

## The National Plant Disease Recovery System (NPDRS) for Plant Diseases that Threaten U.S. Agriculture

*Kent Smith, USDA Office of Pest Management Policy*

In January of 2004, President Bush issued a Homeland Security Presidential Directive (HSPD-9), the purpose of which was to establish a national policy to defend the U.S. agriculture and food system against terrorist attacks, major disasters, and other emergencies, including natural occurrences. HSPD-9 directed the USDA Secretary of Agriculture to develop a National Plant Disease Recovery System (NPDRS) to sustain a reasonable level of production for economically important crops.

The fourth national meeting of NPDRS was held on March 6, 2011, in Dallas, Texas. At that meeting, sponsored by USDA and the American Phytopathological Society (APS), we reviewed the progress of NPDRS and some recently completed recovery plans. Also, we made plans for the future and reviewed similar federal and state programs. Carla Thomas presented a review of NPDN progress. A summary of the meeting as well as several PowerPoint presentations can be viewed on the APS website at:

[www.apsnet.org/meetings/topicalmeetings/NPDRS/Pages/default.aspx](http://www.apsnet.org/meetings/topicalmeetings/NPDRS/Pages/default.aspx)

The development of the NPDRS is directed by the USDA Office of Pest Management Policy but with the critical

## Thousand Cankers Disease Found in Virginia

On July 21, 2011, the Virginia Department of Agriculture and Consumer Services (VDACS) placed a temporary quarantine on Chesterfield and Henrico Counties and the city of Richmond after the detection of thousand cankers disease (TCD) on black walnut in Chesterfield and Henrico Counties. This is the first detection in Virginia and the first time it has been found east of Knoxville, TN, where it was detected in August 2010.

[Click here to read the full announcement from VDACS.](#)

### Issue Highlights:

- Tip: extending the working life of diagnostic samples
- Citing Bugwood images
- PDIS 2.0: *new* nematode collection ability
- National Repository highlights: summary of data by pest and nematode data
- APHIS Federal Orders for Khapra beetle
- In *Regional News*: EAB




National Institute of  
Food and Agriculture

review and advice of APS. Recovery plans of individual, high-consequence plant diseases are the chief means by which NPDRS prepares for emergencies. We rely largely upon APS members, many of whom are NPDN members, to prepare these plans. The completed recovery plans can be viewed on the USDA website at:

[www.ars.usda.gov/research/npdrs](http://www.ars.usda.gov/research/npdrs)

Our goal is not to produce academic review articles on these diseases – we leave that role to the appropriate

researchers – but rather to produce concise but accurate summaries of our preparedness for use by government decision-makers. It is hoped that these documents will also serve as useful education and outreach tools. Key sections that will be covered in all reports are a discussion of pathogen biology, disease symptoms, potential pathogen spread, monitoring and detection, economic impact and producer compensation, current infrastructure, mitigation and disease management, recovery timelines, and research and extension priorities.

We have benefited from the voluntary participation of APS and NPDN members in our recovery plan workgroups and we gratefully acknowledge their support. We look forward to continued broad-based cooperation in the development of NPDRS. 

### **NPDRS and NPDN: Partners in Preparation**

*Carrie Harmon, Department of Plant Pathology, University of Florida*

NPDRS is the acronym associated with an effort to prepare for high-impact plant diseases in the US. Each disease is represented by a group of subject-matter experts that works with USDA to develop plans for responding to invasive/high-impact pathogens. They are interested in partnering more with NPDN as a means of getting the word out regarding the pathogens as well as the plans themselves. Some of our NPDN folks are involved in developing the plans, and some of our NPDN SOPs are referenced in the plans as part of the detection section (for example, the new Laurel Wilt Response Plan, about to be released by Randy Ploetz, UF, references the NPDN Laurel Wilt SOP, and Carrie Harmon, SPDN, is a co-author on the NPDRS plan). Usually the development of a plan takes about a year, and starts with a meeting of those interested/proficient in the subject. The plans consist of background, biology, detection/diagnosis, and response/mitigation measures. Much like our NPDN SOPs, most follow a standard format and the authors attempt to include all relevant personnel and the most up-to-date information available. These documents are useful for keeping abreast of the newest research developments and measures to mitigate the effect of introductions of high-risk pathogens, as well as the people who work on the pathogens - always good to know in case you need a resource to discuss a suspect sample!

