NPDN
National Plant Diagnostic Network

NPDN News

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First Finds & First Submissions, New Leadership & New Sites
A Look Back at Notable Events of 2012

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

Last year ended with the announcement of some rather significant news. APHIS confirmed that boxwood blight, caused by the pathogen, *Cylindrocladium pseudonaviculatum*, was present in North Carolina, Connecticut and Virginia. This news created a stir in several of our labs and a buzz throughout the network, because it was the first time it had been confirmed in the United States. As 2012 draws to a close, let's take a moment to reflect on some other significant events and noteworthy news from the year.

Butternut sample. Photo courtesy of Matthew M. Rivers (ISA Certified Arborist for the City of Eugene, OR.

In January 2012, Maryna Serdani, Department of Botany and Plant Pathology, Oregon State University (OSU), reported butternut to be a new host for thousand cankers disease and the walnut twig beetle. Suspect black walnut branch samples with signs of the disease and the beetle vector were dropped off at the OSU Plant Clinic. Scientists confirmed that the branches were those from a butternut, *Juglans cinerea*, and not a black walnut, *Juglans nigra*. The Oregon Department of Agriculture confirmed the beetles to be *Pityophthorus juglandis* and the OSU Plant Clinic recovered *Geosmithia morbida*, from the canker margins. This was the first time *G. morbida* and *P. juglandis* were detected on butternut in North America.

On January 13, the Texas Department of Agriculture and USDA-APHIS confirmed the first detection of citrus greening in Texas. The disease was discovered in a tree in a commercial orange grove in San Juan. Texas is the second-leading state in grapefruit production and ranks third in orange production with approximately 28,295 acres in commercial citrus production in the Rio Grande Valley.

In February, APHIS announced that eight new plants – *Ilex cornuta, Illicium parviflorum, Larix kaempferi, Magnolia denudate, Mahonia nervosa, Molinadendron sinaloense, Trachelospermum jasminoides,* and *Veronica spicata* syn. *Pseudolysimachion spicatum* – would be added to the list of *Phytophthora ramorum* regulated articles as of March 1, 2012. In addition, APHIS moved *Cinnamomum camphora* species from the associated host list to the proven and restricted host list based on new information received from

Issue Highlights

USDA
National Institute of Food and Agriculture

the state regulatory agency in California. These changes brought the total regulated hosts for *P. ramorum* to 137.

In early March, APHIS, in cooperation with the California Department of Food and Agriculture, expanded the regulated area for the Asian citrus psyllid (ACP) in California. The detection of ACP in San Clemente, California, resulted in expansion of the ACP regulated area to include the Camp Pendleton area of San Diego County. APHIS applied restrictions on the interstate movement of regulated articles from the expanded regulated area that are parallel to the intrastate quarantine that had been previously imposed by CDFA. ACP is considered to be present only in some areas in California and subject to official control via parallel State and Federal quarantines.

On March 16, APHIS announced a revised Federal Order to expand the regulated area in Florida for *Guignardia citricarpa*, the causal agent of citrus black spot (CBS). Due to additional detections of CBS during ongoing surveys by APHIS and the Florida Department of Agriculture and Consumer Services, Division of Plant Industry, the regulated area was expanded by eight sections in Collier County and 31 sections in Hendry County.

Later in March, the Ohio Department of Agriculture confirmed boxwood blight in Lake County in Ohio and plant pathologists at the Connecticut Agricultural Experiment Station identified *Pachysandra terminalis* as a new host for this disease.

The California Department of Food and Agriculture confirmed the state's first detection of huanglongbing, or citrus greening on March 31.

APHIS launched the new Hungry Pests website in April and announced that the month will be dedicated to sharing information about the threat invasive plant pests, diseases and harmful weeds pose to America's fruits, vegetables, trees and other plants — and how the public can help prevent their spread.

On May 24, Agriculture Secretary Tom Vilsack announced that the U.S. Department of Agriculture will support 321 projects in all 50 states, plus American Samoa and Guam. The 2012 Farm Bill submissions aim to prevent the introduction or spread of plant pests and diseases threatening U.S. agriculture and the environment.

