

## Rutgers University Invasive Species – First Detector Training

Richard Buckley, Rutgers University, Rutgers Plant Diagnostic Laboratory

On January 27<sup>th</sup> and 28<sup>th</sup> 2011, the Rutgers Plant Diagnostic Laboratory and Office of Continuing Professional Education (OCPE) held a two-day invasive species and First Detector Training. The program included members of the Rutgers University research faculty, NJ State Department of Agriculture regulators and local APHIS-PPQ representatives. A member of the US Forest Service, Maryland Department of Agriculture and other NEPDN diagnosticians also participated in the program.

I must admit that the initial seeds for this program were planted at the NPDN National Meeting in Miami. Karen Rane and Dave Clement from the University of Maryland had produced a poster with a program that I admired very much. Not

*...the luster of First Detector training had worn off our Master Gardeners somewhat, so the idea that we could take the program to a professional audience was appealing.*

that Sabrina and I were trying to keep up with the Clements and Ranes, but why reinvent the wheel? I subsequently emailed Karen and asked her for a copy of their registration materials and off we went. We used the Maryland program as a backbone — even using some of the same speakers and topic ideas — and then plugged in speakers and topics of local concern. Our local regulators are always looking for outreach opportunities and they were glad to participate.

In New Jersey, the luster of First Detector Training had worn off our Master Gardeners somewhat, so the idea that we could take the program to a professional audience was appealing. OCPE has an extensive schedule of short courses and other programs designed for the NJ green industry, so we invited them to cooperate with the logistics.

Advertising materials were developed using verbiage from George Hudler's budget narratives and NPDN First Detector brochures. With the help of the OCPE marketing machine, we managed a pre-registration of 93 attendees that included local arborists, grounds maintenance and other landscape

### Issue Highlights:

- APHIS image gallery
- Tip: Educational outreach
- NPDN / USDA-APHIS advanced training
- National Repository reports and features
- Bugwood RSS feed slideshow
- In *Regional News*: Gypsy moth and European grapevine moth



National Institute of  
Food and Agriculture

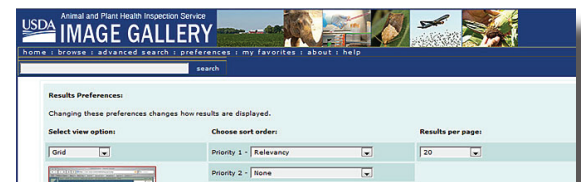
professionals, municipal employees, Shade Tree Commissioners, Master Gardeners, Rutgers faculty and staff, and State Department of Agriculture and APHIS-PPQ staff. We even had a golf guy – the USGA Green Section National Director. A modest fee was charged to cover expenses and pesticide credits for most Northeastern states were offered.

Day one was designated as “disease day.” Unfortunately, we had 14 inches of snow overnight so the first day attendance was cut in half. Despite the inclement weather, our NEPDN fearless leader Karen Snover-Clift did an excellent job with the introductory talks of “Why the NPDN and Crop Biosecurity.” Karen Rane was great with thousand cankers and *Phytophthora* diseases, which worked right into Carl Schulz’s (NJ Director of Plant Industries, SPHD) discussion of the New Jersey regulatory response to ramorum blight. Day two was “insect day” and we were treated to presentations on the Asian longhorned beetle eradication program, emerald ash borer in Maryland, “hot” ambrosia beetles, and brown marmorated stink bugs, to name a few. The head of the NJ CAPS program told us about his efforts and we heard from George Nelson (our SPRO) about how APHIS-PPQ protects us at the ports. George’s tales of the fumigation facility and other war stories from the port were fascinating. Those guys have an awesome job! The room was ringed with informational posters for everybody’s programs and all the attendees walked away with loads of swag. All in all it was a great success. We managed to add a bunch of new First Detectors to the roster and provided a forum for our state and federal colleagues to publicize their efforts. I knew we had it right when George Nelson left for the day and he said with an enthusiastic smile, “Next time we do this, I need more time.” 🍃

