

PROGRAMA DE FORMACIÓN PARA LA INNOVACIÓN AGRARIA

- PARTICIPACIÓN - B11-FP-V-2002-1-A-28

FOLIO DE
BASES

100

CÓDIGO
(uso interno) FP-V-2002-1- -

1.- ANTECEDENTES GENERALES DE LA PROPUESTA

NOMBRE DE LA PROPUESTA

Actualización técnica y generación de redes de colaboración para el desarrollo de proyectos comunes en fitopatología.

LUGAR DE REALIZACIÓN DE LA ACTIVIDAD

País : Estados Unidos

Ciudad : Milwaukee (Wisconsin) – Gainesville - Bradenton (Florida)

TIPO O MODALIDAD DE FORMACION

- Asistencia a Congreso Anual de la Sociedad de Fitopatología Americana (APS).
- Visita Técnica a los Centros de Investigación de la Universidad de Florida- Departamento de Fitopatología.
- Desarrollo de una incubadora común para proyectos en fitopatología.

AREA DE FORMACIÓN

Rubro: Biotecnología Vegetal

Tema: Transformación Genética, Virología Vegetal, Genómica Funcional

INSTITUCION O ENTIDAD RESPONSABLE QUE DICTA U ORGANIZA LA ACTIVIDAD DE FORMACIÓN A LA CUAL SE POSTULA

Nombre: Sociedad de Fitopatología Americana; Universidad de Florida (Departamento de Fitopatología)

Página Web: www.apsnet.org ; <http://plantpath.ifas.ufl.edu>

POSTULANTE INDIVIDUAL (Adjuntar curriculum vitae en Anexo 1 y pauta resumida en Anexo 2)

Nombre: Marlene Rosales Villavicencio

RUT:

Dirección particular: Ongolmo 633, Cerrillos, Santiago

Fono: 02-316-4497

Institución o empresa donde trabaja: INIA-La Platina

Cargo actual y relación contractual: Investigador Unidad Biotecnología



Firma

ENTIDAD PATROCINANTE (en caso que corresponda)

Nombre Entidad Patrocinante: Instituto de Investigaciones Agropecuarias
(INIA)

RUT:

Dirección : Santa Rosa 11610, La Pintana, Santiago

Fono: 5417223 Fax: 541- 6687 E-mail:

Nombre Representante Legal del Patrocinante: Carlos Muñoz Schick

RUT:

Dirección: Fidel Oteiza 1956, piso 12, Providencia, Santiago de Chile

Fono: 225 21 18 Fax: 225 87 73 E-mail: cmunoz@inia.cl

Firma

FECHA DE REALIZACION

Inicio: 26 de Julio 2002
Termino: 6 Agosto 2002

COSTO TOTAL DE LA PROPUESTA

FINANCIAMIENTO SOLICITADO

78,5 %



FINANCIAMIENTO CONTRAPARTE

21.5 %

2. JUSTIFICACIÓN DE PARTICIPACIÓN EN LA PROPUESTA

Esta actividad se plantea como una actividad de formación que permita mejorar el nivel de perfeccionamiento del investigador participante. **Se hace presente que postulan a la misma actividad, aunque en forma individual, dos miembros del Laboratorio de Biotecnología Vegetal del INIA-La Platina.**

En la actualidad nuestro laboratorio se encuentra desarrollando proyectos de investigación en distintas áreas de la biotecnología vegetal. Entre estas se destacan la transformación genética de frutales para el desarrollo de resistencia a hongos fitopatógenos y virus además de la caracterización molecular y diagnóstico de diferentes agentes virales que afectan frutales y hortalizas de importancia económica para el país. Recientemente se ha iniciado un proyecto de bioseguridad y estudio de flujo génico y proximately iniciaremos el desarrollo la genómica funcional, al estudiar la interacción entre el hongo *B.cinerea* y su hospedero la vid.

El avance de la biotecnología nos obliga a mantener una posición activa en términos de interacción y aprendizaje. El aislamiento geográfico y las dificultades al acceso a la literatura del área dificultan esta tarea. La asistencia al Congreso de la Sociedad Fitopatológica Americana permitirá a los miembros del laboratorio de Biotecnología Vegetal (INIA-La Platina) actualizarse en las avances y tendencias de la investigación en el área fitopatológica y otras áreas afines. La asistencia a este evento se convierte así en una oportunidad para el desarrollo profesional y la maximización de las interrelaciones con los grupos de investigadores líderes en el mundo, ya que este congreso promueve y entrega posibilidades ilimitadas para el intercambio de ideas e información.

Un número importante de sesiones que se desarrollarán durante este congreso tienen relación directa con los proyectos que hoy en día se ejecutan en nuestro laboratorio. Entre éstas podemos mencionar las siguientes:

- Bioseguridad de Cultivos
- Prioridades en la secuenciación de genomas microbianos
- Interacción entre bacterias endosimbiontes y la transmisión circulativa de virus
- Genómica funcional de la interacción planta-patógeno
- ¿Cuántos genes necesita un patógeno vegetal?
- Muerte celular programada en patologías y desarrollo
- Vectores de expresión viral

En una segunda etapa de la actividad y aprovechando que el congreso para el cual se solicita financiamiento se desarrollará en Estados Unidos, se propone realizar una visita técnica a los Centros de Investigación de la Universidad de Florida (UF)- Departamento de Fitopatología, con el objetivo de interactuar con los grupos de investigadores que trabajan en mosca blanca (*Bemisia tabaci*) y los virus transmitidos por este insecto. Durante esta visita se espera conocer en detalle la investigaciones que se efectúan en dicho centro respecto al manejo integrado de esta plaga, caracterización molecular de sus biotipos y diagnóstico de virus transmitidos por mosca blanca, todos temas que se esperan desarrollar en un futuro cercano en nuestro laboratorio.



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FECHA DE REALIZACION

Inicio: 26 de Julio 2002

Termino: 6 de Agosto 2002

COSTO TOTAL DE LA PROPUESTA



el objetivo de interactuar con los grupos de investigadores que trabajan en mosca blanca (*Bemisia tabaci*) y los virus transmitidos por este insecto. Durante esta visita se espera conocer en detalle la investigación que se efectúa en dicho centro respecto al manejo integrado de esta plaga, caracterización molecular de sus biotipos y diagnóstico de virus transmitidos por mosca blanca, todos temas que se esperan desarrollar en un futuro cercano en nuestro laboratorio.

El costo asociado a esta visita no sería financiada por los fondos requeridos en la presente propuesta a FIA sin embargo, se incluye la descripción y detalles de la visita para que sean autorizados en el marco de la ida al Congreso de la APS debido a la proximidad geográfica y complementariedad de los temas de ambas actividades. Para que esta visita técnica sea posible, solicitamos a FIA flexibilizar la fecha para el regreso al país, ya que el tiempo requerido para la asistencia al Congreso y la gira técnica estarían excediendo el límite establecido en las bases para la participación en este tipo de eventos técnicos.

La selección de esta Universidad se ha hecho bajo el criterio de que los grupos de virología de UF cuentan con más de 25 años de experiencia en temas como caracterización de virus, desarrollo de técnicas de diagnóstico e investigación básica de las propiedades bioquímicas y genéticas de la interacción virus-planta-vector. Esta experiencia se ha concentrado especialmente en el estudio del complejo mosca blanca-geminivirus el que ha sido estudiado principalmente por los Dres. Gail Wisler, Jane Polston, Ernest Hiebert, R.F. Lee, Charles A. Powell, etc.

Nuestro interés en el tema mosca blanca y los virus asociados se debe a que en 1999 *B. tabaci* fue detectada sobre especies de *Hibiscus* y *Euphorbia* en viveros de la I, V y Región Metropolitana (RM). Solo en las dos últimas regiones fue erradicada, pero en la I región apareció en parques públicos, por lo que su erradicación no fue factible [Mondaca P. (2000) Informe de Chile. En: IX Taller Latinoamericano y del Caribe sobre Moscas Blancas y Geminivirus, Panamá, Noviembre 2000]. Recientemente, la presencia de esta mosca se ha extendido a los cultivos de tomates y cucurbitáceas de Azapa, donde ya está causando pérdidas en dichos cultivos debido a los desórdenes fisiológicos que son inducidos por *B. tabaci*. Existe gran interés de nuestro grupo por iniciar estudios moleculares de los biotipos de mosca blanca presentes en el país, y elucidar si existen virus que puedan ser transmitidos por este insecto, para lo cual se enviarán proyectos a fondos concursables nacionales.

Los investigadores de UF antes mencionados ya han manifestado su interés en cooperar con la problemática que enfrenta nuestro país con este vector, por lo que esta visita nos permitirá estudiar la posibilidad de desarrollar futuros proyectos bilaterales.



3. OBJETIVOS DE LA PROPUESTA

3.1. GENERAL:

Asistir a un Congreso Científico Internacional que permita a miembros del laboratorio de Biotecnología Vegetal (INIA-La Platina) actualizarse en las avances y tendencias de la investigación en el área de la fitopatología, y promover la interrelación y/o cooperación con grupos de investigación líderes en el mundo.

Se propone complementar esta actividad con una visita técnica a los Centros de Investigación de la Universidad de Florida (UF)- Departamento de Fitopatología.

3.2 ESPECÍFICOS:

1. Asistir al Congreso Anual de la Sociedad Fitopatológica Americana con el ánimo de conocer los últimos avances en el área de la biotecnología vegetal y la fitopatología en particular.
2. Fortalecer el conocimiento en áreas claves que actualmente se están desarrollando e investigando en nuestro laboratorio, y fomentar la interrelación y/o cooperación con grupos de investigación extranjeros.
3. Resforzar los lazos de interacción con los grupos de investigación en biotecnología vegetal y virología de la Universidad de Florida, con especial énfasis en áreas de transformación genética, biología molecular y caracterización de mosca blanca y los virus transmitidos por este insecto.
4. Establecimiento de cooperación para futuros proyectos de investigación que se desarrollen en las áreas mencionadas en el objetivo específico 3.



4. ANTECEDENTES DE LA INSTITUCION QUE DICTA LA ACTIVIDAD DE FORMACIÓN (Adjuntar antecedentes adicionales en el Anexo N° 3)

La Sociedad Fitopatológica Americana (American Phytopathological Society (APS)) es una organización profesional, científica, sin fines de lucro dedicada al estudio y control de las enfermedades en plantas. El objetivo principal de esta organización es conformar una comunidad global de científicos dedicados al estudio de la sanidad vegetal, que a la vez promueva el intercambio de conocimiento con el público, las entidades reguladoras y la comunidad científica general. De esta forma se espera promover la comunicación científica, y el desarrollo profesional de sus miembros.

Fundada en 1908, la Sociedad Americana de Fitopatología cuenta hoy en día con seis Divisiones regionales: Caribe, Noreste, Central-Norte, Pacífico, Potomac y Sur. Cada año se realizan reuniones regionales de las distintas Divisiones y un Congreso Anual de la Sociedad, este año a realizarse en Milwaukee, Wisconsin, EEUU. La APS publica cuatro revistas científicas y un boletín informativo al mes. Las revistas corresponden a Phytopathology, Plant Health Progress, Molecular Plant-Microbe Interactions y Plant Disease, todas ellas de gran impacto en el área. La Sociedad cuenta además con un sitio web actualizado (<http://www.apsnet.org/>) desde donde se ha extraído la información contenida en este punto y también con una agencia editorial (APS Press).

El año pasado éste Congreso anual se realizó en Salt Lake City (Agosto 25-29) y congregó a más de 2.000 fitopatólogos, nematólogos, micólogos, genetistas y expertos de áreas relacionadas, representando a más de 30 diferentes países del mundo. Todos ellos pudieron presenciar más de 1300 presentaciones, 39 Simposiums, 387 presentaciones y más de 650 posters. Todo esto demuestra la envergadura e importancia de este Congreso en el área de la Sanidad Vegetal y áreas afines. Este año los tópicos que a desarrollar incluyen: Bioseguridad de Cultivos, Prioridades en la secuenciación de genomas microbianos, Biología de patógenos vegetales, Enfermedades de Plantas, Epidemiología- ecología y Fitopatología ambiental, Interacciones moleculares y celulares planta-patógeno.

El Departamento de Fitopatología de la Universidad de Florida (<http://plantpath.ifas.ufl.edu/>) cuenta con 45 profesores distribuidos entre el campus principal (Gainesville) y 11 Centros de Investigación y Educación localizados estratégicamente a través del sureño estado de EEUU. Es esta amplia distribución geográfica la que ha permitido diversificar las áreas de interés de sus investigadores e interesar a un gran número de estudiantes internacionales que han llegado a realizar sus estudios de postgrado a este Departamento.

En esta visita técnica UF nuestro principal interés es la visita a los laboratorios de la Dra Jane Polston, quien es Profesor Asociado en el Departamento de Fitopatología de dicha Universidad, en el Centro de Investigación y Educación de Bradenton. Su área de interés incluyen la identificación y manejo de enfermedades virales en cultivos vegetales y ornamentales. Su investigación se ha centrado en la identificación, caracterización y manejo de geminivirus, primariamente en tomate y leguminosas. La Dra Polston ha manifestado su interés en colaborar con nuestro laboratorio en el desarrollo de proyectos relacionados con la caracterización de biotipos de *B. tabaci* en nuestro país, por lo que esta visita nos permitirá formalizar esta cooperación. También se visitarán los laboratorios de los Dres. R.F. Lee en Lake Alfred y E. Hiebert en Gainesville (FL), ambos virólogos del Departamento de Fitopatología de dicha Universidad.



