NPDN National Plant Diagnostic Network

NPDN News

Volume 6 Issue 4, April 2011

NPDN-AAVLD Laboratory Accreditation Training

Karen L. Snover-Clift & Dawn Dailey O'Brien, Cornell University and Patrick Shiel & Kathy Burch, USDA-APHIS-PPQ-CPHST

The NPDN and APHIS worked together to provide our first laboratory Quality Management Systems (QMS) training on April 12-14, 2011 at the National Veterinary Services Laboratory (NVSL) in Ames, Iowa as part of the ongoing NPDN effort to develop a plant diagnostic testing Laboratory Accreditation system. Arrangements were made by Pat Shiel and Kathy Burch of USDA-APHIS-PPQ-CPHST for NPDN members to receive training from Quality Managers from the American Association of Veterinary Laboratory Diagnosticians, Inc. (AAVLD), which is closely associated with our sister organization the National Animal Health Laboratory Network (NAHLN). The course was hosted by Barb Martin, NAHLN Coordinator with several presentations provided by QMS instructors; David Korcal, Michigan Center for Population and Animal Health; Joseph Kellum, Mississippi Veterinary Research and Diagnostic Laboratory; Patricia Lukens, Washington Animal Disease Diagnostic Laboratory; Kelly Burkhart, NAHLN; Tina Buffington, NVSL Quality Manager as well as our Pat Shiel and Kathy Burch. The instructors carefully reviewed their presentations to be relevant to the unique NPDN mission and structure while still maintaining the principles and components common to Quality Management Systems. From initial reviews of the NPDN participants, the effort of the instructors appeared to be a smooth transition. We overheard many

Kathy Burch, Nick Raghuwinder, Barbara Shew, and Gail Ruhl review equipment calibration logs at one of the audit stations. Photo courtesy of Karen Snover-Clift, Cornell University.

Issue Highlights:

USDA National Institute of Food and Agriculture

of the participants praising the efforts of the trainers.

The course covered principles and components of QMS, including:

Participants at the NPDN-AAVLD lab accreditation training. Photo courtesy of Karen Snover-Clift, Cornell University.

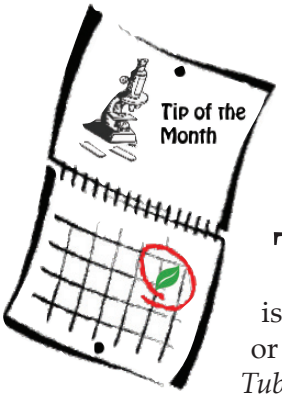
implementation of a QMS, document control, records, corrective actions, root cause analysis, equipment, continual improvement, control trend tracking, training, complaints, internal audits and management reviews. In addition to the lectures by the instructors, several interactive exercises were incorporated into the course so that participants could experience how a functional QMS works. These exercises included a laboratory accreditation Jeopardy, where teams of four competed for points and prizes, and analysis of scenarios using root cause analysis based on the board game Clue. The final interactive section had NPDN participants function as QMS auditors for mock laboratory audits at seven laboratory and document review stations at the fully staffed NVSL training laboratory. The NPDN participants applied QMS principles to analyze, document and resolve various issues that may occur in live QMS lab audits.

The participants from NPDN came from all over the nation. They included from the GPDN; Linnea Skoglund (Montana State University), Judy O'Mara (Kansas State University), Connie Tande (South Dakota State University), Jennifer Chaky (Pioneer), from the NCPDN; Gail Ruhl (Purdue University), Laura Jesse and Adam Sisson (Iowa State University), Nancy Taylor (Ohio State University), Rob Fisher (Ohio Department of Agriculture), from the NEPDN; Karen Snover-Clift and Dawn Dailey O'Brien (Cornell University), Joan Allen (University of Connecticut), Yonghao Li (The Connecticut Agricultural Experiment Station), Cheryl Smith and Charlene Andersen (University of New Hampshire), from the SPDN; Barbara Shew and Shawn Butler (North Carolina State University), Nick Raghuwinder (Louisiana State University Agricultural Center), Ian Maguire and Anne Vitoreli (University of Florida), Kevin Ong and Ron French (Texas A & M University), from the WPDN; Tim Tidwell (California Department of Food & Agriculture), Tomie Vowell (University of Hawaii), Shawn Meng (Oregon State Department of Agriculture), Jason French (New Mexico State University), and from CPHST; Aziza Clark (USDA-APHIS-PPQ-CPHST). We hope that we can arrange to offer this training again in late autumn or early spring next year.

