004				IBO			Av. José A. Gómez, Manzana 10, Solar 17, Bod. 21
Hrypthon	Enero de 2003	x	x	x	Punto Quimica Pesticidas Ecológicas S.A.			José Bosmediano 724 y Pasaje Lafayette, Quito, ECUADOR
Indicate	Mayo de 2002				Marketing Arm International			Whidden Industrial Park, 23395 Janice Avenue, Unit 16, Port Charlotte, Florida 33980, EE.UU
Insecticidas líquidos y en polvo	Apr-02				Agroinagor S.A. de C.V.			Cantón Matasanos, Municipio El Parismal, EL SALVADOR
Intercept	Noviembre de 2002				Ecuquímica C.A.			Ave. 10 de Agosto 6090 y Gaspar de Villarroel, Casilla 17 11-06044, Quito, ECUADOR
Jabolim	Febrero de 2005				Químicas Meristem S.L.			Crta. Moncada-Naquera km. 1,7 46113, Valencia, ESPAÑA
Jocker H H&J	Febrero de 2004	x		x	Grupo Irec			Manosca Pasaja Oe8, Casa # N35-209 y Av. Occidental, Quito, ECUADOR
KelarosburgBoro	Febrero de 2005				Quimiroburg Cía. Ltda.			Portoviejo 367 y Versalles Casilla 17-03-375, Quito, ECUADOR
KelarosburgManganeso	Febrero de 2005				Quimiroburg Cía. Ltda.			Portoviejo 367 y Versalles Casilla 17-03-375, Quito, ECUADOR
KelarosburgPotasio	Febrero de 2005				Quimiroburg Cía. Ltda.			Portoviejo 367 y Versalles Casilla 17-03-375, Quito, ECUADOR

Brand Name	Until	NOP	JAS	EU	Company	Phone and Fax	e-mail	Address
Nombre Comercial	Vigencia del Certificado	NOP	JAS	EU	Nombre de la Empresa	Teléfonos	Correo electrónico	Dirección
KelarosburgZinc	Febrero de 2005				Quimirosburg Cía. Ltda.			Portoviejo 367 y Versalles Casilla 17-03-375, Quito, ECUADOR
KELPAK	Abril de 2005	x	x	x	Kelp Products (PTY) Ltd.			Blue Guateros Close, Main Road, P.O. Box 325, Simon's Town 7975, SOUTH AFRICA
Kitosan Plus	Febrero de 2005				Sociedad Rubio y Mauad Ltda.			Jerónimo Méndez # 1851 galpon 37
Lavaplant	Jun-05	x	x	x	Codiagro S.A.			Pol. Ind. El Serrallo, nave 38, 12100 - Grao de Castellón, Castellón, SPAIN
LIPID'S FORTE	Abr-04	X	X	X	AQUASERV Laboratorio			Sucre 422 entre Buenavista y Callejón Banaoro, Machala, ECUADOR
Lombricompost	May-04				Agriso S.A.			Pachapa La Labor, Ocotepe, HONDURAS
LONLIFE Conc.	Ene-03	x	x	x	Citrex Inc.			1394 Coral Way, Miami, Florida 33145, EE.UU
Lynx-24	Mayo de 2002				Marketing Arm International			Whidden Industrial Park, 23395 Janice Avenue, Unit 16, Port Charlotte, Florida 33980, EE.UU
Lynx-27	Mayo de 2002				Marketing Arm International			Whidden Industrial Park, 23395 Janice Avenue, Unit 16, Port Charlotte, Florida 33980, EE.UU
Magnesio	Febrero de 2004				IBO			Av. José A. Gómez, Manzana 10, Solar 17, Bod. 21

Brand Name	Until	NOP	JAS	EU	Company	Phone and Fax	e-mail	Address
Nombre Comercial	Vigencia del Certificado	NOP	JAS	EU	Nombre de la Empresa	Teléfonos	Correo electrónico	Dirección
Makromix y Makromix Polvo	Septiembre de 2004	x	x	x	Universidad de Los Lagos			Centro I + D, i-mar, Antonio Varas No. 178, Puerto Montt, Región X., CHILE
Manvert Boro	Sep-04	X		X	Biovert S.A.			Ctra. LV-9224 Km 8,8, 25137 Corbins (LLEIDA), España
Manvert Cobre	Feb-05	X		X	Biovert S.A.			Ctra. LV-9224 Km 8,8, 25137 Corbins (LLEIDA), España
Manvert Magnesio	Feb-05	X		X	Biovert S.A.			Ctra. LV-9224 Km 8,8, 25137 Corbins (LLEIDA), España
Manvert Manganeseo	Feb-05	X		X	Biovert S.A.			Ctra. LV-9224 Km 8,8, 25137 Corbins (LLEIDA), España
MASTERCOP	Febrero de 2004				Ingeniería Industrial, S.A. De C.V. /BRAVO			
Max Catcher	Abr-05	x	x	x	Calmosacorp Cía. Ltda.			Km. 2 Vía a la Costa Pasando Recinto Nueva Esperanza, ECUADOR
MBP	Febrero de 2004				IBO			Av. José A. Gómez, Manzana 10, Solar 17, Bod. 21
MICROPONIC GH	Abr-04				Artal, Francisco R.			Polígono Industrial Fuente del Jarro, Villa de Madrid, 14, 46988 Paterna Valencia
MICROPONIC, L-24	Abr-04				Artal, Francisco R.			Polígono Industrial Fuente del Jarro, Villa de Madrid, 14, 46988 Paterna Valencia

Brand Name	Until	NOP	JAS	EU	Company	Phone and Fax	e-mail	Address
Nombre Comercial	Vigencia del Certificado	NOP	JAS	EU	Nombre de la Empresa	Teléfonos	Correo electrónico	Dirección
Mil-Agro Max Foliar	Febrero de 2004	x	x	x	Punto Quimica Pesticidas Ecológicas S.A.			José Bosmediano 724 y Pasaje Lafayette, Quito, ECUADOR
Natural Organic Extract PROROOT	Agosto de 2004	x	x	x	Edwin Holvoet Tapia			Infante No. 971 Copiapo, CHILE
Neem-X	Mayo de 2002				Marketing Arm International			Whidden Industrial Park, 23395 Janice Avenue, Unit 16, Port Charlotte, Florida 33980, EE.UU
NITROBIO	Enero de 2004				Ecological Resources Inc.			13876 SW 56th Street 296 Miami, FL 33175, EE.UU
Nitrotem	Febrero de 2005				Químicas Meristem S.L.			Ctra. Moncada-Naquera km. 1,7 46113, Valencia, ESPAÑA
NUTRIARTAL ECO	Abr-04				Artal, Francisco R.			Polígono Industrial Fuente del Jarro, Villa de Madrid, 14, 46988 Paterna Valencia
NUTRIGRAN TM	Abril de 2004	x	x	x	NEOMED Pharma GmbH			Moltkestr. 38, 23564 Lubeck, Germany
Nutriorgánico	Marzo de 2004	x	x	x	Eco-Cibao			Km. 4, Carretera Jarabocoa, La Vega, entrada Salto Jimenoa, Jarabocoa, REPUBLICA DOMINICANA
NUTRIPAK	Nov-04				AGXPLORE International			LLC, PMB # 166, 2128 William St., Cape Girardeau, MO 63703
Nutriserv	Febrero de 2004			x	Nutriserv Ltda.			Rua Castorina F. Vieira, 131, 37.700-000 Pcos de Caldas, MG, BRAZIL

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OIDIOMIL	Julio de 2004	x	x	x	Punto Química Pesticidas Ecológicas S.A.			José Bosmediano 724 y Pasaje Lafayette, Quito, ECUADOR
Oiinim	Jun-05	x	x	x	Codiagro S.A.			Pol. Ind. El Serrallo, nave 38, 12100 - Grao de Castellón, Castellón, SPAIN
OIKO NEEM	Enero de 2004				Ecological Resources Inc.			13876 SW 56th Street 296 Miami, FL 33175, EE.UU
OIKO RHIZA	Enero de 2004				Ecological Resources Inc.			13876 SW 56th Street 296 Miami, FL 33175, EE.UU
OIKOBAC 174	Enero de 2004				Ecological Resources Inc.			13876 SW 56th Street 296 Miami, FL 33175, EE.UU
OIKOBAC AG	Enero de 2004				Ecological Resources Inc.			13876 SW 56th Street 296 Miami, FL 33175, EE.UU
Oleomer	Febrero de 2005				Químicas Meristem S.L.			Crta. Moncada-Naquera km. 1,7 46113, Valencia, ESPAÑA
Organic Fertilizer CUPROTAL QUELATO	Abr-04				Artal, Francisco R.			Polígono Industrial Fuente del Jarro, Villa de Madrid, 14, 46988 Paterna Valencia
Orion xxx	Feb-04				American Biologicals Inc.			23395 Janice Ave. Unit No. 18 Port Charlotte, Florida 33980 USA
ORION-BanaPlus	Mar-05				American Biologicals Inc.			23395 Janice Ave. Unit No. 18 Port Charlotte, Florida 33980 USA
Oxi-Cup WG	Marzo de 2005				Quimetal Industria S.A.			Ejercito 16, Piso 4, Santiago Región Metropolitana, CHILE

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Parceanamusoum cepa Trailes	Feb-05	X	X	X	Bio Insumos Nativa Ltd.			Casilla 16-D, San Javier, VII. Región, CHILE
PH-Plus	Mayo de 2002				Marketing Arm International			Whidden Industrial Park, 23395 Janice Avenue, Unit 16, Port Charlotte, Florida 33980, EE.UU
Phyton-24	Marzo de 2005				Marketing Arm International			Whidden Industrial Park, 23395 Janice Avenue, Unit 16, Port Charlotte, Florida 33980, EE.UU
Phyton-27	Marzo de 2005				Marketing Arm International			Whidden Industrial Park, 23395 Janice Avenue, Unit 16, Port Charlotte, Florida 33980, EE.UU
Potasio	Febrero de 2004				IBO			Av. José A. Gómez, Manzana 10, Solar 17, Bod. 21
PROCREBA	Oct-04				Bioexótica S.A.			Eduardo Wimper N 29-42 y Ernesto Noboa y - Caamano, Quito, Pichincha
Protec-K	Abril de 2005				FORCROP AGRO S.L.			Aveda. Prat de la Riva No.9, 2o, 1a, 43201 Reus (Tarragona), ESPAÑA
Protecto Plus	Octubre de 2004	x	x	x	Microflora de México, S. de R.L. M.I.			Arizona No. 3008, 31250 Chihuahua, MEXICO
QL AGRI 35	Abril de 2005	x		x	Natural Response S.A.			Avda. Industrial No. 1970, Quilpué, CHILE
Quillaje Powder QP-Feed Application	Agosto de 2004	x		x	Natural Response S.A.			Avda. Industrial No. 1970, Quilpué, CHILE

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Repellente en polvo	Apr-02				Agroinagor S.A. de C.V.			Cantón Matasanos, Municipio El Parismal, EL SALVADOR
RosburgAngel	Febrero de 2005				Quimirozburg Cía. Ltda.			Portoviejo 367 y Versalles Casilla 17-03-375, Quito, ECUADOR
RosburgBertiseg	Febrero de 2005				Quimirozburg Cía. Ltda.			Portoviejo 367 y Versalles Casilla 17-03-375, Quito, ECUADOR
RosburgBiosec	Febrero de 2005				Quimirozburg Cía. Ltda.			Portoviejo 367 y Versalles Casilla 17-03-375, Quito, ECUADOR
RosburgBoro	Febrero de 2005				Quimirozburg Cía. Ltda.			Portoviejo 367 y Versalles Casilla 17-03-375, Quito, ECUADOR
RosburgCuprifun	Febrero de 2005				Quimirozburg Cía. Ltda.			Portoviejo 367 y Versalles Casilla 17-03-375, Quito, ECUADOR
RosburgHumin	Febrero de 2005				Quimirozburg Cía. Ltda.			Portoviejo 367 y Versalles Casilla 17-03-375, Quito, ECUADOR
RosburgManganeso	Febrero de 2005				Quimirozburg Cía. Ltda.			Portoviejo 367 y Versalles Casilla 17-03-375, Quito, ECUADOR
RosburgMicofun	Febrero de 2005				Quimirozburg Cía. Ltda.			Portoviejo 367 y Versalles Casilla 17-03-375, Quito, ECUADOR
RosburgOidum	Febrero de 2005				Quimirozburg Cía. Ltda.			Portoviejo 367 y Versalles Casilla 17-03-375, Quito, ECUADOR
RosburgPhaeroz	Febrero de 2005				Quimirozburg Cía. Ltda.			Portoviejo 367 y Versalles Casilla 17-03-375, Quito, ECUADOR

