

## Butternut - A New Host for the Walnut Twig Beetle and Thousand Cankers Disease

Maryna Serdani, Plant Clinic, Botany and Plant Pathology, Oregon State University

In November 2011, branch samples from a walnut tree with sparse foliage (photo below) were submitted to the

Oregon State University (OSU) Plant Clinic for diagnosis. Additional symptoms

included branch die-back, cankers, tiny holes and insect galleries. The sample

originated from a large tree at a private

residence in Oregon's Lane County and was tentatively identified as butternut tree also known as white walnut or oilnut (*Juglans cinerea*). Nuclear DNA analysis and chloroplast analysis performed by the University of Notre Dame confirmed the host to be *J. cinerea* and not one of the walnut hybrids (which can closely resemble *J. cinerea*).

Initial examination of the galleries revealed a small beetle resembling the walnut twig beetle *Pityophthorus juglandis*. The Oregon Department of Agriculture confirmed its identity to be *P. juglandis*, the vector of thousand cankers disease (TCD). The OSU Plant

Clinic was able to recover *Geosmithia morbida*, the cause of TCD, from the

canker margins. Single-spored cultures of this fungus were sent to Colorado State University for further analysis. This is the first time *G. morbida* and

*This is the first time G. morbida and P. juglandis were detected on butternut in North America.*

*P. juglandis* were detected on butternut in North America. More information will be forthcoming.

TCD and its vector have previously been



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

### Issue Highlights

- New mailing and e-mail for CPHST laboratory
- Citrus greening confirmed in Texas

### IT updates: recording Sentinel Plant Network data

- Diag tip – sampling protocols for thousand cankers disease
- Upcoming workshops
- NPDN and Protect U.S. certificates
- *In Regional News*: new pest and diseases

reported from black walnut (*J. nigra*) in Oregon as well as eight other western states and three eastern states (Virginia, Tennessee and Pennsylvania). The latter three states fall within the native range of butternut, which includes central and eastern United States and southeastern Canada.

Butternut is a relatively slow grower and is already seriously impacted in its native range by another canker disease (butternut canker) caused by the fungus *Ophiognomonia clavignenti-juglandacearum*.

[Click here](#) to read the complete fact sheet on TCD from Oregon State University Extension. 🌿

## New Mailing Address and E-mail for CPHST Laboratory

*Joel Floyd, Domestic Diagnostics  
Coordinator, USDA-APHIS-PPQ-NIS*

The PPQ Molecular Diagnostics Lab was combined with the CPHST lab effective October 30, 2011. There will be a new director in the future, but currently Mark Nakhla is acting director. (Visit the [NPDN diagnostics page](#), login required, to read the Beltsville memo describing this merger.)

In the past several years, all samples that went to Beltsville for testing and national confirmation went to an address and to the attention of one contact person, Mary Palm with an e-mail notification to her that samples are being forwarded. With the newly named CPHST Beltsville Laboratory, comes a new address, phone number, and e-mail address for notifications that samples are being sent (see below).

**Sample Diagnostics**  
**USDA-APHIS-PPQ-CPHST**  
**BARC-East, Bldg. 580**  
**Powder Mill Road**  
**Beltsville, MD 20705-2350**

**Ph: (301) 504-7100, VOIP: (301) 313-9200**

**New Group e-mail address:** [APHIS-PPQCPHSTBeltsvilleSampleDiagnostics@aphis.usda.gov](mailto:APHIS-PPQCPHSTBeltsvilleSampleDiagnostics@aphis.usda.gov)

The CPHST Lab group e-mail address includes several contacts at the CPHST lab who need to receive the notifications prior to samples being sent in to ensure the correct routing and coverage.

This information should have already been forwarded to SPHD's and SPRO's. Results reporting from the CPHST Beltsville Lab will continue to come through the National Identification Services staff. If you have any questions about sample routing or results communication, please contact Joel Floyd at [joel.p.floyd@aphis.usda.gov](mailto:joel.p.floyd@aphis.usda.gov), or (301) 734-4396. 🌿

## Citrus Greening Confirmed in Texas

The Texas Department of Agriculture and USDA-APHIS have confirmed the first detection in Texas of citrus greening, a destructive plant disease that poses a threat to the state's citrus industry. 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 about 28,295 acres in commercial citrus production in the Rio Grande Valley.

[Click here](#) to read the official announcement from the Texas Department of Agriculture.