5. PROGRAMA DE ACTIVIDADES DE LA PROPUESTA (Adjuntar antecedentes solicitados en el Anexo N° 4)

Para cumplir con los objetivos específicos N°1 y N°2

Fecha	Actividad
26 Julio 2002	Salida desde Aeropuerto Internacional de Santiago-Chile
27-31 Julio 2002	Asistencia al Congreso de la Sociedad Fitopatológica Americana

Para cumplir con los objetivos específicos N°3 y N°4

31 Julio	Retorno a FL
1 Agosto 2002	Visita Laboratorio Dr. Jane Polston
2 Agosto 2002	Visita Laboratorio Dr. Jane Polston
3 Agosto 2002	Visita Laboratorio Dr. R.F. Lee
4 Agosto 2002	Traslado a Gainesville
5 Agosto 2002	Visita campus central UF en Gainesville, Departamento de Fitopatología, entrevista Chair , Visita Laboratorio Dr. E.Hiebert y reunión con estudiantes Graduados.
6 Agosto 2002	Retorno a Santiago-Chile



5.1 CARTA O CERTIFICADO DE ACEPTACION DEL POSTULANTE DE ACTIVIDAD DE FORMACIÓN (Adjuntar en Anexo 5)

Se adjunta Materiales de Inscripción y Programa de Actividades de Congreso Anual de la Sociedad Fitopatológica Americana y carta de la Dra. Gail Wisler, Chair del Departamento de Fitopatología de la Universidad de Florida.



6. RESULTADOS E IMPACTOS ESPERADOS

Los resultados esperados de esta actividad de formación son los siguientes:

1. Conocer los últimos avances en el área de la biotecnología vegetal y la fitopatología, lo que sin duda repercutirá en los futuros proyectos de investigación que se desarrollen en nuestro grupo.
2. Fortalecer el conocimiento en áreas claves que actualmente se están desarrollando e investigando en nuestro laboratorio, y fomentar la interrelación y/o cooperación con grupos de investigación extranjeros.
3. Mantener lazos más activos con la Sociedad Fitopatológica Americana y sus Divisiones Regionales.
4. Resforzar y formalizar los lazos de interacción con los grupos de investigadores la Universidad de Florida, en particular con aquellos dedicados a la caracterización de mosca blanca y los virus transmitidos por este insecto.
5. Estudiar las posibilidades de cooperación para futuros proyectos de investigación que se desarrollen entre UF y nuestra institución.

7: ACTIVIDADES DE DIFUSIÓN

FECHA	TIPO DE ACTIVIDAD	OBJETIVO	LUGAR	Nº y TIPO BENEFICIARIOS	INFORMACIÓN A ENTREGAR
6-09-02	Seminario	Informar a los miembros de nuestro laboratorio e invitados externos de los avances más relevantes en el área de la biotecnología y la patología vegetal que hayan sido presentados durante el Congreso Anual de la Sociedad Fitopatológica Americana.	INIA-La Platina	Esta actividad será especialmente dirigida a los miembros del Laboratorio de Biotecnología Vegetal del CRI-La Platina, así como también al resto de los miembros de este Centro de Investigación. Se extenderá la invitación a los miembros de la Sociedad Chilena de Fitopatología y público en general.	Se espera entregar un resumen oral de las sesiones que hayan sido atendidas durante el desarrollo del Congreso, con especial referencia a aquellos temas que se están desarrollando actualmente en el laboratorio de Biotecnología del CRI-La Platina y que sean de especial interés de sus miembros (Bioseguridad, genómica funcional, interacción planta- patógeno). Además se detallarán los contactos realizados con grupos de investigación extranjeros y las posibilidades de interacción que existan.

Octubre 2002	Publicación de documento informativo en página web del laboratorio de Biotecnología del CRI-La Platina	Generar un documento de divulgación que explique el uso de las herramientas moleculares en el diagnóstico y detección de fitopatógenos	Sitio web laboratorio de Biotecnología del CRI-La Platina	Documento de libre disponibilidad a todos aquellos usuarios que accedan al sitio web	Se elaborará un documento que utilice un lenguaje simple, dirigido al público en general, el que se centrará en el uso de las herramientas moleculares en el diagnóstico e identificación de fitopatógenos. Se propone resaltar como ejemplos de interés, casos relevantes que haya sido expuestos durante la conferencia (e incluir links a los resúmenes de los trabajos presentados en la Sociedad Fitopatológica Americana) y también dar a conocer las experiencias de nuestro laboratorio en el área.
3-10-02	Charla informativa	Explicar a agricultores y productores la importancia del diagnóstico de enfermedades en plantas y las ventajas del uso de tecnología de punta.	CRI-La Platina u otro lugar a convenir con productores.	Charla orientada a productores, viveristas, exportadores, público en general.	De forma similar al punto anterior, el objetivo se centrará en el uso de las herramientas moleculares en el diagnóstico e identificación de fitopatógenos.

8.- ITINERARIO PROGRAMA DE TRABAJO

FECHA (Día-mes-año)	ACTIVIDAD	OBJETIVO	LUGAR
26- 07- 2002	Salida desde Santiago- Milwaukee (WI)	Llegada a WI el día 27 de Julio, para registrarse en la conferencia y asistir a Orientación inicial	Midest Expres Center, Milwaukee, Wisconsin (WI)
27- 07- 2002 al 31- 07- 2002	Asistencia a las Sesiones y Conferencias plenarias de Congreso	Actualizar nuestro conocimiento en áreas de interés particular. Resforzar las posibilidades de interacción con grupos internacionales.	Midest Expres Center, Milwaukee, Wisconsin (WI)
31- 07- 2002	Traslado a Florida	Continuación de la actividad con la visita técnica a la Universidad de Florida.	Florida
1- 08-2002	Visita Laboratorio Dr. Jane Polston, Gulf Coast Research and Education Center, Bradenton, Florida.	Entrevista con la Dra. Polston y su personal del laboratorio. Discutir antecedentes de la situación chilena v/s FL con respecto a <i>B.tabaci</i> , su control, manejo integrado y caracterización molecular de biotipos. Discutir probabilidad de interacción y/o cooperación bilateral.	Bradenton, Florida
2- 08- 2002	Visita Laboratorio Dr. Jane Polston, Gulf Coast Research and Education Center, Bradenton, Florida.	Visita a las instalaciones de invernaderos donde se estudia la biología y comportamiento de <i>B.tabaci</i> . Discusión de protocolos y técnicas de detección de geminivirus. Esta visita será dirigida por la estudiante de Doctorado Alba Nava, quien es supervisada por la Dra. Jane Polston.	Bradenton, Florida
3-08-2002	Visita Laboratorio Dr. R.F.Lee, CREC-Lake Alfred.	Entrevista con virologos vegetales del Centro quienes ejecutan proyectos relacionados con transmisión de virus por insectos y transformación genética.	Lake Alfred, Florida

ANEXO 1: CURRICULUM VITAE DEL POSTULANTE

CURRICULUM VITAE

Inés Marlene Rosales Villavicencio

Edad / fecha de nacimiento : 34 / 16 de Marzo, 1968

Nacionalidad: Chilena.

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Estado civil : Soltera.

Idiomas escritos y hablados con fluidez : Español e Inglés.

Título Profesional: Bioquímico, (1995).

Grados Académicos: Licenciada en Bioquímica, (1993).

Grado de Doctor of Philosophy (Ph.D.), Universidad de Florida.

Especialidad: Fitopatología, mención Biología Celular y Molecular de Plantas (2001).

Área de Interés: Fitopatología molecular, con especial énfasis en la interacción planta-virus. Desarrollo de técnicas de diagnóstico moleculares de alta sensibilidad y exactitud. Generación de resistencia a patógenos vegetales por medio de la transformación genética de plantas.

ESTUDIOS SUPERIORES

- 1986-1993 Universidad de Chile, Facultad de Ciencias Químicas y Farmacéuticas, Licenciatura en Bioquímica.
- 1994-1995 Tesis de Grado para optar al grado de Bioquímico, Laboratorio de Biotecnología Vegetal, Instituto de Investigaciones Agropecuarias, Centro Regional de Investigación (CRI) La Platina.
- 1997-2001 Ph.D. Universidad de Florida, Departamento de Fitopatología, Laboratorio de Virología Vegetal.

ANTECEDENTES LABORALES

- Agosto - Noviembre 1993. Unidad de Investigación **“Aplicación de técnicas de DNA recombinante en levaduras”**. Laboratorio de Genética, Facultad de Ciencias, Universidad de Chile. Bajo la dirección del Dr. Víctor Cifuentes.
- Enero 1994 - Abril 1995 Tesis de Pregrado **“Detección y Caracterización molecular de serotipos chilenos del virus plum pox”**. Laboratorio de Biotecnología Vegetal del INIA-CRI La Platina, bajo la dirección del Dr. Patricio Hinrichsen.
- Mayo 1995 - Agosto 1997 Asistente de Investigación en el Laboratorio de Biotecnología Vegetal del INIA-CRI La Platina, desempeñando funciones en el área de fitopatología molecular. Desarrollo y optimización de técnicas de diagnóstico de los virus plum pox (PPV), Tristeza de los cítricos (CTV), virus de la papa X (PVX), virus del enrollamiento de la hoja (PLRV), virus de la papa Y (PVY), viroide de tubérculos fusiformes (PSTVd) y el viroide causante de la xiloporosis.
- Agosto 1997-Dic. 2001 Estudiante de Doctorado en el laboratorio de Virología Vegetal del Departamento de Fitopatología, Universidad de Florida, Gainesville, USA. Disertación: **“Caracterización de la proteína HSP70 homóloga del virus de la tristeza de los cítricos”**. Dirección de tesis: Dr. C.L. Niblett y Dr. R.F. Lee.
- Enero 2002 a la fecha Reinserción como investigador en el Laboratorio de Biotecnología Vegetal, INIA-CRI La Platina.

PUBLICACIONES EN REVISTAS CIENTIFICAS Y PROCEEDINGS

HINRICHSEN, P., ROSALES, M., SAGREDO, M., HERRERA, G. y HADIDI, H.1995. Identificación y caracterización de aislamientos de virus RNA y viroides de importancia agronómica en Chile. Reunión Anual Sociedad Biología de Chile. Res:29.



ROSALES, M., HINRICHSEN, P. y HERRERA, M.G. 1995. Detección específica mediante PCR de un aislado del virus plum pox virus obtenido de un huerto experimental en Chile. *Agricultura Técnica* v.59:89-98.

HERRERA, M.G., MADARIAGA, M. y ROSALES, M. 1996. Diferenciación del virus de Tristeza de los Cítricos (Citrus Tristeza Virus) y del viroide causante de la Xiloporosis mediante la técnica de la reacción en cadena de la polimerasa (PCR). *Simiente* v 66: 3.

HERRERA, M.G., ROSALES, M. y HINRICHSEN, P. 1997. Detection of Sharka disease (Plum Pox Virus) in Chile. *Proceedings of the Middle European Meeting 1996 on Plum Pox Virus*: 87-90. Budapest. Hungría. Res:26.

ROSALES, M., HINRICHSEN, P. Y HERRERA, M.G. 1998. Molecular characterization of Plum Pox Virus (PPV) isolated from apricots, plum and peaches in Chile. *Acta Horticulturae* 472:401-407

MARAIS L.J., MANJUNATH K.L, ROSALES I.M., BARTHE G.A., DERRICK K.S., NIBLETT C.L., AND LEE, R.F. 1998. Separation and Characterization of Strains of Citrus Tristeza Virus useful in mild strain cross protection in South Africa. *In "14th Proc. Conf. Intl. Org. Citrus Virol"* (J. Da Graca, R.F.Lee, and R. Yokomi, Eds.), Campinas, Sao Paulo, Brazil.

ROSALES, I.M, MANJUNATH, K.L., NIBLETT, C.L., BRLANSKY, R, AND LEE. R.F. 2001. Characterization of the HSP70 protein homolog (HSP70h) of citrus tristeza closterovirus. *In "15th Proc. Conf. Intl. Org. Citrus Virol"* (En prensa), Paphos, Cyprus.

ASISTENCIA A CONGRESOS

NOVIEMBRE 1994. 45° Congreso Agronómico de la Sociedad Agronómica de Chile. Santiago, Chile. "Análisis molecular de aislamientos de plum pox virus obtenidos en la subestación experimental Los Tilos del INIA".

NOVIEMBRE 1994. 45° Congreso Agronómico de la Sociedad Agronómica de Chile. Santiago, Chile. "Identificación de serotipos del virus plum pix (PPV) aislados en la subestación experimental Los Tilos del INIA, por RT-PCR".

NOVIEMBRE 1994. 45° Congreso Agronómico de la Sociedad Agronómica de Chile. Santiago, Chile. "Detección de un foco de la enfermedad de Sharkas (plum pox virus) en subestación experimental Los Tilos.



JUNIO 1995. REDBIO'95. Segundo Encuentro Latinoamericano de Biotecnología vegetal. Puerto Iguazú, Argentina. "PCR detection and nucleotide sequencing of a plum pox virus (PPV) strain detected in an experimental orchard of Chile".

NOVIEMBRE 1995. XXXVIII Reunión Annual de la Sociedad de Biología de Chile. IV Reunión Annual Sociedad de Ecología de Chile. "Identificación y caracterización de aislamientos de virus RNA y viroides de importancia agronómica en Chile".

AGOSTO 1996. Middle European Meeting on Plum Pox, Budapest, Hungría. "Detection of plum pox virus in Chile".

NOVIEMBRE 1996. 47° Congreso Agronómico de la Sociedad Agronómica de Chile. Santiago, Chile. "Detección del viroide PSTVd y de los virus PVX, PVY y PLRV en pepino dulce (*Solanum muricatum* Ait.) en Chile".

NOVIEMBRE 1996. 47° Congreso Agronómico de la Sociedad Agronómica de Chile. Santiago, Chile. "Diferenciación del virus de la tristeza de los cítricos y el viroide causante de la xiloporosis mediante la prueba de la reacción en cadena de la polimerasa".

AGOSTO 1997. 7th Congreso Latinoamericano de Fitopatología. Montevideo, Uruguay. "Estudios etiológicos y epidemiológicos de la enfermedad de Sharka en la zona central de Chile".

SEPTIEMBRE 1998. XIV Conference of the International Organization of Citrus Virologist, Campinas, Sao Paulo. "Separation and Characterization of Strains of Citrus Tristeza Virus useful in mild strain cross protection in South Africa".

DICIEMBRE 2000. 9th Congress of The International Society of Citriculture, Orlando, FL. "In vivo localization of the HSP70 protein homolog (p65) in citrus tristeza closterovirus infected plants.

JUNIO 2001: American Phytopathological Society - Caribbean Division, La Habana, Cuba. " Biochemical characterization of the HSP70 protein homolog (p65) of citrus tristeza closterovirus".