Federal Order Updated for Two Longhorned Beetles

On April 1, 2011, the APHIS Administrator issued an updated Federal Order to establish additional prohibitions and restrictions for the importation of *Anoplophora chinensis*, the citrus longhorned beetle (CLB), and *Anoplophora glabripennis*, the Asian longhorned beetle (ALB) host genera, and will go into effect on May 11, 2011. The Federal Order adds three new ALB hosts, (including *Koelreuteria* spp., read April 8, 2011 Federal Order) and

article continues on page 10...



Isolation Method for Obtaining Endophytic *Tubakia* spp. from Oak Twigs

Doug McNew, Iowa State University, Department of Plant Pathology

The following is an abbreviated methods procedure for isolation from living twigs, petioles or leaves of the bur oak blight (BOB) *Tubakia* sp. and other endophytic *Tubakia* spp.

Cut twigs into small discs 1/8-1/4" thick;

Place into straight bleach (5.25% sodium hypochlorite);

Stir 3 minutes (use stir bar);

Rinse in 95% ethanol;

Rinse in sterile water;

Plate (4 discs/plate) onto any of these media: PDA, ¼ strength PDA, 2% malt, or 2% malt with 0.2% yeast;

Incubate plates at room temp. (21-23 C) and normal lab lighting;

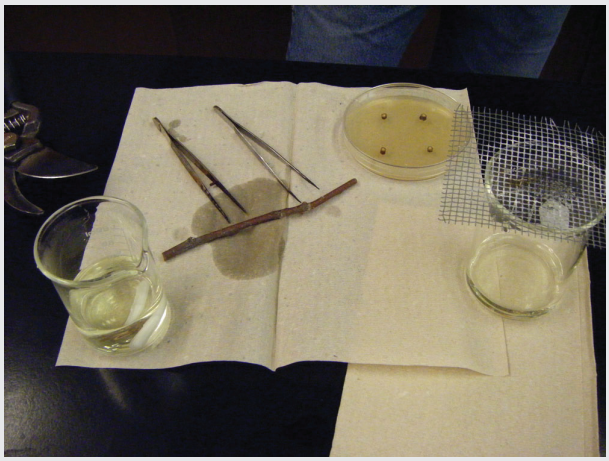
Check for growth:

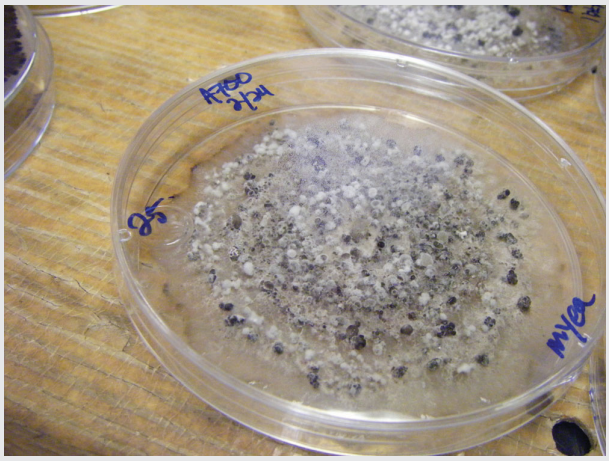
> 4 -14 days for *Tubakia* spp., ID by mycelium (the BOB *Tubakia* sp. sporulates rarely in culture) or transfer to obtain pure culture.