## New Image Gallery

### APHIS Newsroom

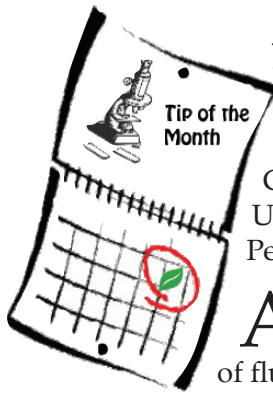
The USDA’s Animal and Plant Health Inspection Service (APHIS) launched its APHIS Image Gallery on February 15, 2011. The image gallery contains approximately 200 free, high-resolution photographs of the agency’s work that are available for public use. Users can browse the collection or search by keywords. The Image Gallery will be regularly updated to include new material.



At the Otis Lab, employees conduct research for several APHIS forest pest emergency response and eradication programs, including Asian longhorned beetle (ALB), light brown apple moth (LBAM), Asian gypsy moth (AGM), emerald ash borer (EAB), and *Sirex noctilio* woodwasp. Photo courtesy of USDA-APHIS, R. Anson Eaglin.

Images are available in Joint Photographic Experts Group (JPEG) format for direct download for web use and high-resolution files are available for print and publications. Any image used on a web site, publication, or any other project must credit USDA-APHIS and the photographer (if known). The images may not be used to infer or imply USDA or APHIS endorsement of any product, company, or position.

The Image Gallery is available online at [images.aphis.usda.gov](http://images.aphis.usda.gov). 🍃



## Diagnostics and Educational Outreach

Gail Ruhl, Purdue University, Plant and Pest Diagnostic Lab

A dark room, a black light and a plate of fluorescent bacteria (streaked onto Kings B medium) illuminating the letters 'CSI' — just the 'attention grabber' needed to introduce the subject of Crop Scene Investigation (CSI) to junior and senior high students! This demo provides an excellent segway into forensics and the



Fluorescence illumination of gram negative bacteria under a black light. Photo courtesy of Gail Ruhl, Purdue University.

fun we have with diagnostics. You can follow up by passing out plates of gram negative bacteria and have students use tooth picks to place some of the bacteria into a drop of KOH on a slide and swirl it around to see stringy strands of DNA (the result of lysed cell walls). Refer to the following lab posted on the APS website to help you out with specifics [http://www.apsnet.org/edcenter/K-12/TeachersGuide/DNA\\_Easy/Pages/default.aspx](http://www.apsnet.org/edcenter/K-12/TeachersGuide/DNA_Easy/Pages/default.aspx).

Follow up with a hands-on lab on symptoms and signs used for diagnosing plant problems.

Incorporate detection of virus/fungal/bacterial diseases using lateral flow serological detection. Recently expired test kits that you would not use on samples in the lab are excellent for teaching purposes!!! Students LOVE to put on purple latex-free gloves, grind up infected plant tissue and watch for the control 'line' and if positive, the sample 'line' to 'magically' appear.

It is easy to engage students in an hour of activities and discussion and who knows — you may even pique their interest to learn more about the art and science of plant disease diagnosis. ☺ 🌱

## NPDN / USDA-APHIS 2011 Advanced Diagnostic Training

Karen L. Snover-Clift, Cornell University and Laurene Levy, USDA-APHIS-PPQ-CHPST-NPGBL

The NPDN Diagnostics Subcommittee and members of USDA-APHIS-PPQ-CHPST-National Plant Germplasm and Biotechnology Laboratory (NPGBL) plan to continue offering the extremely valuable training workshops for a number of pathogens and techniques throughout this year (see following page for details). New this year are hands-on training offerings for citrus leprosis virus, sweet orange scab (*Elsinoe australis*) and citrus black spot (*Guignardia citricarpa*). Participants of these meetings are expected to cover their travel, lodging and meal expenses. There is no registration charge for the meeting or for meeting materials; these expenses are covered by our colleagues at USDA-APHIS-PPQ-CPHST-NGBTL. If you are interested in participating in any of these workshops please refer to the information provided and contact Karen Snover-Clift at [kls13@cornell.edu](mailto:kls13@cornell.edu).