## IT Updates: Sentinel Plant Network Data

Mike Hill, Eileen Luke, CERIS, Purdue University, Karen Snover-Clift, Cornell University & Nancy Gregory, University of Delaware

The IT committee met on Tuesday January 24<sup>th</sup> to discuss an enhancement to the database for supporting Sentinel Plant Network data. For now please use the following approach to upload Sentinel Plant

Network data to the National Repository. In the notes field (sample or diagnostic or even both) you can indicate that this is Sentinel Plant Network data by including the text SPN-DATA. Once the database changes have been made to the National Repository, the notes fields will be searched for SPN-DATA and the database will be updated accordingly. It is important that the exact syntax be SPN-DATA as this is the key phrase that will be searched upon.

If you have a need to retrieve Sentinel Plant Network Data you can select all of the 2012 data by running the Lab Sample Data report and entering the appropriate sample dates and then selecting the Single Record Raw Data which can then be exported in CSV format. This is a short term solution and enhancements to the reports will be developed in the near future which will make it easier to search for Sentinel Plant Network data. If you have any questions on how to query the Sentinel Plant Network data,

please contact Mike Hill ([mikehill@purdue.edu](mailto:mikehill@purdue.edu), 765-494-9854) or Eileen Luke ([lukee@purdue.edu](mailto:lukee@purdue.edu), 765-494-6613) for assistance.

Please stay tuned to future newsletters for IT updates regarding this enhancement. 🌱

# IT News

Diagnostic Lab	Sample ID	Diagnosis Number
9995 CERIS Test Data	CE9995000009	1

Phase 1 | Phase2 | Nematode

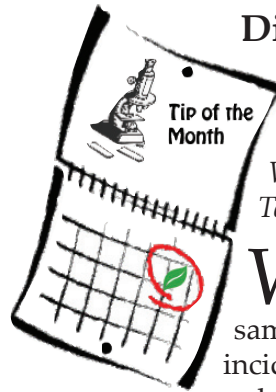
Sample Date\* 2012-01-20 Observation Date  
State\* Indiana County\* Tippecanoe  
Lab Method  
Latitude Longitude  
Host\* Unknown: No Site Specified [No site specified] 99999  
Pest\* Test-a01 [Test-b01 test-c01] -1  
Pest Confidence\* Inconclusive Inconclusive Subspecies  
PIPE Data  
Diag. Incidence # confirmed # tested units  
PIPE Site ID  
Sample Notes 245 (characters left) Diagnostic Notes 245 (characters left)  
SPN-DATA SPN-DATA  
Upload Record

Interested in learning more about the Sentinel Plant Network? Visit the SPN website at [www.publicgardens.org/content/sentinel-plant-network](http://www.publicgardens.org/content/sentinel-plant-network) Questions? Please contact Rachel McCarthy, ([rachel.mccarthy@cornell.edu](mailto:rachel.mccarthy@cornell.edu), 607-255-4162).

# Diagnostic Updates



## Suggested Sampling Protocols for University of Tennessee – Thousand Cankers Disease



Jerome Grant, Beth Long, Lisa Vito, Greg Wiggins and Mark Windham, University of Tennessee

We have processed black walnut samples to determine incidence of thousand cankers disease (TCD) for two years. We have carefully reviewed our protocols and reexamined the way samples were handled. Because lab assays are so time consuming (3+ hours per sample), we submit the following suggestions for collecting samples of black walnut for assessment of TCD (pathogen and insect).

Ned Tisserat, Colorado State University, adds that “depending on geographic location, possibly due to humidity, some may have a more difficult time isolating the *Geosmithia morbida* than others.” Ned notes that in Colorado, isolation of *Geosmithia* is not difficult when he receives a good sample. He agrees that “the fungus isn’t a very good saprophyte and doesn’t appear to compete well in decaying wood so if you receive a branch that has been dead for six months to a year, isolation of *Geosmithia* is going to be tough, if not impossible.”

[Click here to read more on TCD from Colorado State University.](#)