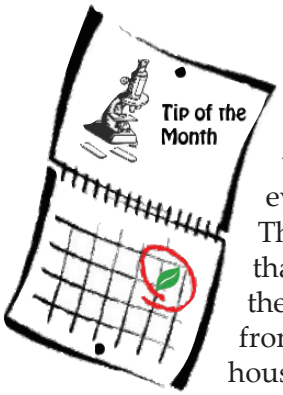
On June 15, APHIS announced the first detection of South American palm weevil (SAPW), *Rhynchophorus palmarum*, in the state of Texas. APHIS previously confirmed the detection in Alamo, Texas on May 3. This detection was the result of a multi-state delimitation survey initiated in response to detections of SAPW in California in 2011. On May 11, 2012, a second SAPW was detected in the same general geographic area of Alamo, Texas. Both detections were found within 5 miles of the U.S.–Mexico border.

In July, regional access to data within the National Repository was opened up to several users across the NPDN network. This level of access provides users the ability to view reports, maps and charts for their entire region. One of the greatest benefits of regional access is the daily first submission by state e-mail report. This e-mail report represents pest/pathogens by state that have been uploaded to the National Repository as confirmed for the first time.

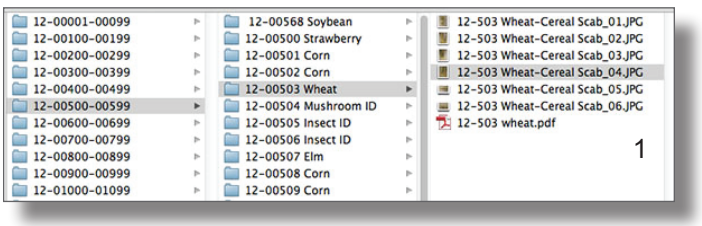
article continues on page 7...

Sample Photography as a Standard Operating Procedure

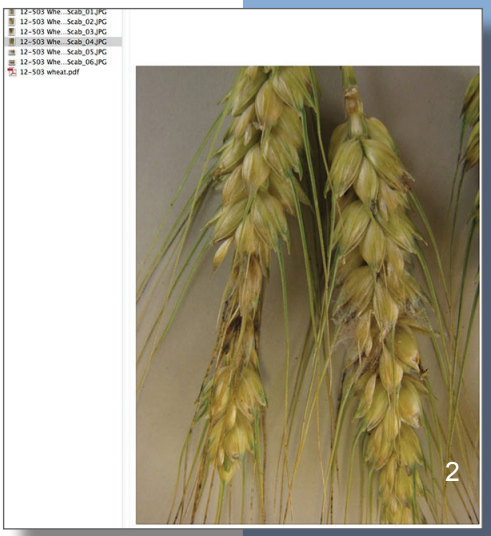
Tom Creswell, Purdue Plant and Pest Diagnostic Lab, Purdue University



Last week our secretary got a call from a disgruntled client who sent in several evergreen samples. The client was upset that I had mixed up the arborvitae samples from the front of the house with the juniper from the back and had thus provided an erroneous diagnosis. Rather than get into an argument with the client our secretary wisely took his information and referred the problem to me. What might have been a difficult 'no-win' situation was easier to deal with because of the standard operating procedure (SOP) we have for photographing all sample submissions and scanning all submission forms. Each sample is photographed upon opening and the clinic form is scanned to a DF. These documents are stored on a network server accessible from all the computers in our clinic working group so that any additional pictures we take in the lab, including photomicrographs are stored together in a folder for that sample. We organize the sample folders by sample number and group them in folders of 100 (*Fig 1 and 2*). This allowed me to look at the photos of these samples as they were received and the PDF scans of the original forms, verify that the sample numbers given to the juniper and arborvitae were correct and call the client back with confidence that there had been no mix-up.



Our SOP for photographing samples also allows us to document original sample condition upon arrival. This is especially helpful in those cases when a diagnostician may not be able to see the sample until a day or two after arrival. Did the sample degrade before I saw it or was it really that bad when it arrived (*Fig. 3*)? The day of arrival shots let us be sure. These images are also helpful for training clientele on the importance of sample selection and proper packaging.



The photos also serve the purpose of helping to improve diagnostic skills. Some confirmations may take several days or even weeks. Having a good photographic record of the symptoms allows us to 'return' to that sample and review the symptoms and results when the testing is complete.

Good photos of symptoms or signs are useful teaching tools. We use many of the images in presentations however perhaps the best use of this SOP is for the 'just-in-time' learning experience that occurs when you send a client a diagnosis of the problem with a picture of the original symptom attached. The client is much more likely to remember that problem next time it appears.

Sign up soon! Classes are filling up!