# Diagnostic Updates



## 2011 Workshops:

*Additional sessions will be added for different dates based on demand.*

NEW

### Citrus Leprosis Virus (CiLV)

March 21–23, 2011 or April 25–27, 2011, 2.5 day

session Monday–Wednesday at noon.

**Covers:** Classroom presentation of the disease biology and virus characteristics for this interesting plant virus. Hands-on RNA extraction and one-step conventional and real-time PCR testing. Discussion and interpretation of results.

### HLB (Citrus Greening)

March 23–25, 2011 or April 27–29, 2011, 2.5 day session Wednesday at noon–Friday.

**Covers:** Classroom presentation of the disease biology, brief update on current research and diagnostic protocols. Hands-on sample selection, DNA extraction, conventional and real-time PCR. Discussion and interpretation of results.

### Bioinformatics

March 28–30, 2011, 2.5 day session, Monday–Wednesday at noon or March 30–April 1, 2011, 2.5 day session, Wednesday at noon–Friday.

**Covers:** Classroom lecture and hands-on computer training in basic bio-informatics to answer a diagnostician's question "What do I do with sequencing information?" The course will approach this question from the perspective of sequence information analysis from fungi, bacteria and viruses to gain an appreciation for how sequence analysis information is used/evaluated based on pathogen type. The trainees will manipulate sequence information

using several analysis programs (commercial and freeware) and discuss resources available.

### *Phytophthora ramorum* 101 (to include *P. kernoviae*)

April 5–9, 2011 or June 13–17, 2011,

4.5 day session Monday–Friday.

**Covers:** Classroom presentation of the morphology and taxonomy (Dr. Gloria Abad invited guest lecturer) and disease biology and detection. Hands-on DNA extraction, conventional PCR (nested and

multiplex), real-time PCR (ITS and Elicitin), and interpretation of results. A discussion relevant to proficiency test data analysis is also included.

### *Ralstonia solanacearum*

May 10–12, 2011, 3 day session Tuesday–Thursday.

**Covers:** Classroom presentation of the disease biology and detection techniques. Hands-on training on detection using Immunostrips, culturing and isolation, DNA extraction and molecular detection using PCR from plants and cultures. Lab includes the determination of Biovar using a microplate assay. Discussion and interpretation of results follows the lab portion.

NEW

### Sweet Orange Scab (SOS) & Citrus Black Spot (CBS)

May 24–26, 2011, 3 day session Tuesday–Thursday.

**Covers:** Classroom discussion of the biology, morphology and culturing. Hands-on DNA extraction and sample selection, conventional and real-time PCR detection of each pathogen. Discussion and interpretation of results follows the lab portion. 🌿



Symptoms of citrus leprosis virus on orange. Florida Division of Plant Industry Archive, Florida Department of Agriculture and Consumer Services, Bugwood.org.




## Image RSS Feed Slideshows

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

One of the most requested features has been the ability to show a slideshow of images from the Bugwood Database on any other website WITHOUT having to download the images or be an IT guru. We finally have some new tools that make this possible!


The first is RSS Feeds of images. RSS is Really Simple Syndication. The feed contains a list of images with a title, caption, and image citation. Many popular programs such as iGoogle, Windows Vista, Windows 7, Blogger, Wordpress and Drupal have widgets that can read these feeds and create a slideshow. We have made feeds available for user-created image collections, selected image sets for a subject, all images available for a subject, and recently added images. All the user has to do is install the widget and paste in the web address of the image feed.