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RosburgProtoz	Febrero de 2005				Quimirozburg Cía. Ltda.			Portoviejo 367 y Versalles Casilla 17-03-375, Quito, ECUADOR
RosburgSililo	Febrero de 2005				Quimirozburg Cía. Ltda.			Portoviejo 367 y Versalles Casilla 17-03-375, Quito, ECUADOR
RosburgSupersiga	Febrero de 2005				Quimirozburg Cía. Ltda.			Portoviejo 367 y Versalles Casilla 17-03-375, Quito, ECUADOR
RosburgZinc	Febrero de 2005				Quimirozburg Cía. Ltda.			Portoviejo 367 y Versalles Casilla 17-03-375, Quito, ECUADOR
Serenade® WP	Abr-04	X	X	X	AgraQuest, Inc.			1530 Drew Avenue, Davis, CA 95616, USA
Silargon Terra	Abr-04	X		X	Biovert S.A.			Ctra. LV-9224 Km 8,8, 25137 Corbins (LLEIDA), España
Sojall-Aqua top	Enero de 2003				Rampler, Pro Natura GmbH			Franz-Xaver-Gruber-Str. 1, 5112 Lamprechtshausen AUTRIA
Sojall-AquaSol	Enero de 2003				Rampler, Pro Natura GmbH			Franz-Xaver-Gruber-Str. 1, 5112 Lamprechtshausen AUTRIA
Sojall-Desy Clean	Enero de 2003				Rampler, Pro Natura GmbH			Franz-Xaver-Gruber-Str. 1, 5112 Lamprechtshausen AUTRIA
Sojall-Micro power	Enero de 2003				Rampler, Pro Natura GmbH			Franz-Xaver-Gruber-Str. 1, 5112 Lamprechtshausen AUTRIA
Sojall-Micro top	Enero de 2003				Rampler, Pro Natura GmbH			Franz-Xaver-Gruber-Str. 1, 5112 Lamprechtshausen AUTRIA

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Sojall-Vitana	Enero de 2003				Rampler, Pro Natura GmbH			Franz-Xaver-Gruber-Str. 1, 5112 Lamprechtshausen AUTRIA
Sojall-Vital	Enero de 2003				Rampler, Pro Natura GmbH			Franz-Xaver-Gruber-Str. 1, 5112 Lamprechtshausen AUTRIA
STIMPLEX Crop Biostimulant	Sep-04				Acadian Agritech / Acadian Seaplants Ltd.			30 Brown Avenue, Dartmouth, Nova Scotia B3B 1X8, CANADA
Strong NHA	Julio de 2004	x	x	x	Punto Quimica Pesticidas Ecológicas S.A.			José Bosmediano 724 y Pasaje Lafayette, Quito, ECUADOR
Stymulant	Febrero de 2005				Químicas Meristem S.L.			Ctra. Moncada-Naquera km. 1,7 46113, Valencia, ESPAÑA
Sulfo-Cup DP	Marzo de 2005				Quimetal Industria S.A.			Ejercito 16, Piso 4, Santiago Región Metropolitana, CHILE
SUN and AMPLIO, MOL	Nov-04				Agrícola de Aspe S.L.			Avda. Orihuela 29, 03680 Aspe, Alicante, ESPAÑA
Tagushi	Febrero de 2004	x		x	Grupo Irec			Manosca Pasaja Oe8, Casa # N35-209 y Av. Occidental, Quito, ECUADOR
Terra	Sep-04	X		X	Biovert S.A.			Ctra. LV-9224 Km 8,8, 25137 Corbins (LLEIDA), España
T-HK BIONEMA	Febrero de 2004				IBO			Av. José A. Gómez, Manzana 10, Solar 17, Bod. 21

Brand Name	Until	NOP	JAS	EU	Company	Phone and Fax	e-mail	Address
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Tobas Zeolitizadas	Junio de 2005	x	x	x	La Colina/Induminas			Planta: 70 km (El Progreso) Vía a la Costa, Guayaquil - Playas, Cuenca, ECUADOR
Tortanim	Jun-05	x	x	x	Codiagro S.A.			Pol. Ind. El Serrallo, nave 38, 12100 - Grao de Castellón, Castellón, SPAIN
Tremox A	Enero de 2003				Quimusa S.A.			Apartado 150 ZP 1150-La Uruca, San Jose COSTA RICA
Tremox S	Diciembre de 2004				Quimusa S.A.			Apartado 150 ZP 1150-La Uruca, San Jose COSTA RICA
Trichoderma harzianum cepa Queule	Feb-05	X	X	X	Bio Insumos Nativa Ltd.			Casilla 16-D, San Javier, VII. Región, CHILE
Tricotem	Febrero de 2005				Químicas Meristem S.L.			Crta. Moncada-Naquera km. 1,7 46113, Valencia, ESPAÑA
TRONVER ECO	Abr-04				Artal, Francisco R.			Polígono Industrial Fuente del Jarro, Villa de Madrid, 14, 46988 Paterna Valencia
VI-CARE	Ene-03	x	x	x	Citrex Inc.			1394 Coral Way, Miami, Florida 33145, EE.UU
Virens cepa Sherwood	Feb-05	X	X	X	Bio Insumos Nativa Ltd.			Casilla 16-D, San Javier, VII. Región, CHILE
Westfalia TM Biocoat		x	x	x	Merensky Technological Services Hans Merensky Holdings (PTY) LTDA.			Tzaneen/Duivelskloof Road (R81) P.O. Box 14, Duivelskloof, Limpopo

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Nombre Comercial	Vigencia del Certificado	NOP	JAS	EU	Nombre de la Empresa	Teléfonos	Correo electrónico	Dirección
WinGrow	Septiembre de 2004	x	x	x	Polus & Partner			Freiherr-vom-Stein-Stabe 12, 64678 Lindenfels
XPLODE	Nov-04				AGXPLORE International			LLC, PMB # 166, 2128 William St., Cape Girardeau, MO 63703
ZAFNAT	Nov-04	X	X	X	AQUASERV Laboratorio			Sucre 422 entre Buenavista y Callejón Banaoro, Machala, ECUADOR
Z-BAN	Nov-04	X	X	X	AQUASERV Laboratorio			Sucre 422 entre Buenavista y Callejón Banaoro, Machala, ECUADOR
ZEOTEC	Nov-04	X	X	X	AQUASERV Laboratorio			Sucre 422 entre Buenavista y Callejón Banaoro, Machala, ECUADOR
ZEOTEC	Noviembre de 2004				Productos el Rancho (bel Aquaserv)			10 de Agosto 498, Cuenca, ECUADOR
Zinc	Febrero de 2004				IBO			Av. José A. Gómez, Manzana 10, Solar 17, Bod. 21
ZP-400	Febrero de 2004	x	x	x	Extract Valp Ltda.			Calle Limache 1227, Viña del Mar

ESTABLECE NORMAS PARA LA
EVALUACIÓN Y AUTORIZACIÓN DE
PLAGUICIDAS.

7

Nº _____3670_____/ VISTOS : La Resolución Nº 940 de 1999 del
Servicio Agrícola y Ganadero, el Decreto Ley
Nº 3557 de 1980 sobre Protección Agrícola, la Ley Nº 18.755 Orgánica del Servicio
modificada por la Ley Nº 19.283, y los Estándares Regionales en Protección
Fitosanitaria Sección VI 6.1 y 6.2, Productos Fitosanitarios del COSAVE, y

- Que, corresponde al Servicio Agrícola y Ganadero, regular, restringir o prohibir la fabricación, importación, distribución, venta y aplicación de los plaguicidas;

- Que, si los plaguicidas se comercian o se emplean de manera incorrecta, pueden causar daño a la salud de personas y animales o al ambiente:

- Que, para lograr un empleo correcto y eficiente de los plaguicidas en la protección de los cultivos, con riesgo mínimo para la salud humana, la fauna, la flora y el medio ambiente, es necesario que el Servicio disponga de la más amplia información sobre las características de cada uno de los productos que se usan en el país, a objeto de realizar una correcta evaluación de sus riesgos;

- Que, para la evaluación integral de los mismos se cuenta con la participación del Ministerio de Salud y de la Comisión Nacional del Medio Ambiente, integradas en el Comité Asesor del Servicio Agrícola y Ganadero para la Evaluación de Plaguicidas de Uso Agrícola;

- Que, la mayoría de los países han establecido reglamentaciones que disponen la evaluación y autorización de estos productos ante sus autoridades gubernamentales; y

- Que, el Comité de Sanidad Vegetal del Cono Sur, COSAVE, ha recomendado que los países del área uniformen sus sistemas de evaluación y autorización de estos productos, a los que denomina "Productos Fitosanitarios", mediante la adopción de los requisitos que ha establecido en los Estándares mencionados en los Vistos.

RESUELVO:

1. Para los efectos de esta resolución se establecen las siguientes definiciones:

Plaguicida: Compuesto químico, orgánico o inorgánico, o sustancia natural que se utilice para combatir malezas, enfermedades o plagas potencialmente capaces de causar perjuicios en organismos u objetos. Se entenderá cada producto formulado y las sustancias activas con las que se formulan, con aptitudes insecticidas, acaricidas, nematocidas, molusquicidas, rodenticidas, lagomorficidas, avicidas, fungicidas, bactericidas, alguicidas, herbicidas, defoliantes, desecantes, fitorreguladores, coadyuvantes, antitranspirantes, atrayentes, feromonas, repelentes, y otros que se empleen en las actividades agrícolas y forestales.

Autorización: Permiso para fabricar, importar, distribuir, vender o aplicar plaguicidas.

Servicio: Servicio Agrícola y Ganadero.

Substancia Activa: Componente que confiere la acción biológica esperada a un plaguicida. Al estado técnico se compone del ingrediente activo, productos relacionados e impurezas, pudiendo contener pequeñas cantidades de aditivos.

2. Sólo se podrá fabricar, importar, distribuir, vender o aplicar, plaguicidas de uso en agricultura autorizados por el Servicio. La autorización no constituye propiedad del plaguicida ni de la substancia activa que contiene.

La autorización se otorgará previa evaluación favorable del Servicio, realizada en conformidad a lo que dispone la presente resolución.

3. La autorización, deberá ser solicitada al Servicio por una persona que tenga su domicilio en el país y cuente con la asesoría de profesionales con calificación en las disciplinas que se relacionan con el uso de plaguicidas.

La solicitud deberá contener la información requerida en el punto 28 de esta resolución, según corresponda.

4. Un extracto de la solicitud, deberá ser publicado por el interesado, en el Diario Oficial, los días primero o quince de cada mes, o el primer día hábil siguiente, si aquéllos fueren domingo o feriado. Copia de esta publicación, deberá acompañarse al Servicio.

5. El extracto, deberá contener la individualización del solicitante; el nombre comercial del plaguicida, aptitud, composición, tipo de formulación, formulador del plaguicida, usos a que se destinará y clasificación toxicológica.

6. Cualquier interesado podrá presentar ante el Servicio observaciones fundadas a la solicitud, las que deberán presentarse por escrito, dentro del plazo de sesenta días corridos contados desde la fecha de la publicación del extracto de la solicitud. Estas observaciones, serán analizadas por el Servicio en el proceso de evaluación de la solicitud.

7. El Servicio fiscalizará que la substancia activa que contiene un plaguicida autorizado, corresponda en todo a lo que señale la autorización de ese

plaguicida, pudiendo exigirse que el plaguicida respectivo contiene la sustancia activa indicada en esa autorización.

8. Si el Servicio requiere aplicar con urgencia un plaguicida que no esté autorizado, podrá aprobar mediante resolución fundada, su fabricación, importación, distribución, venta o aplicación, bajo las condiciones que indique.

9. La autorización de un plaguicida, será definitiva o experimental.

10. La autorización, será definitiva para los plaguicidas cuyos usos hayan sido comprobados en el país y tendrá una duración de cinco años renovable por períodos iguales, si ello se solicita dentro de los 90 días corridos antes de su vencimiento.

Si esta renovación no se solicita, la autorización se considerará caducada y se interrumpirá la fabricación e importación del plaguicida. Sin embargo, se permitirá la distribución, venta o aplicación del plaguicida por un período de dos años o hasta agotar sus existencias, según lo que ocurra primero.

Se considerará uso comprobado para los plaguicidas, el ensayo oficial realizado en el país por Estaciones Experimentales autorizadas por el Servicio o certificada su eficacia por profesionales debidamente acreditados por éste, siguiendo en ambos casos los protocolos establecidos por el Servicio.

- 11.- La autorización, será experimental para los plaguicidas cuyos usos no hayan sido comprobados en el país, en los términos del artículo anterior y tendrá una vigencia de cinco años renovable por períodos iguales, si ello lo solicita su titular dentro de los 90 días corridos antes de su vencimiento.

Mientras cuenten con autorización experimental, el plaguicida no podrá comercializarse y sólo podrá usarse en Estaciones Experimentales autorizadas por el Servicio, bajo protocolos establecidos por éste. Podrá solicitarse la autorización definitiva antes del término del plazo, para los usos cuya eficacia haya quedado demostrada en la experimentación realizada.

- 12.- Para obtener autorización definitiva, los plaguicidas deberán previamente obtener autorización experimental de acuerdo al protocolo establecido por el Servicio.