NOVIEMBRE 2001: XV Conference of the International Organization of Citrus Virologist, Paphos, Cyprus. "Characterization of the HSP70 protein homolog (HSP70h) of citrus tristeza closterovirus".

REMIOS Y DISTINCIONES

Distinción al mejor poster presentado durante el 45° Congreso Agronómico de la Sociedad Agronómica de Chile. Santiago, Chile (Noviembre 1994).

Becada por la Red Latinoamericana de Botánica para asistir al REDBIO'95. Segundo Encuentro Latinoamericano de Biotecnología Vegetal. Puerto Iguazú, Argentina (Junio 1995).

- Becada por el Instituto de Investigaciones Agropecuarias para realizar estudios de Doctorado en la Universidad de Florida, USA (Agosto 1997- Diciembre 2001).
- Distinción por merecimiento académico a estudiantes graduados internacionales, Universidad de Florida, Gainesville (Abril 1997).
- Distinción por merecimiento académico a estudiantes graduados internacionales, Universidad de Florida, Gainesville (Abril 2000).
- Distinción al mejor poster presentado en la Organización Internacional de Citricultura, sección fitopatología (Diciembre 2000).



ANEXO 2: PAUTA DE ANTECEDENTES RESUMIDA DEL POSTULANTE



PAUTA DE ANTECEDENTES RESUMIDA

ANTECEDENTES PERSONALES

Nombre completo	Inés Marlene Rosales Villavicencio
RUT	
Número de Pasaporte	
Fecha de Nacimiento	16 de Marzo, 1968
Nacionalidad	Chilena
Dirección particular	Ongolmo # 633, Cerrillos, Santiago
Fono particular	02-316-4497 ; 09-289-5260
Fax particular	
Dirección comercial	Santa Rosa #11610, La Pintana, Santiago
Fono y Fax comercial	02-541-7223 (Fono) 02-541-6687 (Fax)
Banco y número de cuenta corriente para depósito de fondos correspondientes	
Nombre y teléfono de la persona a quien avisar en caso de emergencia	Moisés Rosales 02-316-4497



Completar ambas secciones o sólo una de ellas, según corresponda

ACTIVIDAD PROFESIONAL Y/O COMERCIAL (ACTUAL)

Nombre y RUT de la Institución o Empresa a la que pertenece	Instituto de Investigaciones Agropecuarias (INIA) - Centro Regional de Investigación (CRI) La Platina
Cargo	Investigador – Departamento Horticultura y Cultivos
Antigüedad	7 años
Resumen de las labores y responsabilidades a su cargo	Investigador del Laboratorio de Biotecnología Vegetal del CRI-La Platina, área de interés “fitopatología molecular”.
Otros antecedentes de interés	Reciente obtención del grado de Doctor en Fitopatología en la Universidad de Florida (Diciembre 2001). Participación en proyectos relacionados con CTV (virus de la tristeza de los cítricos), Genómica Funcional de la interacción Botritis-Vid. Proyecto en preparación “Caracterización molecular de los biotipos chilenos de mosca blanca (<i>Bemisia tabaci</i>)”.

ACTIVIDAD COMO AGRICULTOR (ACTUAL)

Tipo de Agricultor (pequeño, mediano o grande)	
Nombre de la propiedad en la cual trabaja	
Cargo (dueño, administrador, etc.)	
Superficie Total y Superficie Regada	
Ubicación (detallada)	
Rubros a los que se dedica (incluir desde cuando se trabaja en cada rubro) y niveles de producción en el rubro de interés	



Resumen de sus actividades	
Organizaciones (campesinas, gremiales o empresariales) a las que pertenece y cargo, si lo ocupa	Miembro de la Sociedad Chilena de Fitopatología
Descripción de la principal fuente de ingreso	Salario INIA
Ultimos cursos o actividades de formación en las que ha participado	1. Curso teórico-práctico: "Enfermedades provocadas por virus que afectan el cultivo de la frutilla y su diagnóstico con técnicas avanzadas". Marzo 2002, Organizado por el SAG, FIA y Universidad de Concepción. Financiamiento FIA. 2. Obtención PhD Diciembre 2001, Universidad de Florida, Departamento de Fitopatología. Becada por INIA. 3. JUNIO 2001: Asistencia al Congreso Anual de la Sociedad de Fitopatología, División Caribe, La Habana, Cuba. " Biochemical characterization of the HSP70 protein homolog (p65) of citrus tristeza closterovirus". Finaciamiento Universidad de Florida, Colegio de Agricultura, Departamento de Fitopatología y aportes Dr. C.L. Niblett. 4. NOVIEMBRE 2001: Presentación de poster en la XV Conferencia de la Organización Internacional de Virologos de Cítricos, Paphos, Chipre. "Characterization of the HSP70 protein homolog (HSP70h) of citrus tristeza closterovirus". Representada por el Dr. R.F.Lee.



ANEXO 3
ANTECEDENTES DE LA INSTITUCION QUE EFECTUA O DICTA LA
ACTIVIDAD DE FORMACIÓN

Se anexa Programa del Congreso y Material de Inscripción, los que pueden ser encontrados en los siguientes sitios:

<http://www.apsnet.org/meetings/2002/>

<http://www.apsnet.org/meetings/2002/schedule.htm>

<http://www.apsnet.org/meetings/2002/orderforms/2002registrationform.pdf>

<http://www.apsnet.org/meetings/2002/orderforms/2002housingform.pdf>

Se anexa carta de la Dra. Gail Wisler, Chair del Departamento de Fitopatología la Universidad de Florida que avala contacto previo para visitar los Centros de Investigación de esta Unidad.



APS 2002 Annual Meeting

July 27-31, 2002
Midwest Express Center
Milwaukee, Wisconsin



Schedule of Events

Friday July 26

Note: Friday functions will be held at the Milwaukee Hilton

7:30 – 9:00 a.m. Councilors Forum

7:30 – 9:00 a.m. Financial Advisory and Executive Committees

8:00 a.m. – 5:00 p.m. Turf Tour (#1 on registration form)

9:00 a.m. – 5:00 p.m. APS Council

1:00 – 4:00 p.m. Web Page Design for APS Service Workshop, by invitation only

5:00 – 6:00 p.m. Committee on Committees

Friday and Saturday, July 26 and 27

8:00 a.m. Friday to

6:00 p.m. Saturday Forest Pathology Field Trip (#2 on registration form)

Saturday, July 27

8:00 a.m. – 12:00 p.m. APS Council

8:00 a.m. – 12:00 p.m. APS Foundation

10:00 a.m. – 2:00 p.m. APS PRESS Board

12:00 p.m. – 1:30 p.m. Office of International Programs Luncheon, by invitation only

12:00 p.m. – 4:00 p.m. Leadership Workshop

1:00 – 3:00 p.m. Scientific Programs Board

1:00 – 4:00 p.m. Councilors Forum

1:00 – 4:00 p.m. Publications Board

1:00 – 5:00 p.m. APS Job Placement Service Registration

1:00 – 5:00 p.m. Postharvest Diseases Discussion Group

1:00 – 6:00 p.m. Registration

1:30 – 3:00 p.m. Office of International Programs Standing Committee Meeting (Education, Policies & Programs, Research & Service)

2:00 – 5:00 p.m. Publications Board

3:00 – 4:00 p.m. Section Chairs Meeting

3:00 – 5:00 p.m. Office of International Programs Open Meeting, visitors welcome

4:00 – 5:00 p.m. Committee Chairs/Vice Chairs Program Orientation

4:30 – 5:30 p.m. First-Timers Orientation (#3 on registration form)

5:30 – 10:00 p.m. Committee Meetings

Sunday, July 28

6:30 – 8:00 a.m. Vegetable Extension and Research Plant Pathologists Breakfast (#4 on registration form)
6:30 – 8:30 a.m. Division Officers Breakfast, by invitation only
7:00 a.m. – 7:00 p.m. Registration
7:30 – 9:00 a.m. Sustaining Associates Breakfast, by invitation only
7:30 – 9:30 a.m. Department Heads Breakfast (#5 on registration form)
7:30 – 9:30 a.m. Small Fruit Diseases Working Group
8:00 – 9:00 a.m. APS Committee Web page Guidelines Meeting, by invitation only
8:00 – 9:30 a.m. Phytopathology Editorial Board, by invitation only
8:00 – 9:30 a.m. Plant Disease Editorial Board, by invitation only
8:00 – 11:30 a.m. APSnet Education Center Senior Editors, by invitation only
9:00 a.m. – 6:00 p.m. Posters
9:30 a.m. – 12:00 p.m. Welcome and Plenary: Call to Action: A Critical Shortage in U.S. Agricultural Research Funding
10:00 a.m. – 12:00 p.m. Plant Health Progress Editorial Board
12:00 – 1:00 p.m. APS Foundation Luncheon, by invitation only
12:00 – 1:00 p.m. APS Journals Senior Editors Luncheon, by invitation only
12:00 – 2:00 p.m. Deciduous Tree Fruit Disease Workers Lunch and Business Meeting (#6 on registration form)
12:30 – 5:00 p.m. Office of Electronic Communications
1:00 – 5:00 p.m. APS Job Placement Service
1:00 – 5:00 p.m. Oral Paper Presentations
1:00 – 5:00 p.m. Symposia and Special Sessions

- Non-Traditional Careers or Alternative Careers in Plant Pathology
- Crop Biosecurity: Countering Agricultural Terrorism
- Creating the Right Environment for Biological Control
- How Many Genes Does it Take to Make a Plant Pathogen?
- Programmed Cell Death in Disease and Development

3:00 – 6:00 p.m. Exhibits and APS Press
4:30 – 5:30 p.m. Forum on Genomic Analysis of Plant-Associated Microbes
6:00 – 7:30 p.m. Awards and Honors Ceremony
7:30 – 9:30 p.m. Opening Reception and University Alumni Socials

Monday, July 29

6:30 – 8:00 a.m. Extension Plant Pathologists Breakfast (#7 on registration form)
7:00 – 8:00 a.m. Graduate Student Breakfast (#8 on registration form)
7:00 – 10:00 a.m. Public Policy Board
7:00 a.m. – 5:00 p.m. Registration
7:00 a.m. – 6:00 p.m. Chestnut Blight Field Trip (#9 on registration form)
8:00 a.m. – 12:00 p.m. Oral Paper Presentations
8:00 a.m. – 12:00 p.m. Symposia and Special Sessions

- Airborne Mycotoxigenic Fungi in Plant and Human Disease
- Comparison of Molecular Marker Techniques and How They can be Used in Breeding Programs
- Diagnosis of Abiotic Diseases
- The Interaction Between Endosymbiotic Bacteria in Insects and the Circulative Transmission of Viruses
- New Products and Services, Part I
- Spatial Scale and Phyllosphere Biology
- Microbial Genome Sequencing Priorities: The Plant-Associated

Microbe Sequencing List Revisited.

8:00 a.m. – 5:00 p.m. Posters, Authors Present 12:00 p.m. – 2:00 p.m.
9:00 a.m. – 12:00 p.m. APS Job Placement Service
10:00 a.m. – 5:00 p.m. Exhibits and APS Press Open
12:00 – 1:15 p.m. Past Presidents' Luncheon, by invitation only
1:00 – 3:00 p.m. Affiliates Meeting
1:00 – 5:00 p.m. Oral Paper Presentations
1:00 – 5:00 p.m. Symposia and Special Sessions

- Detection and Management of Foodborne Human Pathogens of Fruits and Vegetables
- International Service in APS: Opportunities Abroad for Aspiring Plant Pathologists
- New Products and Services, Part II
- Implications for Plant Pathology of the NRC 2002 Report, "Countering Agricultural Bioterrorism: A Framework for Action"
- Viral Expression Vectors
- New Applications of Statistical Tools in Plant Pathology

1:00 – 5:00 p.m. Turfgrass Pathology Working Group
2:00 – 5:00 p.m. APS Job Placement Service
3:30 – 5:00 p.m. 10th Annual deBary Bowl Preliminary Rounds
5:00 – 6:30 p.m. ARS Social
6:00 – 8:00 p.m. Women in Plant Pathology Social (#10 on registration form)
6:30 – 8:30 p.m. University Alumni Socials
7:30 – 8:30 p.m. 10th Annual deBary Bowl Final Rounds

Tuesday, July 30

7:00 – 9:00 a.m. APS Business Meeting and Breakfast
7:00 a.m. – 4:00 p.m. Registration
8:00 a.m. – 6:00 p.m. Posters, Authors Present 12 p.m. – 2:00 p.m.
9:00 a.m. – 12:00 p.m. APS Job Placement Service
9:00 a.m. – 12:00 p.m. Office of Industry Relations
9:00 a.m. – 12:00 p.m. Oral Paper Presentations
9:00 a.m. – 1:00 p.m. Symposia

- The APS Public Policy Board: Progress and Vision
- Managing Risk to Minimize Crop Loss
- Extension and Teaching at a Distance
- Product Development in the Ornamental Market
- Application of Quality Assurance and ISO Certification to Plant Pathology
- Striobulurins and Turfgrass Disease Management
- Surface Interactions and Biofilms of Plant-Associated Microbes

10:00 a.m. – 4:00 p.m. Exhibits Open
10:00 a.m. – 5:00 p.m. APS PRESS Open
11:00 a.m. – 12:00 p.m. North Central Division Business Meeting
12:00 – 1:30 p.m. Cultural Diversity Luncheon and Social: Plant Pathology: A Positive Career Choice (#12 on registration form)
12:00 – 1:30 p.m. Phytopathology News Advisory Board
1:00 – 5:00 p.m. Diagnostics Working Group
1:00 – 5:00 p.m. Oral Paper Presentations
1:00 – 5:00 p.m. Symposia and Special Sessions

- 3rd IE Melhus Graduate Student Symposium: New Thesis Research Contributions to Plant Disease Epidemiology
- Chestnut Blight: A 10-year Case Study of Disease Management Using Hypoviruses
- Functional Genomics of Plant-Pathogen Interactions
- Commercial Biopesticides: Practice and Experience
- Plant Diseases Impacting Resource-Poor Farmers in Developing Countries: Can They be Successfully Controlled?