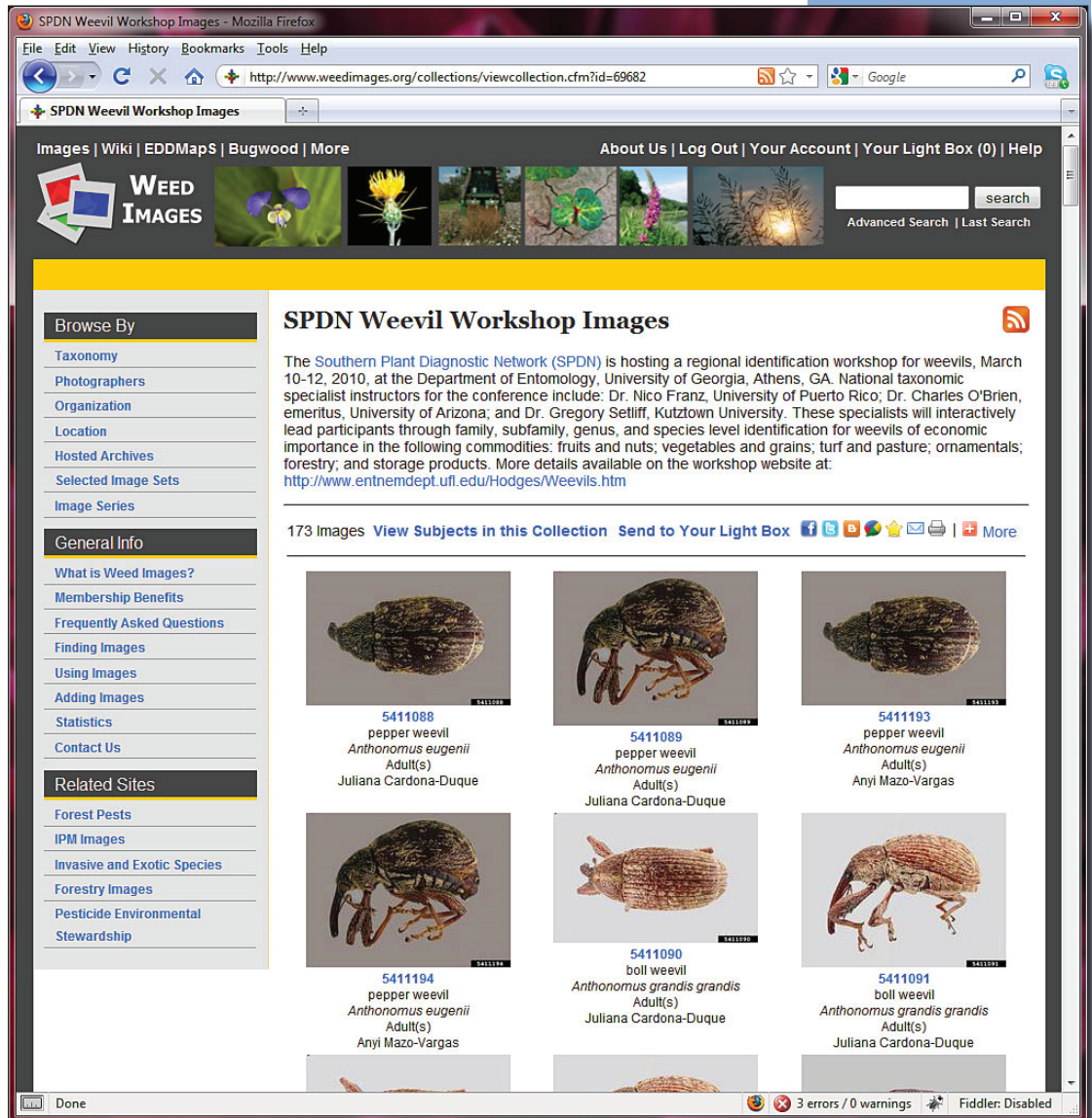
This begs the question: How do I find the web address for an image feed? Look for this symbol .

Web browsers such as Internet Explorer, Firefox, and Opera display this symbol whenever an RSS feed is available for the page you are viewing. Web designers also place this

symbol on pages to indicate that a feed is available. If you click the symbol, you will be taken to the web address for that feed!