### **NPDN Awards Nominations Deadline Extended**

*Sharon Dobesh, Department of Plant Pathology, Kansas State University*

The deadline to nominate a deserving colleague for an award has been extended to Friday, August 26, 2011.

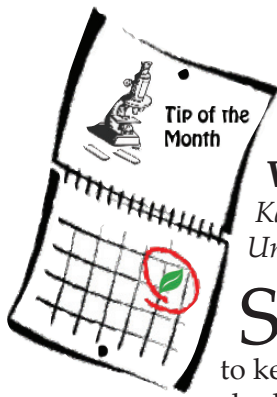
The Awards Committee has expanded the opportunity to nominate those who have greatly contributed to NPDN since the 2009 meeting!



### **NPDN First Detector Educator Awards**

- Outstanding First Detector Educator Training Award
- Outstanding Team First Detector Educator Training Award
- Outstanding Promotion of the Online Crop Biosecurity Course

*article continues on page 11 ...*

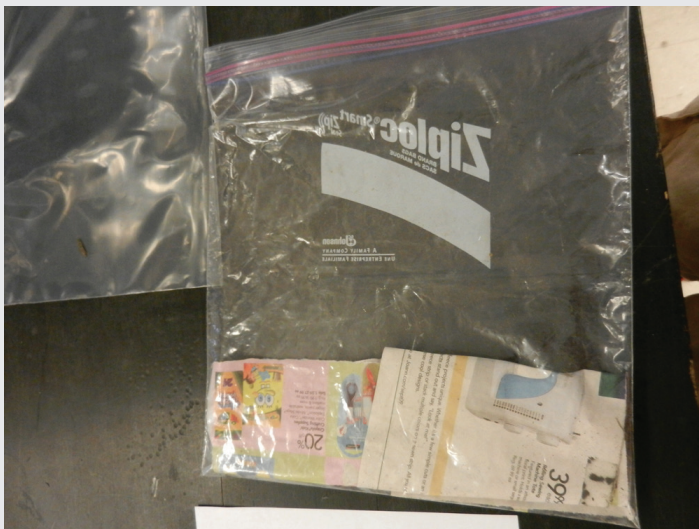


## Diagnostic Tip - Extending the Working Life of Diagnostic Samples

Karen K. Rane, Plant Diagnostic Laboratory,  
University of Maryland

Storing plant samples in the lab during the diagnostic process is a necessary part of clinic operations. We sometimes need to keep samples for several days to accommodate specialists' schedules or while cultures are incubating. Detached plant parts, like leaves, fruits or herbaceous plants without roots, can deteriorate during that time, even in refrigerated storage. We have found that wrapping plant samples in

dry newspaper, then placing the package in a self-closing plastic bag (or plastic bag with rubber band) before storing in a refrigerator keeps samples in better condition than storing in plastic bags alone. The newspaper absorbs condensation that builds up in sealed plastic bags, keeping the plant sample dry and reducing secondary molds. It's a great use for all of those free campus newspapers! 🌱



Unwrapped sample (top) and sample wrapped in newspaper (bottom). Photos courtesy of Karen Rane, University of Maryland.



## Citing Images Found in the Bugwood Image Database

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

Every week, I get questions from users about the proper way to cite an image from the Bugwood Image Database in their particular project. Here is a summary of the more frequent questions and their answers. Hopefully they will help all of you in the future.

### Q. When do I have to cite an image?

A. Always! Many people have created some great images and they must be cited whenever they are used.

### Q. What citation should I use with an image?

A. The citation should credit the photographer, their organization and Bugwood.org. Most of the time, it should look something like this:

Photo Grapher, University of Lithograph, Bugwood.org

### Q. Is there a place where I can just copy and paste that from?

A. YES! If you go to the page specific to that image, it is on the right hand side.

### Q. I don't have much room for a citation. Can I abbreviate it?

A. Yes. We realize that space can be limited. As needed, you can abbreviate names of both the photographer and the organization. When abbreviating, you do have to make sure that the abbreviation is clear. For example, OSU is a nice and short abbreviation but it's not clear if the image came from Ohio, Oklahoma, Oregon, or Oswego. The next page shows some examples of good abbreviations:

**IPM IMAGES**    
Advanced Search

Agronomic Crops | Vegetables | Fruits and Nuts | Ornamentals | Other Crops | Taxonomy | Damage Types

Image Number: 1857032

[f](#) [t](#) [e](#) [s](#) [y](#) [m](#) [p](#) [r](#) [i](#) [+](#) More

**Light Box<sup>(?)</sup>**  
For Batch Downloading, Requesting Commercial Use, Creating Presentations, and Creating Image Collections

PowerPoint - 768x512  
Small Print - 1536x1024  
Large Print - 3072x2048  
[Need help with choosing a size?](#)

This work is licensed under a Creative Commons Attribution 3.0 License.

