

## Annual California Nematology Workgroup Meeting 2009

The UC ANR Nematology Workgroup met in Salinas, CA on March 23, 2009. Meeting notes were taken by A. Ploeg.

### Introductions/welcome

The meeting was attended by 18 participants from academia, CDFA and various industries. O. Becker, Chair of the WG during the past year explained purpose of workgroup and workgroup meeting and encouraged everyone to participate in discussion. H. Ferris provided an overview of the current status of the UCD Nematology Department. Bruce Jaffe retired, no replacement is anticipated. Increasing time spent on teaching. The Department is now a lead for animal biology major (predominately pre-vet students) with about 50-60 students/course. There is an increase in student to faculty ration with financial consequences.

O. Becker provided an overview of the current status of the UCR Nematology Department based on notes provided by Department Chair J. Baldwin. Current Department size: 8 PhD students, 8 faculty (5 I&R, 3 CE) plus two cooperating faculty from Biology. No new hires since 2000. Replacement position for Ed Platzer (retiring 12/2009) needed - potential to collaborate with UCR's medical school by requesting a parasitology position. Regardless of poor state budgets, the faculty are doing very well with extramural funding; however for better or worse, funding drives research focus.

J. Chitambar gave an overview of the Nematology group at the Plant Pest Diagnostic Branch of the CDFA. Currently with 3 nematologists, 1 technician, 4-5 support staff. Tasks involve regulatory work, consulting/scientific advise, training of county/state personel, research (diagnostic methods). Considerable resources have been dedicated to federally-funded Western Plant Diagnostics Network (survey).

R. Dodds (Monterey AgResources) announced market introduction of an organic nematicide based on Quillaja extract.

L. Chanbusarakum (Marrone Organics Innovations) briefly discussed the companies goal to develop organic nematicides, with focus on RKN.

D. Lawn (United Genetics Seeds) reiterates that rkn is a major problem in the vegetable industry.

### Current projects

J. Chitambar - 2005, 2006, 2008 pest surveys requested by federal government; survey of CA for presence of 22 nematode spp., 16 spp. of which are not known to occur in CA. Although federal funding has stopped, the work will continue. So far 90 species have been found, none are invasive/quarantine pests. A national project related to the Potato Cyst Nematode find in Idaho continues. Potato fields were sampled in 2006, completed in 2008 (incl. organic production sites). 311 fields samples (7 counties) - all seed potato fields - were sampled. No PCN or other cysts were found. Now (3 yr later) this will be revisited and entire fields will be sampled (earlier it was the 10% perimeter). *G. pallida* has been found in Alberta, Canada from where potatoes were exported to the US. Fields that were planted with those potatoes (12 fields) were sampled intensively – no cysts found. M. McKenry mentioned the nursery program as an example to support the view that interception of infested plant material works. Almost all important plant parasitic

nematode problems are caused by non-native nematodes, so strict programs to intercept infested material are very important.

B. Westerdahl – Recent problems in alfalfa have raised the suspicion of *Ditylenchus* occurrence. Diagnosis has been difficult, nematode population density usually not very high.

O. Becker - Message from ANR Program leader T. Paine: monetary WG support, at least for the near future, unlikely.

S. Subbotin - Many projects related to taxonomy and molecular diagnostics; in particular on *Paralongidorus*, *Rotylenchus*, *Heterodera*, *Pratylenchus*, *Afenestrata* (not valid genus), *Hirschmanniella*, *Helicotylenchus* and others.

M. McKenry - Reported on experimental steam application for soil disinfestation in field sites. He also started large field trials on replant disease with almonds, plums, walnuts and pistachio.

A. Ploeg - Research focused on biofumigation in carrot and tomato. Some promising cruciferous varieties identified (oil radishes mainly).

H. Ferris - 5 new grape rootstocks released, resistant to 2 strains of rkn (*M. incognita*, *M. arenaria*). Research on *Hirschmanniella* on rice, assessing damage and management opportunities. Continues soil food web studies (collaboration with other UCD Departments). Studies in Costa Rica: organic vs. conventional banana production.