So...what Bugwood pages do you go to for the feeds you want? Here's a quick guide:

- **User-created image collections**– Sign in, go to “Your Account”, Select “View Collections”, pick the collection you want to use and look for the symbol .




The screenshot shows a web browser window displaying the "SPDN Weevil Workshop Images" page. The browser's address bar shows the URL: <http://www.weedimages.org/collections/viewcollection.cfm?id=69682>. The page features a navigation menu with links for "Images | Wiki | EDDMapS | Bugwood | More" and "About Us | Log Out | Your Account | Your Light Box (0) | Help". A search bar is located in the top right corner. The main content area is titled "SPDN Weevil Workshop Images" and includes a brief description of the Southern Plant Diagnostic Network (SPDN) workshop. Below the text, there are six images of weevils, each with a unique ID number and a caption. The captions include the weevil species name, its life stage (Adult(s)), and the photographer's name. An RSS feed icon is visible in the top right corner of the page content. The browser's status bar at the bottom indicates "Done" and "3 errors / 0 warnings".

- **All images available for a subject**– Find an image of the subject, click on the name of the subject that is under the image (this brings you to the

Subject page), click the  symbol.

- **Selected image sets for a subject**– While on the Subject page, look for a link to “View Information”. If we have a set of selected images, it will

appear toward the top of the page. If you do not see a selected image section, this feed is not available since there is not a selected image set.

- **Recently added images**– Go to the homepage for the Bugwood website you want a feed of recent images from. Look for the  symbol.

Find an image of the subject you want, click the name beneath the image.

This brings you to the Subject page. Click the RSS symbol for all images available for this subject or click on View Information to see if there is a selected image set available.

From the View Information page, when you click the RSS symbol (if available) it will take you to a page that will display all of the available images in that set.

This is the IPM Images homepage. Click on the RSS symbol to get recently uploaded images to the IPM Images site.

This is the IPM Images homepage. Click on the RSS symbol to get recently uploaded images to the IPM Images site.

If you can't find a way to use media RSS feeds, feel free to contact us to see what can be done to make a slideshow that will work. We have other methods that can be used if the RSS media feed does not work for you. Contact us and we'll see what we can do for your particular situation. 🌿