### Collection of Black Walnut Samples for TCD Assessment:

1. Begin sampling of twigs/branches as early in the season as possible, based on the biology of the beetle. In the Knoxville area, infested logs are caged and monitored twice a month for beetle emergence; once beetles begin to emerge (are active), sampling begins. Early sampling allows for resampling of trees (if needed). If pheromone traps are used to detect the beetle, begin sampling once beetles are first found in the traps.
2. Sample only on Monday, Tuesday and Wednesday (do not collect samples on Thursday and Friday or store them in a freezer until Monday due to our difficulty in handling large numbers of samples at the same time because of limited storage space). Sampling only on Monday, Tuesday and Wednesday enables us to clear samples by Friday evening or Saturday morning to avoid a backlog of samples that need to be stored and reduce the chance of the sample deteriorating while in storage.
3. Avoid collecting wet or damp samples (do not collect samples if it is raining or has just rained, as wet samples collected in warm weather and placed in plastic bags will become ‘moldy’ in a short period of time making sampling for *Geosmithia* very difficult).
4. Collect samples only from live, suspect (i.e., symptomatic) trees.
5. Collect samples from the affected/suspect area of the tree.
6. Collect twig/branch samples that are approximately 10–12 inches long and 1 or more inches in diameter.
7. Collect 6–10 pieces of twigs/branches for each sample (this number of samples enables us to split samples for entomology and plant pathology bioassays, where needed).
8. When possible mark the sample so that lab personnel will know which side of the limb was facing up. Some people think that beetles are more likely to be found on the upper side of branches (we have not always found this to be true).



9. Avoid collecting samples from decaying limbs or limbs that have been dead for a while (beetles do not prefer this type of material and are more likely to be found in living stems or stems very recently killed).
10. Avoid collecting samples from the ground.
11. Double-bag samples (zip-loc type bags are preferred). Place wad of dry paper towel in bag to absorb moisture.
12. Do not wrap samples in aluminum foil (this method becomes problematic as the season progresses).

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### **Protocol for isolation of *Geosmithia morbida* used at the University of Tennessee**

Base medium for isolation of *G. morbida* is 1/10 strength Potato Dextrose Agar.

To make 500ml of 1/10 strength Potato Dextrose Agar + Antibiotics (PDA+):

Place 1.2g Potato Dextrose Broth and 10g Bacto Agar in a 1 liter bottle or flask.

Add 500mls water. Autoclave.

Once the medium has cooled but not gelled, add 5mls of the antibiotic stock solution and swirl vigorously.

This will give a final concentration of 30mg/L each of chlortetracycline and streptomycin sulfate in the medium.

#### Antibiotic Stock Solution:

The desired final concentration of the stock solution is 3mg/ml of each antibiotic.

To make 200 ml of stock solution:

Add 600mg of each antibiotic to 200ml water in an amber bottle.  
(3mg/ml x 200ml = 600mg).

Shake well. This is a saturated solution, so it will not all mix in. Remember to shake/swirl the bottle before dispensing. Antibiotics are light sensitive-hence the amber bottle. Keep antibiotic containing medium a maximum of 1 month, as the antibiotics degrade.

Our source of chemicals (prices may vary):

#### **Sigma (Sigma.com)**

Streptomycin sulfate (25 g) S6501-25G \$22  
Chlortetracycline (25 g) C4881-25G \$99

#### **Fisher (Fishersci.com)**

Potato Dextrose Broth (500g) DF0549-17-9 \$97.82  
Potato Dextrose Agar (2kg) DF0013-07-8 \$346.95  
Bacto Agar (2.2kg) DF0140-01-0 \$157.40

Reminder... Sign up soon!

## NPDN / USDA-APHIS 2012 Advanced Diagnostic Workshops

Karen L. Snover-Clift, Cornell University, 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) are pleased to announce the 2012 advanced diagnostic workshops. During the spring of 2012, we will offer advanced trainings on a number of topics. One of the most important sessions offered is on citrus leprosis (CiLV) to include sweet orange scab (SOS) and citrus black spot (CBS). We are hoping diagnosticians from all the states where citrus is grown will attend this 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. Some diagnosticians are in need of the previously offered HLB-citrus greening training so this has been added to the line-up. Another topic offered

will be bioinformatics, part one (1½ day session), which has been offered previously and 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 hands-on use of sequence analysis programs using sequences from case studies for different pathogen types, and bioinformatics part two (1½ day session), which is a new addition to the line-up and will allow the participants to work with their own sequences. Due to continued interest, we have scheduled three *Phytophthora* training sessions. The sessions are 4 ½ days long and cover ELISA, DNA extraction, conventional PCR (nested and multiplex), real-time PCR (ITS and Elicitin), and interpretation of results. The last topic for the spring will be potato wart with a 3 day workshop.

