

Academic Criteria — Professional Competence (Thematic PR Draft)

A. Professional development

Summary

I sought to increase my expertise in the major theme areas (plant pathogens, strawberry soil ecology, foodborne pathogens) of my research and extension activities. Because of two major developments and changes in clientele needs, I particularly focused on two areas and devised a strategy to obtain training and increased background in the following areas: identification of insect vectors of plant viruses; foodborne pathogens and *E. coli* research.

Expanding my program and developing new expertise

1. Identification of insect vectors of plant viruses. Beginning in 2006 and continuing through 2009, a serious and damaging virus outbreak resulted in crop loss for lettuce growers in California. The virus, *Impatiens necrotic spot virus* (INSV), is vectored by the thrips insect (order Thysanoptera). Because of the severe outbreak of this disease and needs of clientele, I took the initiative to learn how to identify the vectors (thrips species). I conducted a literature review on thrips taxonomy, attended workshops on thrips identification (October 2007, September 2008), and consulted with university (C. O'Donnell, M. Hoddle) and California Dept. Food and Agriculture (G. Watson) taxonomists. I obtained funding, equipment, and supplies necessary to identify thrips. I collected thrips from various environments for practicing species identifications. As a result, I have become competent at identifying thrips to species and have included this aspect in the research project on this virus (see Extension and Research).

2. Foodborne pathogens and *E. coli* research: While foodborne pathogens have always been an important concern in agricultural production, the serious 2006 outbreak of *E. coli* O157:H7 on coastal California spinach greatly heightened the need for research and extension on this subject. Because of the urgency of this issue and pressing clientele needs, I obtained background information and training on current research on *E. coli*, food safety issues, and research methodologies involving *E. coli*. I consulted with campus specialists (T. Suslow, L. Harris) to further learn about this field. I conducted an extensive literature review on *E. coli*. I used this training to create a food safety laboratory for research purposes. Following up on this program change, I became PI on several food safety grants and am conducting research in this field (see Extension and Research).

Training sessions and meetings

1. Managing plant diseases and enhancing agricultural productivity

54th Annual Soil Fungus Conference. Santa Paula, California. March 26-28, 2007.

USDA-ARS seminar. Development of tools to study *Verticillium* wilt of lettuce. Speaker S. Klosterman. Salinas. June 28, 2007.

Thysanoptera workshop on thrips identification. Instructors: C. O'Donnell and G. Moritz. UC Davis. October 15-17, 2007.

Pest and native Thysanoptera of California and the western USA: an identification workshop. Instructors: M. Hoddle and L. Mound. UC Riverside. September 8-11, 2008.

Vegetable Crops Continuing Conference (VC3). UC Davis. January 26, 2009.

55th Annual Soil Fungus Conference and the 41st Annual California Nematology Workshop. Salinas. March 23-25, 2009.

USDA-ARS seminar. Molecular evidence for *Verticillium* epidemiology. Speaker: Z. Kanaan-Atallah. Salinas. April 14, 2009.

14th International Sclerotinia Workshop. Wilmington, North Carolina. May 31-June 4, 2009.

2. Diseases and microbial soil ecology in strawberry

Monterey Bay Academy strawberry field day. California Strawberry Commission. Watsonville. June 28, 2007.

3. Field biology and ecology of foodborne pathogens

Food Safety Program seminar. California Strawberry Commission. Watsonville. February 8, 2007.

Continuing Forum meeting on food safety. Western Institute for Food Safety and Security. Salinas. February 13, 2007.

Ag Forum series on litigation aspects of foodborne illness cases. Speaker B. Marler. Salinas. February 28, 2007.

Food Safety task force meeting for strawberry. California Strawberry Commission. Monterey. March 19, 2007.

Ag Forum series on the Leafy Green Marketing Agreement: policy and impact. Speakers Senator D. Florez and Former Assemblywoman B. Matthews. Salinas. February 27, 2008.

Fresh produce microbial pathogen testing: program components & considerations. Webinar Series #1. Postharvest Technology Research & Information Center. November 20, 2008.

Leafy greens industry microbial data/trends and practices symposium. Center for Produce Safety. Salinas. September 16, 2009.

4. General research and program support

UC Pesticide application trainings. Instructor: R. Melnicoe. Salinas. June 14, 2007 and May 7, 2009.

Introduction to GIS and community analysis course. New Urban Research. Instructor: H. Williams. Sacramento. January 11, 2008.

Proposal writing basics. Instructor: S. Ullman. The Foundation Center-San Francisco. Seaside. February 21, 2008.

Writing right for the web workshop. Instructor: B. Johnson. Organized by C. Kintigh. Davis. April 1, 2008.