- 13.- El Servicio tendrá el plazo de un mes desde la recepción de una solicitud de autorización, para verificar si la documentación de respaldo presentada está completa y si el tipo de documento corresponde a lo exigido en esta resolución. El solicitante tendrá un plazo de 60 días corridos para corregir o completar los antecedentes que se le hayan informado como inadecuados o faltantes; de no hacerlo dentro de este plazo, se entenderá que se desiste de su solicitud. Sin perjuicio de lo anterior, el Servicio podrá solicitar información adicional durante el proceso de evaluación.

- 14.- El Servicio tendrá un plazo de 6 meses para resolver sobre una solicitud de autorización de un plaguicida, plazo contado desde la fecha de recepción de todos los antecedentes que se requieren de acuerdo con esta resolución y que, además, el solicitante haya acompañado copia de la publicación del extracto de su solicitud y que se haya vencido el plazo para formular observaciones a ella. Este plazo de 6 meses podrá prorrogarse, cuando la complejidad de las materias que deban analizarse o evaluarse lo haga indispensable; en ningún caso, esta prórroga podrá exceder los 3 meses.

15. El Servicio podrá negar la autorización de un plaguicida, o restringir o cancelar

una ya otorgada, si motivos de calidad, eficacia, toxicidad aguda o crónica, ecotoxicidad o medioambientales, debidamente fundamentados y oportunamente notificados, lo hace necesario. También podrá someter a revisión, por iniciativa propia o a petición de las autoridades de Salud o Medioambiente, cualquier autorización ya otorgada, si considera que avances tecnológicos o científicos la hacen necesaria y podrá, además, suspender una autorización para evaluar información adicional que se haya recibido referida al producto autorizado o si razones de carácter técnico lo hacen necesario.

16. El Servicio podrá negar, suspender o cancelar la autorización de un plaguicida, en caso que la documentación acompañada no sea veraz o no cuente con el respaldo técnico que esta resolución le exige.
17. El afectado por alguna de dichas medidas podrá pedir en forma fundada su revocación al Servicio, dentro del plazo de 30 días corridos contados desde la fecha de notificación de la resolución respectiva, la que se mantendrá vigente mientras dure la evaluación de los antecedentes que presente el interesado.
18. Una vez autorizado un plaguicida, el titular podrá solicitar al Servicio, por escrito, la inclusión de modificaciones, ya sea en las dosis, formas de empleo u otras, adjuntando la documentación que lo justifique. Sin embargo, cambios en la composición química, en la proporción de sus ingredientes activos, en la formulación, o en el origen de la sustancia activa o del plaguicida, obligarán a una nueva autorización, a menos que en el último caso mencionado, se demuestre mediante certificados de análisis que las sustancias activas o plaguicidas son idénticos; estos certificados de análisis deben ser emitidos por sus fabricantes o formuladores y otorgados en el país de fabricación o formulación, debidamente legalizados ante el Cónsul de Chile en el país que corresponda y con el atestado del funcionario competente del Ministerio de Relaciones Exteriores de Chile. La inclusión de nuevos usos, deberá solicitarse adjuntando la documentación correspondiente de Estaciones Experimentales autorizadas para este efecto por el Servicio o la certificación de la eficacia por profesionales debidamente acreditados por éste. El Servicio podrá disponer, si resulta procedente, la introducción de las modificaciones que correspondan en la etiqueta del plaguicida.
19. El titular de una autorización estará obligado a informar al Servicio, por escrito, las novedades, debidamente fundamentadas, que se originen o conozcan, que afecten la eficacia del plaguicida autorizado o su seguridad en el uso, tanto desde el punto de vista toxicológico como ecotoxicológico y ambiental. El Servicio dispondrá las medidas restrictivas o las modificaciones que correspondan, incluyendo cambios en la etiqueta del plaguicida. De todo ello, se informará al Ministerio de Salud y a la Autoridad Medioambiental.
20. El titular de una autorización, podrá solicitar al Servicio una nueva autorización respecto de un plaguicida de idéntica formulación o un plaguicida que contiene idéntica sustancia activa, al plaguicida objeto de su autorización. Para ello, deberá declarar ante Notario que la nueva solicitud recae en un plaguicida idéntico o en una sustancia activa idéntica, al del plaguicida del cual él cuenta con autorización.

El titular de una autorización, podrá facultar a un tercero para solicitar al Servicio una nueva autorización respecto de un plaguicida de igual formulación o un plaguicida que contiene idéntica sustancia activa, al plaguicida objeto de su autorización. Para ello, deberá declarar ante Notario su voluntad de facultar al tercero y que la nueva solicitud recae en un plaguicida idéntico o en una sustancia activa idéntica, al del plaguicida del cual él cuenta con autorización.

En caso que se trate de una nueva solicitud respecto de un idéntico plaguicida ya autorizado, sólo deberá acompañarse a la solicitud correspondiente indicación del nombre comercial y dos ejemplares de la etiqueta con que se expenderá el producto.

En caso que se trate de una nueva solicitud respecto de una idéntica sustancia activa contenida en un plaguicida ya autorizado, no será necesario acompañar a la solicitud los antecedentes relativos a la sustancia activa que esta resolución exige, excepto que deberá adjuntar un certificado de análisis que demuestre que corresponde a la misma sustancia activa.

21. Toda la documentación que se adjunte como antecedente para la autorización de un plaguicida, debe estar escrita en idioma español o inglés, siendo de responsabilidad del solicitante la veracidad de los antecedentes que proporcione.
22. Todos los documentos que se acompañen a la solicitud de autorización, deberán presentarse en un original y dos copias.

Para la renovación de la autorización ya otorgada a un plaguicida, sólo deberán acompañarse a la solicitud correspondiente 2 ejemplares de la etiqueta con que se expende el producto y una actualización de los antecedentes toxicológicos agudos y crónicos, ecotoxicológicos, de seguridad y de uso, si corresponde.
23. El Servicio estará facultado para solicitar, cuando lo requiera para sus verificaciones de laboratorio, muestras de la sustancia activa (patrones analíticos) o del plaguicida autorizado o cuya autorización se solicite, en cantidades a determinar y que no excederán los 2 gr para el caso de patrones analíticos.
24. Cada autorización será numerada correlativamente, debiendo el número incluirse en la etiqueta respectiva. El titular de la autorización, recibirá un certificado emitido por el Servicio que acredita la autorización, el que deberá mantener para los fines de esta resolución u otros que fueren necesarios.
25. Los derechos de las solicitudes de autorización y de renovación de un plaguicida, deberán pagarse al momento de la solicitud. Estos derechos no serán reembolsables, cualquiera sea el resultado de la solicitud.
26. La información científica proporcionada por el solicitante para la autorización de un plaguicida, que no sea de dominio público, o no haya sido publicada en revistas científicas o de divulgación, será confidencial. Sin embargo, el Servicio u otros organismos oficiales del Estado podrán utilizarla con fines de control de calidad, de preservación de la salud humana o animal y prevención de la contaminación ambiental. En todo caso, esta información científica sólo podrá ser utilizada por agencias oficiales para resolver situaciones calificadas, según lo demanden los intereses nacionales.
27. La autorización de un plaguicida, no libera al titular de la misma y por los actos propios que éste realizare, de las responsabilidades que con respecto al plaguicida autorizado le confiere la legislación vigente. Los importadores de plaguicidas autorizados, deben asumir la responsabilidad de los resultados que el producto produjera derivadas de factores de calidad. Esta autorización, no podrá usarse como garantía de eficacia de la sustancia activa o el plaguicida autorizado ni podrá hacerse al Servicio participe de la responsabilidad que con respecto al mismo le cabe al titular de la autorización o al importador.

28. REQUISITOS TECNICOS PARA LA EVALUACIÓN DE PLAGUICIDAS.

APLICABILIDAD

La información que se solicita, debe proporcionarse si ella es inherente al plaguicida en evaluación. La no presentación de cualquier información, deberá estar acompañada de una justificación técnica, debiendo el Servicio pronunciarse en forma fundada respecto de su obligatoriedad.

28.1 Solicitante

28.1.1 Nombre, RUT y Dirección

28.1.2 Representante Legal , RUT y Dirección (Deberá acreditar legalmente la representación)

28.2 SUBSTANCIA ACTIVA DEL PLAGUICIDA. (GRADO TÉCNICO)

28.2.1 IDENTIDAD DE LA SUBSTANCIA ACTIVA

28.2.1.1 Fabricante

28.2.1.1.1 Nombre

28.2.1.1.2 Dirección

28.2.1.2 Nombre común:

28.2.1.2.1 Aceptado por ISO, o

28.2.1.2.2 Propuesto, por ISO, BSI, ANSI, WSSA o el fabricante.

28.2.1.3 Sinónimo (si tiene)

28.2.1.4 Nombre químico (aceptado o propuesto por IUPAC)

28.2.1.5 Fórmula empírica

28.2.1.6 Fórmula estructural

28.2.1.7 Número de código experimental (cuando proceda)

28.2.1.8 Grupo químico a que pertenece

28.2.1.9 Grado de pureza (contenido mínimo de sustancia activa)

28.2.1.10 Isómeros

28.2.1.10.1 Identidad

28.2.1.10.2 Proporción en que se encuentran

28.2.1.11 Impurezas, identificándolas:

28.2.1.11.1 De contenido mayor a 0.1 % si no tienen efectos adversos

28.2.1.11.2 De cualquier contenido, si tienen efectos adversos (especificar esos efectos)

28.2.1.12 Aditivos (ej.: estabilizantes)

28.2.1.12.1 Identidad

28.2.1.12.2 Proporción en que se encuentran.

La información de los puntos 28.2.1.9-10-11-12, deberá venir respaldada con certificado de análisis cuali-cuantitativo original, emitido por el fabricante.

28.2.2- PROPIEDADES FISICAS Y QUIMICAS (indicar en cada caso metodología de determinación internacionalmente reconocida).

Esta información deberá venir respaldada con las determinaciones hechas por el fabricante o bien con certificado original, emitido por éste, donde se incluya la propiedad física o química, su valor y la metodología de determinación de dicha propiedad.

28.2.2.1. Aspecto:

28.2.2.1.1 Estado físico (activo puro(p), activo grado técnico(t))

28.2.2.1.2 Color (p y t)

28.2.2.1.3 Olor (p y t)

28.2.2.2 Punto de Fusión (p) sólidos a temperatura ambiente

28.2.2.3 Punto de Ebullición (p) líquidos a temperatura ambiente

28.2.2.4 Densidad (p y t)

- 28.2.2.5 Presión de vapor (p)
- 28.2.2.6 Volatilidad (p)
- 28.2.2.7 Espectro de absorción (p)
- 28.2.2.8 Solubilidad en agua (p)
- 28.2.2.9 Solubilidad en solventes orgánicos (p y t)
- 28.2.2.10 Coeficiente de partición en n-octanol/agua (p)
- 28.2.2.11 Estabilidad en agua (p)
- 28.2.2.12 Inflamabilidad (t) líquidos inflamables o combustibles
- 28.2.2.13 Tensión superficial (t)
- 28.2.2.14 Propiedades explosivas (t)
- 28.2.2.15 Propiedades oxidantes (corrosividad) (t)
- 28.2.2.16 Reactividad con el material de envases (t)
- 28.2.2.17 pH (t)
- 28.2.2.18 Constante de disociación en agua (p)
- 28.2.2.19 Viscosidad (t) líquidos

28.2.3.- ASPECTOS RELACIONADOS CON SU UTILIDAD

Los documentos que respalden este punto, deberán ser de carácter técnico y emitidos por el fabricante de la sustancia activa. (folletos, abstracts, artículos de revistas científicas).

- 28.2.3.1 Aptitud (Insecticida, herbicida, etc.)
- 28.2.3.2 Efecto sobre los organismos-plaga (ej.: tóxico por inhalación, contacto sistémico u otras formas).
- 28.2.3.3 Organismos nocivos controlados (Nombre común y científico)
- 28.2.3.4 Modo de acción sobre los organismos nocivos y sobre las plantas.
- 28.2.3.5 Ámbito de aplicación previsto (en formulaciones para uso en campo, recintos cerrados, etc.).
- 28.2.3.6 Resistencia (Información sobre desarrollo de resistencia en los organismos que controla y estrategias de manejo para prevenirlas).

28.2.4.- METODOS ANALITICOS

- 28.2.4.1 Método analítico para la determinación de la sustancia activa pura y, cuando corresponda, para la determinación de productos de degradación, isómeros e impurezas (de importancia toxicológica y/o ecotoxicológica) y aditivos (ej: estabilizantes). Hacer reseña breve del método y anexar metodología detallada.
- 28.2.4.2 Métodos analíticos (incluida la tasa de recuperación y los límites de sensibilidad) para la determinación de residuos en plantas tratadas, productos agrícolas, alimentos procesados, suelo y agua. Hacer reseña breve del método y anexar metodología detallada.
- 28.2.4.3 Métodos analíticos para la determinación en el aire y tejidos y fluidos animales o humanos, cuando estén disponibles. Hacer reseña breve del método y anexar metodología detallada.

28.2.5.- RESIDUOS EN PRODUCTOS TRATADOS.