Image Use:<sup>(?)</sup> You must attribute the work in the manner specified (but not in any way that suggests endorsement).

**Image Citation:<sup>(?)</sup> Ronald Smith, Auburn University, Bugwood.org**

**European corn borer**  
*Ostrinia nubilalis* (Hubner)

Host: cotton (*Gossypium hirsutum* L.)  
Descriptor: Larva(e)  
Image location: United States  
Image type: Field

**Photographer Information**  
Name: Ronald Smith  
Organization: Auburn University  
Country: United States

P. Grapher, Univ. Lithograph,  
Bugwood.org

J. O'Brien, USFS, Bugwood.org

PA-DCNR - Forestry Archives,  
Bugwood.org

**Q. Doesn't the tag on the image count as a citation?**

A. NO! While it is true that you can use the 7-digit image number to look up the image and see all of the details for that image including who created it, the image tag doesn't provide any credit to the photographer or their organization. In fact, you are allowed to crop the image tag off when the image is used. The citation is what really matters!

**Q. I've cited the image. Can I get rid of the black tag with the image number?**

A. YES! All we care about is the image being properly cited. You can crop the image however you like as long as the image is cited.

**Q. I need a bunch of images, is there an easy way to get the citations for all of the images?**

A. YES! The Light Box on the site not only allows you to request permission to use images but also lets you download an Excel spreadsheet of the citations in a ZIP file with both the images AND the citations in Excel, or even a PowerPoint file that contains each image on its own slide with a title on top and the citation at the bottom.

**Q. Wait...I can select a bunch of images using the light box and download them as a PowerPoint?**

A. Yep...it's the first version of that tool that we've released but it works pretty well. Right now, the system

creates a title from the name of the subject featured in the image and any host that the subject is feeding on. The image is placed in the center of the slide and the citation is put at the bottom. We're working on revising the tool to customize the titles and adjust some of the formatting and styles.

**Q. For my project/presentation, I think the citations are distracting by the image, especially when I have several images. Is there a better way to get the citations in?**

A. The citation does not have to be huge. Using 6-8 point font still cites the image and may help. If you have already reduced the font size down and still don't like it, you can always add a credit section/slide. When doing this, you have to make sure that someone could determine what citation goes with what image. The image number (assuming that it is still on the image) helps make that link. 🍃



Rebekah D. Wallace, University of Georgia,  
Bugwood.org

# IT News

## PDIS 2.0 – Update and New Feature

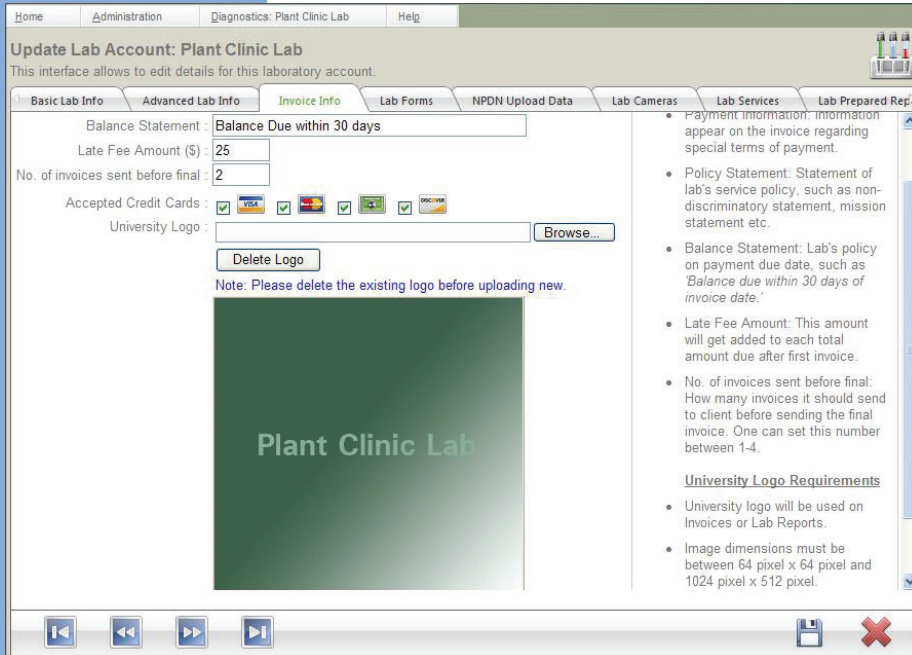
Sharmila Dabade,  
Department of Plant  
Pathology, Kansas State  
University