#### Other business

Antoon Ploeg was unanimously elected as the new Workgroup Chair. The next Workgroup meeting will be held in March 2010 in conjunction with the 42nd Annual California Nematology Workshop.

The 41st Annual California Nematology Workshop held the day after the Workgroup meeting was a joint session with the 55th Annual Soil Fungus Conference. Attendance was limited by facility constraints to approximately 100 attendees. Planned by a steering committee and superbly organized by Steve Koike and his team, the conference was an outstanding success. The sold-out event featured the following presentations.

**SYMPOSIUM** - Microbial Communities and Interactions with Soilborne Pathogens  
(Tim Paulitz, Chair)

Microbial Predators as Biological Control Agents  
Carolee Bull

Identifying Microorganisms Involved in Nematode Suppressive Soils  
James Borneman

Interactions, Functions and Services: Nematodes in the Soil Food Web  
Howard Ferris

**SESSION 1** – Discoveries and Developments in the Realm of Soilborne Pathogens, Pests and Diseases (J. Ole Becker, Chair)

Soybean Cyst Nematode as a Potential Threat to Dry Bean  
Berlin Nelson, Susilo Poromarto, Rubella Goswami

A New Disease of Alder Trees in California  
Deborah Mathews

Sudden Outbreak of Alfalfa Stem Nematode  
Becky Westerdahl

Phytophthora & Pythium Databases - A Growing Resource Towards the Goal of Constructing the Stramenopiles Tree of Life  
Frank Martin

Root-lesion Nematodes in Field Crops  
Richard Smiley

**SESSION 2** – Bio-based Strategies for the Management of Soilborne Pathogens and Pests  
(Julien Mercier, Chair)

Broccoli Biofumigation for Management of Sugarbeet Cyst Nematode on Broccoli  
Becky Westerdahl

Control of Soilborne Pathogens in Calla Lily Utilizing Selected Biological Fungicides in Fumigated and Non-fumigated Soil  
Susanne Klose, Craig Spielman, Ian Greene, Jim Gerik, Husein Ajwa, Cheryl Wilen

A Combined Biological and Biorational Approach to Mitigate Crop Damage by Root-knot Nematodes  
J. O. Becker

Phenazine Producing Pseudomonas in Dryland Wheat – A New Role in Rhizoctonia Suppression?  
Dmitri Mavrodi, Olga Mavrodi, Jim Parejko, Karen Adams, Tim Paulitz, Linda Thomashow, David Weller

Anaerobic Soil Disinfestation for *Verticillium dahlia* Management in Strawberries  
J. Muramoto, C. Shennan, M. Bolda, S. Koike, O. Daugovish

**SESSION 3 – Chemical Management (Roy Whitson, Chair)**

Search for New Post-Plant Nematicides  
Michael McKenry

Maximizing Control of Lettuce Drop  
Michael Matheron

Use of Biocontrol Agents, Botanicals & Organic Products to Control Soilborne Pathogens  
Lawrence Marais

Multiguard Protect – Furfural Based Nematicide  
Jerry Hensley

Midas Soil Fumigant  
Bernard Olsen

Paladin – Dimethyl Disulfide (DMDS) – A Methyl- Bromide Replacement  
Roy Whitson

**SESSION 4 – Soilborne Ornamental and Horticultural Diseases (Steven Koike, Chair)**

*Verticillium*  
Krishna Subbarao

Disease Risk of Potting Media Infested with *Phytophthora ramorum* under Nursery Conditions  
Steve Tjosvold

The Underestimated Role of Soil Inoculum in Persistence of *Phytophthora kernoviae* in UK Woodlands  
Elizabeth Fichtner

Two New Plant Collapse Diseases of Strawberry in California  
Steven Koike, Tom Gordon, Mark Bolda, Husein Ajwa, Oleg Daugovish

**SESSION 5 – Open Topics. (Antoon Ploeg)**

Regalia – As a Potential Candidate for Soilborne Disease Control  
Hai Su

Cereal Cyst Nematodes in Field Crops  
Richard Smiley

Protecting California Agriculture Against the Invasion and Spread of Harmful Nematodes  
John Chitambar

Fusarium Crown Rot Tolerance in Wheat  
Richard Smiley