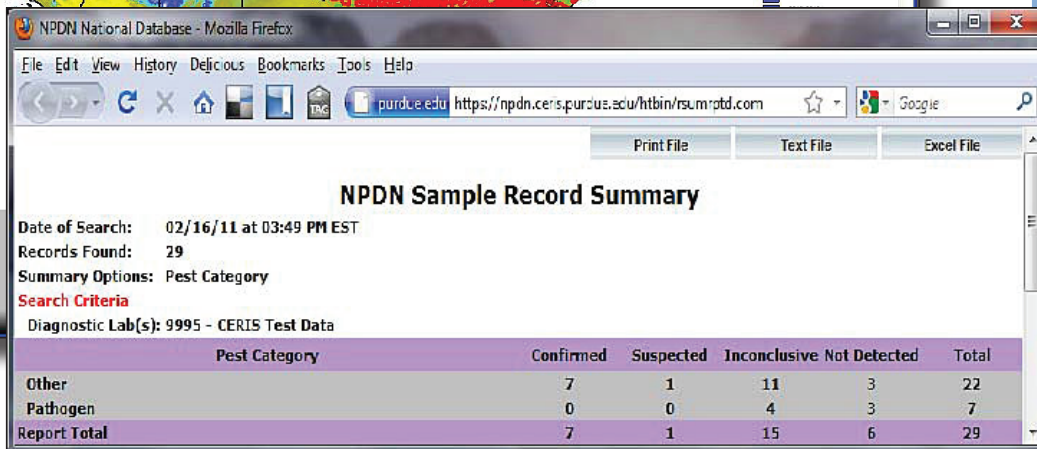
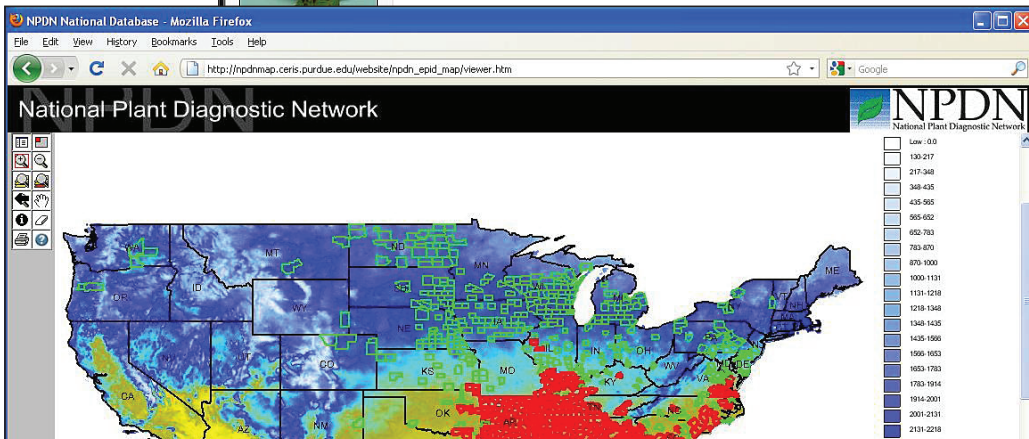
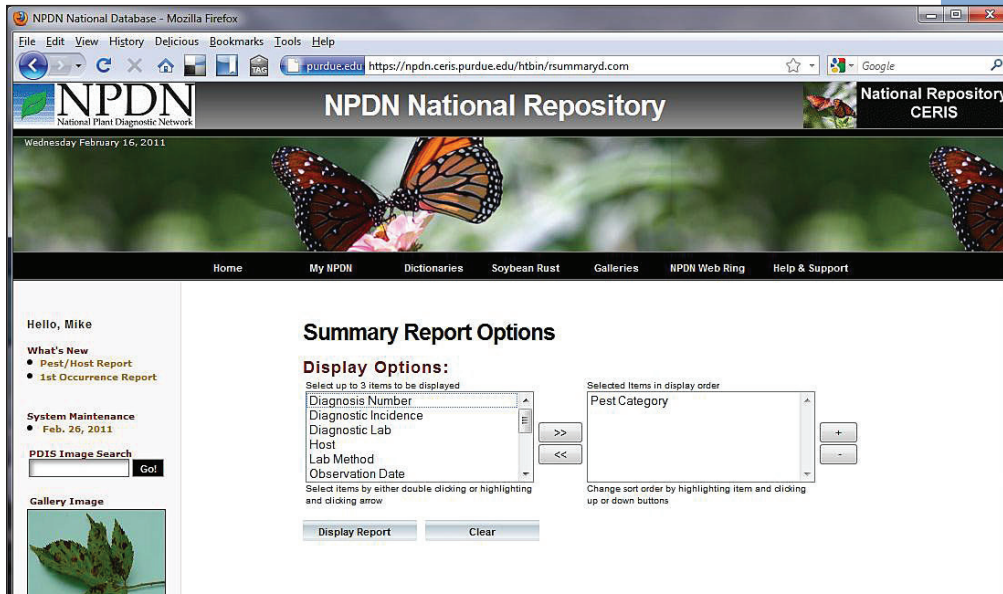
# National Repository Update: Reports and Other Features