Expenses for travel, lodging and meals will be covered from a supplemental grant for diagnostician training. All

*article continues on page 8...*

**Only 2 spaces left:** Bioinformatics-part one, February 21–22 (1.5 days)

**Only 2 spaces left:** Bioinformatics-part two, February 22–23 (1.5 days)

**Only 2 spaces left:** HLB-Citrus Greening, February 28–March 1 (2.5 days)

**FULL:** Citrus Leprosis with Sweet Orange Scab and Citrus Black Spot, March 6–8 (4.5 days)

**Only 1 space left:** Citrus Leprosis with Sweet Orange Scab and Citrus Black Spot, March 12–16 (4.5 days)

Bioinformatics-part one, March 20–21 (1.5 days)

Bioinformatics-part two, March 21–22 (1.5 days)

*Phytophthora* Basics with focus on *P. ramorum* and *P. kernoviae*, March 26–30 (4.5 days)

**Only 1 space left:** *Phytophthora* Basics with focus on *P. ramorum* and *P. kernoviae*, April 16–20 (4.5 days)

*Phytophthora* Basics with focus on *P. ramorum* and *P. kernoviae*, May 7–11 (ONLY IF NEEDED) (4.5 days)

Potato Wart, May 15–17 (3 days)

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 January 12, 2012, and the following agenda items were discussed:

- Training updates
- Committee membership
- Update on CPHST-PPQ repositioning

- SURGE capacity spreadsheet

Please refer to the Diagnostics Committee website, [www.npdn.org/diagnostics](http://www.npdn.org/diagnostics), for complete minutes of this meeting. The next conference call will be held on February 9, 2012.

### 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 January 10, 2012, and the following agenda items were discussed:

- Update on APHIS-PPQ Exercises
- Update on ETKnet

- Communications SOP
- Regional updates
- Action items

The next conference call is scheduled for March 13, 2012.

### NATIONAL DATABASE

#### National Database Committee

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

The Database Committee did not hold a call in January, but topics from December included change requests, pest grouping software and review of the virus and insect pest lists. Please refer to the website [www.npdn.org/national\\_database](http://www.npdn.org/national_database) for complete minutes (login and password is required).

\*Please Note\* Data for Sentinel Plant Network samples should be indicated as such in the "Notes" section of upload software until a check box can be added to software systems. Please refer to the article on Sentinel Plant Network data (page 3) in this newsletter for correct entry format. The next meeting will be held on February 8, 2012.

### 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 January 23, 2012, and the following agenda items were discussed:

- Updating PowerPoint presentations
  - New pests/pathogens to consider for modules
  - Amy Dunfee, Gail Ruhl, Rachel McCarthy and Dick Hoenisch will review the modules

- Steve Cain reported that Barry Brennan and several other NPDN members will be on the EDEN group regarding invasive species in Washington DC

The next meeting will be held on Monday, February 27, 2012.

article continued from page 6...

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 to those attending the citrus leprosis workshop followed by a first come, first served basis in order by requests received until funds are exhausted. Please sign-up as soon as possible to ensure your spot in the workshop and your expenses covered! 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). 

### **Fourth International Workshop for *Phytophthora*, *Pythium*, and *Phytopythium* & International Web Symposium on “Oomycetes of Regulatory Concern in International Trade”**

*Yilmaz Balci, Department of Plant Science and Landscape Architecture, University of Maryland*

The USDA-APHIS-PPQ-Center for Plant Health Science and Technology (CPHST) and University of Maryland are very pleased to announce the presentation of the “4<sup>th</sup> International workshop for *Phytophthora*, *Pythium*, and *Phytopythium*” and the International Web Symposium “Oomycetes of Regulatory Concern in International Trade” to be held during May 21–25 2012 at University of Maryland, College Park, MD, USA. The primary purpose of the workshop is to provide hands-on training on morphological and molecular tools used to identify species within the genera. Participants will have the chance to examine a selected assemblage of

species from each genus using type species. The innovative “Morphological and Molecular Identification Tools for Oomycetes: *Phytophthora* - Lucid and Tabular Keys” with important information of the described species will be presented at the event.