The *Tubakia dryina* species complex includes:

Tubakia dryina sensu stricto
T. sp. BOB
T. sp. A – BH type
T. sp. B – post oak type
Actinopelte americana - spot type
Actinopelte americana - veinal type

Tubakia is in the Diaporthales, related to *Phomopsis* spp. and the fungi that cause anthracnose. The BOB *Tubakia* infects expanding shoots, petioles and leaves in the spring and leaves in the summer. Primary inoculum in the spring comes from black petiole pustules on dead, overwintering leaves still hanging on the twigs.





From top to bottom: *Tubakia* sp. on red oak, endophyte isolation, and *Tubakia* sp. in culture. Photos courtesy of Gail Ruhl, Purdue University.

Fenhexamid (Decree®) Resistance in *Botrytis*

Gary W. Moorman and Sara May,
Pennsylvania State University,
Department of Plant Pathology

A commercial greenhouse operator submitted a flat of small *Heuchera* plants to the Penn State Plant Disease Clinic in December, 2010 with gray mold as the primary problem. Notes on the clinic form and telephone discussions indicated that the grower was very concerned because the fungicide being used (Decree®; active ingredient, fenhexamid), was 'not working.' The grower reported that the fungicide had been applied at the proper rate and early enough in disease development that some control should have been achieved.

In order to check this *Heuchera* isolate of *Botrytis* for fenhexamid resistance, a plate test was run using 0, 0.2, 2.0, and 2000 µg fenhexamid/ml of half strength potato dextrose agar. The literature (Ziogas, B. N., A. N. Markoglou and A. A. Malandrakis. 2003. European Journal of Plant Pathology 109: 311-317) indicates that approximately 2.0 µg fenhexamid/ml should slow mycelial growth of a sensitive isolate by 50% as compared to its growth on agar containing no fenhexamid. A higher concentration is needed to inhibit spore germination by 50%. Two runs testing the *Heuchera* isolate indicated that 2000 µg/ml was required to slow mycelial growth by 50%. Those tests raised the red flag but did not prove that the isolate is capable of overcoming the presence of fenhexamid on plants and cause disease. There are known cases where fungicide plate tests are not well correlated with the failure of a fungicide to protect treated plants. Therefore, we treated plants with the label-recommended rate of Decree® and inoculated some plants with the *Heuchera* isolate and other plants with an isolate that had been in our collection since the late 1980s, well before fenhexamid came into use.

We grew sunflower seedlings in small pots in a soilless potting mix until the cotyledons were parallel to the soil surface and the first true leaves were visible (Moorman, G. W. and R. J. Lease. 1992. Plant Disease 76: 477-480). There were four seedlings per treatment and each pot was placed in a plastic bag with water in the bottom of the bag in order to maintain high humidity during the test. A drop (about 25 µl) of 0.1 M dextrose containing the label rate of Decree® (1.5 lb/100 gal = 0.18 g/100 ml) was placed on the growing tip and a plug (#3 cork borer) of colonized potato dextrose agar was placed in the drop. Inoculated check plants had received 0.1 M dextrose with no fungicide. The plastic bags were sealed and left in the lab where they received indirect light. The 1980s *Botrytis* isolate killed the check plants but not the Decree®-treated plants. All the check plants and all the Decree®-treated plants inoculated with the *Heuchera* isolate collapsed within four days. Based on these tests, we conclude that the *Botrytis* from the *Heuchera* is resistant to Decree®. The species of the *Heuchera* isolate has yet to be determined. *B. cinerea* in Europe has not been found resistant but rather the resistant isolates there are actually a new species that is in the process of being designated, *B. pseudocinerea*.