- 28.2.5.1 Identificación de los productos de degradación y metabolitos en plantas o productos tratados.
- 28.2.5.2 Comportamiento de los residuos de la sustancia activa y sus metabolitos desde la aplicación a la cosecha. Absorción, distribución o conjugación con los ingredientes de la planta y la disipación del producto para el medio ambiente.

- 28.2.5.3 Datos sobre residuos, obtenidos mediante pruebas controladas. Esta información deberá venir respaldada con determinaciones realizadas por o para el fabricante con la sustancia activa en evaluación.

28.2.6 INFORMACION CON RESPECTO A LA SEGURIDAD.

Respaldada con Hoja de Seguridad original emitida por el fabricante, o bien una declaración en original, de éste, donde se incluyan todas las recomendaciones para la sustancia activa.

- 28.2.6.1 Procedimientos para la destrucción de la sustancia activa y para su descontaminación.
- 28.2.6.2 Posibilidades de recuperación (si la información está disponible).
- 28.2.6.3 Posibilidades de neutralización.
- 28.2.6.4 Condiciones para incineración controlada.
- 28.2.6.5 Descontaminación de aguas.
- 28.2.6.6 Métodos recomendados y precauciones de manejo durante su manipulación, almacenamiento, transporte y en caso de incendio o derrame.
- 28.2.6.7 Productos de reacción y gases de combustión en caso de incineración o incendio.
- 28.2.6.8 Información sobre equipos de protección individual.

28.2.7 TOXICOLOGIA.

Debe respaldarse a través de copias de los ensayos generados por o para el fabricante de la sustancia activa que va a ser evaluada, identificando claramente la identidad del laboratorio, el protocolo del ensayo, y adjuntando las principales observaciones y el resultado de la determinación. Todos los estudios deben corresponder a la sustancia activa que va a ser evaluada.

- 28.2.7.1 Toxicidad Aguda
 - 28.2.7.1.1 Oral (LD50 oral aguda ratas activo grado técnico)
 - 28.2.7.1.2 Dérmica (LD50 dermal aguda ratas activo grado técnico)
 - 28.2.7.1.3 Inhalatoria (CL50 inhalatoria ratas activo grado técnico)
 - 28.2.7.1.4 Irritación cutánea y ocular (conejos)
 - 28.2.7.1.5 Sensibilización cutánea.(cobayos)
- 28.2.7.2 Toxicidad a Corto Plazo/Mediano Plazo
 - 28.2.7.2.1 Oral acumulativa (estudio de 28 días, ratas, activo grado técnico)
 - 28.2.7.2.2 Administración oral en roedores y en no roedores (90 días, ratas o perros activo grado técnico)
 - 28.2.7.2.3 Otras vías:
 - 28.2.7.2.3.1 Inhalación (28 días, ratas, activo grado técnico para sustancias volátiles)
 - 28.2.7.2.3.2 Dérmica (21/28 días, ratas o conejos, activo grado técnico)
- 28.2.7.3 Toxicidad crónica
 - 28.2.7.3.1 Oral a largo plazo
 - 28.2.7.3.2 Carcinogenicidad
 - 28.2.7.3.3 Mutagenicidad
 - 28.2.7.3.3.1 Mutaciones genéticas (Test de Ames u otros)
 - 28.2.7.3.3.2 Aberraciones cromosómicas
 - 28.2.7.3.3.3 Perturbaciones del ADN.
 - 28.2.7.3.4 Efectos sobre la Reproducción

- 28.2.7.3.4.1 Teratogenicidad
- 28.2.7.3.4.2 Estudio sobre, por lo menos, dos generaciones en mamíferos.
- 28.2.7.3.4.3 Estudios sobre la reproducción
- 28.2.7.3.5 Metabolismo en Mamíferos
 - 28.2.7.3.5.1 Estudios de: (luego de la administración oral y dérmica)
 - 28.2.7.3.5.1.1 Absorción
 - 28.2.7.3.5.1.2 Distribución
 - 28.2.7.3.5.1.3 Excreción
 - 28.2.7.3.5.2 Explicación de las rutas metabólicas
 - 28.2.7.3.5.3 Información Médica Obligatoria
 - 28.2.7.3.5.3.1. Diagnóstico y síntomas de intoxicación
 - 28.2.7.3.5.3.2 Tratamientos propuestos:
 - 28.2.7.3.5.3.2.1 Primeros auxilios
 - 28.2.7.3.5.3.2.2 Tratamiento médico
 - 28.2.7.3.5.3.2.3 Antídotos
 - 28.2.7.3.5.4 Estudios Adicionales
 - 28.2.7.3.5.4.1 Estudios de neurotoxicidad y/o neurotoxicidad retardada
 - 28.2.7.3.5.4.2. Efectos tóxicos de metabolitos procedentes de los vegetales tratados, isómeros si ocurren, cuando éstos sean diferentes de los identificados en los estudios sobre animales.
 - 28.2.7.3.5.5 Información Médica Complementaria (cuando se disponga)
 - 28.2.7.3.5.5.1 Diagnóstico de intoxicación:
 - 28.2.7.3.5.5.1.1 Observación directa de casos clínicos.
 - 28.2.7.3.5.5.1.2 Observación sobre la exposición de la población en general y estudios epidemiológicos.
 - 28.2.7.3.5.5.1.3 Observaciones sobre sensibilización/alergización
- 28.2.8. EFECTOS SOBRE EL AMBIENTE**
 - 28.2.8.1 Comportamiento en el Suelo (Datos para 3 tipos de suelos patrones).
 - 28.2.8.1.1 Tasa y vías de degradación (hasta 90%), incluida la identificación de:
 - 28.2.8.1.1.1. Procesos que intervienen
 - 28.2.8.1.1.2 Metabolitos y productos de degradación
 - 28.2.8.1.2 Adsorción y desorción y movilidad de la sustancia activa y, si es relevante, de sus metabolitos
 - 28.2.8.1.3 Magnitud y naturaleza de los residuos remanentes.
 - 28.2.8.1.4 Comportamiento en el Agua y en el Aire
 - 28.2.8.1.4.1 Tasa y vías de degradación en medio acuoso
 - 28.2.8.1.4.1.2 Biodegradación, hidrólisis y fotólisis (si no fueron especificados en las propiedades físicas y químicas)
 - 28.2.8.1.4.2 Tasa y vías de degradación en el aire para sustancias volátiles y fumigantes (si no fueron especificados en las propiedades físicas y químicas).
 - 28.2.9.3 Efectos Ecotoxicológicos
 - 28.2.9.3.1 Efectos sobre las Aves
 - 28.2.9.3.1.1 Toxicidad oral aguda
 - 28.2.9.3.1.2 Toxicidad a corto plazo (estudio en una especie/8 días)
 - 28.2.9.3.1.3 Efectos en la reproducción.
 - 28.2.9.3.2 Efectos sobre Organismos Acuáticos
 - 28.2.9.3.2.1 Toxicidad aguda para peces.
 - 28.2.9.3.2.2 Toxicidad crónica para peces.
 - 28.2.9.3.2.3 Efecto en la reproducción y tasa de crecimiento de peces.

- 28.2.9.3.2.4 Bioacumulación en peces.
- 28.2.9.3.2.5 Toxicidad aguda para *Daphnia* sp.
- 28.2.9.3.2.6 Estudios crónicos en *Daphnia* sp.
- 28.2.9.3.2.7 Tasa de reproducción para *Daphnia* sp.
- 28.2.9.3.2.8 Ritmo de crecimiento para *Daphnia* sp.
- 28.2.9.3.2.9 Efectos sobre el crecimiento de las algas.

- 28.2.9.4 Efectos sobre Organismos Distintos al Objetivo
- 28.2.9.4.1 Toxicidad aguda para abejas
- 28.2.9.4.2 Toxicidad aguda para artrópodos benéficos (ej.: predadores).
- 28.2.9.4.3 Toxicidad para lombrices de tierra
- 28.2.9.4.4 Toxicidad para microorganismos del suelo.

28.3 REQUISITOS TECNICOS DEL PRODUCTO FORMULADO

28.3.1 DESCRIPCIÓN GENERAL

- 28.3.1.1 Formulador
- 28.3.1.1.1 Nombre (y RUT si es nacional)
- 28.3.1.1.2 Dirección
- 28.3.1.2 Nombre comercial
- 28.3.1.3 Clase de uso a que se destina o Aptitud (herbicida, insecticida, etc.).
- 28.3.1.4 Tipo de formulación (polvo mojable, concentrado emulsionable, etc.).

28.3.2 COMPOSICIÓN

La información de los puntos 28.3.2.1-3 deberá venir respaldada con certificado de composición cuali-cuantitativo original emitido por el formulador .

- 28.3.2.1 Contenido de sustancia(s) activa(s), grado técnico expresado en % p/p o p/v.
- 28.3.2.2 Métodos de análisis para la determinación del contenido de sustancia activa en la formulación.
- 28.3.2.3 Contenido y naturaleza de cada uno de los demás componentes incluidos en la formulación.

28.3.3 PROPIEDADES FÍSICAS Y QUÍMICAS (indicar en cada caso metodología de determinación, ej: OECD, EEC, FIFRA u otras).

Esta información deberá venir respaldada con las determinaciones hechas por el formulador o un laboratorio que preste el servicio, o bien con Certificado Original, emitido por éste, donde se incluya la propiedad física y química, su valor y la metodología de determinación de dicha propiedad.

- 28.3.3.1 Aspecto
- 28.3.3.1.1 Estado físico
- 28.3.3.1.2 Color
- 28.3.3.1.3 Olor
- 28.3.3.2 Estabilidad en el almacenamiento (respecto de su composición y a las propiedades físicas relacionadas con el uso).
- 28.3.3.3 Densidad relativa
- 28.3.3.4 Inflamabilidad
- 28.3.3.4.1 Para líquidos, punto de inflamación
- 28.3.3.4.2 Para sólidos, debe aclararse si el producto es o no inflamable.
- 28.3.3.5 Acidez/Alcalinidad y pH.
- 28.3.3.6 Explosividad.

28.3.4 PROPIEDADES FÍSICAS Y QUÍMICAS RELACIONADAS CON EL USO.

(indicar en cada caso metodología de determinación , ej: OECD, EEC, FIFRA u otras).

Esta información deberá venir respaldada con las determinaciones hechas por el formulador o un laboratorio que preste el servicio, o bien con Certificado Original donde se incluya la propiedad física o química , su valor y la metodología de determinación de dicha propiedad.

- 28.3.4.1 Humectabilidad (para polvos mojables)
- 28.3.4.2 Persistencia de espuma (para los formulados que se aplican con agua).
- 28.3.4.3 Suspensibilidad (para los polvos mojables y los concentrados en suspensión).
- 28.3.4.4 Análisis granulométrico en húmedo (para los polvos mojables y los concentrados en suspensión).
- 28.3.4.5 Análisis granulométrico en seco (para gránulos y polvos).
- 28.3.4.6 Estabilidad de la emulsión (para los concentrados emulsionables).
- 28.3.4.7 Corrosividad
- 28.3.4.8 Incompatibilidad con otros productos (ej: fitosanitarios y fertilizantes).
- 28.3.4.9 Densidad a 20°C en g/ml (para formulaciones líquidas).
- 28.3.4.10 Punto de inflamación (aceites y soluciones).
- 28.3.4.11 Viscosidad (para aceites, suspensiones y emulsiones).
- 28.3.4.12 Índice de sulfonación (aceites).
- 28.3.4.13 Dispersión (para gránulos dispersables).
- 28.3.4.14 Desprendimiento de gas (sólo para gránulos generadores de gas).
- 28.3.4.15 Soltura o fluidez (para polvos secos).
- 28.3.4.16 Índice de iodo e índice de saponificación (para aceites).
- 28.3.4.17 Solubilidad/miscibilidad en agua.
- 28.3.4.18 Solubilidad/miscibilidad en solventes orgánicos.
- 28.3.4.19 Tensión superficial de soluciones acuosas.

28.3.5 DATOS SOBRE LA APLICACIÓN

Este punto deberá venir respaldado completamente por los resultados de los ensayos de eficacia oficiales o bien por la Certificación Oficial de los Usos.

- 28.3.5.1 Ámbito de aplicación (campo, invernáculo, etc.).
- 28.3.5.2 Efectos sobre las plagas y en los vegetales
- 28.3.5.3 Condiciones en que el producto puede, o no, ser utilizado
- 28.3.5.4 Instrucciones de Uso
- 28.3.5.4.1 Cultivo
- 28.3.5.4.2 Plaga u organismo a controlar (indicando su nombre común y científico)
- 28.3.5.4.3 Dosis.
- 28.3.5.4.4 Número y momentos de aplicación.
- 28.3.5.4.5 Métodos de aplicación.
- 28.3.5.4.6 Tiempo de reingreso al área tratada.
- 28.3.5.4.7 Períodos de carencia
- 28.3.5.4.8 Efectos sobre cultivos siguientes
- 28.3.5.4.9 Fitotoxicidad

28.3.5.5 Usos aprobados en otros países, especialmente en la región del COSAVE.

28.3.6 ENVASES PROPUESTOS

- 28.3.6.1 Envases
- 28.3.6.1.1 Tipo(s)
- 28.3.6.1.2 Material(es)

- 28.3.6.1.3 Capacidad(es)
- 28.3.6.1.4 Resistencia
- 28.3.6.1.5 Sistema de cierre.
- 28.3.6.2 Acción del producto sobre el material de los envases.
- 28.3.6.3 Procedimientos para la descontaminación y destino final de los envases.