Z. Gloria Abad at the USDA-CPHST and Yilmaz Balci at University of Maryland are the organizers. Instructors for the workshop are: Frank Martin USDA-ARS, Salinas, CA; Michael Coffey World Oomycetes Genetics Resource Collection (WOGRC) University of California; Gloria Abad and Yilmaz Balci from the USA; and Arthur de Cock CBS, Fungal Biodiversity Center, Utrecht, The Netherlands. Invited Speakers are: Niklaus Grünwald USDA-ARS, Horticultural Crops, Research, OR; Seogchan kang Pennsylvania State University - *Phytophthora* Database; and Kurt Zeller at USDA-CPHST, Beltsville, MD. The International Web Symposium will be presented during the morning of Wednesday 23<sup>rd</sup> as an additional activity for the workshop. Invited Speakers are: Clive Brasier and Joan Webber at the Forest Research Agency Farnham UK; Marco Thines from University of Hohenheim, Germany; Trena Burgess from the Centre for *Phytophthora* Science and Management, Australia; André Lévesque from Agriculture and Agri-Food Canada and Paloma Abad from the Mediterranean Agroforestral Institute of the Polytechnic University of Valencia, Spain. Registration for the 4<sup>th</sup> International Workshop will be open until April 30, 2012 at [www.psla.umd.edu/faculty/Balci/workshop2011/index.cfm](http://www.psla.umd.edu/faculty/Balci/workshop2011/index.cfm) 



## Soilborne Plant Pathogens and California Nematology Workshop

Timothy Paulitz, USDA-ARS

Come and meet with colleagues from the western U.S. working on various aspects of soilborne fungal pathogens, nematodes and diseases — from the molecular to the applied. This meeting is very informal and loosely structured, allowing lots of time for discussions and interactions. We will have a garden tour on Tuesday, March 20, at the Huntington Botanical Gardens, with Dr. Martin Stoner. The garden will be closed to the public. The California Nematology Workgroup will meet on Tuesday afternoon, March 20 and there will be a social/dinner at the garden in the evening. Research presentations will be on Wednesday, March 21 and Thursday, March 22. The focus of the symposium will be ornamental and landscape pathology, with speakers to be announced.

We are also offering two student scholarships for \$500 plus free registration. The details are on the web site.

Early registration deadline is March 1, 2012. For more information, including information on registration, payment and hotel visit <http://soilfungus.ars.usda.gov/>. Please send the registration form to Dr. Timothy Murray, Dept. of Plant Pathology, Rm. 345 Johnson Hall, Washington State University, Pullman, WA 99164-6430 USA, or FAX to (509) 335-7674, or send scan to [paulitz@wsu.edu](mailto:paulitz@wsu.edu).

**Local arrangements:** Ole Becker ([ole.becker@ucr.edu](mailto:ole.becker@ucr.edu)) or Antoon Ploeg ([antoon.ploeg@ucr.edu](mailto:antoon.ploeg@ucr.edu))

**Program Chair:** Timothy Paulitz, USDA-ARS, Pullman, WA.

Hope to see you there. 



Meeting of the 58<sup>th</sup> Annual Conference on Soilborne Plant Pathogens (formerly Soil Fungus Conference) and the 44<sup>th</sup> Annual California Nematology Workshop

March 20–22, 2012

Huntington Library, Art Collections, Botanical Gardens  
1151 Oxford Road, San Marino, CA 91108

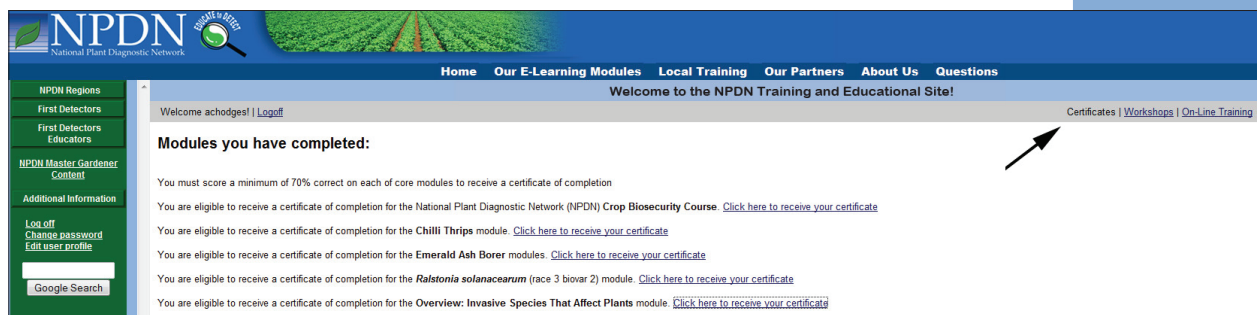
## NPDN and Protect U.S. Certificates Available!