1:30 – 5:30 p.m. Office of Public Affairs and Education Meeting, visitors welcome
 2:00 – 5:00 p.m. APS Job Placement Service
 3:30 – 5:30 p.m. 2003 Annual Meeting Program Planning Committee
 6:00 – 8:00 p.m. Graduate Student Social
 6:30 – 10:30 p.m. Industry Extension Social (#13 on registration form)

Wednesday, July 31

7:00 – 10:00 a.m. APS Foundation
 7:30 – 10:30 a.m. Office of International Programs Board Breakfast
 8:00 a.m. – 12:00 p.m. Oral Paper Presentations
 8:00 a.m. – 12:00 p.m. Registration
 8:00 a.m. – 12:00 p.m. Symposia and Special Sessions

- Diagnosis and Management of Nematodes on Ornamental Plants
- Innovations in Bacterial Disease Control Materials
- IPM Labeling - Has the Time Come?
- Resources and Funding for Plant Pathology Outreach
- Statistical Epidemiology Workshop: Meta-Analysis: Synthesis Across Studies in Plant Pathology (#14 on registration form)
- Sudden Oak Death: A New Disease Reported on Oaks and Rhododendrons

8:00 a.m. – 1:00 p.m. APS Council
 8:00 a.m. – 2:00 p.m. APS PRESS Open
 8:00 a.m. – 3:00 p.m. Posters
 9:00 a.m. – 12:00 p.m. APS Job Placement Service
 1:00 – 2:00 p.m. New Council Orientation
 1:00 – 5:00 p.m. Oral Paper Presentations
 1:00 – 5:00 p.m. Symposia and Special Sessions

- Real-Time PCR for Field Diagnosis of Bacterial Diseases
- The Food Quality Protection Act (FQPA): Expected Impact on Agriculture and the Consumer
- Forces that Shape Microbe Population in Forest Ecosystems

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APS 2002 Annual Meeting

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Special Sessions

Topical symposia will address the latest developments in:

Hot Topics

Crop Biosecurity: Countering Agricultural Bioterrorism

Sponsoring Committee: *Ad Hoc Committee on Bioterrorism*

Organizer: *R. James Cook, Washington State University, Pullman*

This symposium will cover developments related to crop biosecurity prior to and since September 11, 2001, including: U.S. vulnerability to and plans for countering deliberate as opposed to accidental or unintentional introductions of plant pathogens; historical aspects of biowarfare directed at crops; costs of plant diseases; implications of recent and pending legislation for research, teaching, and the free-flow of scientific information; and APS proposals and initiatives for improving U.S. preparedness for detection, prevention, or recovery from pathogens used as agents of bioterrorism.

Microbial Genome Sequencing Priorities: The List Revisited

Sponsoring Committee: *Public Policy Board*

Organizer: *Scott Gold, University of Georgia, Athens*

The APS list is playing an important role in helping APS (and its members) focus funding agency attention on plant-associated microbial genomics. At this session we hope to discuss ways to refine and improve channels for input into the list's criteria and structure. The overall goal is to establish review processes to keep the list current and inclusive.

Implications for Plant Pathology of the NRC 2002 Report, "Countering Agricultural Bioterrorism: A Framework for Action"

Sponsor(s): APS Ad Hoc Committee on Bioterrorism

Organizers: Larry Madden, Ohio State University, Wooster, and R. James Cook, Washington State University, Pullman

In order to evaluate U.S. preparedness for biological threats directed towards agricultural plants and animals, the U.S. Department of Agriculture asked the National Research Council (NRC) in 2000 to convene a diverse group of experts to

evaluate the ability of the U.S. to deter, prevent, detect, thwart, respond to, and recover from an intentional, biological attack against the nation through its supply of food and fiber. The NRC formed a committee on Biological Threats to Agricultural Plants and Animals, which met several times, both before and after September 11, 2001. The report from the committee, being released during the summer, has many implications for plant pathology and plant protection. The Discussion Session will review the recommendations made in the report.

General discussion of the National Research Council report on biological threats to agriculture. L.V. MADDEN, R.J. COOK, and others (to be announced)

Biology of Plant Pathogens

Symposium: Airborne Mycotoxigenic Fungi in Plant and Human Disease

Sponsoring Committee: Mycotoxicology

Co-Sponsoring Committee(s): Mycology

Organizer: Anne Desjardins, USDA-ARS NCAUR, Peoria, IL

Plant pathogenic fungi produce a bewildering array of secondary metabolites that can be highly toxic to plants (phytotoxins) and animals (mycotoxins). Gaumann proposed in 1954, that "microorganisms are pathogenic only if they are toxigenic," but it proved difficult to establish a causal role for fungal toxins in plant and animal diseases. The development of molecular genetic methods has provided tools that are being used to determine the importance of toxins in pathogenesis. This session will feature recent advances in understanding the biology of mycotoxigenic fungi that occur naturally in agricultural commodities and household environments and thus raise human health concerns. A special focus will be placed on the role of airborne spores in epidemiology of plant and human disease.

Atmospheric spore dispersal and regional epidemiology of the Fusarium head blight fungus. G.C. BERGSTROM and E.J. Shields. Cornell University, Ithaca, NY

Disease control via understanding molecular determinants of sexual reproduction. B.G. TURGEON (1), D.W. Brown (2), S.-H. Yun (3), R.D. Plattner (2), T. Lee (4), R. Dyer (2), and A.E. Desjardins (2). (1) Cornell University, Ithaca, NY; (2) USDA, Peoria, IL; (3) Soonchunhyang University, Asan, Korea; (4) Seoul National University, Suwon, Korea

Stachybotrys chartarum and human health: Questions and concerns. G.A. KULDAU (1), N. Jada (1), I. Yike (2), and D. Dearborn (2). (1) Pennsylvania State University, University Park; (2) Case Western Reserve Medical School, Cleveland, OH

A case for the potential for aerosol exposure to ochratoxin. J.L. RICHARD (1), G.C. Smiley (1), R.D. Plattner (2), and R.H. Tisdell (3). (1) Romer Labs, Inc., Union, MO; (2) USDA-ARS, Peoria, IL; (3) Toxicology Litigation Consultants, Temple, TX

Fusarium head blight of small grains: Epidemics and epidemiology. R. DILL-MACKY. University of Minnesota, St. Paul

Symposium: Chestnut Blight: A 10-Year Study of Disease Management Using Hypoviruses

Sponsoring Committee: *Forest Pathology*

Co-Sponsoring Committee(s): *Biological Control, Epidemiology, Regulatory Plant Pathology*

Organizer: *Jane Cummings Carlson, DNR, Fitchburg, WI*

Chestnut blight caused by Cryphonectria parasitica is responsible for the demise of the chestnut forests of eastern North America and Europe. In the 1960s chestnut trees surviving chestnut blight were observed in Italy. These trees were infected with strains of the fungus infected with hypoviruses that reduce the virulence of the pathogen. A large stand of American chestnut trees in West Salem, WI, became infected with chestnut blight in 1987. After a brief attempt at eradication, hypoviruses were introduced in 1992 and their dissemination followed through the stand for the past decade. While virulent strains still predominate and are infecting previously healthy trees, data suggest the hypoviruses are disseminating and that trees are beginning to respond with wound callus.

Ecological history and early disease management of an isolated stand of American chestnut in Wisconsin. J.E. CUMMINGS CARLSON (1), F.L. Paillet (2), and S.E. Dahir (1). (1) Wisconsin Dept. of Natural Resources, Madison; (2) U.S. Geological Survey, Denver, CO

The decision to disseminate hypovirulent strains at West Salem: The Michigan experience. D.W. FULBRIGHT. Michigan State University, East Lansing

Clonal population structure and reproductive biology of Cryphonectria parasitica. I.C. MCGUIRE and M.G. Milgroom. Cornell University, Ithaca, NY

Hypovirus deployment, establishment and spread: Results after six years of canker treatment. M.L. DOUBLE and W.L. MACDONALD. West Virginia University, Morgantown

Spatial patterns of blight and hypovirus spread within the West Salem chestnut stand. A.M. JAROSZ (1), S.E. Dahir (2) and M.L. Double (3). (1) Michigan State University, East Lansing; (2) Wisconsin Dept. of Natural Resources, Madison; (3) West Virginia University, Morgantown

Evaluation of recovery at the West Salem chestnut stand: A demographic analysis. A.L. DAVELOS (1), A.M. Jarosz (2), S.E. Dahir (3), and J.E. Cummings Carlson (3). (1) University of Minnesota, St. Paul; (2) Michigan State University, East Lansing; (3) Wisconsin Dept. of Natural Resources, Madison

Chestnut breeding and hypovirulence: Integrated approaches to the restoration of the American chestnut. J.H. CRADDICK. University of Tennessee, Chattanooga

Symposium: Forces that Shape Microbe Populations in Forest Ecosystems

Sponsoring Committee: *Forest Pathology*

Co-Sponsoring Committee(s): *Environmental Quality and Plant Health*

Organizers: *Mee-Sook Kim, University of Idaho, Moscow, and Ned Klopfenstein, USDA Forest Service, Moscow, ID*

Forest ecosystems present a unique opportunity to study forces that shape microbial populations. This symposium is designed to reflect understanding of population genetic processes of forest microbes and to contrast these processes with those of microbes in agricultural ecosystems. Several examples of population structure of

forest pathogens will be presented and implications for disease management will be discussed.

Introduction. N.B. KLOPFENSTEIN, USDA Forest Service, Moscow, ID

Forces shaping pathogen population structure in crop ecosystems: Relevance to forest ecosystems? C.C. MUNDT. Oregon State University, Corvallis

Crawling through the botryosphaerial mire: Species definition as a prelude to population studies. G.R. STANOSZ, D.R. Smith, and S. Zhou. University of Wisconsin, Madison

Genetic variation and potential for adaptation and gene flow in *Cronartium ribicola*. P.J. ZAMBINO (1), R. Hamelin (2), and G.I. McDonald (1). (1) USDA Forest Service, Moscow, ID; (2) Natural Resources Canada, Sainte-Foy, QC

Toward defining *Armillaria* populations and determining relationships to ecological behavior. M.-S. KIM (1), N.B. Klopfenstein (2), J.W. Hanna (1,2), and G.I. McDonald (2). (1) University of Idaho and (2) USDA Forest Service, Moscow, ID

Swiss needle cast-Climate, forest practices, and pathogen genetics create an epidemic. L.M. WINTON, J.K. Stone, E.M. Hansen, and P.W. Reeser. Oregon State University, Corvallis

Life in the woods and in wood products: Genetic tales from the ophiostomatoid front. L. BERNIER. CRBF, Université Laval, Québec, QC, Canada

Forest clearing and fire exclusion and their impact on microbial populations: Examples from tropical and temperate forests. M. GARBELOTTO (1), W. Otrosina (2), I. Chapela (1), and G. Gilbert (3). (1) University of California, Berkeley; (2) U.S. Forest Service, Athens; (3) University of California, Santa Cruz

Phenotypic plasticity and ecotypic adaptation: Responses of microbial populations to environmental and host variation through time and space. G.I. McDONALD. USDA Forest Service, Moscow, ID

Symposium: The Interaction Between Endosymbiotic Bacteria in Insects and the Circulative Transmission of Viruses

Sponsoring Committee: *Virology*

Organizers: *Gad Loebenstein, ARO The Volcani Center, Bet Dagan, Israel, and Henryk Czosnek, Hebrew University, Rehovot, Israel*

Insects contain a vast microorganism flora exhibiting symbiotic relations with their host. In this section we will discuss some of these interactions and how they affect the biology of the host.

1. *Whitefly and aphid endosymbiotic bacteria produce GroEL chaperonins, which prevent degradation of plant circulative viruses belonging to a number of genera. Interaction between GroEL and virus capsid in the insect haemolymph allows the safe transit of the virus to the salivary glands and transmission.*

2. *Spiroplasmas establish a vast array of interactions with insects, ranging from epiphytic to symbiotic to pathogenic. Studies of the propagative persistent transmission of the corn stunt Spiroplasma (CSS) Spiroplasma kunkelii by its leafhopper vector Dalbulus maidis indicate that CSS does not negatively affect the insect vector; on the contrary, CSS may produce metabolites advantageous for D. maidis, explaining the mutual beneficial association.*
3. *Endosymbionts may play a role in the evolution of their insect host. Whiteflies harbor prokaryotic symbionts, some of which provide nutritional needs, whereas others may be nonessential or deleterious.*

Examination of symbionts for the whitefly B. tabaci from different plant hosts and geographical locations revealed a diverse array of microflora: besides a primary symbiont, 65% harbored secondary symbionts and at least 33% harbored Wolbachia.

Introduction. H. CZOSNEK, Hebrew University, Rehovot, Israel Chaperonin camouflage of plant viruses. J.F.J.M. VAN DEN HEUVEL (1), S.A. Hogenhout (2), V. Ziegler-Graff (3), S. Morin (4), H. Czosnek (4), K. Richards (3), and F. van der Wilk (2). (1) De Ruiter Seeds, Bergschenhoek, Netherlands; (2) Plant Research International, Wageningen, Netherlands; (3) IBMP-CNRS, Strasbourg, France; (4) Hebrew University of Jerusalem, Israel

Prokaryotes associated with the whitefly Bemisia tabaci: A possible role in fitness and evolution of biotypes. J.K. BROWN and E. Zchori-Fein. University of Arizona, Tucson

Differential pathogenicity of corn stunt spiroplasma to its Dalbulus leafhopper vectors: Electron microscopic findings. S.A. HOGENHOUT and E. Özbek. Ohio State University, Wooster

Transmission of Tomato yellow leaf curl geminivirus by its whitefly vector Bemisia tabaci depends on the interaction between the virus and the insect endosymbiotic GroEL. H. CZOSNEK, S. Morin, and M. Ghanim. Hebrew University of Jerusalem, Rehovot, Israel

Symposium: Spatial Scale and Phyllosphere Biology

Sponsoring Committee: *Phyllosphere Microbiology*

Co-Sponsoring Committee(s): *Epidemiology*

Organizer: *Christopher Mundt, Oregon State University, Corvallis*

Phyllosphere microorganisms are influenced by processes that operate on spatial scales ranging from microns to hundreds of kilometers. Speakers in this session will present data concerning microbial processes that operate at vastly different spatial scales and discuss the extent to which the scale of experimental observation determines inferences concerning phyllosphere biology.