The Decree® label clearly states that fenhexamid (FRAC group 17) should not be used more than twice ON A CROP before switching to a different mode of action. However, most greenhouses have resident *Botrytis* elsewhere in the greenhouse on crop debris and on other plants. If Decree® is used anywhere in a greenhouse, it is likely that 'non-target' *Botrytis* is also exposed to the fungicide every time it is used. Growers should be thinking in terms or using Decree® twice IN A GREENHOUSE before switching to a different mode of action.

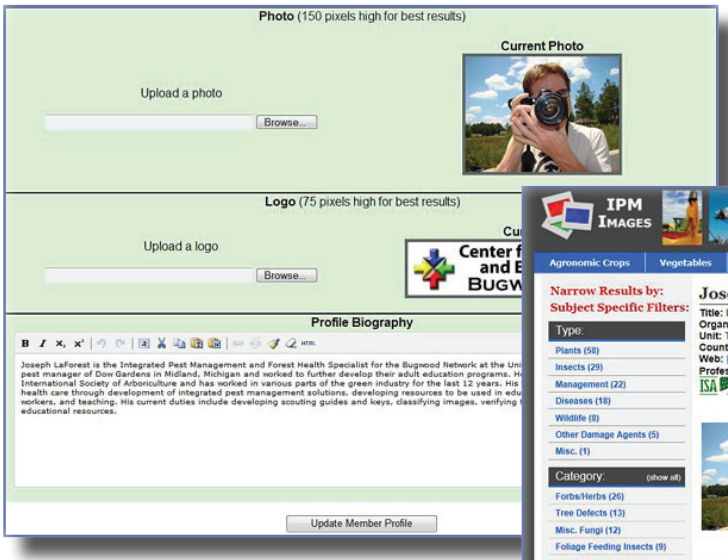
Photographer and Organization Profile Pages

Joseph LaForest, University of Georgia, Center for Invasive Species and Ecosystem Health

We are always looking for better ways to give credit and recognition to the photographers and organizations that post images in the Bugwood Image Database. One way that few have taken advantage of is a profile page. Photographer Profile Pages provide a short biography, a logo and an image of the photographer, whereas, organization profile pages feature a logo and description to teach people about the organization. In both cases, all related images are shown on the page with options to filter through them on the sidebar.

Setting up Photographer Profile Pages

These pages are controlled directly by the photographer through the "Edit Profile" link at http://images.bugwood.org. After you sign in to your account, you will see all of the current information for your account. At the bottom are three sections with



a light green background where a photographer can add a photo, logo and their short biography. If the photographer has previously uploaded a photo or log, it will show up on the page. Otherwise, they can browse to find an image to upload. The recommended heights for the logo and photo are 75 pixels and 150 pixels, respectively.

Some photographers prefer to have a tall logo rather than a wide logo. When this is the case, they upload the logo in the location for the photo and vice versa. As far as the website is concerned, it's just two images so whatever the photographer wants to put there is fine.

After submitting the information by clicking "Update Member Profile", your photographer profile page will be ready. The page that appears after updating your profile has links that take you to the new Photographer Profile Page on the different websites.

Setting up Organization Profile Pages

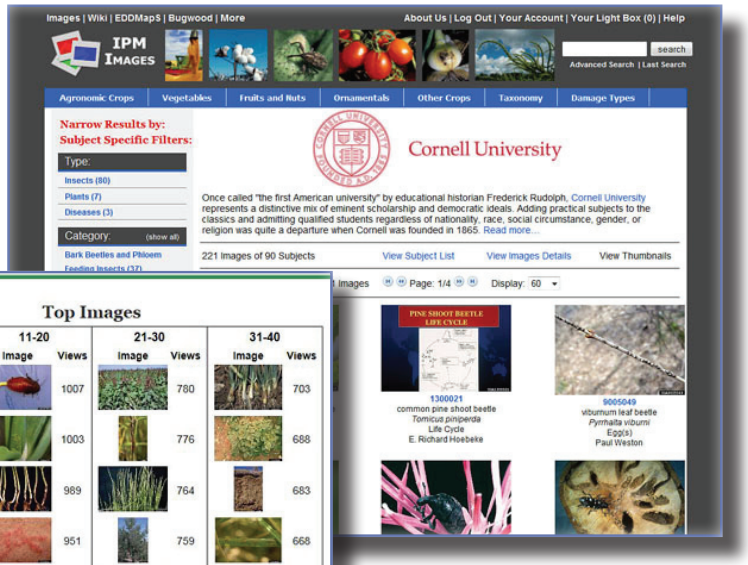
These pages are managed by the Bugwood staff since they apply to multiple people, and a system for letting certain individuals have the authority to make changes has not been built. Setting up a page often involves a discussion with the organizations office of communications to make sure that the appropriate logo and wording is used when representing the organization. Our staff needs four things to setup