Amanda Hodges, Department of Entomology and Nematology, University of Florida

Have you completed the NPDN crop biosecurity course, emerald ash borer,

chilli thrips, *Ralstonia solanacearum* race 3 biovar 2, or various Protect U.S. e-learning modules? Upon completion of these modules, you can download your own certificate of completion

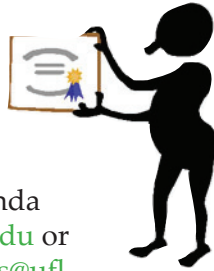
## Training and Education




The screenshot shows the NPDN (National Plant Diagnostic Network) website interface. The header includes navigation links: Home, Our E-Learning Modules, Local Training, Our Partners, About Us, and Questions. A user is logged in, and the page displays a list of completed modules with links to download certificates. The modules listed are: National Plant Diagnostic Network (NPDN) Crop Biosecurity Course, Chilli Thrips module, Emerald Ash Borer modules, *Ralstonia solanacearum* (race 3 biovar 2) module, and Overview: Invasive Species That Affect Plants module. A mouse cursor is pointing at the 'Certificates | Workshops | On-Line Training' link in the top right corner.

on the new First Detector website ([www.firstdetector.org](http://www.firstdetector.org)). Many of the e-learning modules, either through the NPDN First Detector or Protect U.S.

program have been approved for national continuing education unit credits for the certified crop advisor program. Contact Amanda Hodges [achodges@ufl.edu](mailto:achodges@ufl.edu) or Stephanie Stocks [sstocks@ufl.edu](mailto:sstocks@ufl.edu) for further details. 



partner program of the NPDN First Detector program, and Protect U.S. e-learning modules are housed on the NPDN First Detector website ([www.firstdetector.org](http://www.firstdetector.org)). Over 26,000 farmers, extension personnel, governmental representatives, researchers, and industry professionals attended the event. Primary focal crops for the booth visitors included blueberry, peach, strawberry, and vegetables. University of Florida, Department of Entomology and Nematology graduate students, Ashley Poplin and Sarahlyne Guerrero, represented the Protect U.S. program at the conference. 

## Protect U.S. Booth, 2011 SE Regional Fruit and Vegetable Conference

*Ashley Poplin and Amanda Hodges,  
Department of Entomology and Nematology,  
University of Florida*

Protect U.S., the Community Invasive Species Network ([www.protectingusnow.org/](http://www.protectingusnow.org/)), had an educational booth focused on current and upcoming small farms related educational materials at the Southeastern Regional Fruit and Vegetable Annual Conference in Savannah, Georgia, January 5–8, 2012. Protect U.S. is a



## 2012 GPDN Webinar Series

Sharon Dobesh, Department of Plant Pathology, Kansas State University

The GPDN 2012 Webinar series is set and ready to begin February 22, 2012. The webinars can be accessed through an Adobe Connect session by going to <http://connect.ksre.ksu.edu/gpdnseminars/>, enter as a guest by typing in your name. This year's schedule includes the following speakers and topics:

Date	Speaker	Topic	Affiliation
Feb. 22	Marty Draper	Evaluating Our Impact	NIFA
Feb. 29	Howard Schwartz	Onion PIPE	CSU
March 7	Phil Nolte	Zebra Chip	U of I
March 14	OPEN		
March 21	Amanda Hodges	First Detector Training	UFI
March 28	Barry Jacobsen	IPM Retrospective	MSU
April 4	Amy Dreves	Spotted wing drosophila	OSU
April 11	Tim Murray	Rust Alternate Hosts	WSU
April 18	Ned Tisserat	Bacterial Diseases: <i>Xanthomonas translucens</i>	CSU

Audio is available once you log in, if the system does not offer to call you, you can call 1-866-910-4857, participant code 447113. These webinars are open to anyone who would like to attend and begin at 9:00 am MT/10:00 am CT. 🌿



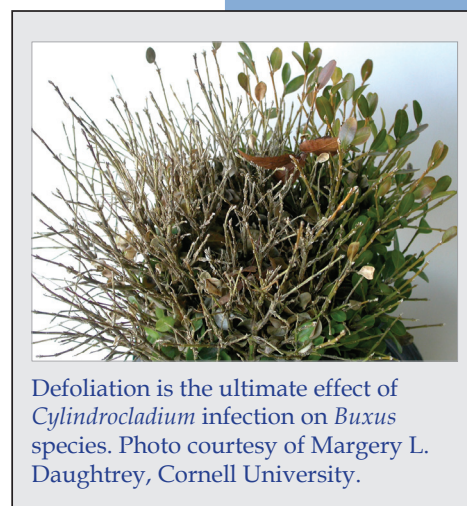
## New Diseases in the Neighborhood

Margery L. Daughtrey, Department of Plant Pathology and Plant-Microbe Biology, Cornell University