28.3.7 DATOS SOBRE EL MANEJO DEL PLAGUICIDA.

Respaldata con Hoja de Seguridad original emitida por el formulador, o bien una declaración en original de éste, donde se incluyan todas las recomendaciones para el plaguicida

- 28.3.7.1 Método de destrucción, eliminación o inutilización del plaguicida.
- 28.3.7.2 Identidad de los productos de combustión originados en caso de incendio.
- 28.3.7.3 Procedimientos de limpieza y descontaminación de los equipos de aplicación.
- 28.3.7.4 Métodos recomendados y precauciones de manejo durante su manipulación, almacenamiento, transporte y en caso de incendio o derrame.
- 28.3.7.5 Información sobre equipos de protección individual.

28.3.8. DATOS SOBRE RESIDUALIDAD.

Esta información deberá venir respaldada con determinaciones realizadas con el plaguicida en evaluación.

- 28.3.8.1 Datos de residuos obtenidos en base a ensayos protocolizados, según las normas internacionales.

28.3.9 DATOS TOXICOLÓGICOS.

Debe respaldarse a través de copias de los ensayos, generados por o para el formulador, del plaguicida que va a ser evaluado, identificando claramente la identidad del laboratorio, el protocolo del ensayo, y adjuntando las principales observaciones y el resultado de la determinación. Todos los estudios deben corresponder al plaguicida que va a ser evaluado.

- 28.3.9.1 Toxicidad aguda para mamíferos.
 - 28.3.9.1.1 Oral (LD50 oral aguda, ratas, producto formulado)
 - 28.3.9.1.2 Dérmica (LD50 dermal aguda, ratas, producto formulado)
 - 28.3.9.1.3 Inhalatoria (CL50 inhalatoria, ratas, producto formulado)
- 28.3.9.2 Irritación cutánea y ocular (conejos, producto formulado)
- 28.3.9.3 Sensibilización cutánea. (Si no se indicó para el técnico)
- 28.3.9.4 Mutagenicidad (para productos hechos con mezclas)
- 28.3.9.5 Informaciones Médicas Obligatorias
 - 28.3.9.5.1 Diagnóstico y síntomas de intoxicación
 - 28.3.9.5.2 Tratamientos propuestos.
 - 28.3.9.5.2.1 Primeros auxilios
 - 28.3.9.5.2.2. Antídoto
 - 28.3.9.5.2.3 Tratamiento Médico
- 28.3.9.6 Informaciones Médicas Complementarias (cuando estén disponibles).

- 28.3.9.6.1 Observación sobre efectos de la exposición de la población no laboralmente expuesta y estudios epidemiológicos.
- 28.3.9.6.2 Observación directa de casos clínicos, accidentales y deliberados.

28.3.10. DATOS DE LOS EFECTOS SOBRE EL AMBIENTE.

- 28.3.10.1 Toxicidad a organismos acuáticos.
 - 28.8.10.1.1 Algas
 - 28.8.10.1.2 Microcrustáceos
 - 28.8.10.1.3 Peces
- 28.8.10.2 Toxicidad a organismos del suelo
- 28.8.10.3 Toxicidad a aves
- 28.8.10.4 Toxicidad a abejas

29. DOCUMENTOS.

Aquella documentación de respaldo y exigida en original por esta resolución y que ha sido emitida en un país extranjero, deberá presentarse legalizada ante el Cónsul de Chile en el país que corresponda y con el atestado del funcionario competente del Ministerio de Relaciones Exteriores de Chile.

Deberán adjuntarse en original y dos copias, los documentos que corroboren o complementen los antecedentes y requisitos mencionados en los numerales 28; entre otros, los siguientes:

- 29.1 Literatura con antecedentes técnicos de la sustancia activa y del plaguicida, cuya autorización se solicita, incluyendo su Hoja de Seguridad y Certificados de Composición cuali-cuantitativa.
- 29.2 Etiquetas y folletos originales con que el plaguicida, cuya autorización se solicita, se expende en el país de origen del fabricante o formulador.
- 29.3 Certificado de inscripción y de libre venta en su país de origen, o de fabricación cuando corresponda, en original.
- 29.4 Estudios experimentales extranjeros, efectuados mediante protocolos universalmente aceptados, en que se demuestre la eficacia del plaguicida para los fines a que se recomienda.
- 29.5 Estudios experimentales nacionales, efectuados mediante protocolos universalmente aceptados en que se demuestre la eficacia del plaguicida, cuya autorización se solicita, para los fines a que se recomienda.
- 29.6 Extracto de los estudios toxicológicos, ecotoxicológicos y ambientales, del plaguicida cuya autorización se solicita, hechos o contratados por su fabricante, y cuando corresponda, autorización del titular de dicha información para usarla para la autorización que se solicita.
- 29.7 Proyecto de la etiqueta con que se expenderá en el país el plaguicida cuya autorización se solicita. Deberán enviarse al Servicio dos ejemplares de la etiqueta definitiva, tan pronto como sea impresa, para su inclusión en los antecedentes de la evaluación del producto.
- 30.- El ingreso de estándares analíticos y muestras para experimentación, estará sujeto a las Resoluciones que el Servicio dicte a ese respecto.

- 31.- Esta resolución entrará en vigencia 90 días después de su publicación en el Diario Oficial, excepto para lo que se indica a continuación.

Toda solicitud de autorización presentada desde la publicación de esta resolución en el Diario Oficial, deberá ajustarse a ella.

32. Los plaguicidas que a la fecha de entrada en vigencia de esta resolución tengan su autorización vigente, la mantendrán hasta su vencimiento, pero ocurrido éste no corresponderá su renovación, debiendo solicitar una nueva autorización y sujetándose en todo a la presente resolución; mientras dure la evaluación, la autorización se mantendrá vigente.
- 33.- Los plaguicidas en proceso de autorización al momento de la entrada en vigencia de esta resolución, continuarán rigiéndose por la normativa anterior.
- 34.- Derógase la Resolución N° 1178 de 1984 del Servicio Agrícola y Ganadero y sus posteriores modificaciones.

ANÓTESE, COMUNÍQUESE Y PUBLÍQUESE.

ANTONIO YAKSIC SOULÉ
INGENIERO AGRÓNOMO
DIRECTOR NACIONAL

**APRUEBA PROCEDIMIENTOS DE FISCALIZACIÓN
DE PLAGUICIDAS DE USO AGRÍCOLA, Y DEROGA
RESOLUCIÓN EXENTA DEL SERVICIO AGRÍCOLA
Y GANADERO N° 3671 DE 1999.**

SANTIAGO, 15 de abril de 2003.

N° 1038 **VISTOS:** La Ley 18.755 de 1989, modificada por la Ley 19.283 de 1994, el DL. 3557 de 1980, el Decreto de Agricultura N° 3 de 1982, las Resoluciones del Servicio N°s 386 de 1983, 3670 de 1999, 3671 de 1999, 2195 de 2000, 2196 de 2000, 2197 de 2000, 92 de 2002, y

CONSIDERANDO:

1. Que para comprobar la identidad de los plaguicidas de uso agrícola y su correspondiente composición química, los Inspectores del Servicio Agrícola y Ganadero toman muestras y analizan dichos productos.
2. Que es necesario perfeccionar y hacer mas eficaz los procedimientos de fiscalización.

RESUELVO:

Artículo 1°

Apruébanse los siguientes Procedimientos de fiscalización de Plaguicidas de Uso Agrícola.

1. NORMAS, PROCEDIMIENTOS Y AMBITO DE APLICACION.

Las siguientes normas y procedimientos serán de aplicación general, es decir, tanto para plaguicidas importados como para aquellos formulados en Chile. Para los efectos de esta Resolución se entenderá por "el Servicio" al Servicio Agrícola y Ganadero.

- 1.1. Sólo podrán ingresar al país aquellos plaguicidas de uso agrícola que se encuentren autorizados por el Servicio. Cada lote o partida será sometida a una inspección por el Servicio, al momento de su ingreso, mediante una revisión documental y física, para establecer su concordancia respecto a la información contenida en el documento "Autorizaciones de Plaguicidas de Uso Agrícola Vigentes" o en la Resolución para ingreso de muestras experimentales. Lo mismo será válido para aquellos plaguicidas formulados en el país, previo a su comercialización.
Entiéndase por Lote de Fabricación ("batch") la cantidad definida de un material producida en una sola operación (FAO 1999).

- 1.2. Del total de plaguicidas importados y formulados en el país, el Servicio realizará un muestreo oficial, que será realizado conforme a la Norma Chilena NCH 44 "Inspección por Atributos". El Departamento de Protección Agrícola determinará el porcentaje de lotes de plaguicidas a muestrear, independiente de la capacidad de los envases y de acuerdo a los resultados obtenidos en la evaluación de los análisis calificados del período inmediatamente anterior.
- 1.3. El importador podrá solicitar que el muestreo sea realizado en el recinto primario del puerto de ingreso o bajo el régimen de almacén particular. No obstante y en definitiva, será la Oficina correspondiente del Servicio quien determinará si procede la toma de muestra, indicando el lugar físico de muestreo, la oportunidad en que éste debe ser realizado y las condiciones del mismo. Para los plaguicidas formulados en Chile y previo a su comercialización, el interesado deberá informar a la Oficina del Servicio correspondiente al lugar donde se encuentren dichos productos, los lotes afectos a ser muestreados.
- 1.4. El interesado o su representante será responsable de entregar las muestras selladas por el Servicio, a un laboratorio autorizado por éste, a objeto que sean analizadas.
- 1.5. Si el resultado del análisis es diferente a la composición señalada en el documento "Autorizaciones de Plaguicidas de Uso Agrícola" vigente al momento del muestreo, habiendo considerado las tolerancias establecidas en la Resolución Exenta N°386 de 1983 o aquella que la reemplace o modifique, el interesado podrá solicitar a la Oficina del Servicio correspondiente, analizar la primera contramuestra que se encuentra en su poder, en un laboratorio autorizado distinto del primero. Si esta contramuestra arroja un resultado que está dentro de los rangos permitidos, el Servicio enviará a un tercer laboratorio autorizado, la segunda contramuestra que se encuentra en su poder, para confirmar el resultado anterior.
Si por el contrario la primera contramuestra arroja un resultado que confirma el primer análisis, el producto deberá ser destruido o reembarcado en un plazo no superior a 180 días y su costo será de cargo del interesado o su representante.

2. INTERNACIÓN DE PLAGUICIDAS.

2.1 REVISION DOCUMENTAL

En los puertos de ingreso, el Servicio procederá a una inspección documental. Una vez realizada, se determinará si procede la inspección física de la partida. Si ésta es aprobada, el plaguicida estará en condiciones de ingresar al país, siempre que no esté afecto al muestreo oficial. En tal caso, el lote deberá ser muestreado y quedará retenido a la espera de la calificación del Informe de Resultado de Análisis.

- 2.1.1. El interesado deberá presentar en la Oficina del Servicio correspondiente al puerto de ingreso, la siguiente documentación:
 - a) Certificado de Destinación Aduanera (CDA), el cual deberá indicar expresamente el número de Autorización dado por el Servicio para cada plaguicida, copia de Hoja de Seguridad del plaguicida según lo dispuesto en la Ley 18.164, además de otros antecedentes que en él se solicitan.
 - b) Informe Inspección Productos Agropecuarios (IIPA).
 - c) Certificado original de Análisis de Composición o Informe de Análisis de Composición, expedido por el Fabricante o Formulator del plaguicida, para cada lote de plaguicida. Este documento debe señalar:
 - Número de Lote de fabricación.
 - Volumen.

