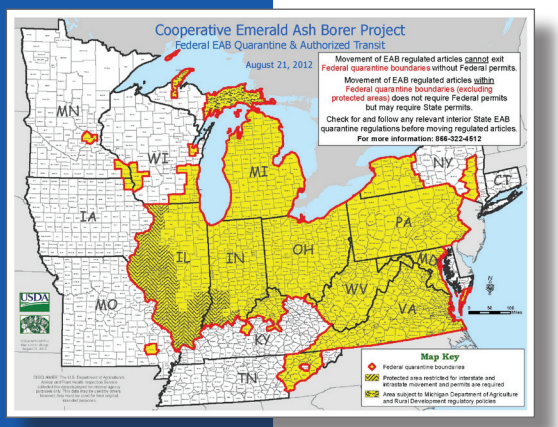
NPDN National Plant Diagnostic Network

NPDN News

Volume 7 Issue 7, August 2012

USDA Confirms Emerald Ash Borer in Kansas

Kansas Department of Agriculture News



The first-ever presence of emerald ash borer in Kansas was confirmed in Wyandotte County on August 29. The discovery was made by 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. The staff identified a tree during the visual survey that showed symptoms of the emerald ash borer.

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Congratulations to NPDN Directors Regional Award Recipients!

Rick Bostock, Department of Plant Pathology, University of California at Davis

Six individuals from throughout the NPDN were acknowledged recently with the NPDN Directors Regional Awards. Members of the Executive Committee nominated individuals from within their respective regions to recognize outstanding contributions to the regional and national networks. This year's recipients are Barry Brennan (University of Hawaii, WPDN), Fred Brooks (University of Hawaii, WPDN), Frank Hale (University of Tennessee, SPDN),

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Jeff Jones, Director of the SPDN and Professor of Plant Pathology at the University of Florida, recently agreed to serve as Executive Director of the NPDN. Jeff replaces Rick Bostock, WPDN Director and Professor of Plant Pathology at UC Davis, who stepped down after serving a 3-year term as Executive Director. The official "transfer of the gavel" was made at the NPDN Town Hall at the APS National meeting in Providence, RI on August 6.

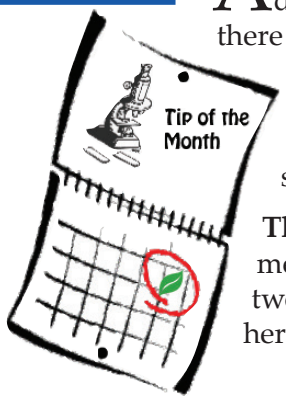
Issue Highlights

USDA National Institute of Food and Agriculture

Diagnostic Updates

Tips for Isolating *Phialophora gregata*, the Brown Stem Rot (BSR) Pathogen, from Plant Material

Teresa Hughes, USDA Soybean Research Pathologist, Purdue University



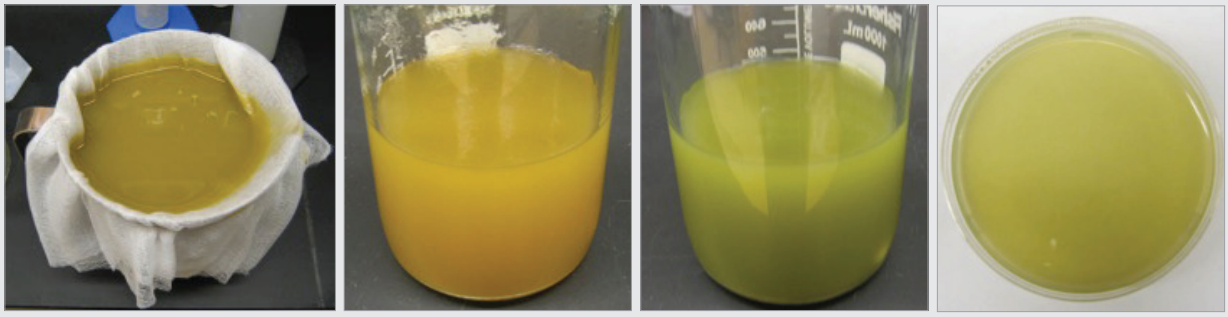
Although PCR and real-time PCR protocols are available for detecting the presence of *Phialophora gregata* in soybean tissues, there are advantages to confirming a diagnosis of BSR by isolation of the pathogen. The following describes a standard protocol for isolating *P. gregata* from plant material that includes several modifications and tips, which have proven to be very successful.