Significance of interactions of bacteria on leaves at small spatial scales. S.E. LINDOW. University of California, Berkeley

Pseudomonas syringae in the phyllosphere at scales from leaf to field. C.D. UPPER, S.S. Hirano, and M.K. Clayton. University of Wisconsin, Madison

Microbial dispersal and epidemic velocity: Does scale matter? C.C. MUNDT, L. Wallace, and C. Cowger. Oregon State University, Corvallis

Integrating aerial dispersal of microbes across spatial scales. D.E. AYLOR. Connecticut Agricultural Experiment Station, New Haven

Symposium: Surface Interactions and Biofilms of Plant-Associated Microbes

Sponsoring Committee: *Bacteriology*

Co-Sponsoring Committee(s): *Phyllosphere Microbiology*

Organizers: *Clay Fuqua, Indiana University, Bloomington, and Steve Lindow, University of California Berkeley, Berkeley*

Microorganisms often associate with surfaces in adherent assemblages called biofilms. Biofilms and other related multicellular aggregates that form at interfaces allow bacteria to persist in specific microenvironments, facilitate access to nutrients concentrated at surfaces, and provide protection from predation and antimicrobial treatments. Bacterial pathogens also must associate with host surfaces during the process of infection and can often form biofilms at these surfaces. A large percentage of bacterial infections in animals are thought to involve biofilms that can form infective foci on host tissue. For plant pathogens, there has been significant work on the initial attachment to plant surfaces. However, until recently, plant-associated microbes have not been studied in the context of biofilms. Speakers in this session will provide insights into the similarities and differences between the surface interactions of plant and animal pathogens, and examine the extent to which microbial biofilm formation is integrated with plant pathogenesis.

Differential survival of solitary and aggregated cells of *Pseudomonas syringae* on leaves. S.E. LINDOW. University California. Berkeley

Role of water availability during colonization of leaf surfaces. G. A. BEATTIE and C. A. Axtell. Iowa State University, Ames

Surface attachment and biofilm formation in *Pantoea stewartii* subsp. *stewartii*: Key features of Stewart's wilt disease development. S.B. VON BODMAN, M. Koutsoudis, and T. D. Minogue. University of Connecticut, Storrs

Interactions of *Agrobacterium tumefaciens* with inert surfaces. C. FUQUA (1) and A.G. Matthyse (2). (1) Indiana University, Bloomington; (2) University of North Carolina, Chapel Hill

Interactions of *Agrobacterium tumefaciens* with plant surfaces. A. G. MATTHYSSE University of North Carolina, Chapel Hill

Biofilm development on surfaces in terrestrial habitats. L.J. HALVERSON. Iowa State University, Ames

Biofilm formation on abiotic surfaces by a fluorescent pseudomonad. S. HINSA (1), M. Espinosa-Urgel (2), and G. O'Toole (1). (1) Dartmouth Medical School, Hanover, NH; (2) Estacion Exerimental del Zaidin CSIC, Spain

The cep quorum-sensing system of *Burkholderia cepacia* is a regulatory checkpoint for biofilm development. L. EBERL. Technical University of Munich, Freising, Germany

Discussion: Sudden Oak Death: A New Disease Reported On Oaks and Rhododendrons

Sponsoring Committee: *Forest Pathology*

Co-Sponsoring Committee(s): *Regulatory Plant Pathology, Diseases of Ornamental Plants, Mycology*

Organizer: *Sue Cohen, USDA-APHIS, St. Paul, MN*

*This session will provide a discussion forum on the impacts of a newly described fungal pathogen, *Phytophthora ramorum* (Sudden Oak Death) on the forest ecosystems and ornamental nursery industry in the United States. This disease has caused significant mortality in tanoak (*Lithocarpus densiflorus*), coast live oak (*Quercus agrifolia*), and California black oak (*Q. kelloggii*) species in the coastal areas of central California. Speakers will review and discuss the current research studies on the pathogen biology, host range, survey methodology, and treatments for disease control.*

Introduction. S. COHEN, USDA-APHIS. University of Minnesota, St. Paul

A molecular approach to the study of the distribution, host range, and variability across populations of *Phytophthora ramorum*. M. GARBELOTTO. University of California, Berkeley

Epidemiology of *Phytophthora ramorum* (Sudden Oak Death) in California oak woodlands. J. DAVIDSON. University of California, Davis

Monitoring and detection of Sudden Oak Death in forest environments. B. TKACZ. U.S. Forest Service, Washington, DC

Infectivity of *Phytophthora ramorum* on selected ericaceous host species. P. TOOLEY. USDA-ARS, Ft. Detrick, MD

Plants, trade, and the pest parade: Industry perspectives on international movement of plant propagative materials and plant pests like Sudden Oak Death. C. REGELBRUGGE. American Nursery and Landscape Association, Washington, DC

Risk assessment as a tool for change: Impacts on regulatory issues of Sudden Oak Death. S. COHEN. USDA-APHIS, St. Paul, MN

Epidemiology/Ecology/Environmental Plant Pathology

Symposium: Creating the Right Environment for Biological Control

Sponsoring Committee: *Biological Control*

Co-Sponsoring Committee(s): *Soil Microbiology and Root Diseases*

Organizer: *Brion Duffy, USDA-ARS, Albany, CA*

Biological control is a viable disease management strategy with increasing agricultural importance as part of integrated pest management, particularly in sustainable and organic systems. One of the main constraints to more widespread

and larger-scale application of biocontrol is its oftentimes-variable performance relative to chemical pesticides or other disease control measures. This symposium takes a holistic view of the diverse environmental conditions that influence biocontrol. Each speaker presents unique approaches for improving efficacy and reliability by selecting or creating more favorable conditions in order to realize the full promise of biocontrol.

Creating the right environment for biological control. B. DUFFY, USDA-ARS, Albany, CA

Matching the right strain for particular host genotypes. K.P. SMITH. University of Minnesota, St. Paul

Manipulating host plant nutrition to alter biocontrol activity. W.H. ELMER (1) and D.M. Huber (2). (1) Connecticut Agricultural Experiment Station, New Haven; (2) Purdue University, West Lafayette, IN

Identifying and manipulating soil factors that influence biocontrol. B.H. OWNLEY (1) and B. Duffy (2). (1) University of Tennessee, Knoxville; (2) USDA-ARS, Albany, CA

An holistic approach towards improving biocontrol of nematodes. R.A. SIKORA. University of Bonn, Bonn, Germany

Pathogen self defense against attack by microbial antagonists. B. DUFFY (1), A. Schouten (2), and J.M. Raaijmakers (2). (1) USDA-ARS, Albany, CA; (2) Wageningen University, Netherlands

Fitting into the crowd: Defining relationships between indigenous microflora and introduced biocontrol agents. B.B. MCSPADDEN GARDENER. Ohio State University. OARDC, Wooster

Biotechnology applications to improve biocontrol in the rhizosphere. Y. MOENNE-LOCCOZ. Universite Claude Bernard, Villeurbanne, France

Symposium: Detection and Management of Foodborne Human Pathogens on Fruits and Vegetables

Sponsoring Committee: *Postharvest Pathology*

Organizers: William Conway, USDA-ARS, Beltsville, MD, and Wojciech Janisiewicz, USDA-ARS, Kearneysville, WV

This symposium will address food safety, an area of research that is becoming increasingly important nationally and internationally. Current problems will be discussed in general, and controversial issues will be addressed in more detail. Novel approaches for the detection and management of foodborne human pathogens, as well as the ability to reduce the populations of these pathogens on produce using chemical and biological control methods, will be presented.

Introduction. W.S. CONWAY, USDA-ARS, Beltsville, MD

Human pathogens on plant-derived foods: Current problems. A.J. MILLER. U.S. Food and Drug Administration, College Park, MD

New approaches for the detection and management of foodborne human pathogens on fresh produce. J.D. BARAK. USDA-ARS, Albany CA

Biocontrol of foodborne human pathogens. B. LEVERENTZ. USDA-ARS, Beltsville, MD

Chemical control of foodborne human pathogens. J.A. BARTZ. University of Florida, Gainesville

Irrigation, fertilization, internalization: The on farm cycle of E. coli O157:H7. K.R. MATTHEWS. Rutgers University, New Brunswick, NJ

Workshop: Diagnosis of Abiotic Diseases

Sponsoring Committee: *Environmental Quality and Plant Health*

Co-Sponsoring Committee(s): *Diseases of Ornamental Plants, Diagnostics*

Organizer: *Charles Krause, USDA-ARS, Wooster, OH*

The Environmental Quality and Plant Health Committee is sponsoring a workshop entitled "Diagnosis of Abiotic Plant Disease". Following an introduction, these topics will be discussed: Abiotic disease diagnosis of ornamental crops, clinical diagnosis of herbicide injury, diagnosis of air pollution injury to plants, and new innovative methods of abiotic disease diagnosis. A panel discussion by all speakers will conclude this session. Diagnosticians, extension workers, researchers, regulatory plant pathologists and students will find this session of interest

Symposium: Managing Risk to Minimize Crop Loss

Sponsoring Committee: *Plant Disease Losses*

Co-Sponsoring Committee(s): *Regulatory Plant Pathology*

Organizers: *William Turechek, Cornell University, Geneva, NY, and Gareth Hughes, University of Edinburgh, Edinburgh, UK*

In production agriculture, the potential for catastrophic losses due to plant disease is always present. Growers and nurserymen are acutely aware that many of the varieties of plants they grow or propagate and their everyday horticultural and pest management practices place them at risk for serious epidemic of one or more endemic or possibly invasive pathogens. Moreover, the risk of introducing a foreign, new, and/or invasive pathogen is increased dramatically with international and cross-continental trade. Typically, this type of trade is out of the hands of the average grower. Seemingly, the risks are well managed. In this symposium, approaches to evaluating and managing risk in international trade and production agriculture will be addressed.

Introduction. W. Turechek, Cornell University, Geneva, NY

Virus resistant transgenic plants reduce crop loss directly and minimizes damage to nontransgenic plants in the vicinity. D. GONSALVES. Cornell University, Geneva, NY

Development of an infection risk forecaster for hop powdery mildew. W.F. MAHAFFEE (1), C.S. Thomas (2), W.W. Turechek (3), C.M. Ocamb (4), and W.D. Gubler (5). (1) USDA-ARS, Corvallis, OR; (2) FieldWise, Yuba City, CA; (3) Cornell University, Geneva, NY; (4) Oregon State University, Corvallis; (5) University of California, Davis

How to interpret a positive identification. L.G. BROWN. USDA APHIS, Raleigh, NC

The maximum pest limit concept. G. HUGHES. University of Edinburgh,

Edinburgh, U.K.

Bayesian approaches to plant disease forecasting. J.E. YUEN. Swedish University of Agricultural, Upsala

Risk assessment, concept, terminology, development and future opportunities. E.S. NICHOLS. USDA APHIS, Washington DC

Risk assessment, concept, terminology, development and future opportunities. X.B. YANG. Iowa State University, Ames

Workshop: Meta-Analysis: Synthesis Across Studies in Plant Pathology

Sponsoring Committee: *Epidemiology*

Co-Sponsoring Committee(s): *Plant Disease Losses*

Organizers: *Sarah Jane Pethybridge, University of Tasmania, Burnie, TAS, Australia, and Karen Garrett, Kansas State University, Manhattan*

Meta-analysis is the quantitative synthesis of the results of independent experiments. In this hands-on workshop participants will be introduced to this powerful statistical technique and its applicability in plant pathology. Participants will gain a comprehensive understanding of the questions answered by this type of analyses and key components of the analyses such as effect sizes, data collection, the choice and models and variations available, and other issues involved in the use of such analyses. Examples of results from sample data from the field of plant pathology and the steps involved in a typical meta-analysis will be featured. This session is limited to 30 participants with their own laptop computer. The computer must have an operating system of Windows 95 or above.

Introduction. S. PETHYBRIDGE, University of Tasmania, Burnie, TAS, Australia

Meta-analysis. K.A. GARRETT. Kansas State University, Manhattan, KS

Meta-analysis: Synthesis across studies in plant pathology. M.S. ROSENBERG. Arizona State University, Tempe

Symposium: New Applications of Statistical Tools in Plant Pathology

Sponsoring Committee: *Epidemiology*

Organizers: *Karen Garrett, Kansas State University, Manhattan, and Bill Pfender, USDA-ARS, Corvallis, OR*

This symposium offers a bird's-eye view of a number of statistical tools that can benefit research in plant pathology. The emphasis in this session is on what these tools offer to researchers and how they can improve the interpretation of experimental responses.

Introduction to symposium and to meta-analysis applications. K.A. GARRETT. Kansas State University, Manhattan

Epidemiological applications of failure time analysis. H. SCHERM. University of Georgia, Griffin

Use of linear mixed models for analyzing data obtained in designed experiments. L.

MADDEN. Ohio State University, Wooster

Non-parametric tests in plant disease epidemiology. W.W. TURECHEK. Cornell University, Geneva, NY

Using multivariate statistics in phytopathological research. S. SANOGO (1) and X.B. Yang (2). (1) New Mexico State University, Las Cruces; (2) Iowa State University, Ames

Squeezing the turnip with artificial neural nets. L.J. FRANCL. North Dakota State University, Fargo

Decision theory applications in plant pathology. G. HUGHES. University of Edinburgh, Edinburgh, UK

Bayesian analysis in plant pathology. A.L. MILA, X.B. Yang, and A.L. Carriquiry. Iowa State University, Ames

Symposium: 3rd IE Melhus Graduate Student Symposium: New Thesis Research Contributions to Plant Disease Epidemiology

Sponsoring Committee: *Epidemiology*

Organizer: *Bill Pfender, USDA-ARS, Corvallis, OR*

The 3rd annual IE Melhus Graduate Student Symposium will feature selected papers by graduate students in the field of plant disease epidemiology.