## Logo Size Update

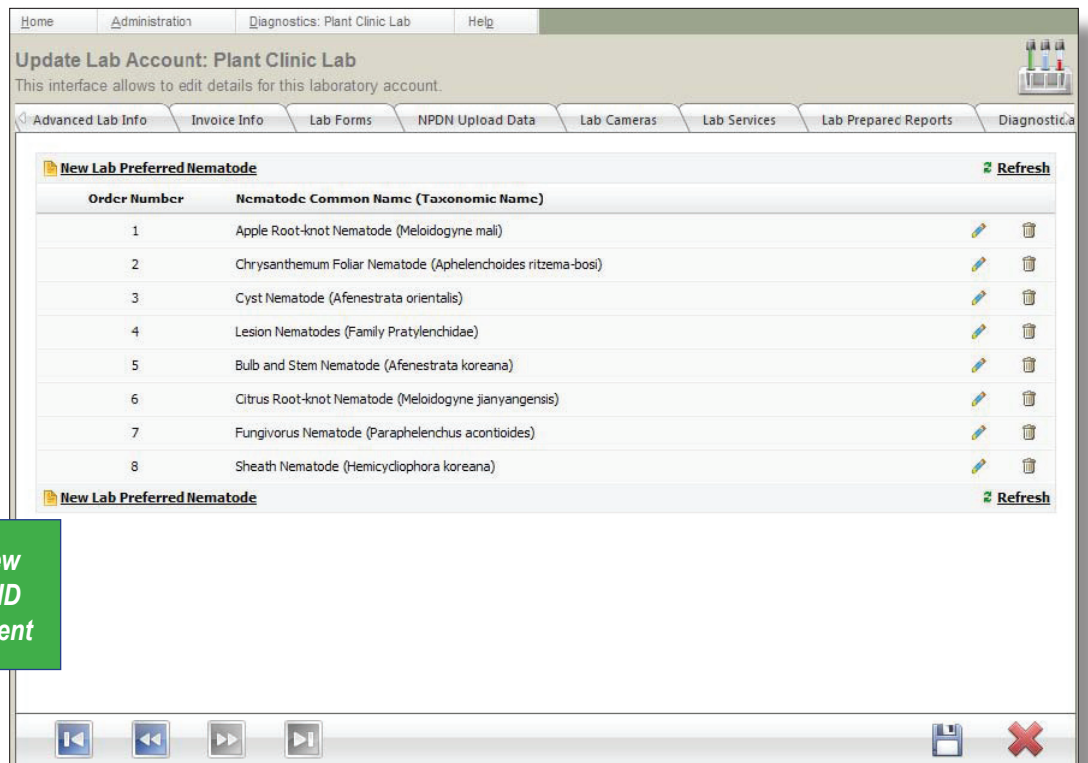
We have changed the university logo size criteria to allow for a larger image. Now users can upload any image between 64 pixels x 64 pixels to 1024 pixels x 512 pixels. One can access the university logo feature by going to the Administration module and selecting Laboratory Accounts → Edit lab → Invoice Info tab (screenshot 1).

## It's Here – the Nematode Collection Ability You've Been Waiting For!

We have incorporated a new feature for diagnosticians and nematologists to enter nematode related data into PDIS. To begin the process, diagnosticians can create a worksheet of the most frequently diagnosed nematodes in their laboratory and the density unit used by going to the Administration Module and selecting Laboratory Settings → Edit lab → Advanced Lab Info tab and Nematodes tab (screenshot 2).