Introduction to Advocacy Webinar. <http://breeze.ucdavis.edu/advo101a>. January 30, 2009.

Digital photography workshop. Instructor: M. Poe. On-line. February 19, 2009.

Statewide ANR Strategic Planning sessions. Sacramento. April 27-30, 2009.

5. Professional society activities: American Phytopathological Society (APS)

Memberships:

American Phytopathological Society (1989 through 2009).

Pacific Division of the American Phytopathological Society (1989 through 2009).

Annual meetings attended:

San Diego. July 28-Aug. 2, 2007.

Minneapolis, Minnesota. July 25-31, 2008.

Portland, Oregon. August 1-5, 2009.

B. Professional competence

Summary

My outstanding professional competence and expertise are recognized at state, national, and international levels. I am very active in the American Phytopathological Society (APS), serving a second term as a Senior Editor for the APS Press editorial board and a first term as an Associate Editor for the Plant Health Progress journal. In a three-year period I presented 16 professional talks (14 invited, 2 self-submitted) at various statewide, national, and international meetings.

An indicator of my recognized expertise is my extensive activity in reviewing scientific manuscripts; I was asked to review 47 manuscripts during this period, including 36 manuscripts for international journals. I was co-chair and main organizer of one national and one international scientific conference. I was a member on two other editorial boards, am active on several UC workgroups, and am involved in various other professional activities.

In recognition of excellence in providing applied research and extension services to the agricultural industry in the Salinas Valley, I was recipient of an industry research fund gift in 2008.

1. Appointed positions with professional societies: American Phytopathological Society (APS)

Senior Editor for APS Press Editorial Board: 2006-2008 (1st term) and 2009-2011 (2nd term). APS Press is the publishing division of APS that produces technical books, visual and electronic media, and other research and education materials in plant pathology and related sciences. I have been invited to serve two second consecutive terms as Senior Editor on this board. My responsibilities include reviewing book and other publication proposals, reviewing and editing manuscripts, recruiting reviewers for projects, overseeing book writing and production procedures, attending APS Press meetings, advising on future projects and the vision for APS Press, and taking charge of assigned book projects. I am the assigned Senior Editor for four book projects (Compendium of Hops Diseases; Phytophthora: Identifying Species by Morphology and DNA Fingerprints; Practical IPM for Greenhouse Production; Soil Solarization Manual).

Associate Editor for Plant Health Progress online journal. As Associate Editor, I am responsible for reviewing submitted manuscripts, soliciting contributions to the journal, and promoting this journal within our scientific field. My term runs from 2009 to 2011.

APS focus group member for standardizing nomenclature for pathogen races/strains. I am participating in discussions regarding the uniform naming of pathogens that affect plants.

2. Presentations at professional meetings

For this evaluation period I gave, by invitation, 14 presentations at scientific meetings, research conferences, and other professional events (including the invitation to be a speaker at the International Sclerotinia Workshop in North Carolina, May 2009). I submitted for consideration

and delivered two other presentations. The 14 invitations to speak at scientific professional meetings demonstrate my statewide, national, and international reputation for excellence in applied plant pathology and food safety research and extension.

Invited:

Koike, S. T. 2007. Diagnostic strategies for farm advisors. UC Davis Plant Science Conference: Plant Pathology Sessions. UC Davis. January 17.

Koike, S. T. 2007. Seedborne pathogens and seed testing: Miscellaneous thoughts. Seed Group Seminar. Hollister. March 3.

Koike, S. T. 2007. Leafy green vegetables and *E. coli*: issues and research needs. 2007 UC Natural Resources Coordinating Conference. Monterey. March 15.

Koike, S. T. 2007. Research update on *E. coli* and leafy green commodities. UCCE Monterey County staff conference. Salinas. March 26.

Koike, S. T. 2007. Pre-harvest perspectives for leafy green vegetables and *E. coli*. California Department of Food & Agriculture—Plant Pest Diagnostics Branch, *E. coli* research seminar. Sacramento. April 3.

Koike, S. T., Muramoto, J., Gliessman, S. R., Klonsky, K., and Pedersen, S. 2008. Organic strawberry and vegetable production: rotation. Plant disease considerations. Workshop at Ecological Farming Conference. Monterey. January 24.

Koike, S. T. 2008. *E. coli* and leafy green vegetables: Points of discussion and role of UC Cooperative Extension. Seminar presented to Food Safety Advisory Committee, Hartnell College Agriculture Business and Technology Institute. Salinas. February 14.

Koike, S. T. 2008. Verticillium wilt and other soilborne diseases of ornamental crops. The 54th Annual Soil Fungus Conference. Santa Paula. March 26-28.