NPDN / USDA-APHIS 2013 Advanced Diagnostic Workshops

Karen L. Snover-Clift, Department of Plant Pathology and Plant-Microbe Biology, Cornell University and Mark Nakhla, USDA-APHIS-PPQ-CHPST-NPGBL

The NPDN Diagnostics Program Area Committee and members of USDA-APHIS-PPQ-CHPST-National Plant Germplasm and Biotechnology Laboratory (NPGBL) announced the 2013 advanced diagnostic workshops. During the spring of 2013, we will again offer advanced trainings on a number of topics.

New this year: increased class size from 8 to 12 maximum participants

2013 Advanced Diagnostic Workshops

2 spaces available: Bioinformatics
February 26–28, *3 days*

only 1 space available: Phytophthora
March 5–8, *3.5 days*

8 spaces available: Potato Wart
March 11–12, *2 days*

7 spaces available: Bioinformatics
March 13–15, *3 days*

8 spaces available: Citrus pathogens
March 19–22, *4 days*

4 spaces available: Citrus Greening-HLB
March 26–28, *3 days*

Week 1: Bioinformatics, February 26–28 & Week 3 (second part of week): Bioinformatics, March 13–15

In previous years we have offered this session in two parts. This year the two parts will be combined and we will add detailed guidance on sequencing PCR amplified fragments either directly or after cloning. The rest of the session will cover analysis of obtained sequences from both plus and minus strands, editing sequences, blasting sequences, understanding blast results based on size and gene target, when to directly sequence PCR products or clones, which genes are used for sequence analysis for fungi, bacteria, and viruses, what sequence analysis programs are available commercially or as freeware, and handson use of sequence analysis programs using sequences from case studies for different pathogen types, and allowing the participants to work with their own sequences.

Week 2: Phytophthora, March 5–8

Due to continued interest, we have scheduled a Phytophthora training session. The session is 4 ½ days long and covers ELISA, DNA extraction, conventional PCR (nested and multiplex), real-time PCR (ITS and Elicitin), and interpretation of results.

Week 3 (first part of week): Potato Wart, March 11–12

Again due to continued interest, we have scheduled a potato wart session. The session is two days long and will be held the first part of the week with bioinformatics at the end of the same week. Those interested in both topics may want to choose this option to complete both sessions with one trip.

Week 4: Citrus pathogens, March 19–22

This topic was very popular last year and we could not get everyone interested in to the sessions offered so hopefully we can accommodate those who missed out last year in this year's session. The session will cover citrus leprosis, sweet orange scab and citrus black spot in a 4½ day session. The training will cover disease symptoms and methods of detection and identification of CiLV, CBS and SOS. The molecular diagnostics will include PCR, real-time PCR, RT-PCR and RT-real-time PCR.

Week 5: Citrus Greening-HLB, March 26–28

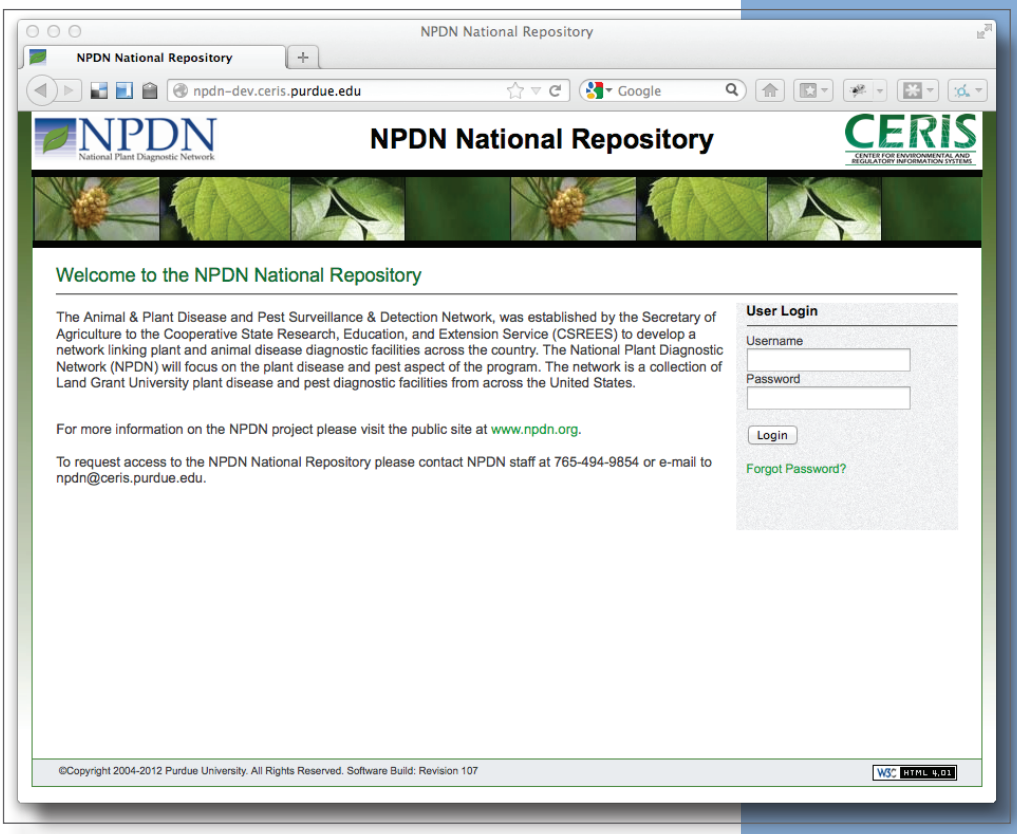
Due to the continued presence and spread, there to continues to be a need for HLB training. This session will be done over a three day period and will conclude our training for the year.