The medium. The semi-selective medium for *P. gregata* (PGM media) was first reported back in 1991. Although it has been tweaked a number of times by different labs, the recipe presented here is still relatively simple as well as effective.

160 g	Gerber® 2nd Foods® green bean baby food (not 1st or 3rd)
0.8 g	$CuSO_4 \bullet 5H_2O$ (Copper (II) sulfate pentahydrate a.k.a. Cupric sulfate pentahydrate)
0.0148 g	Terrachlor 75% Wettable Powder *
20 g	Bacto Agar
1 L	de-ionized water

*The active ingredient of Terrachlor is pentacloronitrobenzene or PCNB, at 75%. Technical grade PCNB has limited solubility in water so it is best to get it as a wettable powder fungicide formulation. It may be difficult to find Terrachlor but I have also seen it sold under the name Quintozene (Chemtura Co.)

Mix green bean baby food with water and filter through three layers of cheesecloth. Add the strained liquid to agar, add a stir bar and sterilize for 40 minutes. After sterilization, place medium in a 60° C water bath to cool. While the medium is cooling, add the copper and terrachlor to 9 ml of sterile, de-ionized water and vortex until mixed. Once medium is cooled, add the copper/Terrachlor solution and mix well (stir bar comes in handy here). The medium will turn from a dull pea-green color to a brighter blue-green. Store plates in the dark until they are ready to use (good for about 2 months).

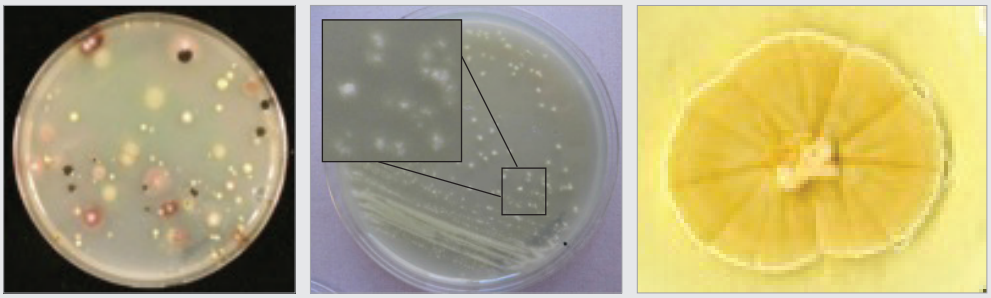


Media preparation. *Images from left-right:* straining of green bean baby food solution through cheesecloth. Color of medium after sterilization and before addition of copper and terrachlor. Color of medium after addition of copper and terrachlor. Appearance of PGM plate after solidification. Photos courtesy of Teresa Hughes, Purdue University.

The sample. How the sample is treated can have a significant influence on isolation of *P. gregata*. Plants can be collected at anytime during the season but chances of isolating *P. gregata* improve once soybean has started to flower and increases as the plant matures. Regardless of the growth stage at which the plants are collected, the sample should be processed within two weeks.

Remove leaves, petioles, flowers, pods, as well as secondary roots and nodules if your including root tissue. The best material for isolation is the 3–4 inches of the main lower stem and the first 2–3 inches of the taproot. Plants should be washed to remove dirt and allowed to air dry. Once plants are dried (they snap when bent), grind material through a Wiley Mill followed by a second grinding through a Udy cyclone sample mill (or equivalent). The powder sample (particle size is extremely important for isolating *P. gregata*) can then be dilution plated onto PGM.

Images from left to right: example of sample (clean; no petioles, leaves, etc); appearance of plant sample after grinding through Udy mill; appearance of the 10–2 dilution. Photos courtesy of Teresa Hughes, Purdue University.



Images from left to right: example of *P. gregata* colonies (circled in red) on PGM from stem material; example of *P. gregata* colonies on PGM, pure culture; image of an isolate of *P. gregata* on PDA. Photos courtesy of Teresa Hughes, Purdue University.

Weigh out 100 mg of ground tissue and add to a test tube containing 9 ml of sterile, de-ionized water (10–2 dilution). Vortex and remove 1 ml and add to a second test tube (10–3 dilution). Plate 100 µl of each dilution onto PGM and spread with a hockey stick. (Note, large orifice tips are very useful for dilution plating the ground material). Incubate plates upside down (no need to parafilm) in the dark at 12–16° C for 2–3 weeks (the cooler temperature aids the selectivity of the medium). Colonies of *P. gregata* on PGM will be small and whitish-yellow with a slightly raised center. Selected colonies can then be plated directly onto PDA. On this medium, *P. gregata* has a distinct appearance. It will grow very slowly, produce little or no spores, and will appear dense with ridges.