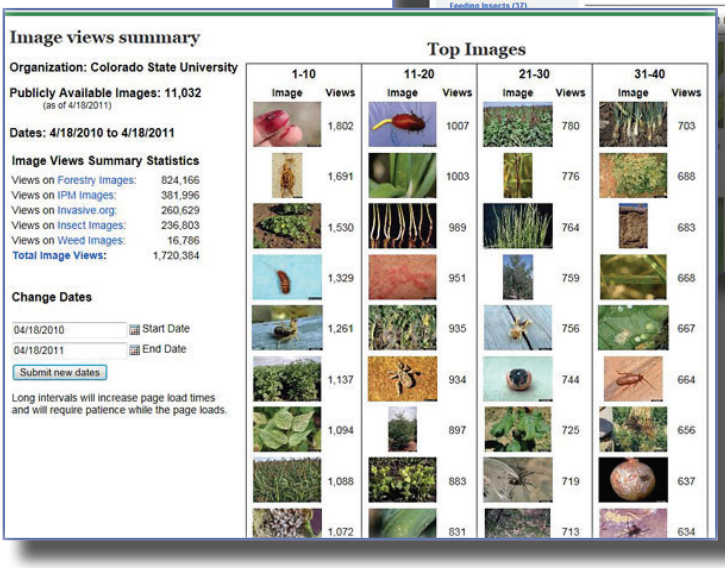
the Organization Profile Page:

- The preferred name of the organization
- A logo
- A description of the organization
- A website address

When this information is sent to bugwood@uga.edu, we use it to create the profile page and send a proof back to the person who sent us the information. After we get their approval, we add all of the relevant photographers and contact them to let them know the page is up. This will also enable the organization based statistics for image use so that individual photographers can see how they compare against others at their institution.

For now, we are just looking at main organization, but eventually we plan to have the ability to add multiple sub-organization pages to highlight the efforts of departments and working groups within an organization. By using both types of profile pages, we hope to do a better job of highlighting all of the partners that make it possible to build a better image resource for diagnosticians, extension agents and educators.





Visit the NPDN homepage at **www.npdn.org** for more information on specific Program Area Committees.
Login and password required

DIAGNOSTICS COMMITTEE

Diagnostics Committee

Anne Vitoreli, Committee Chair, University of Florida, Department of Plant Pathology

The Diagnostics Committee held a conference call on April 21, 2011 and the following agenda items were discussed:

- Discussion about adding electron microscopy to PDIS list of diagnostic methods
- AAVLD training discussion
- SOP updates: Thousand Cankers and Laurel Wilt
- Poster suggestions for National Meeting

Please refer to the website, **www.npdn.org/diagnostics**, for complete minutes of this meeting. The next conference call will be held on May 12, 2011.

EXERCISE COMMITTEE

Exercise Committee

Sharon Dobesh, Program Area Manager/Committee Chair, Kansas State University, Department of Plant Pathology

The Exercise Committee conducted a conference call on April 11, 2011 and the following agenda items were discussed:

- Update on the Puerto Rico Exercise
  - PDIS (occurred March 29-April 1)
  - Full Scale (occurred April 4-8)
- Other APHIS-PPQ Exercise Activites
- ETKnet update

The next conference call is scheduled for May 24, 2011.