Mike Hill and Eileen Luke, Purdue University, CERIS

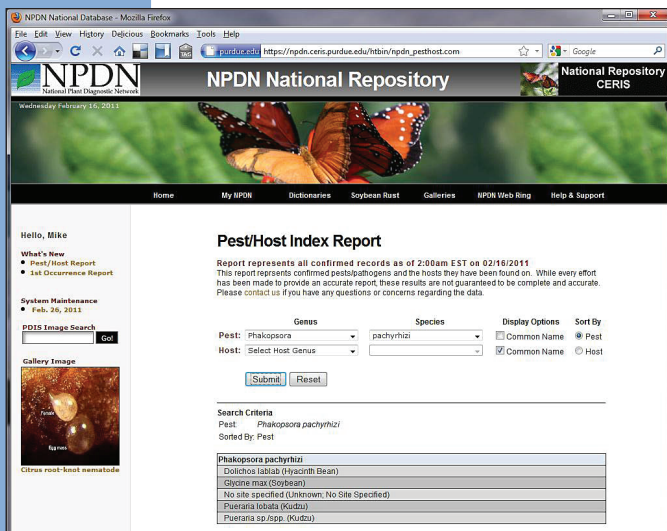
There are a number of reports, maps and charts available for all users. The data that can be viewed is based upon the user's access role. One of the useful features for diagnosticians is the summary option for pest category in the creation of yearly reports, as well as, other general summary reports based on Sample Dates, Pest,

Diagnostic Lab, Host, Enter Dates, and Sample ID. Once the report has been generated, you will have the option to export it to an Excel spreadsheet. For Windows users, you can also place the output into a

# IT News







PowerPoint slide by taking a screen capture holding down the Alt and Print Screen keys and then pasting into the slide.

If you would like assistance in creating any of these reports or PowerPoint presentations please contact Mike Hill (765)494-9854 [mhill@ceris.purdue.edu](mailto:mhill@ceris.purdue.edu) or Eileen Luke (765)494-6613 [lukee@purdue.edu](mailto:lukee@purdue.edu).

*Note\*: All of the examples provided below are based on mock data or are non-sensitive in nature. 🌿*

## Regional News

### GPDN Spring 2011 Webinar Series

The GPDN spring webinar series features presentations on subjects in plant pathology and entomology relevant to pest management specialists and diagnosticians. To view the 2011 line up visit

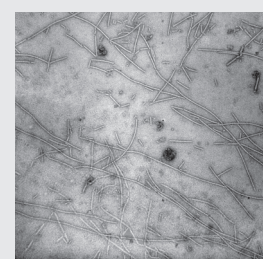
[www.gpdn.org](http://www.gpdn.org). The webinars are open to anyone who would like to join at 10:00 a.m. CT / 9:00 a.m. MT.

To join go to <http://connect.ksre.ksu.edu/gpdnseminars/>. If you have any questions regarding this seminar series or connecting, contact Sharon Dobesh at [sdobesh@ksu.edu](mailto:sdobesh@ksu.edu) or 785-532-1340. All webinars are recorded and can be viewed at [www.gpdn.org](http://www.gpdn.org). 🌿



virology diagnostic workshop in St. Paul, Minnesota. The workshop was led by Dr. Ben Lockhart and Dimitre Molloy, of the University of Minnesota, Department of Plant Pathology. Participants included diagnosticians from both state diagnostic laboratories and land grant universities. The hands-on workshop was held over three and a half days.

Throughout the workshop participants learned techniques used to detect and identify both known and unknown viral



TEM image of virus particles extracted from a symptomatic plant, then mixed with TMV particles for size calculation. Photo by Gail Ruhl, Purdue University.

pathogens. The methods that were taught included extraction techniques for transmission electron microscopy (TEM), TEM staining techniques, Immunosorbent electron microscopy (ISEM), DNA and RNA extraction,

RT-PCR, PCR, primer design, and sequence analysis. Sessions covering



### Diagnostic Virology Workshop Held in Minnesota

Jan Byrne, Michigan

State University, Department of Plant Pathology

Nine members of the NCPDN attended a

*article continues on page 10...*

Visit the NPDN homepage at [www.npdn.org](http://www.npdn.org) for more information on specific Program Area Committees.  
**Login and password required**

### E X E R C I S E C O M M I T T E E

#### Exercise Committee

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

The Exercise Committee conducted a conference call on February 1, 2011 and the following agenda items were discussed:

- Upcoming APHIS-PPQ exercises
- Add nematologist contact to SOP

- Committee report will be called for soon from the Operations Committee
- Next call

The next conference call is scheduled for March 8, 2011.