- Ingrediente activo y su concentración.
 - Formulación.
 - País de origen.
- d) Factura o documento de similar valor probatorio, en original o copia autorizada, que indique volumen de la partida a internar y su monto, en valor CIF o FOB.
- e) Manifiesto de carga, conocimiento de embarque o guía aérea del medio de transporte.
- 2.1.2. Para el efecto de calificar el original del certificado de análisis de composición química presentada por el interesado, el Inspector del Servicio deberá comparar esta información con la señalada en la lista de Autorizaciones de Plaguicidas de Uso Agrícola Vigentes, tomando en cuenta las tolerancias respecto de la composición, indicadas en la Resolución N° 386 de 1983 o aquella que la reemplace o modifique.
- 2.1.3. Si la documentación presentada con el Certificado de Destinación Aduanera, no corresponde a las características técnicas del producto o a los antecedentes indicados en el punto 2.1.1, el Servicio rechazará la importación de la partida, debiendo el importador aclarar los posibles errores dentro de los primeros 5 días hábiles desde la presentación del CDA, en caso contrario, ésta debe ser destruida o reembarcada, en un plazo no superior a 180 días y su costo será de cargo del interesado o su representante.
- 2.1.4. Igual situación ocurrirá cuando se solicite internar un plaguicida de uso agrícola no autorizado, prohibido, suspendido, con autorización vencida u otro que el Servicio defina.
- 2.1.5. Cuando la documentación es incompleta, el producto quedará retenido en recinto primario hasta que el interesado complete dicha documentación en un plazo no superior a 15 días hábiles.
El Inspector del Servicio deberá dejar expresa constancia en el "Acta de Retención", señalando el número del Certificado de Destinación Aduanera (CDA), la causal, el lugar donde el plaguicida quedará retenido, nombre comercial del producto, volumen, tipo de envase y su contenido, nombre y firma de la persona responsable de la internación. Al interesado se le notificará entregándole una copia del Acta, quedando el producto inmovilizado hasta que el Servicio resuelva en definitiva, no obstante lo anterior, el Servicio podrá autorizar el traslado a almacén particular de una partida por razones de seguridad.

2.2 REVISION FISICA .

- 2.2.1. Esta revisión se efectúa en el puerto de ingreso una vez que haya sido aprobada la revisión documental y tiene por objeto comprobar que la información contenida en los documentos corresponda fielmente a la realidad.
- 2.2.2. Todas las unidades de embalaje correspondientes a cada lote de plaguicida a importar, deben venir rotuladas indicando la siguiente información, en español o inglés:
- a) Nombre del ingrediente activo.
 - b) Concentración.
 - c) Tipo de Formulación.
 - d) Número de Lote de fabricación.
 - e) Nombre del fabricante.
 - f) País de origen.
- 2.2.3. Los envases de plaguicidas deben encontrarse herméticamente cerrados, sin grietas ni fisuras por las cuales pudiera derramarse su contenido.

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Corresponderá al importador tomar a lo menos las medidas contenidas en la hoja de seguridad de cada producto, para solucionar accidentes que provoquen riesgos de contaminación por productos derramados o envases dañados.

- 2.2.4. Se rechazará el ingreso de una partida cuando la información contenida en el rotulado de los envases no corresponda a la información declarada en el Listado de Autorizaciones de Plaguicidas Agrícolas, según se señala en el punto 2.2.2 de la presente Resolución, o cuando no exista correspondencia entre la inspección documental y física, debiendo destruirse o reembarcarse dentro de un plazo no superior a 180 días y su costo será de cargo del interesado o su representante.
- 2.2.5. Complementariamente, el Servicio solicitará que para el movimiento de carga peligrosa dentro del país, el medio de transporte deberá contar con la señalética exigida para el efecto.

2.3. MUESTREO, RETENCION Y ANALISIS.

- 2.3.1. Para el efecto de plaguicidas que han sido retenidos mediante Acta de Retención por estar afectos a muestreo, el interesado indicará el lugar donde desea que se realice dicho muestreo, pudiendo ser en el puerto de ingreso o en almacén particular, en este último caso deberá indicar claramente la dirección completa, comuna, provincia y región. Además deberá señalar el responsable técnico de la empresa que servirá de contraparte y el laboratorio autorizado por el Servicio, elegido para el análisis de la muestra. El Servicio podrá rechazar el lugar propuesto y solicitar un nuevo recinto.
- 2.3.2. Los costos de muestreo y de análisis serán de cargo del importador o del fabricante.
- 2.3.3. La captación de muestras se realizará conforme a la Norma Chilena NCh 44 "Inspección por Atributos" y a las instrucciones que imparta el Departamento de Protección Agrícola, considerando como unidad física el lote de fabricación. La calificación de los análisis la realizará la Oficina del Servicio que tomó la muestra, aplicando el criterio de tolerancia establecido en la Resolución N° 386 de 1983 o aquella que la reemplace o modifique.
- 2.3.4. El Inspector del Servicio tomará la muestra y dos contramuestras. Sellará los envases con un sello apropiado e inviolable, junto con emitir la respectiva "Acta de Toma de Muestra", de acuerdo a los protocolos vigentes. La muestra será destinada al análisis, una contramuestra le será entregada al importador o a quien lo represente y otra quedará en poder del Servicio. No obstante lo anterior y si existen razones que lo justifiquen, la Oficina del Servicio que practicó el muestreo podrá determinar, bajo ciertas condiciones, que ambas contramuestras queden en poder del interesado.
- 2.3.5. En el caso de una partida destinada a fraccionamiento, el Servicio podrá autorizar captar la muestra en almacén particular, durante o al término de dicho proceso, el que se deberá llevar a efecto en un plazo no superior a los 30 días hábiles desde que la partida se encuentre en dicho depósito. El interesado deberá notificar al Servicio el inicio de este proceso y los envases producto del fraccionamiento, deberán indicar el número de lote de fabricación. Para envases muestreados que no sean sometidos a fraccionamiento, el Servicio colocará un sello que lo identifique como envase muestreado.
- 2.3.6. El interesado o su representante será responsable de entregar, para análisis, las muestras selladas por el Servicio, al laboratorio autorizado por éste. El traslado de las muestras se debe realizar de acuerdo a lo establecido en el Decreto N°298 de 1994 del Ministerio de Transportes y Telecomunicaciones, que reglamenta el transporte de cargas peligrosas por calles y caminos.

- 2.3.7 No se considerará válida aquella muestra que no se encuentre debidamente sellada por el Servicio al momento del análisis en el laboratorio. Si así ocurriera, el interesado deberá dar aviso a la Oficina del Servicio que captó la primera muestra, para realizar un nuevo muestreo sobre dicho lote, manteniéndose retenido el plaguicida, donde corresponda. Los costos inherentes a este nuevo procedimiento de muestreo, serán de cargo del interesado.
- 2.3.8 Si el resultado del análisis es diferente a la composición autorizada por el Servicio, habiendo considerado las tolerancias establecidas en la Resolución Exenta N° 386 de 1983 o aquella que la reemplace o modifique, el interesado podrá solicitar a la Oficina del Servicio correspondiente, analizar la primera contramuestra que se encuentra en su poder, en un laboratorio autorizado distinto del primero. Si esta contramuestra arroja un resultado que está dentro de los rangos permitidos, se enviará la segunda contramuestra a un tercer laboratorio para confirmar el resultado anterior.
- Si por el contrario la primera contramuestra arroja un resultado que confirma el primer análisis, el producto deberá ser destruido o reembarcado en un plazo no superior a 180 días y los inspectores del Servicio cursarán el Acta de Denuncia y Citación al importador o Agente de Aduana, para dar origen al proceso sancionatorio correspondiente.
- 2.3.9 Si el segundo análisis es favorable al importador, es decir, señala la composición previamente autorizada por el Servicio, éste último dispondrá la realización de un tercer análisis utilizando la contramuestra que conserva en su poder y cuyo resultado será resolutorio. El Servicio elegirá el laboratorio que lo realizará, el que en ningún caso podrá corresponder a los dos anteriores.
- 2.3.10 Si para realizar el tercer análisis no existiera otro laboratorio distinto de los anteriores que cuente con la metodología analítica, el importador deberá proporcionar los medios para que un tercer laboratorio nacional autorizado por el Servicio, implemente y valide el método que permita realizar dicho análisis.
- 2.3.11 El Servicio podrá eximir del muestreo a aquellos productos que pudieren representar un serio riesgo para los inspectores que los manipulen, como también en productos cuya metodología analítica no ha sido desarrollada en Chile.
- 2.3.12 Todos los productos sometidos a muestreo, quedarán retenidos, hasta que el laboratorio autorizado emita el respectivo Informe de Resultado de Análisis y sea calificado por la Oficina Sectorial del Servicio. Para este efecto, el inspector del Servicio emitirá un "Acta de Retención", donde especificará el lugar de retención, el nombre del plaguicida, número de lote, volumen de la partida y laboratorio de análisis.
- 2.3.13 En el caso que la importación de un plaguicida sea rechazada, el producto deberá ser destruido o reembarcado en un plazo no superior a 180 días y su costo será de cargo del interesado o su representante.
- 2.3.14 Para el efecto, los análisis serán realizados exclusivamente en laboratorios autorizados por el Servicio, cuya lista será actualizada anualmente. Los laboratorios autorizados que, a la fecha de publicación de la presente resolución dispongan de formularios de Informes de Resultados, o Boletines, o Informes de Laboratorio, o Certificado Analítico, podrán utilizarlos hasta el 30 de Junio de 2003. Cumplido el plazo, deberán necesariamente ajustarse al formulario denominado "Informe de Resultado de Análisis" que contenga los campos indicados en anexo N°1.

2.4. RESULTADOS Y PROCEDIMIENTOS ESPECÍFICOS.

- 2.4.1. Los laboratorios autorizados procurarán realizar los análisis y remitir los Informes de Resultado de Análisis a la Oficina Sectorial del Servicio donde se efectuó el muestreo, con la mayor celeridad, la cual tendrá como responsabilidad la calificación final de los mismos. Cuando el Servicio lo estime necesario, la calificación de los Informes podrán ser efectuados por el Departamento de Protección Agrícola.
- 2.4.2. Si el Informe de Resultado de Análisis califica como apto, es decir, la composición del plaguicida corresponde a aquella evaluada y autorizada, la Oficina Sectorial comunicará en el más breve plazo este resultado al interesado, para que el producto sea dejado en libre circulación.
- 2.4.3. La Oficina Sectorial encargada del muestreo y calificación de los Informes de Resultado de Análisis, deberá remitir mensualmente al Departamento de Protección Agrícola, copia de un consolidado de todas las partidas importadas al país señalando todos los parámetros necesarios para actualizar la Base de Datos del nivel central del Servicio.
- 2.4.4. La calificación de los Informes de Resultado de Análisis por parte del Servicio, corresponderá a los criterios establecidos en la Resolución Exenta N°386 de 1983 o aquella que la reemplace o modifique, que considera como referencia la tabla de tolerancias establecidas por la Organización de las Naciones Unidas para la Agricultura y la Alimentación (FAO).
- 2.4.5. En el caso de que un mismo lote, se interne en distintas oportunidades y por puertos de ingreso diferentes, el interesado deberá presentar cada vez el certificado de análisis de composición química emitido por el fabricante o formulador correspondiente, junto con especificar el número del Certificado de Destinación Aduanera (CDA) anterior y cuántos CDA ya han ingresado. Una fotocopia de cada CDA deberá ser remitida al Departamento de Protección Agrícola, con el objeto de mantener un registro a nivel nacional, del volumen ingresado, con el propósito que se cumpla con el volumen total amparado por el certificado de análisis de composición. Si no se dispusiera para cada internación del certificado original, el Servicio podrá aceptar una copia autorizada.
- 2.4.6. En el caso que se haya sometido a análisis un lote de fabricación importado al país, cuyo resultado favorable ampara una parte de dicho lote, el resultado de dicho análisis respaldará a la totalidad del lote en referencia.

2.5. RETENCION BAJO EL REGIMEN DE ALMACEN PARTICULAR.

- 2.5.1 El traslado de plaguicidas a almacén particular, debe realizarse dando cumplimiento a lo establecido en el Decreto N°298 de 1994 del Ministerio de Transportes y Telecomunicaciones, que reglamenta el transporte de cargas peligrosas por calles y caminos.
- 2.5.2 En los siguientes casos se podrá autorizar el traslado de la mercancía bajo el régimen de almacén particular, siempre en calidad de producto retenido, cuyos antecedentes deben ser comunicados a la Oficina del Servicio correspondiente al lugar donde se localice la bodega de depósito final:
 - a) Plaguicidas con inspección documental y física aprobada, faltando sólo la captación de muestras en almacén particular, para análisis de composición.
 - b) Partidas que son sometidas a muestreo en el puerto de ingreso, con inspección documental y física aprobada, pero que se envían retenidas a almacén particular en espera de la calificación del Informe de Resultado de Análisis.

2.5.3 Documentación que ampara la retención.

Cuando el puerto de ingreso decide practicar la retención bajo el régimen de almacén particular, deberá remitir la siguiente documentación, ya sea directamente con la carga o a través del Agente de Aduana.

- a) Segunda y cuarta copia del CDA e IIPA.
- b) Copia del Acta de Retención.
- c) Otra documentación que sea exigida en la causal de retención.

En todo caso, el importador será finalmente responsable de hacer llegar dicha documentación a la Oficina del Servicio bajo cuya jurisdicción se encuentre la bodega de depósito final del producto retenido.

De no contar con los documentos señalados, el inspector no procederá a tomar la muestra.

2.5.4 Acciones a realizar por las Oficinas del Servicio bajo cuya jurisdicción corresponda el almacén particular.

Para efectuar la inspección física de la partida y la toma de muestra para análisis, el importador deberá comunicarse con la Oficina del Servicio responsable de fiscalizar la retención, como también deberá hacer entrega de dos copias del Certificado de Destinación Aduanera y dos copias del Informe Inspección Productos Agropecuarios.