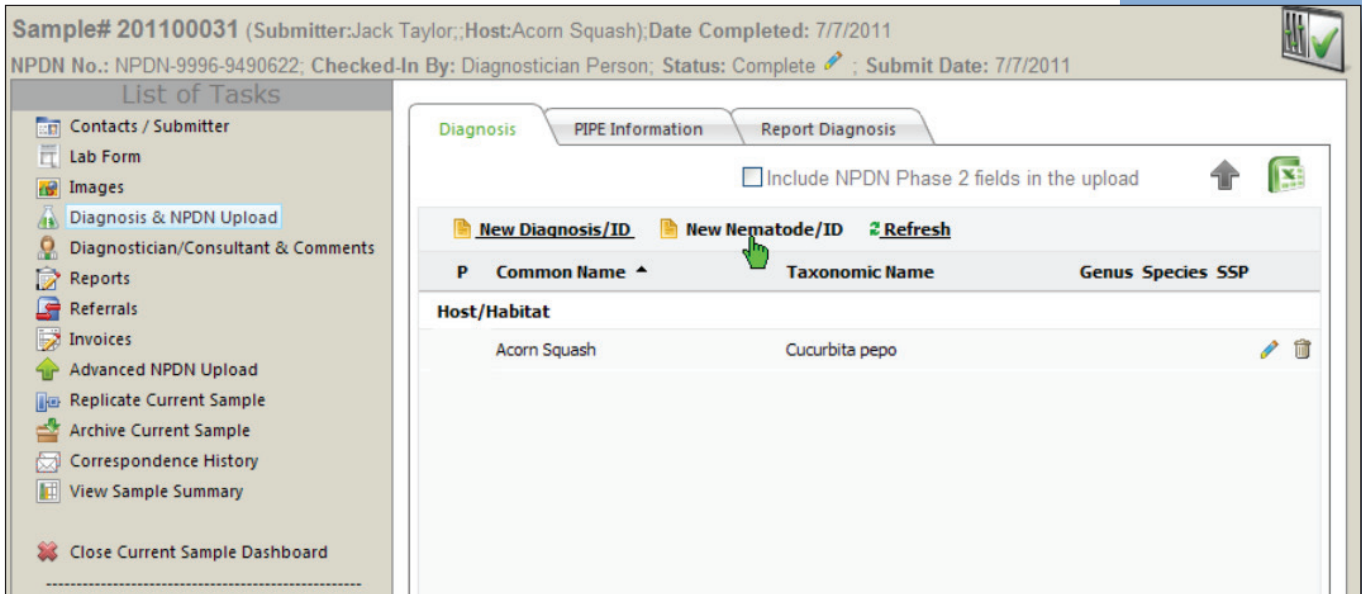


Screenshot 1

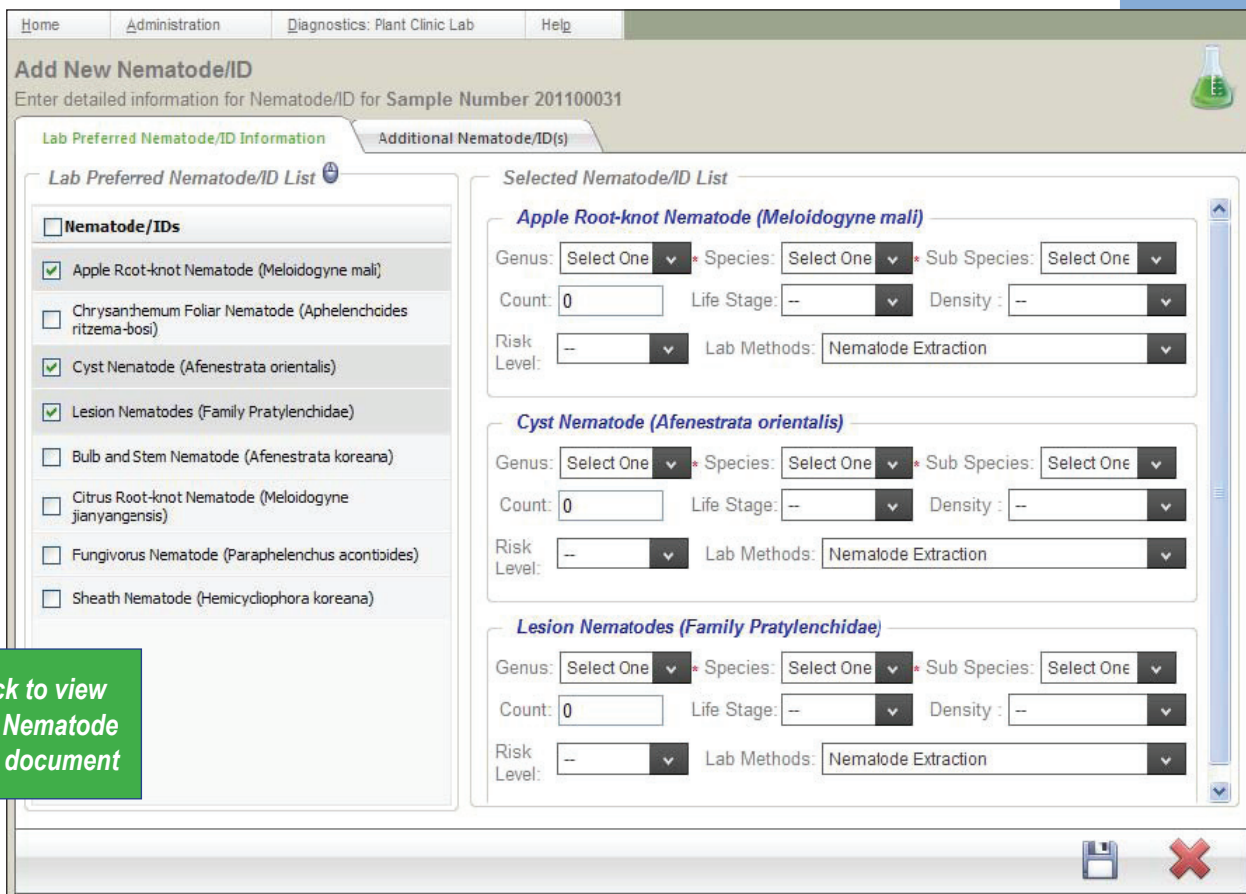


Screenshot 2





Screenshot 3



Screenshot 4

The selections will show on the 'Diagnosis and NPDN Upload' page. Diagnosticians can enter the nematode

related data for a sample by selecting 'New/Nematode ID' (screenshots 3, 4). 🌱



## National Repository: Highlights and Tips

*Mike Hill and Eileen Luke,  
CERIS, Purdue University*

### Beat the Heat

As we continue to endure this heat wave and see temperatures exceeding 100 degrees Fahrenheit it dawned



on us that this might be a good time to provide tips on how to protect your IT equipment in this unusually hot and humid climate. The value and importance of this

system is recognized and the servers for the NPDN National Repository and the portals are well protected. These servers are located in a secure server room with excess cooling capacity and dual cooling units.

When considering your workstations, laptops, and portable devices there are things that you can do to help prevent a heat-related failure. In this extremely hot weather, try to avoid leaving a laptop in the car or if you must, minimize the time it is left in the car or trunk. Please keep in mind the ideal temperature for a computer is between 50-90 degrees Fahrenheit and the ideal humidity level is between 30-50 percent. Temperatures and humidity levels outside of these ranges can be damaging. Humidity can sometimes be the biggest problem for computers so the purchase of a portable humidifier is often well worth the investment. These simple measures can help extend the life of your hardware.