### N A T I O N A L D A T A B A S E

#### 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 February 9, 2011. The subcommittee continues to work on reviewing the extensive NPDN pest lists. The agenda included:

- Discussion of change submissions
- Discussion of new pest grouping software

- Discussion of the Gastropod pest list
- Discussion of the Insect pest list, plan to review by code, and contacts

The next meeting will be held on March 16, 2011.

### W E B S I T E C O M M I T T E E

#### Website Committee

Karen Scott, Committee Chair, Cornell University, Department of Plant Pathology and Plant-Microbe Biology

The Web Committee conducted a conference call on February 15, 2011. The calendar module was reviewed via Adobe Connect and approved by the committee for implementation. The calendar will be available in early March for committee chairs to

post their conference call and meeting activities. Diagnostic training sessions, and meetings of national interest will also be posted on this calendar. Editor training sessions will be coming soon.


Next conference call is scheduled for March 14, 2011.

continued from page 8...

basic virology were also interwoven throughout the workshop. Each attendee began the workshop with an ornamental plant sample displaying symptoms of

a viral pathogen. The viruses were identified by the participants who used the methods taught in the workshop. Some of the viruses diagnosed included: cucumber mosaic virus on *Echinacea*, cactus virus X on *Zygocactus*, turnip mosaic virus on damesrocket (*Hesperis matronalis*), canna yellow mosaic virus on *Canna*,

and tobacco rattle virus on *Epimedium*.

The NCPDN thanks Dr. Lockhart and Dimitre Mollov for sharing their time and virology expertise with the group. 

## Domestic Quarantine Established for Gypsy Moth


On February 25, APHIS expanded its gypsy moth (GM), *Lymantria dispar*, quarantine area to include LaPorte County, Indiana, and issued a Federal Order effective immediately.

The Federal Order establishes LaPorte County as a quarantine area in order to prevent the further spread of GM. A Federal quarantine of less than the entire State is possible when the State establishes an intrastate quarantine that mirrors Federal requirements for interstate movement. The State of Indiana has already established domestic quarantines for this area.

[Click here to read the official announcement and Federal Order.](#) 



## Lake County, CA, Released from EGVM Quarantine

On February 3, APHIS released Lake County, California, from the European grapevine moth, EGVM (*Lobesia botrana*), quarantine area. Portions of Lake County were established as quarantine areas after several moths were detected in northern Napa County in the spring of 2010. [Click here to read the official announcement.](#) 

## Amended Federal Order to Exempt Several Articles Previously Regulated for EGVM

On February 10, APHIS announced an amendment to the EGVM Federal Order to exempt olive fruit with or without stems or twigs, fermented pomace and all petioles and leaf blades of *Vitis* sp. Olive flowers, unfermented pomace and all other plant parts of *Vitis* sp. will continue to be listed as regulated articles.

The revised Federal Order outlines the safeguarding measures required for the interstate movement of regulated articles from quarantine areas. The State's interior quarantine for EGVM is parallel to the Federal Order. The new Federal Order updates and replaces the EGVM Federal Order (DA-2010-43) issued September 15, 2010.

[Click here to read the full announcement and revised Federal Order.](#) 



Participants of the virology workshop. Photo courtesy of Jan Byrne, Michigan State University.



Gypsy moth caterpillar. Photo courtesy of Dawn Dailey O'Brien, Cornell University.



## 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 59<sup>th</sup> Annual Meeting](#)  
Reno, NV

## Regional Events

**March 21-23, 2011**  
Soilborne Plant Pathogens and California Nematology Workshop  
Davis, CA

**April 5-6, 2011**  
NCPDN Regional Meeting  
Ames, IA

# Upcoming Events

Rachel McCarthy, Editor  
NEPDN  
Cornell University