NATIONAL DATABASE

National Database Committee

Nancy Gregory, Committee Chair, University of Delaware, Department of Plant and Soil Sciences

Following the last newsletter, the National Database Subcommittee held a conference call on April 20, 2011. The subcommittee continues to work on reviewing the extensive NPDN pest lists. The agenda included:

- Discussion of change submissions
- Discussion of Pest Grouping Software
- Discussion of Insect pest files
- Poster for National Meeting

The next meeting will be held on May 11, 2011.

TRAINING EDUCATION

Training and Education Committee

Dick Hoenisch, Committee Chair, University of California at Davis, Department of Plant Pathology

The Training and Education Committee held a conference call on April 26, 2011 and the following agenda items were discussed on the call:

- Content material for nationwide state and regional T&E coordinators conference call
- Spanish language FD training program
- NPDN templates for PPT presentations
- NPDN T&E subcommittee 2010 report
- National meetings: NACCA, Master Gardener and IPM Symposium

The next conference call is scheduled for May 16, 2011.

IT News

National Repository: Staying Connected

Mike Hill and Eileen Luke, Purdue University, CERIS

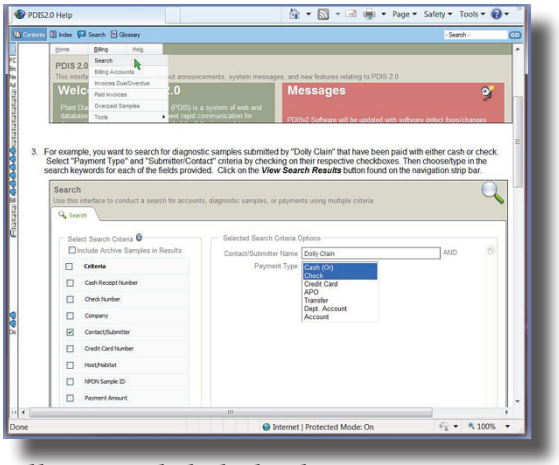
Is there some report or map that you created a year or two ago, but forgot how to generate it? After attending the NEPDN and NCPDN regional meetings in February and April respectively, there has been a lot of interest expressed in having webinar training sessions for the regions. The purpose of these sessions will be to introduce the National Repository to our new diagnosticians and to give a refresher course on maps, reports and new enhancements.

Also, since we will not be having the yearly IT/Diagnosticians meeting this fall the webinars will serve as a means for the diagnosticians to provide feedback to the IT staff as well as learn from their colleagues on how the IT features can help them. We plan to set up a schedule for 4 sessions starting in late May and ending in mid-June. Be on the lookout for these announcements. As always please send your comments and questions to Mike Hill (765)494-9854, mhill@ceris.purdue.edu or Eileen Luke (765)494-6613, lukee@purdue.edu.

PDIS 2.0 – Billing Module Released

Sharmila Dabade, Kansas State University, Department of Plant Pathology (PDIS)

The PDIS Team has released the Billing Module in PDIS 2.0. The new Billing Module, released on April 11, 2011, facilitates billing account management for laboratory procedures on submitted samples. This module allows one to create account reports, generate invoices and record payments. If a person has the role of Billing Manager, he/she will see a Billing Menu at the top of the PDIS screen. All of the billing related operations can be accessed from the Billing Menu. The link to the



Billing Module help document can be found at www2.pdis.org/RoboHelp/PDIS_RoboHelp_TNG.htm. (Login and password required.)

Portal training for page editors and committee chairs will be offered via Adobe Connect Sessions on the following dates:

May 3, 2011 @ 10:00-11:00 AM EDT
May 6, 2011 @ 11:00 am-12:00 PM EDT

https://gomeet.itap.purdue.edu/npdn_portal_training/
(*call in numbers and information will be sent out prior to each session*)

For more information contact Karen Scott at kas8@cornell.edu.