USDA Seeks Comment on Responding to Chrysanthemum White Rust

APHIS Newsroom. WASHINGTON, Aug. 7, 2012

APHIS is seeking comment on its regulatory strategy for responding to domestic chrysanthemum white rust (CWR) outbreaks and its policy on the importation of CWR host plants and plant material.

APHIS stakeholders have expressed interest in revisiting the regulatory status of CWR due to its limited host range, frequent detection within the United States, and the cost of eradication and control measures. After evaluating the comments, APHIS will determine whether to propose changes to existing regulations pertaining to CWR. Changes could include continuing to regulate CWR as a quarantine pest and dealing with detections on a case-by-case basis, establishing generally applicable regulations to address the presence of the disease within the United States, or deregulating CWR entirely.

Comments will be received via mail or online. Consideration will be given to comments received on or before October 2, 2012. For more information read the full APHIS news release.

IT News

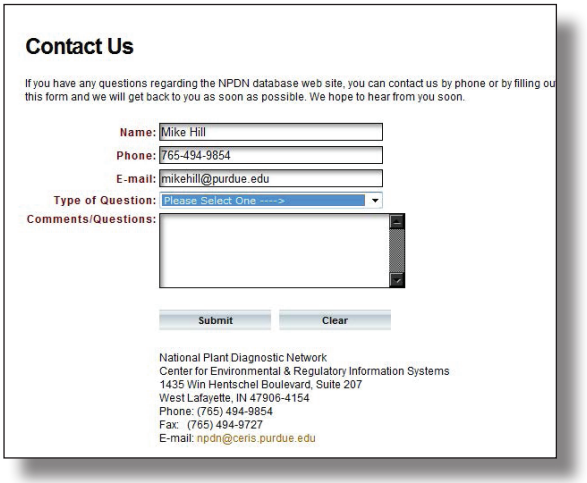
National Repository Useful Tips

Mike Hill and Eileen Luke, CERIS, Purdue University

During 2012 there has been a 25% increase in the number of user accounts for the NPDN National Repository. With so many new users we felt this would be a good time to pass along some useful information on the NPDN National Repository (https://npdn.ceris.purdue.edu).

We are here to help with any National Repository questions and can be reached via e-mail at npdn@ceris.purdue.edu or you can contact Mike Hill (765.494.9854) or Eileen Luke (765.494.6613) directly. Questions can also be submitted online at https://npdn.ceris.purdue.edu/htbin/contactd.com.

One of the more frequent questions we receive is how to add or update entries in the pest, host, or diagnostic lab reference files. These types of requests can be sent via e-mail to npdncodes@ceris.purdue.edu. Please make sure to include the scientific name and common name for pest and host requests or in the case of diagnostic lab requests please provide the contact name, phone, e-mail, and physical address. There is also an online form for making pest or host requests which can be accessed at https://npdn.ceris.purdue.edu/htbin/npdncode.com.



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

DIAGNOSTICS COMMITTEE

Diagnostics Committee

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

The Diagnostics Committee held a conference call on July 12, 2012, and the following agenda items were discussed:

- Training Updates
  - Beltsville trainings
  - STAR-D Training
- Gainesville Lab Audit
- Price consistency on regulatory samples
- Conference call schedule change
- Thank you letters posted with minutes

NEXT CONFERENCE CALL – To be determined….. possibly in October

NATIONAL DATABASE

National Database Committee

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

The Database Committee has utilized e-mail to address change requests and other business. Thank you letters have gone out to experts who assisted with Insect taxonomic review. Some Insect lists are still under review and software changes are being developed at the National Repository. The "One Name for Fungi" project will be underway soon with funding from the Farm Bill.

The next conference call will be held September 12, 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 July 30, 2012, and the following agenda items were discussed:

- Switching to bimonthly conference calls
- Progress of T&E module revision
- Steve McLean joins the T&E committee from UFL
- New positions; Natalie Hummel and Amanda Hodges
- June FADI meeting in Washington

The next meeting will be held on Monday, September 17, 2012.