Koike, S. T. 2008. Leafy green vegetables and *E. coli*: issues, questions, research. Seminar presented at inter-agency task force meeting. Resource Conservation District. Salinas. June 11.

Koike, S. T. 2008. Biocontrol products for plant diseases: challenges and communication issues related to grower adoption. Biopesticide Industry Alliance meeting. Sacramento. October 15.

Koike, S. T. 2009. Plant disease developments in coastal California. Vegetable Crops Continuing Conference (VC3). UC Davis. January 26.

Koike, S. T., and Subbarao, K. V. 2009. Host range of *Sclerotinia minor* and lettuce production practices pose challenges to lettuce drop management in coastal California. 14th International Sclerotinia Workshop. Wilmington, North Carolina. May 31-June 4.

Koike, S. T., and du Toit, L. J. 2009. Comparison of seed health assay methods for Verticillium in spinach seed. American Seed Trade Association. Vegetable seed technical meeting. Salinas. June 16.

Koike, S. T. 2009. Update on food safety and leafy green vegetables. California Department of Food and Agriculture, Plant Pest Detection Branch seminar. Sacramento. July 16.

Submitted and accepted for presentation:

Koike, S. T., Bolda, M. P., Smith, H. A., and Daugovish, O. 2008. Pathogenicity of *Macrophomina phaseolina* on strawberry in California. The 54th Annual Soil Fungus Conference. Santa Paula, California. March 26-28.

Koike, S. T. 2009. Two new plant collapse diseases of strawberry in California. The 55th Annual Soil Fungus Conference. Salinas, California. March 23-24.

3. Leadership in international and national conferences

Co-Chair and organizer for an international scientific conference: As Co-Chair for the 2007 International Spinach Conference (Seaside, California; September 24-25), I was in charge of local arrangements, raising financial support, the technical program, agricultural tour, moderating all sessions, and publishing the proceedings. This conference was attended by 210 researchers, extension personnel, regulators, and industry members. Attendees came from Europe, Japan, and throughout the USA.

Host and organizer for a national scientific conference: As host and organizing committee member for the joint 55th Annual Soil Fungus Conference and the 41st Annual California Nematology Workshop (Salinas, California; March 23-25, 2009), I was in charge of all local arrangements, raising financial support, and the field trip. I moderated one of the sessions (no. 4: soilborne ornamental and horticultural diseases). This conference was attended by 90 researchers, extension personnel, regulators, and industry members. Attendees came from throughout the western USA.

Advisor for 14th International Sclerotinia Workshop: Because I was chair and organizer for the previous International Sclerotinia Workshop (in 2005 in Monterey, CA) I was invited to serve as a conference advisor and to provide guidance and suggestions for the organizing committee that hosted the 14th International Sclerotinia Workshop (Wilmington, North Carolina. May 31-June 4, 2009).

4. Scientific reviews

My review activities are extensive and significant. For this three-year evaluation period, I reviewed a total of 47 scientific journal and ANR publication manuscripts. These invitations to

review scientific manuscripts demonstrate my national and international reputation for excellence in applied plant pathology. See appendix for manuscript review list.

Manuscripts for international journals:	36
Manuscripts for national journals:	9
Manuscripts for ANR publications:	2
Total reviews for 2007 to 2009:	47

5. Activities on other editorial boards

Member of Editorial Advisory Board for *American Vegetable Grower*: Appointed to the Editorial Advisory Board of this national industry journal, I advise the Board on plant pathology issues, food safety concerns, research, and extension education. My appointment runs from 2005 to 2009.

Member of Editorial Board for *Journal of Asian Plant Pathology*: I was responsible for reviewing submitted manuscripts, soliciting for contributions to the journal, and promoting this journal within our scientific field. My term ran from 2006 to 2008.

6. ANR workgroup activities

ANR Workgroups: I am a member of and participate in the following workgroups: agricultural & environmental biotechnology, floriculture and nursery, food safety, pepper, pest management in ANR, pomology extension, strawberry.

7. Other professional activities

Cooperative Extension Associate in Agricultural Experiment Station: I was invited to become a CE Associate with Department of Plant Pathology, UC Davis. This formal affiliation took effect on June 2007 and was renewed in 2009.

Member of the National Plant Diagnostic Network (NPDN): NPDN was initially intended to be an early warning system in the event of bioterrorism (the deliberate release of damaging crop pathogens), but also monitors invasive species developments and naturally occurring plant diseases. I participated from 2004 to the present.

8. Awards and special grants

In recognition of excellence in applied research and extension services provided to Salinas Valley agriculture, I received an industry award (in the form of a research fund gift) from local clientele. Grant was awarded by Incotec and Enza Coastal Seeds. November 7, 2008.