Training and Education

New Network with a Mission and a Website

Rachel McCarthy, Cornell University, Department of Plant Pathology and Plant-Microbe Biology

Funded through USDA-APHIS, the Sentinel Plant Network (SPN) is a collaborative project with the NPDN and the American Public Gardens Association (APGA) that will extend the NPDN's diagnostic expertise and create targeted educational materials and make them available to the 500 plus APGA member gardens which sign up to participate in the new network.

Since the NPDN hosted the Sentinel Plant Network strategic planning meeting in January, the SPN working group has developed a mission statement for the network and prioritized educational modules for the Sentinel Plant Network's train the trainer program. The first two modules are scheduled to be released at the APGA annual conference this June.

Mission

The Sentinel Plant Network contributes to plant conservation by engaging public garden professionals, volunteers, and visitors in the detection and diagnosis of high consequence pests and pathogens.

Earlier this month APGA launched several informational webpages announcing the Sentinel Plant Network. The SPN main page can be accessed from the left navigation pane on the APGA homepage, www.publicgardens.org/. The new webpages have information on how gardens can become members of the network. Benefits to garden participation and information on how to participate in the fall workshops can be accessed through the FAQs link on the main page.

National News *cont...*

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11 new CLB hosts, and changes prohibitions and restrictions for the importation of host genera from the European Union (EU) to prevent the introduction and dissemination of two harmful plant pests.

Click here to read the official announcement and Federal Order.

Asian longhorned beetle at the USDA Forest Service Quarantine Facility in Ansonia, CT. Photo courtesy of Dawn Dailey O'Brien, Cornell University.

Conditions Added to SOS Federal Order to Allow Fruit Movement into or Through Regulated States

On April 18, 2011, APHIS revised the Federal Order for sweet orange scab (SOS) to include additional conditions for the movement of *Citrus* spp. and *Fortunella* spp. fruit into or through SOS quarantine areas.

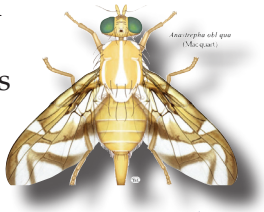
The additions are intended to increase fruit marketing opportunities while effectively protecting non-infested citrus-producing areas from SOS.

Since July 2010, the fungal pathogen *Elsinoë australis*, causal agent of SOS, has been detected in Arizona, Florida, Louisiana, Mississippi and Texas. Federal Orders have been issued to establish SOS quarantine areas for these entire states.

Click here to read the Federal Order with APHIS-Approved Packinghouse Procedures for *Elsinoë australis*.

Federal Order Issued for West Indian Fruit Fly

On April 19, 2011, APHIS issued a Federal Order to prevent the introduction of *Anastrepha obliqua* (West Indian fruit fly) into the United States. The introduction and establishment of *A. obliqua* poses a serious threat to U.S. agriculture.



View image in web browser

The Federal Order applies to the following fruits, *Spondias* spp., *Malphighia glabra* (Barbados cherry), *Averrhoa carambola* (starfruit), *Flacourtia indica* (Governor's plum), *Manilkara zapota* (sapodilla) and *Passiflora* spp. (passion fruit and granadilla). Due to the introduction of *A. obliqua* to St. Vincent and the Grenadines, APHIS has decided to suspend the importation of these fruits from St. Vincent and the Grenadines.

To read the full announcement and Federal Order click here.