### Nematode Data (XML Schema Changes)

Earlier in the newsletter you may have read about the new nematode fields that are now available in PDIS. The IT committee is currently working on adding these fields to the XML schema so that they can be uploaded to the National Repository. The three new fields that are being added are Density Count, Density Unit, and Life Stage. It is anticipated that these fields will be available for uploading to the National Repository by the end of summer. Stay tuned to future newsletters for the latest updates.

### Summary of Data by Pest Category

The NPDN National Repository has collected a diverse set of information over the last seven years. With the input of the Database Committee and the development of guidelines and standards from the diagnosticians, it has evolved into a robust system with samples reported on over 8,569 pests or pathogens from 162 diagnostic labs. The table below represents 2004-2011 data, in the National Repository, as of July 20, 2011. Diagnosticians can also generate a similar report for their data. Instructions on how to create this type of report can be found on page 9 of the [March 2010 NPDN Newsletter](#). If you need any assistance please contact Mike Hill at [mhill@ceris.purdue.edu](mailto:mhill@ceris.purdue.edu) or by phone at (765)494-9854. 🌿

Pest Category	2004	2005	2006	2007	2008	2009	2010	2011	Total
Abiotics	382	3,738	6,914	9,201	9,863	11,622	10,403	5,722	57,845
Arthropods	794	5,334	11,233	18,765	25,723	26,038	13,304	5,040	106,231
Nematode	271	1,404	3,286	5,129	5,070	8,943	13,270	3,606	40,979
Other	740	8,818	7,195	7,829	8,622	10,742	10,375	4,064	58,385
Pathogen	4,952	38,757	56,958	89,991	43,180	55,941	46,021	21,316	357,116
Plants/Weeds	60	363	851	1,004	893	1,177	1,176	382	5,906
Report Total	7,199	58,414	86,437	131,919	93,351	114,463	94,549	40,130	626,462