Introduction. B. PFENDER. USDA-ARS, Oregon State University, Corvallis

The I.E. Melhus Fund. D. MATHRE. Montana State University, Bozeman

Epidemiology of downy mildew of oilseed poppy. J.B. SCOTT (1), F.S. Hay (1), C.R. Wilson (1), P.J. Cotterill (2) and A.J. Fitt (3). (1) University of Tasmania, Burnie, TAS, Australia; (2) GlaxoSmithKline, Latrobe, TAS, Australia; (3) Tasmanian Alkaloids, Westbury, TAS, Australia

The influence of environment and host growth for improved fungicide applications for control of southern stem rot of peanut. S.L. RIDEOUT (1), T.B. Brenneman (1), and K.L. Stevenson (2). (1) University of Georgia, Tifton; (2) University of Georgia, Athens

Bayesian mapping of soybean *Sclerotinia* stem rot in the U.S. north-central region: An approach from human epidemiology. A.L. MILA, X.B. Yang, and A.L. Carriquiry. Iowa State University, Ames

Molecular/Cellular Plant-Microbe Interactions

Symposium: Functional Genomics of Plant-Pathogen Interactions

Sponsoring Committee: *Genetics*

Co-Sponsoring Committee(s): *Biochemistry, Physiology, and Molecular Biology*

Organizer: *Seogchan Kang, Pennsylvania State University, University Park*

At present, the genomes of more than 150 microorganisms have been sequenced or sequencing projects are underway. Although plant pathogens have been underrepresented in this group, this situation is rapidly improving due to the community-wide efforts to promote the genomics of plant pathogenic organisms. Information and technology resources derived from these efforts will significantly enhance our ability to develop effective measures to control important plant diseases. This symposium will not only highlight the progress of genome sequencing efforts for selected plant pathogens, but also present how genome sequence data have been utilized to investigate the biology and evolution of pathogens and the mechanisms of their interactions with host plants.

Introduction. S. KANG, Pennsylvania State University, University Park

The rice blast genome project takes off! R. DEAN, North Carolina State University, Raleigh

Comparative genomic analysis of fungal plant pathogens. B.G. TURGEON (1,2), P. Amedeo (2), S.E. Baker (2), B.-N. Lee (2), S. Kroken (2), N. Catlett (2), U. Gunawardena (2), B. Robbertse (2), J. Wu (2), E. Wagner (2), O.C. Yoder (2). (1) Cornell University, Ithaca, NY; (2) Torrey Mesa Research Institute, San Diego, CA

Functional genomics of Phytophthora-plant interactions. T.A. Torto (1), A. Testa (1), M. Tiang (1), W.R. Morgan (2), D. Kinney (1), E. Huitema (1), W. Hamada (1), S. Dong (1), J. Bos (1), S. KAMOUN (1). (1) Ohio State University, Wooster; (2) College of Wooster, Wooster, OH

Pseudomonas syringae pv. tomato DC3000: Genomics and phytopathogenicity. A. COLLMER (1), J.R. Alfano (2), A.M. Baldo (3), C.R. Buell (4), S. Cartinhour (3), A.K. Chatterjee (5), T.P. Delaney (1), S.G. Lazarowitz (1), G.B. Martin (1), D.J. Schneider (3), X. Tang (6). (1) Cornell University, Ithaca, NY; (2) University of Nebraska, Lincoln; (3) USDA-ARS, Ithaca, NY; (4) Institute for Genomic Research, Rockville, MD; (5) University of Missouri, Columbia; (6) Kansas State University, Manhattan

Discovery of plant genes required for disease resistance through a combination of expression profiling and reverse genetics. J. GLAZEBROOK, J.D. Clarke, B. Estes, W. Chen, H.-S. Chang, and T. Zhu. Torrey Mesa Research Institute, San Diego, CA

Symposium: How Many Genes Does It Take to Make a Plant Pathogen?

Sponsoring Committee: *Genetics*

Organizer: *Anthony Glenn, USDA-ARS, Athens, GA*

Bacteria, fungi, and nematodes employ diverse mechanisms of pathogenicity during their associations with host plants. The traditional "one-gene-at-a-time" approach to examination of their genetic determinants is now evolving into broader inquiries of gene expression, and basic questions of host-pathogen interaction are being addressed more robustly. Out of this comes greater understanding of genetic factors affecting the pathogen's host specificity, nutrient acquisition, physiology, and virulence, as well as aspects of the host defense biology. So how many genes are necessary to make a plant pathogen? The diverse group of experts collected here will share their unique insights on a range of pathogens and facilitate discussion on this question.

Introduction. A. GLENN, USDA-ARS, Athens, GA

How many genes does it take for a human pathogen to become a plant pathogen?
L.G. RAHME. Harvard Medical School, Massachusetts General Hospital and
Shriner's Burns Institute, Boston

Rust fungi: An obligate-parasitic life style. L.J. SZABO. USDA-ARS and
University of Minnesota, St. Paul

Comparative analysis of fungal pathogenicity using *Arabidopsis thaliana* as a host.
E. Mullins (1), P. Rauiyaree (1), M. Ospina-Giraldo (1), R. Raina (1), K.
Czymmek (2), R. Bhat (3), K. Subbarao (3), K. Dobinson (4), S. KANG (1). (1)
Pennsylvania State, University Park; (2) University of Delaware, Newark; (3)
University of California, Salinas; (4) Agric and Agri-Food Canada, London, ON

Genetic requirements for fungal pathogenicity to plants. A.E. OSBOURN (1), K.
Bourab (1), N. Diaz (1), M. Dufresne (2), A. Foster (1), M. Guilleroux (1), A.
Sesma (1). (1) Sainsbury Laboratory, Norwich, UK; (2) Université Paris-Sud,
Orsay Cedex, France

What does a worm want with 20,000 genes? The evolution of plant-parasitism, and
the essential-gene conundrum. D.McK. BIRD and E.S. Scholl. North Carolina
State University, Raleigh

Symposium: Programmed Cell Death in Disease and Development

Sponsoring Committee: *Biochemistry, Physiology, and Molecular Biology Committee*

Organizer: *Tom Wolpert, Oregon State University, Corvallis*

Programmed cell death (PCD) is one of the most-studied phenomena in contemporary cell biology and has recently been implicated in a number of important plant processes. PCD is a genetically/physiologically regulated form of cell death that involves the organized disassembly of the cell and is distinct from necrosis that arises from severe cellular damage. PCD occurs during normal developmental processes and has also been associated with disease. Speakers will discuss the role of PCD in both plant development and disease.

Introduction. T. WOLPERT, Oregon State University, Corvallis

Programmed cell death during tracheary element differentiation. A.M. JONES.
University of North Carolina, Chapel Hill

Dissecting the loss of HR cell death in *Arabidopsis* defense, no death (dnd) mutants.
A. BENT (1,2), G. Jurkowski (1,2), R. Smith (1,2), I.-C. Yu (2), K. Fengler (2)
S. Clough (2), and B. Lippok (2). (1) University of Wisconsin, Madison; (2)
formerly at University of Illinois at Urbana-Champaign, Champaign

Apoptotic regulatory factors in plants are targets for engineering novel disease
resistance. D. GILCHRIST. University of California, Davis

The host selective toxin, victorin, and its induction of programmed cell death. T.J.
WOLPERT, W.C. Coffeen, M.J. Curtis, J.M. Lorang, N. Carkaci-Salli, and T.A.
Sweat, Oregon State University, Corvallis

Disease/stress protection in plants expressing animal and plant anti-apoptotic genes.
M.B. DICKMAN. University of Nebraska, Lincoln

Symposium: Viral Expression Vectors

Sponsoring Committee: *Virology*

Organizers: *Alex Karasev, Thomas Jefferson University, Philadelphia, PA, and Roy French, USDA-ARS, Lincoln, NE*

Plant viruses have long been considered pathogens worth only fighting against. In the last 15 years, however, molecular tools were developed that turned at least some of these agricultural enemies into valuable allies useful in plant molecular biology research, and also in expression of different value-added products in plants. This special session provides an update on the current state of the field. It addresses both the research value of the plant virus vectors, and their use for production of biomedical and other specialty products in plants. Two new viral vectors developed within the last 3-4 years will be described, as well as applications of existing lines of vectors to the production of new biomedical, vaccine components and therapeutics against HIV-1.

Introduction. A. KARASEV, Thomas Jefferson University, Philadelphia, PA

From an enemy to an ally: Applications of plant virus vectors in research and production. J.A. LINDBO, G. Pogue, S. Garger, W. Fitzmaurice. Large Scale Biology Corporation, Vacaville, CA

Utility of the beet yellows virus for gene expression in plants. V.V. DOLJA (1) and G.P. Pogue (2). (1) Oregon State University, Corvallis; (2) Large Scale Biology Corp., Vacaville, CA

Improving a wheat streak mosaic virus based gene expression vector for cereal crops. R. FRENCH, K. M. Horken, and D. C. Stenger. USDA-ARS, University of Nebraska, Lincoln

Plant virus-based vectors in agriculture and biotechnology. L.G. NEMCHINOV, Y. Zhao, and R.W. Hammond. USDA-ARS, Beltsville, MD

Production of HIV-1 vaccine components in plants using virus vectors. A.V. KARASEV, B.V. Kim, K.J. Shon, and H. Koprowski. Thomas Jefferson University, Philadelphia, PA

Plant Disease Management

Symposium: Commercial Biopesticides: Practice and Experience

Sponsoring Committee: *Biological Control*

Organizers: *William F. Stoneman, Encore Technologies, McFarland, WI, and Prem Warrior, Valent BioSciences, Libertyville, IL*

Thousands of research hours and dollars are spent each year studying biological agents for control of plant diseases and other crop pests. Nearly every university or USDA-ARS plant pathologist has some experience with a fungal or bacterial agent that has potential to control plant disease. Few of these agents make it to practical field application. Practicality, efficacy, economics, regulatory concerns and commercial manufacturing limitations are among the reasons many agents never

reach producers. This symposium will explore three commercial biopesticides that are in the market and have a position in commercial production of food and fiber. Coniothyrium minitans is commercially marketed under the trade names Contans WG and Intercept WG. This commercial product was recently registered with the EPA. It is very useful to control of plant diseases caused by Sclerotinia sclerotiorum and Sclerotinia minor. The 2002 growing season is its second in North America. DiTera is a biological nematicide effecting against a range of species. DiTera provides effective control of some of the toughest nematodes through a unique mode of action. The benefits of using DiTera can be seen through increases in crop yield and/or crop quality. DiTera ES, a liquid formulation, can be used to control nematodes on cole crops, grapes and some tree crops. The granular formulations, DiTera G and DiTera WDG, are for use on banana tree crops and ornamentals. Bio-Save 1000, Bio-Save 100 and Bio-Save 110 have been in the commercial market for 5+ years. The active agents in these postharvest biofungicides are select strains of Pseudomonas syringae. Bio-Save 1000 has been tested for use postharvest to control dry rot and silver scurf of potatoes in storage. A survey of the work done in Idaho and Montana will be presented.

Coniothyrium minitans for practical control of sclerotinia diseases. W.F. STONEMAN. McFarland, WI

Practical alternatives for controlling white mold in snap bean production. W.R. STEVENSON. R.V. James and R.E. Rand. University of Wisconsin, Madison

Parasitism of sclerotia of Sclerotinia sclerotiorum by Coniothyrium minitans. H.R. DILLARD and A.C. Cobb. Cornell University, Geneva, NY

DiTera: Mode of action of a biological nematicide. R.N. PERRY. Plant Pathogen Interactions Division, IACR-Rothamsted, Harpenden Herts, UK

Experiences in the field development of a biological nematicide. B.B. WESTERDAHL. University of California, Davis

Biological management of postharvest diseases. J.P. STACK. University of Nebraska, Clay Center

Control of Fusarium dry rot and silver scurf of potato with Pseudomonas syringae containing products Bio-Save 100 and Bio-Save 1000. B.J. JACOBSEN. Montana State University, Bozeman

Symposium: Comparison of Molecular Marker Techniques and How They Can be Used in Breeding Programs

Sponsoring Committee: *Host Resistance*

Organizer: *Anne Dorrance, Ohio State University, Wooster*

Breeding for disease resistance is a cornerstone of disease management for many crops. Molecular markers have expedited this process for some crops, but with every tool there are advantages and limitations. New molecular technologies and strategies, including ESTs, RGAs synteny, and microarrays may hold promise in overcoming previous hurdles to identify novel resistance genes, elucidate mechanisms of resistance, as well as expedite the development of disease resistant cultivars. Experts in these technologies will share their insights with APS members who focus on crop development, physiology of host parasite interactions, and molecular biology.

Introduction. A. DORRANCE, Ohio State University, Wooster

Past, present, and future of marker-assisted breeding. N.D. YOUNG. University of Minnesota, St. Paul

Using candidate ESTs as a marker for disease resistance gene mapping and breeding in rice. G.L. WANG. Ohio State University, Columbus

Evolution of disease resistance with implications about the use of markers across plant species. B.-C. KANG, M. Mazourek, and M. Jahn. Cornell University, Ithaca, NY

Resistance gene analog polymorphism, a powerful technique for developing molecular markers for disease resistance genes. X.M. CHEN. USDA-ARS. Washington State University, Pullman

Global gene expression analyses in soybean using microarrays. L. O. VODKIN (1), R. Shealy, A. Khanna (1), F. Thibaud-Nissen (1), S. Clough (1), R. Philip (1), E. Shoop (2), C. Schmidt (2), and E. Retzel (2). (1) University of Illinois, Urbana; (2) University of Minnesota, Minneapolis

Use of microarrays in plant breeding programs. D. GALBRAITH. University of Arizona, Tucson

Panel discussion

Discussion: Diagnosis and Management of Nematodes on Ornamental Plants

Sponsoring Committee: *Nematology*

Organizer: *William T. Crow, University of Florida, Gainesville*

Current nematode management research on landscape plants in Florida. W. T. CROW (1), R. McSorley (1), J. Brito (2), D.W. Dickson (1), and R. D. Lima (3). (1) University of Florida, Gainesville; (2) Florida Department of Agriculture and Consumer Services, Gainesville; (3) Universidade Federal de Vicosa, Vicosa, MG

Nematode management on herbaceous perennial ornamentals. J.A. LAMONDIA, Connecticut Agricultural Experiment Station, Windsor

Field diagnosis of nematodes in ornamentals. R. A. DUNN. Scottsville, VA

Foliar nematodes in nursery production: An industry perspective. N.A. RECHCIGL. Yoder Brothers, Inc., Parrish, FL

Panel. C.Y. WARFIELD (North Carolina State University, Raleigh); J.A. LAMONDIA, R.A. DUNN, and N.A. RECHCIGL.