National News, *cont...*

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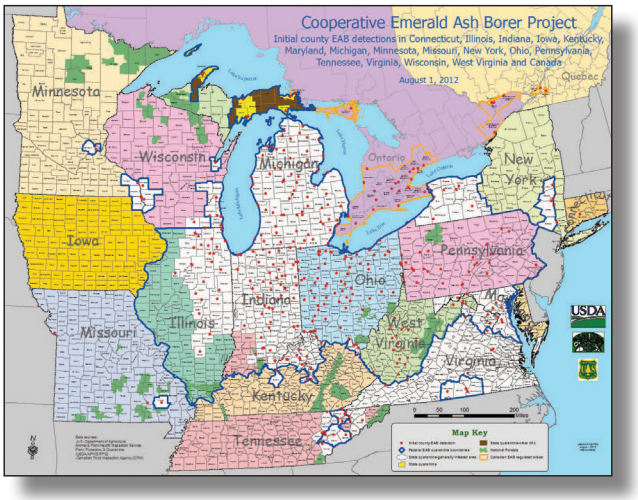
They removed a portion of the tree and sent it to a USDA lab in Michigan for further analysis. Regulatory officials at USDA's Animal and Plant Health Inspection Service's Plant Protection and Quarantine (USDA-APHIS-PPQ) division removed a live insect from the sample and confirmed the presence of emerald ash borer on August 29.

Read the complete announcement from the Kansas Department of Agriculture.

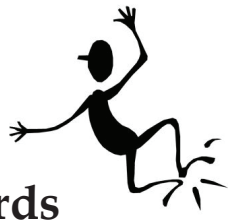


NPDN Awards continued from page 1...

Richard Hoenisch (University of California, Davis, WPDN), Consuelo Estevez de Jensen (University of Puerto Rico, SPDN), and Karen Snover-Clift (Cornell University, NEPDN). NPDN Executive Director Rick Bostock presented the awards during the NPDN Town Hall at the APS National Meeting in Providence, RI on August 6.

NPDN Directors Awards recipients clockwise from top left: Barry Brennan, University of Hawaii at Manoa, WPDN; Frank Hale, University of Tennessee, SPDN; Consuelo Estevez de Jensen, University of Puerto Rico, SPDN; Fred Brooks, University of Hawaii at Manoa, WPDN; Dick Hoenisch, University of California, Davis, WPDN and Karen Snover-Clift, Cornell University, NEPDN. Images courtesy of Rick Bostock, University of California, Davis.

Congratulations to NPDN Members on their 2012 APS Awards

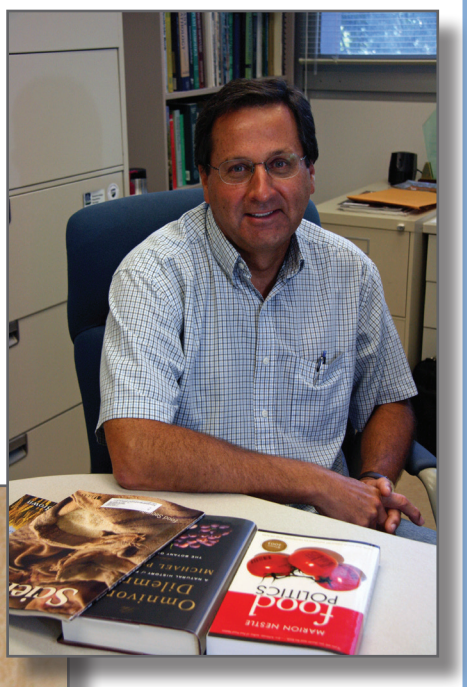


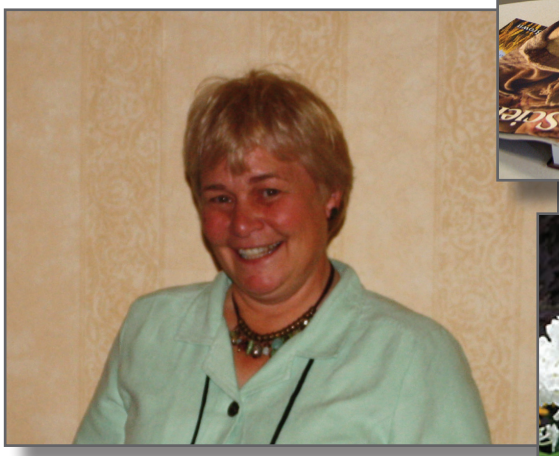
APS Fellows

Richard M. Bostock, University of California, Davis, WPDN and **Margery L. Daughtrey**, Cornell University, NEPDN

Excellence in Extension Award

Gail E. Ruhl, Purdue University, NCPDN





Upcoming Events

National Events

September 24–28, 2012
NC State 18th Ornamental Workshop on Insects and Diseases
Hendersonville, NC

November 11–14, 2012
Entomology 2012, ESA 60th Annual Meeting
Knoxville, TN

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

NPDN National Plant Diagnostic Network

Rachel McCarthy, Editor
NEPDN
Cornell University