Summary of Data by Pest Category



Visit the NPDN homepage at [www.npdn.org](http://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 July 14, 2011, and the following agenda items were discussed:

- NPDN Ops/Com intern discussion
- National Meeting update
- APS Meeting

- Diagnostics Committee poster for National Meeting
- Diagnostic trainings

Please refer to the website, [www.npdn.org/diagnostics](http://www.npdn.org/diagnostics), for complete minutes of this meeting. The next conference call will be held on August 25, 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 July 13, 2011. The subcommittee continues to work on reviewing the extensive NPDN pest lists. The agenda included:

- Discussion of change submissions
- Discussion of insect pest files

- Discussion of poster content for upcoming meetings

Please refer to the website for the complete minutes to this meeting, [www.npdn.org/national\\_database](http://www.npdn.org/national_database). The next meeting will be held on August 24, 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 conducted a conference call on July 18, 2011 and the following agenda items were discussed:

- APS poster
- Core NPDN modules
- Protect U.S. update
- Sentinel Plant Network (SPN) update

- NPDN poster abstract
- Update on new training website
- NACAA meeting-Protect U.S. booth
- First Detector awards for National Meeting
- Master Gardener project

The next conference call is scheduled for August 15, 2011.

# Next Gen NPDN

National Plant Diagnostic Network

Third National Meeting in Berkeley, California

November 6-9, 2011

Learn more at our [National Meeting website](#).



## Call for Poster Abstracts

SUBMISSION DEADLINE: FRIDAY, AUGUST 26, 2011

The NPDN's primary mission areas focus on early detection and diagnoses of pests and pathogens, training and education and communication. Anyone who is registered to attend the meeting is welcome to submit a poster. Space is limited to 100 posters so please think about submitting your abstract early to reserve a space. Please note that the format for abstracts has changed this year. Instructions for submitting an abstract and guidelines for creating your poster are available on the [Poster Abstract Submission website](#).

### 2011 POSTER CATEGORIES

- New Pest Detections/State Updates
- Pest Surveys
- Diagnostic/Identification/Detection Methods
- Network Information
- Training and Education
- Information Technology
- Pest Eradication/Management

Posters will be on display for the duration of the meeting. Set-up may begin Sunday, November 6, after 3 PM and take-down must occur on Tuesday, November 8, before 5 PM.

continued from page 2...

### NPDN Outstanding Service Awards

- NPDN Outstanding Service Award
- NPDN Outstanding Team Service Award

And don't forget those "squashed bugs" and other strange sample submissions! New this year is the Rotten Tuber Award for samples that are strange or unique.

### NPDN Rotten Tuber Award for Most Unique Sample Submission

1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, Honorable Mention

Formats for nomination are posted at [www.npdn.org/](http://www.npdn.org/). Award packets are due to Sharon Dobesh ([sdobesh@ksu.edu](mailto:sdobesh@ksu.edu)). Those that were nominated in 2009 and not selected at that time can also be re-submitted for the 2011 awards. Contact Sharon Dobesh if you have any questions about award submissions! 🌱

### New APHIS Federal Orders for Khapra Beetles

#### APHIS Actions

On July 8, 2011 APHIS issued **two** Federal Orders, for commercial and non-commercial shipments of rice from countries known to have Khapra beetles (KB), *Trogoderma granarium*, to prevent their entry into the United States. Both Federal Orders will go into effect on July 30, 2011.

Khapra beetle is a serious pest of storage products, spices, and various dried foodstuffs including rice and other grains. In 2010 and 2011, several detections of Khapra beetle were made on **commercial** rice originating from or transiting through countries where Khapra beetle is found. To prevent the entry of this pest commercial shipments of rice from countries where Khapra beetle is found will be allowed entry into the United States **only if** accompanied by a Phytosanitary Certificate or re-

export certificate with an Additional Declaration stating: These actions are consistent with the International Plant Protection Convention, and are necessary to restrict the movement of articles that serve as a pathway for this destructive pest. [Read the full Federal Order for commercial shipments.](#)

## National News continued...



Photos from left to right: *Trogoderma granarium* adult, larva, larval skins and damage to wheat grains, Ministry of Ag. and Regional Dev. Archive, Ministry of Ag. and Regional Dev., Bugwood.org; lateral view and dorsal view adults, Natasha Wright, Florida Department of Agriculture and Consumer Services, Bugwood.org