Symposium: Innovations in Bacterial Disease Control Materials

Sponsoring Committee: *Chemical Control*

Co-Sponsoring Committee(s): *Bacteriology and Integrated Pest Management*

Organizer: *Norman Lalancette, Rutgers University, Bridgeton, NJ*

Some of the most difficult plant diseases to manage are those incited by bacterial plant pathogens. Integration of cultural practices, disease resistance, and bactericide applications is often necessary to achieve adequate control. However, unlike many fungal diseases, the choice of application materials, whether chemical or biological in nature, is limited in number, type, and degree of efficacy. This symposium reviews our current standards, copper and antibiotics, and explores some of the most recent alternative materials used for bacterial disease management.

Introduction. N. LALANCETTE, Rutgers University, Bridgeton, NJ

The role of copper in bacterial disease management. D.F. RITCHIE. North Carolina State University, Raleigh

The uncertain future of antibiotics for control of bacterial diseases of plants. V. STOCKWELL. Oregon State University, Corvallis

Biological controls for bacterial diseases: How do they work and how effective are they? T.J. BURR. Cornell University, Geneva, NY

Bacterial disease protection with acibenzolar-s-methyl. A. TALLY (1), D. McKenzie (2), and G. Cloud (1). Syngenta Crop Protection. (1) Greensboro, NC. and (2) Basle, Switzerland

A beta 1-3 glucan, specific in marine alga, stimulates plant defense reactions and induces resistance against certain pathogens. S.P. KELLY and K. BERNARD. Agrimar Corporation, Flowery Branch, GA. and Centre National de la Recherche Scientifique, Roscoff, France.

Plant growth regulators: A novel approach to managing fire blight of apple shoots. K.S. YODER. Virginia Polytechnic Institute and State University, Winchester

Control of bacterial leaf spot on tomato with bacteriophages. J.B. JONES (1), A. Obradovic (1), B. Balogh (1), M. T. Momol (2) and L.E. Jackson (3). University of Florida. (1) Gainesville and (2) Quincy; (3) AgriPhi, Inc., Logan, UT

Symposium: IPM Labeling - Has the Time Come?

Sponsoring Committee: *Integrated Pest Management*

Co-Sponsoring Committee(s): *Chemical Control*

Organizers: *Greta Schuster, West Texas A&M University, Canyon, and David Langston, University of Georgia, Tifton*

IPM has progressed significantly since its original conception in 1972 and may now answer concerns of many consumers. The acceptance of the IPM philosophy by most producers, administrators and legislatures suggest that it is now time to examine whether consumers will offer marketing opportunities for IPM producers. Today's producer is familiar with IPM practices and implements such practices on a daily basis but consumers have little ability to distinguish IPM from non-IPM products. As one of the speakers, Tom Green of the IPM Institute of North America stated in his abstract "Consumers face a continuous barrage of negative news about agricultural and agrochemical impacts on the environment and health." With emerging issues such as genetically modified foods, pesticide use and misuse, and the impact FQPA is having on the cancellations of important pesticides to agriculture, this session was formed to discuss concerns dealing with the labeling of foods. These issues deal with the concerns in accepting IPM-labeled foods, IPM standards, the enforcement and monitoring of such crops and/or documentation of such crops, the litigation issues,

and the education of consumers about the environmental benefits of IPM production practices. Speakers will discuss successes and failures of labeling of vegetables, marketing as well as the federal agencies viewpoint.

Introduction. G. SCHUSTER, West Texas A&M University, Canyon, TX

The Massachusetts IPM certification experience: Partners with Nature. C.S. HOLLLINGSWORTH and W.M. Coli. University of Massachusetts, Amherst

Using IPM to communicate with consumers about pest management. C. H. PETZOLDT. Cornell University, Geneva, NY

A retailers experience with IPM marketing. W.M. POOL. Wegmans Food Markets, Rochester, NY

An overview of the IPM-based eco-labeling industry. T.A. GREEN. IPM Institute of North America, Inc., Madison, WI

IPM labeling: Challenges and opportunities from the federal perspective. H.D. COBLE. USDA, Raleigh, NC

Panel discussion/questions. S. ALEXANDER. Virginia Polytechnic Institute and State University, Painter

Discussion: New Products and Services

Sponsoring Committee: *Industry*

Organizer: *Rami Soufi, Crompton Corp., Bethany, CT*

The objective of this session is to provide a forum highlighting new products or services that are in the pipeline or will soon be offered to growers and researchers to aid them in managing their plant disease management operations.

Introduction. R. SOUFI. Crompton Corp., Bethany, CT

Hurricane for the control of root and stem rot diseases of ornamentals. D. HOUSEWORTH. Syngenta Crop Protection, Fernandina Beach, FL

Update on new uses and registrations for Syngenta fungicides. J. FRANK and A. Tally. Syngenta Crop Protection, Greensboro, NC

The use of Serenade biofungicide in programs to control tomato diseases in the U.S. H.B. HIGHLAND (1), P. Roberts (2), and S. Alexander (3). (1) Agrquest, Inc., Nokomis, FL; (2) University of Florida, Imokalee, FL; (3) Virginia Polytechnic Institute and State University, Painter, VA

Milsana bioprotectant--Update. H. VON AMSBERG. KHH BioSci, Inc., Raleigh, NC

BASF fungicide portfolio: Current and future products update. S. BROSCIOUS and T. Bardinelli. BASF Corp., Research Triangle Park, NC

Update on Cabrio performance for vegetable diseases. J. HELM (1), T. Burkdoll (2), P. Bruno (3), and T. Bardinelli (4). BASF Corp., (1) Fresno, CA, (2) Visalia, CA, (3) Richmond, TX, and (4) Research Triangle Park, NC

- Update on Headline performance for sugarbeet and potato diseases. J. FRIE (1), V. Ulstad (2), and T. Bardinelli (3). BASF Corp., (1) Horace, ND, (2) Fargo, ND, and (3) Research Triangle Park, NC
- Headline performance and update on peanuts. S. NEWELL (1), T. McKemie (2), B. Jacobson (3), S. Asher (4), and J. Barnes (5). BASF Corp., (1) Statesboro, GA, (2) Durham, NC, (3) Tifton, GA, (4) Lubbock, TX, and (5) Raleigh, NC
- Coniothyrium minitans: A practical biological approach to controlling Sclerotinia diseases. B. STONEMAN. Encore Technologies LLC, McFarland, WI
- Containment facilities for phytopathological studies. R. DENIS. Agritechnove, Inc., St. Anselme, QC, Canada
- CaptEstate: A new broad spectrum fungicide for the control of diseases on strawberries, caneberries, bushberries, grapes, stone fruit and almonds. P. HAIKAL and C. Schiller. Arvesta Corporation, San Francisco, CA
- Control of corn leaf diseases with Stratego. M. SCHWARZ. W. DeWeese, J. Hinz, J. Francis and L. Nearman. Bayer Corporation, Kansas City, MO
- Update of new Trifloxystrobin and Tebuconazole registrations in the United States. J. BLOOMBERG, B. Rose and M. Tolliver. Bayer Corporation, Kansas City, MO
- Quintec fungicide update. J. MUELLER. Dow AgroSciences, Brentwood, CA
- Control of Oomycete diseases of vegetable crops with Gavel or Zoxium. R. SMITH (1), T. Duttie (2), B. Olson (3), A. Mcfadden (4), and G. Kemmitt (5). Dow AgroSciences, (1) Fresno, CA, (2) Yakima, WA, (3) Geneva, NY, (4) Guelph, ON Canada, and (5) Indianapolis, IN
- Management of tuber blight in potato with Gavel. A. MCFADDEN (1), R. Smith (2), T. Duttie (3), B. Olson (4), J. Edmonds (5), G. Kemmitt (6) and D. Young (7). Dow AgroSciences, (1) Guelph, ON, Canada, (2) Fresno, CA, (3) Yakima, WA, (4) Geneva, NY, (5) Abingdon, England, and (6) Indianapolis, IN
- Development of a rapid immunostrip assay and ELISA for the detection of Calibrachoa Mottle Virus. M. CHAMBERS, R. Geister, D. Morrison, K. Blum, L. Hsing-Yeh, and M. Bandla. Agdia, Inc., Elkhart, IN
- Bacterial ID - Rapid ELISAs for detection of Ralstonia solanacearum. Clavibacter michiganensis subsp. michiganensis and Xanthomonas campestris pv dieffenbachiae. B. SCHOEDEL and C. Sutula. Agdia, Inc., Elkhart, IN
- Update on new uses of Procure. J. FAJARDO (1), R. Soufi (2) and S. Colbert (3). Crompton Corp., (1) Middlebury, CT, (2) Bethany, CT, and (3) Fresno, CA
- Charter PB - Seed treatment for wheat crown rot, root rot, bunts, and smuts: Update on efficacy and seed safety. P. KAISER. Aventis CropScience, Research Triangle Park, NC
- New uses, new labels, and revised resistance management directions for Aventis fungicides Rovral, Reason, and Scala. P. KAISER. Aventis CropScience, Research Triangle Park, NC

BASF's turfgrass fungicides: The next generation. H. WETZEL, III, J. Barnes, T. Hayden and K. Miller. BASF Specialty Products, Research Triangle Park, NC

MIDAS (Iodomethane) soil fumigant, a new alternative for the control of soilborne pathogens, weed seeds and nematodes in strawberry and fresh market tomatoes. M. ALLAN and C. Schiller. Arvesta Corporation, San Francisco, CA

Symposium: Plant Diseases Impacting Resource-Poor Farmers in Developing Countries: Can They Be Successfully Controlled?

Sponsoring Committee: *OIP Policies and Programs*

Co-Sponsoring Committee(s): *Integrated Pest Management, Plant Disease Losses, OP.AE. Tropical Plant Pathology*

Organizer: *H. Jesse Dubin, Frederick, MD*

The symposium will focus on the realities of some significant diseases in developing countries and successes and problems in their management. The speakers will concentrate on methodology, innovativeness, sustainability and profitability, and problems and issues related to disease control, as well as the future of disease management for resource poor farmers. Symposia of this type are particularly important in today's globalized economy and ever-shrinking world. APS members are exposed to the realities of farmers in developing countries and how we can help them, and conversely, how they can help us.

Introduction. G. ABAWI. Cornell University, Geneva, NY

10,000 years of experience with sustainable plant disease control. H.D. THURSTON. Cornell University, Ithaca, NY

Controlling foliar blights of wheat in the rice-wheat systems of Asia. E. DUVEILLER. CIMMYT South Asia, Kathmandu, Nepal

Management of Begomoviruses by resource poor farmers in the tropics. P.K. ANDERSON (1), F.J. Morales (1), J.P. Legg (2), and P.M. Hanson (3). (1) Centro Internacional de Agricultura Tropical, Cali, Colombia; (2) International Institute of Tropical Agriculture, Kampala, Uganda; (3) Asian Vegetable Research and Development Center, Tainan, Taiwan, ROC

Late blight management in the Peruvian highlands. K.A. GARRETT (1), O. Ortiz (2) and R. Nelson (3). (1) Kansas State University, Manhattan; (2) International Potato Center, Lima, Peru; (3) Cornell University, Ithaca, NY

Application of rice seed-associated antagonistic bacteria to manage rice diseases in developing countries. T.W. MEW (1), R. Pamplona (1), H. Barrios (1), L. Xiangmin (1), Z. Chen (2), F. Lu (2), N. Nilpanit (3), P. Arunyanart (3), K.P. Van (4), and P.V. Du (5). (1) International Rice Research Institute, Metro Manila, Philippines; (2) Jiangsu Academy of Agricultural Sciences, Nanjing, China; (3) Dept. of Agriculture, Bangkok, Thailand; (4) Cantho University, Vietnam; (5) Cuu Long Rice Research Institute, Vietnam

Discussion: Product Development in the Ornamental Market

Sponsoring Committee: *Biocontrol*

Co-Sponsoring Committee(s): *Chemical Control, Turfgrass Pathology*

Organizer: *Ann R. Chase, Chase Research Gardens Inc., Mt. Aukum, CA*

This session will explore the development of products in this specialty market from the perspective of worldwide fungicide development, needs of specialty markets compared to "target markets," and the future of our industry. The speakers will present special insight into the limits and benefits of working in a small, very unique branch of the agchem industry.

Where are our new fungicides coming from? A.R. CHASE. Chase Research Gardens, Inc., Mt. Aukum, CA

Historical overview--Ornamentals in the big picture. D. HOUSEWORTH. Syngenta Crop Protection, Fernandina Beach, FL

Specialty company perspectives. M. BELL. SePRO Corporation, Carmel, IN

Delivery systems for ornamentals. A. SECKINGER. Whitmire Micro-Gen, St. Louis, MO

The university perspective. M. DAUGHTREY. Cornell University, Riverhead, NY

Discussion: Real-Time PCR for Field Diagnosis of Bacterial Diseases

Sponsoring Committee: *Bacteriology*

Co-Sponsoring Committee(s): *Diagnostics*

Organizer: *Norm Schaad, USDA-ARS, Ft. Detrick, MD*

Recent advances in real-time PCR technologies have paved the way for PCR to become a routine tool in plant disease diagnostic laboratories. This session will include a review of real-time PCR techniques, use of a high throughput system for large numbers of samples, description of newer rapid portable PCR platforms, and examples of several protocols and assays for detecting bacterial pathogens in natural samples.