### New and Ferocious: Boxwood Blight

Boxwood blight, *Cylindrocladium buxicola* (syn. *C. pseudonaviculatum*), was first reported in the United States in October 2011. As of this writing, the disease has been officially noted in

Connecticut, Maryland, Massachusetts, New York, North Carolina, Oregon, Rhode Island and Virginia, as well as British Columbia. Within New York, horticultural inspectors have found single instances of the disease in Nassau, Suffolk, Westchester, and Dutchess counties thus far, none of them in the landscape. The list of states includes those where many boxwoods are produced in field





or container nurseries; plant material is frequently shipped from state to state. Boxwood blight symptoms begin as round brown leaf spots or leaf tip necrosis, followed by blighting and leaf drop. The bare twigs show black cankers. The fungus fruits abundantly on both leaves and twigs under moist conditions and the disease progresses very rapidly: the disease cycle requires only seven days. The Department diagnostic laboratories in Ithaca and on Long Island are working to help nurserymen, garden center retailers, landscapers and gardeners determine the extent of the problem. The disease cannot be accurately identified in the field because there are similar symptoms caused by *Phytophthora*, *Volutella* and *Macrophoma* spp. that could easily be confused with the new boxwood blight.

Once a laboratory diagnosis of *C. buxicola* has been received, diseased plants should be bagged and sent to a landfill rather than composted, as the fungus has been shown to survive in dead leaves for at least five years. Because of the threat posed by the dead leaves, these should be carefully gathered and destroyed along with the diseased plants and their containers. Replanting any *Buxus* spp. into a landscape where the disease has appeared will be risky; using alternative plant genera is advised in these situations. Only *Buxus* spp. have been found naturally infected; *Sarcococca* (sweet box) was found to be susceptible by inoculation.

Gardeners with the charge of protecting valuable old historic boxwoods should avoid bringing in any new boxwood material—it will be far safer to propagate cuttings on site. Thus far all of the cases of this disease described in CT or MA landscapes have been associated with boxwoods newly planted in 2011. The disease is expected to move easily over short distances via handling, pruners, wind-driven rain or overhead irrigation. Long distance spread will be largely

through the movement of diseased plant material. There is no quarantine on this disease: the nursery industry will need to self-impose very high sanitation standards to preserve the successful use of boxwoods.

### New Ornamental Pear Rust

The pear trellis rust, caused by *Gymnosporangium sabiniae*, has previously been known in Europe and the Pacific Northwest as well as Canada. Michigan reported the disease for the first time in 2009. Beginning in 2009, unusually colorful (yellow to red) leaf lesions have been noted on some ornamental street-side callery pears in scattered locations in southeastern New York; symptoms were also found in a nursery in 2011. The lesions often show spermagonia at



Mature sporulation of *Gymnosporangium sabiniae* on the undersurface of a callery pear leaf (top). Reddish lesions of pear trellis rust accompanied by brown areas of anthracnose infection on leaves of callery pear (bottom). Photos courtesy of Margery L. Daughtrey, Cornell University.

the center that aid in their identification as a rust, but identification and rust development can both be thwarted by the secondary development of large brown lesions caused by an



anthracnose fungus, *Glomerella acutata*. The appearance of leaf symptoms in the spring is typical of a *Gymnosporangium* rust, but the aecia of pear trellis rust with their intriguing acorn-shaped peridia develop unusually late: the spores are released from October to December (until the leaves drop). In 2011 the range expansion of this rust into New York was formally documented by members of the Department of Plant Pathology and Plant-Microbe Biology.

### Impatiens Downy Mildew

The favorite annual flower of everyone with a shady yard, *Impatiens walleriana*, was dramatically attacked by a downy mildew in several areas across the country last summer. The result: extensive defoliation. *Plasmopora obducens* was first recorded in 1897 in Vermont on a native impatiens species, and has been seen repeatedly since around the country on *Impatiens capensis* (syn. *I. biflora* and *I. noli-tangere*) and *I. pallida*. However, the disease on the cultivated ornamental *I. walleriana* was curiously first seen in the United Kingdom in 2003, where the pathogen had not previously been recorded. Impatiens downy mildew was found in a few greenhouses in New York and a few other states for the first time in 2004, but was not noted in any American gardens until 2009 in Saratoga County, NY. The disease has continued to harm impatiens in Saratoga County in 2010 and 2011, suggesting that *P. obducens* may have the ability to overwinter. We have observed oospores in the stems of infected plants—these could, alas, provide a mechanism for survival in flowerbeds from one growing season to the next. In 2011, catered to by the stormy weather of hurricanes Irene and Lee, this downy mildew caused dramatic symptoms in gardens on Cape Cod and eastern Long Island. But the disease was also confirmed for the first time in parts of California, Illinois, Indiana and Minnesota, indicating that diseased plants might have been distributed unwittingly by the greenhouse industry.