NEPDN
Northeast Plant Diagnostic Network

Northeast Plant Diagnostic Network Regional Meeting

Sharon Douglas, Connecticut Agricultural Experiment Station

The Connecticut Agricultural Experiment Station (CAES) hosted the 8th Regional Meeting of the Northeast Plant Diagnostic Network (NEPDN) from February 23-25, 2011 in New Haven, CT. Dr. Sharon M. Douglas organized the event, with assistance from Ms. Mary Inman and Dr. Yonghao Li. The meeting was attended by twenty-six plant disease diagnosticians from West Virginia to Maine. Dr. Louis Magnarelli, CAES Director, welcomed the group and Karen Snover-Clift, Associate Director, NEPDN, presided over the meeting. Attendees discussed topics of mutual interest that included surge capacities of diagnostic laboratories, significant agents of regional concern, lab accreditation and First Detector training. In addition, there were updates on the NPDN and NEPDN websites and PDIS 2. Rachel McCarthy, Training and Education Coordinator, Karen Scott, IT Support, of the NEPDN Regional Center, and Dawn Dailey O'Brien, NEPDN Quality Manager, contributed to these discussions. Dr. George Hudler, Director, NEPDN, updated the group on funding, the Sentinel Plant Network and the NPDN strategic plan. Eileen Luke, Director, CERIS, provided an update about the National Repository for the group. The meeting ended with a lively "Diagnostician Round-Up" consisting of reports from 13 states in the region about unusual or significant diseases and observations from the previous season.

Sharon Douglas organized several interesting tours for the attendees beginning with a tour of CAES, during which the group heard Experiment Station scientists discuss their diverse research programs. After touring the Station, the group visited the USDA Forest Service Quarantine Facility in Ansonia, hosted by entomologist Dr. Melody Keena and Quarantine Officer, Paul Moore. This was an unique opportunity during which members of the group handled live adults and larvae of Asian longhorned beetles as well as viewed emerald ash borers and Asian gypsy moths being reared at the facility. The group also toured Geremia Greenhouses in Wallingford, which was hosted by Joe Geremia, Paul Barnes and Phil Banning, with assistance from CAES scientist Dr. Wade Elmer. Joe Geremia, "Connecticut's Outstanding Young Farmer 2010," had just learned that he had been awarded the National Outstanding Young Farmer Award—and the first grower from the horticulture industry to receive this prestigious award. The group was given a comprehensive tour of the facility, including the biomass boilers, state-of-the-art flood floor system and had the opportunity to sample a few diseased plants. The tour ended with a reception in one of the 6½ acres of greenhouse.

Photos clockwise from top left: Karen Snover-Clift at the NEPDN meeting; Dr. Melody Keena shows an Asian longhorned beetle larva at the USDA Quarantine Facility in Ansonia; and Paul Barnes talks about the flooding floor at Geremia Greenhouse. Photos courtesy of Yonghao Li.

Second Expansion of Quarantine Area for Medfly

Effective April 05, 2011, APHIS expanded the Mediterranean fruit fly (Medfly) quarantine area in the Pompano Beach area of Broward County, Florida, for a second time due to an additional fruit fly detection.

On January 31, 2011, two adult male medflies were detected on a single residential property in the Pompano Beach area of Broward County, Florida. Subsequently on February 25, APHIS established a quarantine area surrounding the detection site. The site was expanded on March 28, 2011, after an additional fruit fly was detected on a residential property within the quarantine area on March 26, 2011.

APHIS is applying restrictions on the interstate movement of regulated articles from the quarantine area to prevent the spread of Medflies to non-infested areas of the United States. This outbreak is considered to be transient, actionable and under eradication.

Click here to read the official announcement and Federal Order.

Upcoming Events

National Events

August 6-10, 2011
APS-IPPC Joint Meeting
Honolulu, HA

August 7-11, 2011
National Plant Board 2011 Annual Meeting
Denver, CO

November 6-9, 2011
NPDN National Meeting
Berkeley, CA

November 13-16, 2011
ESA 59th Annual Meeting
Reno, NV

Rachel McCarthy, Editor
NEPDN
Cornell University

National Plant Diagnostic Network
United States Department of Agriculture
National Institute of Food and Agriculture