Introduction. N. SCHAAD. USDA-ARS, Ft. Detrick, MD

Fluorescent, real-time PCR technologies: A review and an update. J.S. SKAF. Applied Biosystems, Foster City, CA

Use of real-time PCR and high throughput detection of *Clavibacter michiganensis* subsp. *sepedonicus*. D. MILLS. Oregon State University, Corvallis

Detection of plant pathogenic bacteria by real-time PCR. D.E. STEAD, J.G. Elphinstone, S. Simpkins and S.A. Weller. Central Science Laboratory, Sand Hutton, York, UK

Use of real-time LightCycler-32 PCR system for detection and identification of citrus canker. M.T. KINGSLEY. Pacific Northwest National Laboratory, Richland, WA

Rapid, real-time PCR with fully integrated specimen preparation. W.A. MCMILLAN. Cepheid, Sunnyvale, CA

Use of portable real-time PCR for same-day on-site field diagnosis of bacterial diseases. N.W. SCHAAD, P. Gaush, and E. Postnikova. USDA-ARS, Ft. Detrick, MD

Symposium: Strobilurins and Turfgrass Disease Management

Sponsoring Committee: *Turfgrass Pathology*

Organizer: *Jon Powell, University of Minnesota, St. Paul*

The first half of the program will address the history of QoI (strobilurin) fungicides, their mode of action, and factors associated with in vivo and in vitro assessment sensitivity of fungal pathogens to this class of fungicides. The second half of the program will explore the efficacy of these fungicides for managing turfgrass diseases and issues pertaining to resistance management. This program will offer opportunities for open discussions.

Introduction. J.F. POWELL, University of Minnesota, St. Paul

Strobilurins and turfgrass disease management: Historical review, mode of action and range of pathogen activity. F.P. WONG. University of California, Riverside

A tricky class of fungicides: Challenges for in vitro fungicide sensitivity testing. W. KOELLER. Cornell University, Geneva, NY

Methods for assessing sensitivity of fungal pathogens to QoI fungicides. G. OLAYA. Syngenta Ag Products, Vero Beach, FL

Open forum

Response of dollar spot to strobilurins and other fungicides. W. UDDIN. Pennsylvania State University, University Park

Case studies of strobilurin resistance in turfgrass: Gray leaf spot. P. VINCELLI. University of Kentucky, Lexington

Molecular genetics of QOI resistance in *Pyricularia grisea* from Perennial ryegrass. M.L. FARMAN. University of Kentucky, Lexington

Case studies of strobilurin resistance in turfgrass: Anthracnose. L. BURPEE. University of Georgia, Griffin

Overview of QOI resistance management strategies in other cropping systems. H.L. YPEMA. BASF Corp., Durham, NC

Interactive session: Possible QOI resistance management strategies in turfgrass disease management. J.F. POWELL. University of Minnesota, St. Paul

Closing remarks. J.F. POWELL. University of Minnesota, St. Paul

Professionalism/Service/Outreach

Discussion: Application of Quality Assurance and ISO Certification to Plant Pathology

Sponsoring Committee: *Plant Pathogen and Disease Detection*

Organizers: *C. André Lévesque, Agriculture and Agri-Food Canada, Ottawa, ON, and Laurene Levy, USDA-APHIS, Beltsville, MD*

There are issues related to quality assurance and laboratory certification that all of

us have to deal with at some point. The objective of this session is to discuss the reasons for better quality assurance or laboratory certification standards and the approaches taken by different laboratories, companies and government agencies to best achieve this goal.

Introduction. C. ANDRÉ LÉVESQUE, Agriculture and Agri-Food Canada, Ottawa, ON

From confusion to compliance: The bumpy road to accrediting a plant health diagnostic laboratory to ISO 17025. C.M. MASTERS. Canadian Food Inspection Agency, Sidney, BC, Canada

Use of a Quality Management System (ISO:9000) in addressing phytosanitary issues. G.L. LAMKA and W.E. DOLEZAL. Pioneer Hi-Bred International, Inc., Johnston, IA

Agdia's journey on the road towards laboratory certification. M.G. TIFFANY and C.L. Sutula. Agdia Inc., Elkhart, IN

To ISO or not to ISO: APHIS and NSHS and their decision not to require ISO certification of accredited labs. M.D. WARD. USDA-APHIS, Riverdale, MD

Symposium: Extension and Teaching from a Distance

Sponsoring Committee: *Extension*

Co-Sponsoring Committee(s): *Teaching*

Organizers: *Martin Draper, South Dakota State University, Brookings, and Melissa Riley, Clemson University, Clemson, SC*

Travel costs are increasing, student populations are becoming more diverse and distributed, and universities are calling for technology tools that improve instructional effectiveness and reduce the time to develop and deliver instruction to both traditional and non-traditional audiences. As a response, both teaching and extension programs are being offered through various distributed learning environments. In this session we will hear examples of existing programs and the challenges of the future for distance education in plant pathology.

Introduction. M. DRAPER, South Dakota State University, Brookings

Online core competency training for Kansas County agricultural agents. D.J. JARDINE, K. Wright, G. Kepka, G. Snyder and S. Bales. Kansas State University, Manhattan

Teaching plant pathology online to non-majors. C.A. BAKER. University of Florida and Florida Division of Plant Industry, Gainesville

Collaborative graduate teaching via Internet 2. J.E. LEACH. Kansas State University, Manhattan

Teaching graduate level, laboratory-based plant pathology via interactive television. G. J. HOLMES, P. B. Shoemaker and M. A. Cubeta. North Carolina State University, Raleigh

Using the APSnet Education Center for online and residential instruction. G.L. SCHUMANN. University of Massachusetts, Amherst

The arrival of standards for web-based instruction and the re-thinking of distributed learning. E.W. MEACHEN. University of Wisconsin System, Madison

Panel discussion

Discussion: The Food Quality Protection Act (FQPA): Expected Impact on Agriculture and the Consumer

Sponsoring Committee: *Chemical Control*

Co-Sponsoring Committee(s): *Integrated Pest Management*

Organizer: *Kent Smith, USDA, Washington, DC*

This session is planned as an informal discussion of a federal law enacted unanimously in 1996 that may have far-reaching effects on disease management. We have convened a group of experts on its implementation who have first-hand knowledge of its current and expected impact. After this panel of experts answers each question, the audience will have an opportunity to comment and pose additional questions.

Panel discussion: The Food Quality Protection Act: Expected impact on agriculture and the consumer. N.B. CARROLL (1). H.D. COBLE (2), L.P. GIANESSI (3). M.K. HAUSBECK (4). P.I. LEWIS (5). L.A. ROSSI (5). D.C. THOMPSON (6). (1) Syngenta, Greensboro, NC; (2) USDA, North Carolina State University, Raleigh; (3) National Center for Food and Agricultural Policy, Washington, DC; (4) Michigan State University, East Lansing; (5) USEPA, Washington, DC; (6) IR-4, Rutgers University, North Brunswick, NJ

Symposium: International Service in APS: Opportunities Abroad for Aspiring Plant Pathologists

Sponsoring Committee: *Graduate Student*

Co-Sponsoring Committee(s): *Office of International Programs*

Organizers: *Lynn Sosnoskie, Ohio State University, Wooster, and George Abawi, Cornell University, Geneva, NY*

This is a special time in our world's history. A time of openness, a new period of enlightenment. Political borders are porous. Trade is international. People are mobile. Information is abundant. But with this movement towards increased accessibility, we are finding that the problems faced in food production, especially those wrought by plant pathogens, are superceding the established boundaries as well. Agriculture is an international concern, and the dilemmas faced by one nation are shared with its neighbors and colleagues. We feel, that in this age of intense globalization, it is important for young agricultural scientists to develop a better understanding of the problems faced in foreign countries, as well as an appreciation for the peoples and the cultures of the world. The featured speakers in this symposium will address, using their own personal experiences as examples, the challenges and, more importantly, the benefits of seeking employment overseas.

Introduction. L.M. SOSNOSKIE, Ohio State University, Wooster

Opportunities in international research for students. K.A. GARRETT, Kansas State University, Manhattan

Skills base for international agricultural career - Do you have the tools in your toolbox? K. CARDWELL, USDA CSREES, Washington, DC

Career and family: Growth opportunities in international agriculture. R.S.

ZEIGLER. Kansas State University, Manhattan

Opportunities for international research collaborations. A.R. BENNETT. USDA-ARS, Beltsville, MD

International agriculture: A means to improve your career. L. SEQUEIRA. University of Wisconsin, Madison

Title to be announced. I.A. SIDDIQUI. Croplife America, Washington, DC

Discussion: Non-Traditional or Alternative Careers in Plant Pathology

Sponsoring Committee: *Women in Plant Pathology*

Co-Sponsoring Committee(s): *Private Practice, Placement, Cultural Diversity*

Organizers: *Linda Hanson, USDA-ARS, Fort Collins, CO, and William Cobb, Cobb Consulting Services, Kennewick, WA*

This session will focus on some of the career possibilities for plant pathologists that may not be as well known as positions as academic professors. Presenters will discuss positions in areas such as private practice, contract research, and regulatory agency work. Open discussion of these and other career areas will follow.

Introduction. L. HANSON. USDA-ARS, Fort Collins, CO

Careers in plant risk assessment. C. THOMAS. FieldWise, Inc., Bodega Bay, CA

My job as an educational program specialist in plant pathology - I get to do all the things faculty wished they had time for. K.L. SHELTON. University of Georgia, Athens

Private diagnostic plant clinic operation. O. RIBEIRO. Ribeiro Plant Lab, Bainbridge Island, WA

Regulatory agencies such as Animal and Plant Health Inspection Service offer alternative careers for plant pathologists. S.D. COHEN. USDA-APHIS, University of Minnesota, St. Paul

Discussion

Plant Pathology: A Positive Career Choice

Sponsoring Committee: *Cultural Diversity*

Organizer: *Anne Dorrance, Ohio State University, Wooster*

At this session we welcome undergraduate students who are members of Minorities in Agriculture and Natural Resources and Related Sciences, as well as APS members who represent the Societies' cultural diversity, to learn more about plant pathology as a career. Topics to be covered include an overview of the types of jobs plant pathologists hold, where to look and how to apply for graduate school, as well as some personal stories from members that focus on the paths that prepared them for their careers.

Introduction. D.G. FERNANDO, University of Manitoba, Winnipeg, MB, Canada

Welcome to APS and plant pathology. D.E. Mathre. Montana State University

Bozeman

The what, where and how of APS and careers. C.J. D'ARCY. University of Illinois, Urbana

Graduate schools - Where to look and how to apply. R.C. ROWE. Ohio State University, Wooster

Extension/teaching as a career choice. T.L. KIRKPATRICK. University of Arkansas. Hope

Discussion: Public Policy Board, Progress and Vision

Sponsoring Committee: *Public Policy Board*
 Organizer: *O.W. Barnett, North Carolina State University, Raleigh*

The APS Public Policy Board (PPB) has been actively involved with issues related to plant pathology. You are invited to attend this session to learn more about what the APS PPB does on your behalf and to give the board your suggestions of other activities needed to enhance plant pathology.

Biosecurity forum and presidential letters. J. FLETCHER. Oklahoma State University, Stillwater

Microbial genomics, priorities and Whitehead meeting. S. GOLD. University of Georgia, Athens

Plant-associated microbe genomics workshop. J. LEACH. Kansas State University, Manhattan

Progress on the DC front. K. EVERSOLE. Eversole Associates, Chevy Chase, MD

Plant pathogen permitting - Response to FR. S. TOLIN. Virginia Polytechnic Institute and State University, Blacksburg

Visit with USDA undersecretary. J. AMADOR. Texas Agricultural Experiment Station, Weslaco

Mid-year contacts in DC. B. CARROLL. Syngenta Crop Protection, Greensboro, NC

Seed pathology and food safety. D. MCGEE, Iowa State University, Ames

Sustainable agriculture initiative. J.SHERWOOD. University of Georgia, Athens

Discussion and impact. D. STUCKEY. Surprise, AZ

Workshop: Resources and Funding for Plant Pathology Outreach

Sponsoring Committee: *Youth Programs* **Organizer:** *Kisha Shelton, University of Georgia, Athens*

Teachers, are you tired of teaching the same old basic concepts in science classes? APS members, are you wanting to reach out to area schools and organizations to get them interested in plant pathology but not sure how? Well, the Youth Programs Committee would like to give you the opportunity to explore the answer to these and

many other questions that you may have. The Resources and Funding for Plant Pathology Outreach Workshop is being presented to middle and high school teachers and APS members. Speakers will focus on ideas they have put into action and how you can do the same. We will also offer you the chance to visit five demonstration tables to learn a little about plant pathology. Each demonstration table will consist of an exercise that you can take back to the classroom. The workshop will help bring new life to your classroom and help make your outreach more effective.

Introduction. K.L. SHELTON, University of Georgia, Athens

Girls and SHADES: The future is so bright. K. D. GWINN. University of Tennessee, Knoxville

The APSnet Education Center: New free resources for teachers. G.L. SCHUMANN. University of Massachusetts, Amherst

Plants in the classroom. D.L. SCHADLER. Oglethorpe University, Atlanta, GA

Demonstrations:

- Symptoms and signs. J.H. BROCK. University of Georgia, Tifton
- Bacteria and Kochs Postulates. R.B. CARROLL and T.A. Evans. University of Delaware, Newark
- Using the Internet. D.M. EASTBURN. University of Illinois, Urbana
- Nematodes. G.L. TYLKA. Iowa State University
- DNA the easy way. G.L. SCHUMANN. University of Massachusetts, Amherst

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May 8, 2002

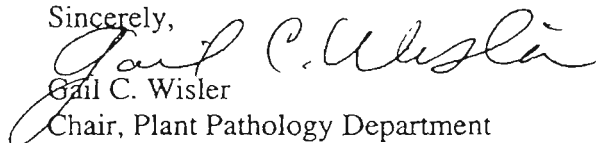
Marlene Rosales Villavicencio
Santa Rosa 11610
La Pintana, Santiago
Casilla 439-3
Chile

Dear Marlene:

It is wonderful to hear from you and that you are doing well in your new position. I am also pleased to hear that you would like to continue collaborations with the Department of Plant Pathology. Since you are involved in virus diseases of vegetables and citrus, I think it would be an excellent opportunity for you to spend some time visiting our main campus and the Bradenton and Lake Alfred Research and Education Centers in Florida. We will be happy to host you and your guests any time you would like to come to visit. I understand that you are interested in attending the APS meetings this year. If this would be a good time to combine a trip to Florida, please plan to spend some time here with our faculty, staff and students.

We look forward to seeing you this year.

Sincerely,


Gail C. Wisler
Chair, Plant Pathology Department

cc: Richard Lee, Lake Alfred REC
Jane Polston, Bradenton REC