Las siguientes acciones corresponderá realizar al Inspector:

- a) Captar muestras para análisis de composición.
- b) Comprobar físicamente alguna situación que en puerto no pudo ser realizada.
- c) Levantar un Acta Denuncia y Citación, si ello es procedente.
- d) Otra situación que implique un pronunciamiento del Departamento de Protección Agrícola.

3. PLAGUICIDAS FORMULADOS EN CHILE.

3.1. REVISION DOCUMENTAL.

3.1.1. El interesado deberá presentar en la Oficina Sectorial del Servicio, el Certificado original de Análisis de Composición o Informe de Resultado de Análisis, expedido por el Formulator, para cada lote de plaguicida. Este documento debe señalar:

- a) Nombre comercial.
- b) Numero de Lote.
- c) Volumen.
- d) Ingrediente activo
- e) Concentración.
- f) Formulación.

3.1.2. Para el efecto de calificar el certificado de composición o análisis de composición química presentada por el interesado, el Inspector del Servicio deberá comparar esta información con lo autorizado por éste, considerando las tolerancias respecto de la composición, indicadas en la Resolución N° 386 de 1983 o aquella que la reemplace o modifique.

3.2. REVISION FISICA.

3.2.1. Esta revisión se efectúa en las bodegas del formulator y tiene por objeto comprobar que la información contenida en los documentos corresponda fielmente a la realidad.

Todos los envases o unidades del lote del plaguicida formulado deben estar etiquetados en español.

3.2.2. Los envases de los plaguicidas deben encontrarse herméticamente cerrados, sin grietas ni fisuras por las cuales pudiera derramarse su contenido.

- 3.2.3 Previo a la comercialización y cuando haya concluido con la formulación y envasado de un lote, los fabricantes deberán notificar por escrito la ubicación de sus bodegas de almacenaje a la Oficina del Servicio correspondiente. Cuando dicha Oficina Sectorial haya determinado tomar muestra, lo realizará a la brevedad.

3.3. MUESTREO, RETENCION Y ANALISIS.

- 3.3.1. Para el efecto de plaguicidas que han sido retenidos mediante Acta de Retención por estar afectos a muestreo, el interesado deberá señalar el responsable técnico de la empresa que servirá de contraparte y el laboratorio autorizado por el Servicio, elegido para el análisis de la muestra.
- 3.3.2. Los costos del muestreo y de los análisis serán de cargo del formulador o del fabricante.
- 3.3.3. La captación de muestras se realizará conforme a la Norma Chilena NCh 44 "Inspección por Atributos" y las instrucciones que imparta el Departamento de Protección Agrícola, y siempre se considerará como unidad física el lote. La calificación de los análisis la realizará la Oficina del Servicio que tomó la muestra, aplicando el criterio de tolerancia establecido en la Resolución N°386 de 1983 o aquella que la reemplace o modifique.
- 3.3.4. El Inspector del Servicio captará la muestra y dos contramuestras, sellará los envases con un sello apropiado e inviolable, junto con emitir la respectiva "Acta de Toma de Muestra". La muestra será destinada al análisis, una contramuestra le será entregada al formulador y otra quedará en poder del Servicio. No obstante lo anterior y si existen razones que lo justifiquen, la Oficina del Servicio que practicó el muestreo podrá determinar, bajo ciertas condiciones, que ambas contramuestras queden en poder del interesado.
- 3.3.5. El interesado será responsable de entregar para análisis las muestras selladas por el Servicio, al laboratorio autorizado por éste. El traslado de las muestras se debe realizar de acuerdo a lo establecido en el Decreto N°298 de 1994 del Ministerio de Transportes y Telecomunicaciones, que reglamenta el transporte de cargas peligrosas por calles y caminos.
- 3.3.6. No se considerará válida aquella muestra que no se encuentre debidamente sellada por el Servicio, al momento del análisis en el laboratorio. Si así ocurriera, el interesado deberá dar aviso a la Oficina del Servicio que captó la primera muestra para la realización de un nuevo muestreo sobre dicho lote, manteniéndose retenido el plaguicida, donde corresponda. Los costos inherentes a este nuevo procedimiento de muestreo, serán de cargo del interesado.
- 3.3.7 Si el resultado del análisis es diferente a la composición autorizada por el Servicio, habiendo considerado las tolerancias establecidas en la Resolución Exenta N°386 de 1983 o aquella que la reemplace o modifique, el interesado podrá solicitar a la Oficina del Servicio correspondiente, analizar la primera contramuestra que se encuentra en su poder, en un laboratorio autorizado distinto del primero. Si esta contramuestra arroja un resultado que está dentro de los rangos permitidos, el Servicio enviará con costo de cargo del interesado, a un tercer laboratorio autorizado, la segunda contramuestra que se encuentra en su poder, para confirmar el resultado anterior.

Si por el contrario la primera contramuestra arroja un resultado que confirma el primer análisis, el interesado deberá corregir la formulación para cumplir con la exigencia establecida en la evaluación de autorización, situación que se comprobará mediante análisis de una nueva muestra.

- 3.3.8 Si para realizar el tercer análisis no existiera otro laboratorio distinto de los anteriores que cuente con la metodología analítica, el importador deberá proporcionar los medios para que un tercer laboratorio nacional autorizado por el Servicio, implemente y valide el método que permita realizar dicho análisis.
- 3.3.9 El Servicio podrá eximir del muestreo a aquellos productos que pudieren representar un serio riesgo para los inspectores que los manipulen, como también en productos cuya metodología analítica no ha sido desarrollada en Chile.
- 3.3.10. Todos los productos muestreados, quedarán retenidos hasta que el laboratorio autorizado emita el respectivo Informe de Resultado de Análisis y que éste sea calificado por el Servicio. Para este efecto, el inspector del Servicio emitirá el "Acta de Retención", donde especificará el lugar de retención, el nombre del plaguicida, número de lote, volumen de la partida y laboratorio de análisis.
- 3.3.11. Los análisis serán realizados exclusivamente en laboratorios autorizados por el Servicio, cuya lista será actualizada anualmente. Los laboratorios autorizados que, a la fecha de publicación de la presente resolución dispongan de formularios de Informes de Resultados, o Boletines, o Informes de Laboratorio, o Certificado Analítico, podrán utilizarlos hasta el 30 de Junio de 2003. Cumplido el plazo, deberán necesariamente ajustarse al nuevo formulario denominado "Informe de Resultado de Análisis" que contenga los campos indicados en anexo N°1.

3.4. RESULTADOS Y PROCEDIMIENTOS ESPECÍFICOS.

- 3.4.1. Los laboratorios autorizados procurarán realizar los análisis y remitir los Informes de Resultado de Análisis a la Oficina Sectorial del Servicio donde se efectuó el muestreo, con la mayor celeridad, la cual tendrá como responsabilidad la calificación final de los mismos. Cuando el Servicio lo estime necesario, la calificación de los Informes podrán ser efectuados por el Departamento de Protección Agrícola.
- 3.4.2 Si el Informe de Resultado de Análisis califica como apto, es decir, la composición del plaguicida corresponde a aquella evaluada y autorizada, la Oficina Sectorial comunicará en el más breve plazo este resultado al interesado, para que el producto sea dejado en libre circulación
- 3.4.3 La Oficina Sectorial encargada del muestreo y calificación de los Informes de Resultados de Análisis, deberá remitir mensualmente al Departamento de Protección Agrícola un consolidado de todas las partidas formuladas en el país, señalando todos los parámetros necesarios para actualizar la base de datos del nivel central del Servicio.
- 3.4.4 La calificación de los Informes de Resultados de Análisis por parte del Servicio, corresponderá a los criterios establecidos en la Resolución Exenta N°386 de 1983 o aquella que la reemplace o modifique, que considera como referencia la tabla de tolerancias establecidas por la Organización de las Naciones Unidas para la Agricultura y la Alimentación (FAO).

Artículo 2°

Toda infracción a las normas de la presente Resolución será sancionada en la forma prevista en el decreto Ley N°3557 de 1980.

Artículo 3º

Derogase la Resolución del Servicio Agrícola y Ganadero N°3671 de 23 de Diciembre de 1999, que establece muestreo y análisis de todos los plaguicidas de uso agrícola que se importen o se formulen en el país, antes de su comercialización.

ANOTESE, COMUNIQUESE Y PUBLIQUESE.

**CARLOS PARRA MERINO
DIRECTOR NACIONAL**

**ESTABLECE CLASIFICACION TOXICOLOGICA
DE PLAGUICIDAS DE USO AGRICOLA**
(Publicada en el Diario Oficial de fecha 4 de Octubre de 2000)

Núm. 2196 exenta.

Santiago, 31 de agosto de 2000.

Vistos: La resolución N°2195 de 2.000 del Servicio Agrícola y Ganadero que Establece los Requisitos que Deben Cumplir las Etiquetas de los Envases de los Plaguicidas de Uso Agrícola, el decreto ley N° 3.557 de 1980 sobre Protección Agrícola y la Ley N°18.755 Orgánica del Servicio, modificada por la Ley N° 19.283, y la publicación WHO/PCS/92.2 "The WHO Recommended Classification of Pesticides by Hazard", y

CONSIDERANDO:

1. Que la Resolución N°2195 citada en los Vistos dispone que en la etiqueta de los envases de los Plaguicidas de Uso Agrícola Formulados, se indique, mediante colores, palabras y símbolos la peligrosidad del plaguicida formulado para las personas, de acuerdo con la última versión de la Clasificación de los Plaguicidas según Riesgos, de la Organización Mundial de la Salud (OMS),
2. Que para este efecto, es necesario poner en concordancia con los criterios de la OMS la Clasificación Toxicológica de los Plaguicidas de Uso Agrícola,

RESUELVO:

1. Establécese, para los Plaguicidas de Uso Agrícola, la siguiente Clasificación Toxicológica:

Clasificación	DL 50 aguda (ratas) mg/kg. de plaguicida formulado			
	Por vía oral		Por vía cutánea	
	Sólidos	Líquidos	Sólidos	Líquidos
I a. Sumamente peligroso	5 o menos	20 o menos	10 o menos	40 o menos
I b. Muy peligroso	Más de 5 hasta 50	Más de 20 hasta 200	Más de 10 hasta 100	Más de 40 hasta 400
II. Moderadamente peligroso	Más de 50 hasta 500	Más de 200 hasta 2.000	Más de 100 hasta 1.000	Más de 400 hasta 4.000
III. Poco peligroso	Más de 500 hasta 2.000	Más de 2.000 hasta 3.000	Más de 1.000	Más de 4.000
IV. Productos que normalmente no ofrecen peligro	Más de 2.000	Más de 3.000		

(Los términos "sólido" o "líquido" se refieren al estado físico del plaguicida formulado que está siendo clasificado).

2. Esta resolución entrará en vigencia desde la fecha de su publicación en el Diario Oficial. Los Plaguicidas de Uso Agrícola que a esa fecha tengan su autorización vigente deberán adecuar su etiquetado a esta resolución en un plazo de 180 días a contar de esa fecha.
3. Derógase la resolución N°1177 de 1984 del Servicio Agrícola y Ganadero.

Anótese, comuníquese y publíquese.

Lorenzo Caballero Urzúa
Director Nacional.

**SERVICIO AGRICOLA Y GANADERO
DIRECCION NACIONAL**

**ESTABLECE NORMAS DE INGRESO
DE MATERIAL BIOLOGICO Y DEROGA
RESOLUCIONES QUE INDICA**

SANTIAGO, 24 DE SEPTIEMBRE DE 2001

HOY SE RESOLVIO LO QUE SIGUE:

Nº 2229./____ VISTO:

Lo dispuesto en el Decreto Ley no 3.557 de 1980, sobre Protección Agrícola, la Ley Nº 18.755 Orgánica del Servicio Agrícola y Ganadero, modificada por la Ley Nº 19.283, la Ley Nº 19.473 de 1996 sobre Ley de Caza, el Decreto Supremo Nº 5 de 1998 correspondiente al reglamento de la Ley de Caza, Resolución Nº 1.465 de 1981, la Resolución Nº 521 de 1992, la Resolución Nº 670 de 1999, todas del Servicio Agrícola y Ganadero, y el Código de Conducta para la importación y liberación de Agentes Exóticos de Control Biológico la Secretaría de la Convención Internacional de Protección Fitosanitaria

CONSIDERANDO:

- 1.- Que existen plagas cuyo ingreso al país puede provocar daños a la agricultura, silvicultura y/o flora nativa del país.
- 2.- Que existen algunos agentes exóticos de control biológico, polinizantes, organismos con propósitos de investigación o de ornamentación, cuyo uso puede ser beneficioso, mientras otros pueden producir impactos negativos en la sanidad vegetal, salud animal o en el medioambiente.
- 3.- Que los agentes exóticos de control biológico, polinizantes, organismos con propósitos de investigación o de ornamentación que ingresen al país, pueden estar parasitados o infectados por otras especies de organismos nocivos, los que pueden afectar el éxito de los programas en desarrollo o dañar los recursos vegetales y animales nativos del país.
- 4.- Que algunos substratos orgánicos o inorgánicos que se utilizan en el transporte de agentes exóticos de control biológico, polinizantes, organismos con propósitos de investigación o de ornamentación, pueden ser vías de diseminación de plagas cuarentenarias.
- 5.- Que se requiere actualizar las regulaciones cuarentenarias para el ingreso al país de agentes exóticos de control biológico, polinizantes, organismos con propósitos de investigación o de ornamentación.
- 6.- Que el Servicio Agrícola y Ganadero está facultado para establecer las regulaciones cuarentenarias que normen el ingreso al país de agentes exóticos de control biológico, polinizantes, organismos con propósitos de investigación o de ornamentación.