Expenses for travel, lodging and meals will be covered from a supplemental, Farm Bill grant for diagnostician training so you will not need to use your funds from this year's NPDN allocation. All expenses will be processed through Cornell University. 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. Funds for reimbursement of travel expenses are limited. Priority will be given on a first come, first served basis in order by requests received until funds are exhausted. Please sign-up as soon as possible; classes are filling up. If you are interested in participating in any of these workshops contact Karen Snover-Clift at kls13@cornell.edu. Thank you!

IT News

New Year Brings in a New Site

Mike Hill and Eileen Luke, CERIS, Purdue University



The new NPDN National Repository site is scheduled to be moved over effective on January 1, 2013. Feedback so far from beta testing has been positive and diagnosticians' have reported liking the new look and feel.

One of the biggest changes on the new site is that the username and password are the same as the username and password that you use to access the NPDN portal sites (npdn.org, gpdn.org, ncpdn.org, nepdn.org, sepdn.org, and wpdn.org). The URL for the new website will remain the same and can be accessed at https://npdn.ceris.purdue.edu.

Please feel free to contact Mike Hill (mikehill@purdue.edu) at (765) 494-9854 or Eileen Luke (lukee@purdue.edu) at (765) 494-6613 if you have any questions about the NPDN National Repository.

PAC Highlights

PROGRAM AREA COMMITTEES

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

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 December 11, 2012, and the following agenda items were discussed:

- APHIS-PPQ updates
- NPDN regional updates
- NPDN updates
- Committee changes
- Sentinel Plant Network update

The next conference call is scheduled for February 12, 2013.

NATIONAL DATABASE

National Database Committee

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

The National Database Committee conducted a conference call on December 12, 2012, and the following agenda items were discussed:

- Tamla blunt has joined the committee and agreed to serve as secretary.
- Discussion was held regarding changes for some codes of Sclerotinia and Sclerotium.
- Upload guidelines will be revised over the next few months to educate toward consistency. Some Committee members are Beta testing the new NPDN National Repository web site.
- The "One Name for Fungi" project is underway with funding from the Farm Bill.
- A discussion was held regarding loss of funding and loss of productivity, due to less frequent conference calls.

The next conference call will be held February 6, 2013.

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 November 19, 2012, and the following agenda items were discussed:

- Nomination for T&E chair and secretary
- Completion of state FDE list
- Draft module review
- Farm Bill 2013

The next meeting will be held on January 14, 2013.

Quality Corner

Benefits of Lab Accreditation

Dawn Dailey O'Brien, Department of Plant Pathology and Plant-Microbe Biology, Cornell University

Before beginning the process of developing a quality management system (QMS) you might be asking yourself what are the benefits to my lab. It turns out that the first step in setting up the system is a benefit in itself because it requires you to take a hard look at the way work is performed within your lab. It involves assessing your current procedures to evaluate where you are meeting your standards and where you are not. The new procedures can then be documented and implemented.

AND there are other proven benefits…

- Documents laboratory policies and procedures in order to ensure accurate, reliable, consistent and repeatable diagnostic results
- Promotes continuous and timely improvement of diagnostic services offered
- Identifies potential equipment/ protocol problems and provides a mechanism for correction
- Provides confidence in diagnostic results with increased accuracy and documentation
- Supports policies to keep abreast of new technologies
- Provides a legal and scientifically defensible framework to underpin and support laboratory findings
- Encourages improvement of management and operational processes, resulting in enhanced utilization of time and materials
- Offers added value from customer satisfaction

So while it will take some time and resource commitment there is true value in having a functioning quality management system for your lab. Continuous improvement is the goal! ★

National News, *cont.*

article continued from page 2...