Although most impatiens are produced from seed, some vegetatively-propagated types are available, so seed transmission is not the only possible scenario. Much research is needed to answer the important questions about this disease. A trial of fungicide effectiveness at Cornell's Long Island Horticultural Research & Extension Center in Riverhead, NY showed protection from mandipropamid, mefenoxam, azoxystrobin and dimethomorph on impatiens. Although fungicide treatment may be helpful for protecting plants during greenhouse production, disease-free or resistant plants will be needed for the landscape. Fortunately the New Guinea impatiens, *Impatiens hawkeri*, has very low susceptibility to this downy mildew—good news for plant breeders and for gardeners who would like to use some sort of impatiens in beds that were stricken with downy mildew last year.

Only *Impatiens walleriana* is a host for this disease, but it is such an important bedding plant that the ornamentals industry is focusing intently on solutions for this new problem. 🌱



Landscape planting of impatiens in an eastern Long Island garden in July. The same landscape seen in mid-September after weeks of weather conditions conducive to spread and infection of downy mildew. Photos courtesy of Margery L. Daughtrey, Cornell University.



# WPDN

Western Plant Diagnostic Network

## The Bagrada Bug

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

*Bagrada hilaris* is a species of shield bug known by the common names bagrada bug, painted bug, and harlequin bug. It is native to much of eastern and southern Africa and parts of southern Europe

and Asia. It is now known in CA and AZ, where it was first reported in 2008. It is a major pest insect of *Brassica oleracea* crops, including cabbage, kale, cauliflower, Brussels sprouts, and broccoli, and related crucifers such

as turnips, rape, and mustard. The adult and nymph of the species suck sap from

the leaves of the plants, causing wilting, yellowing, and stunting of growth. Besides crucifers, the bugs are known on papaya, sorghum, maize, potato, cotton, caper, pearl millet, and some legumes. Large numbers of the bug congregate on the plants and cause extensive damage. The adult bug is 5–7 millimeters in length, shield-shaped, and black with white and orange markings. The female, which is larger than the male, lays up to 100 oval or barrel-shaped eggs on leaves or in soil beneath plants. The eggs are white when freshly deposited and turn orange over time. Within eight days the first-instar nymph emerges. It is bright orange-red and turns darker as it develops, becoming mostly or predominantly black by the last instar. The bug made a sudden appearance in Los Angeles in June, 2008, its first sighting in the Western Hemisphere. It then moved into the cropland of the heavily agricultural Coachella and Imperial Valleys of California, doing damage to cole crops there, especially those grown organically. Dr. Gevork Arakelian, entomologist for Los Angeles County, says this insect has the potential to become a very serious pest. Please see [the Center for Invasive Species Research website](#) about the bagrada bug in southern California. The photos are fantastic! 🌿



Bagrada bugs in all life stages: adults surrounded by several nymphal stages in San Pedro, CA. Photo courtesy of Delbert Crawford.

## Job Opportunities

### Fruit IPM Extension Educator in Residence (Search # 2012313) Campus/Location: University of Connecticut, Storrs Campus

The University of Connecticut Integrated Pest Management Program invites applicants for the position of Fruit IPM Extension Educator-in-Residence (Assistant or Associate). The successful candidate will develop, conduct and evaluate extension IPM educational programs for fruit growers statewide. The faculty member will use the latest research-based information related to all facets of pest management in tree fruit and small fruit crops. The successful candidate will work collaboratively with teams of extension educators, specialists and others to plan, implement and evaluate programs statewide. [Click here](#) to read the full job description. 🌿

## National Events

**May 21–25, 2012**

Fourth International Workshop on  
Oomycetes

College Park, MD

**July 23–26, 2012**

National Plant Board 2012 Annual  
Meeting

Mystic, CT

**August 4–8, 2012**

2012 APS Annual Meeting

Providence, RI

**November 11–14, 2012**

Entomology 2012, ESA 60<sup>th</sup> Annual  
Meeting

Knoxville, TN

## Regional Events

**March 20–22, 2012**

Soilborne Plant Pathogens and California  
Nematology Workshop

San Marino, CA

**April 3–5, 2012**

NEPDN Meeting

White Plains, NY

# Upcoming Events