RESUELVO

1.- Prohíbese el ingreso al territorio nacional de artrópodos vivos terrestres o dulceacuícolas, pertenecientes a las Clase Insecta, Arachnida, Diplopoda, Chilopoda, Pauropoda y Crustacea, moluscos terrestres o dulceacuícolas, invertebrados carentes de apéndices, tales como Nematoda y Anellida, plantas nocivas, hongos, bacterias, virus, viroides, micoplasmas o cualquier otra forma de organismo que en forma directa o indirecta pueda dañar las plantas o el medioambiente.

Se exceptúan de esta prohibición los agentes exóticos de control biológico, polinizantes, organismos con propósitos de investigación o de ornamentación, cuyas condiciones de ingreso se establecen en la presente Resolución.

2.- La autorización de ingreso al país de agentes exóticos de control biológico, polinizantes, excepto abejas melíferas, y los organismos para uso científico o de ornamentación, será otorgada al internador mediante la emisión de una Resolución exenta del Departamento de Protección Agrícola del SAG y el VºBº del Departamento Protección Recursos Naturales Renovables, en la cual se detallará los requisitos y las condiciones específicas de ingreso al país.

El ingreso de abejas melíferas (*Apis mellifera*) se realizará cumpliendo las exigencias sanitarias del Departamento Protección Pecuaria del SAG.

3. - El proceso de internación de agentes exóticos de control biológico, polinizantes y de organismos para uso científico o de ornamentación se iniciará con la presentación de una Solicitud de Internación en la Oficina SAG correspondiente, en la cual se deberá detallar la información siguiente:

3.1 Identificación del internador (nombre completo, cédula de identidad o Rut, institución a la que pertenece, dirección, teléfono, fax y correo electrónico).

3.2 Tipo de organismo a ser internado (agente de control biológico, polinizante, organismo para uso científico o de ornamentación). En el caso de organismos de control biológico deberá señalarse si corresponde a un competidor, antagonista, patógeno, parásito, parasitoide, fitófago, etc., según corresponda.

3.3 Identificación taxonómica completa del agente exótico a ser internado tales como nombre científico y subespecie o raza si la existiera.

Si existen otros organismos taxonómicamente cercanos (hasta nivel de género), con características de antagonista, competidor o patógeno, ellos deberán ser señalados.

3.4 Descripción morfológica del organismo a ingresar.

3.5 País y área de origen del agente o centro de producción del mismo.

3.6 Propósito de la internación. En el caso de organismos de control biológico, deberá señalarse la plaga objeto de control, su rango de huéspedes y cultivos afectados en el país.

3.7 Descripción de su biología y ecología, con especial énfasis en su tasa reproductiva, dieta o rango completo de hospederos conocidos, relaciones interespecíficas, métodos conocidos de control y colecta. Esta información deberá ser respaldada con copias de las publicaciones científicas que avalen esta información o informes científicos de especialistas, cuando dicha información no se encuentra publicada.

- 3.8 Fase o fases de desarrollo del agente a ser internado.
- 3.9 Descripción detallada de los substratos orgánicos e inorgánicos que se utilizarán para el transporte de los agentes al país.
- 3.10 Cantidad del agente a ser internado y de su substrato portador.
- 3.11 Lugar de origen de la partida a ser internada y distribución geográfica del agente.
- 3.12 Identificación de los enemigos naturales o contaminantes potenciales del agente a internar y procedimientos requeridos para su detección, identificación y eliminación desde las colonias en laboratorio o confinadas.
- 3.13 Análisis de la especificidad del agente a internar, señalándose cualquier riesgo potencial que podría provocar sobre agentes no objeto. Esta información deberá estar respaldada con publicaciones científicas y/o el desarrollo de pruebas de especificidad.
- 3.14 Análisis de los riesgos para la salud de las personas y animales que podrían generarse con la introducción del organismo.
- 3.15 Lugar, infraestructura, equipamiento y recursos humanos en la instalación de cuarentena propuesta.
- 3.16 Nombre y dirección de la entidad proveedora de los agentes a ser a ingresados e indicación detallada de los países y áreas de recolección.
- 3.17 Antecedentes sobre beneficios y daños que la liberación e introducción de la especie ha ocasionado en otros países.
- 3.18 En forma excepcional el SAG podrá autorizar el ingreso de organismos benéficos con fines de control biológico, sobre los cuales no se disponga de la información biológica o especificidad de hospederos, cuando esta internación sea solicitada por un instituto de investigación, en régimen de cuarentena de pos-entrada, con el propósito de obtener tales antecedentes. En este caso, el internador deberá presentar junto a la solicitud de internación, los protocolos de investigación correspondientes, pudiendo el SAG no autorizar la liberación a campo de dichos organismos, si como resultados de los estudios científicos e información científica analizada se estima que los mismos podrían producir daños a la agricultura o medioambiente.

Sobre la base de un Análisis de Riesgo, el SAG evaluará los antecedentes proporcionados pudiendo autorizar o rechazar el ingreso al país del agente u organismo solicitado, solicitar el estudio de aspectos biológicos específicos complementarios, solicitar una evaluación de impacto ambiental en aquellos casos de organismos polífagos y fijar las condiciones de cuarentena de pos-entrada o de pre-entrada que correspondan, lo que deberá ser comunicado al internador en un plazo no superior a 60 días hábiles.

Las solicitudes de internación para agentes exóticos u organismos que han sido ingresados, liberados y establecidos en el país, anteriores a la fecha de publicación de la presente Resolución, no requerirán adjuntar los antecedentes señalados en los puntos 3.4, 3.7, 3.13, 3.14 y 3.17, señalados precedentemente.

4.- La infraestructura de cuarentena propuesta, deberá cumplir con los requisitos siguientes:

- 4.1 Debe corresponder a un recinto aislado, separado de otras actividades ajenas a la cuarentena.

- 4.2 Debe corresponder a una construcción sólida.
- 4.3 Debe tener acceso restringido, con llave.
- 4.4 Debe tener un sistema de acceso de doble puerta .
- 4.5 Los accesos y ventanas no deben presentar aberturas hacia el medio externo.
- 4.6 Debe tener un sistema de ventana doble o ventana sellada.
- 4.7 Debe estar libre de otros objetos, artículos almacenados o crías de otros agentes ajenos a la cuarentena.
- 4.8 Debe estar libre de plantas, a menos que las mismas se utilicen en la cuarentena.
- 4.9 Debe presentar sus sistemas de ventilación y filtros en condiciones que impidan el ingreso de organismos desde el medio y salida de los agentes en cuarentena.
- 4.10 Contar con un autoclave, horno de microondas o incinerador que posibilite la destrucción de los materiales de embalaje, de los restos orgánicos y las basuras generadas en la cuarentena.

El SAG podrá modificar los requisitos que debe cumplir la infraestructura de cuarentena, sobre la base de la naturaleza o riesgo del agente a ser internado, lo cual será comunicado al importador oportunamente. Estas modificaciones deberán ser realizadas en forma previa al ingreso de los agentes u organismos al país.

El lugar de cuarentena propuesto se autorizará por medio de un Informe de Aislamiento, emitido por la Oficina SAG bajo cuya jurisdicción se encuentra, en el cual se deberá detallar el cumplimiento de las condiciones requeridas y especificadas.

5.- La cuarentena deberá estar a cargo de un especialista entomólogo, micólogo u otro según corresponda, previamente aprobado por el SAG según curriculum presentado, quien será responsable de la misma y actuará como contraparte técnica del SAG.

6.- La duración de la cuarentena deberá corresponder a un ciclo de vida completo como mínimo del agente internado.

Durante el desarrollo de la cuarentena, el SAG podrá disponer modificaciones a las medidas fitosanitarias en la medida que existan fundamentos técnicos que así lo ameriten.

7.- El lugar de cuarentena deberá contar con un Libro de Novedades, en el cual se deberá señalar la siguiente información:

- 7.1 N° y copia de la Resolución del SAG que autoriza la cuarentena.
- 7.2 Fecha de inicio de la cuarentena.
- 7.3 Cantidad de material biológico ingresado a la cuarentena.
- 7.4 Inventario actualizado de material biológico en cuarentena.
- 7.5 Cantidad, fecha y tipo de materiales destruidos.

7.6 Identificación y tipo de organismos antagonistas detectados.

7.7 Fecha de término de la cuarentena.

8.- El Departamento de Protección Agrícola del SAG podrá autorizar por medio de una Resolución, el desarrollo de la cuarentena de pre-entrada realizada en el país de origen del agente a internar o en un tercer país, a condición de cumplir con las condiciones de infraestructura, aislamiento cuarentenario, de especialistas calificados para su conducción, que las medidas fitosanitarias dispuestas en el país de origen sean equivalentes a las dispuestas a nivel nacional y que cumplan con los requisitos de certificación requeridos.

9.- El Departamento de Protección Agrícola del SAG podrá autorizar, por medio de una Resolución exenta, el ingreso país de agentes exóticos producidos en centros calificados previamente, cuyo reconocimiento será de costo del interesado.

10.- El ingreso de los agentes u organismos autorizados deberá ser realizado a través de los puertos habilitados, con la documentación dispuesta y cumpliendo las condiciones establecidas en cada caso, según lo detalle la Resolución que autorice su ingreso al país.

Los inspectores del SAG habilitados en el puerto de ingreso deberán realizar la inspección de cada partida, verificar el cumplimiento de las condiciones de ingreso, disponer su remisión al lugar de cuarentena autorizado e informar su arribo al país al Departamento de Protección Agrícola del SAG.

11 - Dentro de los 10 primeros días de iniciada la cuarentena de pos-entrada, la contraparte técnica deberá remitir a la Oficina del SAG un informe de inicio de cuarentena, en el cual deberá ser detallada la información siguiente:

11.1 N° de Resolución de internación.

11.2 Fecha de inicio de la cuarentena.

11.3 Cantidad y condición de material biológico ingresado a la cuarentena.

11.4 Observaciones

12.- El levantamiento de la cuarentena se realizará por medio de la emisión de una Resolución exenta del Departamento de Protección Agrícola del SAG, la que autorizará la liberación al medio natural externo del agente exótico ingresado.

Para dar término a la cuarentena, el internador deberá presentar al SAG un informe Final de Cuarentena, elaborado por la Contraparte técnica, en la cual se deberá detallar la información siguiente:

12.1 Fecha, identificación y cantidad de material biológico ingresado.

12.2 Identificación de los organismos exóticos contaminantes, parásitos o parasitoides detectados durante la cuarentena.

12.3 Número de ciclos biológicos completos desarrollados durante la cuarentena.

12.4 Cantidad y fase de desarrollo de agentes resultantes de la cuarentena.

12.5 Lugares y fechas estimadas de liberación.

12.6 Descripción del ecosistema en el que se realizará la liberación.

Complementariamente la Contraparte Técnica deberá realizar un depósito de especímenes del agente u organismo internado al Departamento de Protección Agrícola del SAG, adecuadamente montados e identificados, como asimismo de especímenes de los organismos antagonistas, hiperparasitoides u otros interceptados durante la cuarentena de pos-entrada.

13.- El Departamento de Protección Agrícola del SAG deberá mantener un registro actualizado de los agentes en cuarentena y liberados, como asimismo la información técnica y científica de respaldo de cada solicitud presentada.

14.- Los agentes modificados genéticamente deberán someterse a la legislación vigente en biotecnología y a lo señalado en la Resolución presente.

15.- Los biopesticidas que presenten agentes exóticos de control biológico sin capacidad de multiplicación, se evaluará de acuerdo a las condiciones establecidas en la Resolución N° 3.670 de 1999, del Servicio Agrícola y Ganadero.

16.- Los agentes de control biológico que sean comercializados en el país, deberán venderse con una etiqueta que señale el nombre científico del agente, plaga objetivo de control, contenido, fase de desarrollo del agente a liberar, cantidad, forma de uso o liberación, condición de almacenamiento y tiempo de viabilidad.

17.- Derógase la Resolución N° 521 de 1992 del Servicio Agrícola y Ganadero.

18.- El incumplimiento a lo señalado en la presente Resolución, será sancionado de acuerdo a lo establecido en el Decreto Ley NI 3.557 de 1980.

19.- La presente Resolución entrará en vigencia a partir de su fecha de publicación en el Diario Oficial.

ANOTESE, COMUNIQUESE Y PUBLIQUESE

LORENZO CABALLERO URZUA
DIRECTOR NACIONAL
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