On July 20, the Connecticut Agricultural Experiment Station and the Department of Energy and Environmental Protection announced that the emerald ash borer (EAB) was detected in Prospect, CT. On August 29, EAB was again found by the Kansas Department of Agriculture and USDA staff during a survey being conducted as a result of the July 2012 confirmation of emerald ash borer in Platte County, Missouri.

On August 6, Dr. Jeff Jones, SPDN Director and Professor of Plant Pathology at the University of Florida, assumed the role of NPDN Executive Director and on September 1, Dr. Marc Fuchs, Associate Professor of Plant Pathology and Plant Microbe-Biology at Cornell University officially replaced Dr. George Hudler as the NEPDN Director.

In October, the British environmental secretary announced a ban on the importation of all ash into the U.K. as reports of trees showing symptoms of ash dieback disease caused by the fungus *Chalara fraxinea* have popped up across the country. Ash dieback disease has been moving across mainland Europe with countries like Denmark reporting losses of up to 90% of their ash trees. In February 2012, ash dieback disease was found in British nursery tree stocks, but the new reports in October represented the first occurrence of the disease in a natural area in the UK.

Regional News

GPDN Webinar Series for 2013

Sharon Dobesh, Kansas State University, Department of Plant Pathology

We are pleased to announce the 2013 GPDN Webinar Series. This year the webinar series will begin in January. All webinars begin at 10:00 am CT/9:00 am MT.

The following is the schedule as it currently stands. We are still working with speakers to firm up the TBA dates.

The webinars are open to anyone who would like to attend. To join go to http://connect.ksre.ksu.edu/gpdnseminars/.

Once there "Enter as a Guest" by typing in your name and affiliation. Next click on "Audio" at the top of the screen, then "Start Audio Conference". This will list three options, choose "Receive a call from the meeting (Dial-out)" and enter your phone number. If this does not work, there is a manual conference number 1-866-910-4857, participant code 447113. If you have any questions regarding this seminar series or connecting, contact Sharon Dobesh at sdobesh@ksu.edu or 785-532-1340. All webinars are recorded and can be viewed later at www.gpdn.org along with those from 2008 through 2012 that are available.

Date	Speaker	Topic
1-16-2013	Aaron Palmateer, University of Florida	Impatiens Downy Mildew
1-23-2013	Kate Evert, University of Maryland	Powdery Mildew on Vegetable Crops
1-30-2013	TBA	
2-6-2013	Ioannis Tzanetakis, University of Arkansas	Virus Diseases of Brambles – Diagnosis and Relative Importance
2-13-2013	Bill Bockus, Kansas State University	Durability of Disease Resistance in Kansas Wheat Cultivars
2-20-2013	Jody Fetzer, Hillwood Estate, Washington D.C.	Mites – From bad to beneficial – in Gardens and Greenhouses
2-27-2013	TBA	
3-6-2013	Dawn O'Brien, Cornell University Rachel McCarthy, Cornell University	Update on Star-D Sentinel Plant Network

Branching Out: Features from the Past for the Future is available from Branching Out, Department of Plant Pathology, Cornell University, 334 Plant Science Building, Ithaca, NY 14853. Cost $30 (includes postage and handling); checks made out to Cornell University or order online at http://branchingout.cornell.edu/FeatureBookInfo.html

Malacology Workshop at University of California, Davis

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

The world of snails, slugs, and mollusks is the subject of the WPDN malacology workshop from March 26–28, 2013. This three day workshop will be taught by David Robinson, Patrick Marquez, Greg Bartman, all identifiers for the USDA-APHIS-PPQ, and Rory O'Donnell, an expert on California slugs and snails at University of California, Riverside. The cost is still being estimated, but from past workshops the registration will be near $500. Contact Richard Hoenisch at rwhoenisch@ucdavis.edu if interested in attending.

WPDN
Western Plant Diagnostic Network

Upcoming Events

National Events

August 4–8, 2013
National Plant Board 2013 Annual Meeting
Louisville, KY

August 10–14, 2013
2013 APS-MSA Joint Meeting
Austin, TX

Share Tips and News with Your Colleagues

Recently write an article for a trade journal? Do you have a tip, announcement, regional news or network update you would like to include in the *NPDN News*? Email Rachel McCarthy at rachel.mccarthy@cornell.edu

USDA United States Department of Agriculture
National Institute of Food and Agriculture

NPDN National Plant Diagnostic Network

Rachel McCarthy, Editor
NEPDN
Cornell University