In 2010 and 2011, several detections of Khapra beetle were made from passengers carrying non-commercial rice originating from countries where Khapra beetle is known to occur. To prevent the entry of this pest **non-commercial** shipments of rice from countries that have Khapra beetle will be prohibited. [Read the full Federal Order for non-commercial shipments.](#) 🌱





## Emerald Ash Borer Found in Orange County State Expands Quarantine

New York State Department of Environmental Conservation (DEC) Commissioner

Joe Martens and New York State Department of Agriculture and Markets (DAM) Commissioner Darrel J. Aubertine announced on July 21, 2011, a new discovery of the Emerald Ash Borer (EAB) on the U.S. Military Academy at West Point campus in Orange County.

An adult emerald ash borer was discovered on July 13, 2011 in an emerald ash borer purple prism trap that

was hung in an ash tree at the West Point campus. The purple prism trap is a tool used to detect new emerald ash borer infestations. The emerald ash borer specimen was

confirmed by USDA-APHIS staff. An initial site investigation by DEC regional staff, Cornell University and West Point Natural Resources staff did not find any infested ash trees.


With this new detection confirmed, the state and federal emerald ash borer quarantine of Ulster and Greene County will be expanded to include Orange County. The quarantine restricts the movement of ash tree materials out of those counties to prevent human

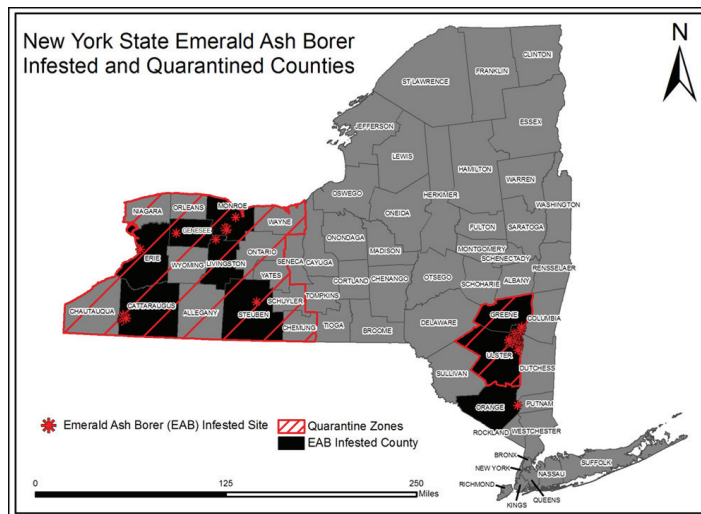
transport of the pest.

Commissioner Aubertine said: "New York's extensive forest resources contribute to our local economies, communities and quality of life. As a state, we are dedicated to combating EAB while assuring that commerce in our nursery, landscape and forest products industries continues. Unfortunately, this pest is rapidly expanding its presence in our state despite our best efforts. At this time, we know of no way to eliminate EAB and thus our focus is on slowing its spread. We greatly appreciate the help of impacted industries and individuals in reporting and adjusting their behavior to be part of the solution."

Yvonne DeMarino, State Plant Health Director for USDA-APHIS, said: "The discovery of EAB at West Point, 35 miles

south of the infestation in Ulster County discovered last year, is unfortunate, but not entirely unexpected. It highlights our concern that the movement of firewood and other host material poses a

significant risk of spreading invasive forest pests like EAB around our state and to our neighbors." Read [the full DEC announcement](#). 



The USDA-APHIS has posted a vacancy for a **Tissue Culture Specialist**, in Beltsville, Maryland.

The incumbent serves at the APHIS National Plant Germplasm Quarantine Center (NPGQC) located in Beltsville, MD. The NPGQC has the only Federal plant quarantine facility in the U.S. for the importation of certain plant propagules prohibited from commercial importation. The function of the Plant Germplasm Quarantine Program is to establish and maintain foreign germplasm and cultivars under appropriate safeguarding conditions, conduct validated tests for pests, implement therapy if necessary, and distribute released plant propagules free of exotic and destructive pathogens.

**Job Announcement Number:** 24PQ-2011-0197

**Open Period:** Thursday, July 28, 2011 to Thursday, August 11, 2011

[Click here](#) to read the full job announcement.

## Job Opportunities

## 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 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