



United States Department of Agriculture
Animal and Plant Health Inspection Service

Program Aid No. 1710

Plant Protection
and Quarantine:

**Detecting Plant
Pests and Weeds
Through a National
Survey Program**



Cooperative Agriculture Pest Survey

“CAPS”

PA Department of Agriculture
Bureau of Plant Industry

Nancy S. H. Richwine



CAPS – What is it?



Mission Statement for 2008

CAPS provides a distribution profile of plant pests in the United States deemed to be of regulatory significance to USDA-APHIS-PPQ, State Departments of Agriculture, tribal governments, and cooperators by:

- Confirming the presence or absence of plant pests impacting the domestic and international movement of plants and plant products; and
- Establishing and maintaining a comprehensive network of cooperators and stakeholders to facilitate our mission and to safeguard our American plant resources.

Agricultural crop pests and biological control agents including: insects, plant pathogens, weeds, nematodes and other invertebrate organisms



CAPS – What is it?

Survey, detection, and identification activities in the field and the laboratory;

- Targeted pest list
- Survey protocols
- Lab procedures
- Taxonomic aids
- State Survey Committees



Illustration by: Joel Floyd USDA, APHIS, PPQ

National database- (NAPIS)

National Agricultural Pest Information System

Electronic information exchange systems

Networking



Technical Backbone

Center for Plant Health, Science and Technology (CPHST)

Mission:

- To identify pathways used by exotic plant pests & weeds.
- To assess risks exotic pests pose to food, fiber and the environment.
- To develop, adapt and support technology to detect, identify and mitigate impact of significant exotic pests.
- To ensure methods, protocols and equipment used by PPQ are effective and efficient.



WWW.APHIS.USDA.GOV/PLANT_HEALTH/CPHST



Information



NAPIS

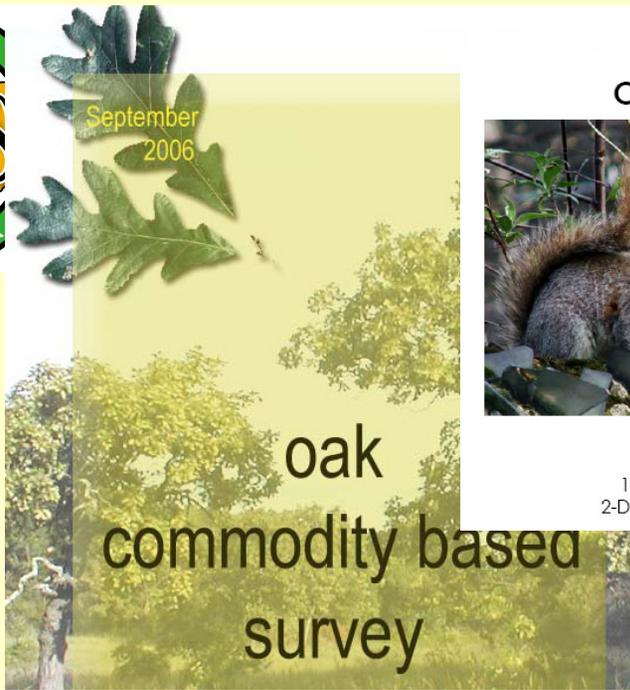
Pest Tracker <http://pest.ceris.purdue.edu/>

NAPIS Data Notifications

NAPIS Custom Data Queries

CAPS Survey Guidelines & Manuals
including taxonomic aids

State & Federal databases



Oak Commodity Survey Guidelines



R.C. Venette¹, E.E. Davis², and E. M. Albrecht²
 April 25, 2007
 1-Northern Research Station, USDA Forest Service, St. Paul
 2-Department of Entomology, University of Minnesota, St. Paul

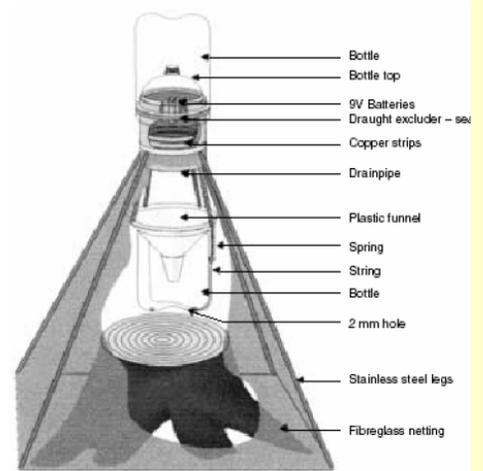
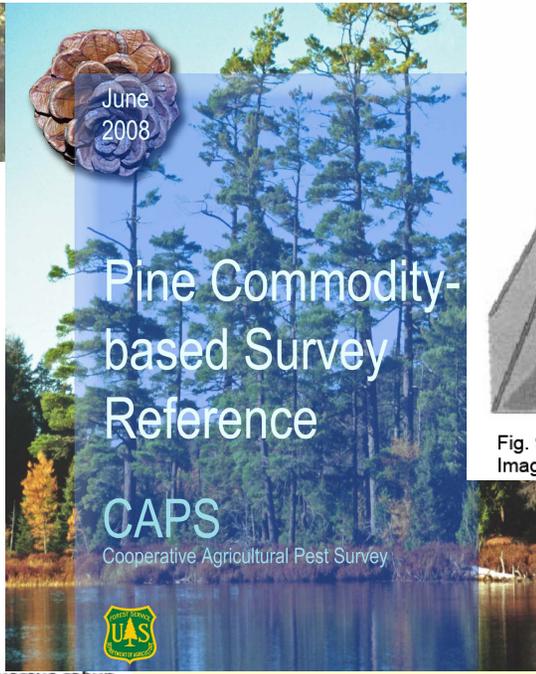


Fig. 9. Diagram of *H. abietis* emergence trap. Image reproduced from Moore (2001).

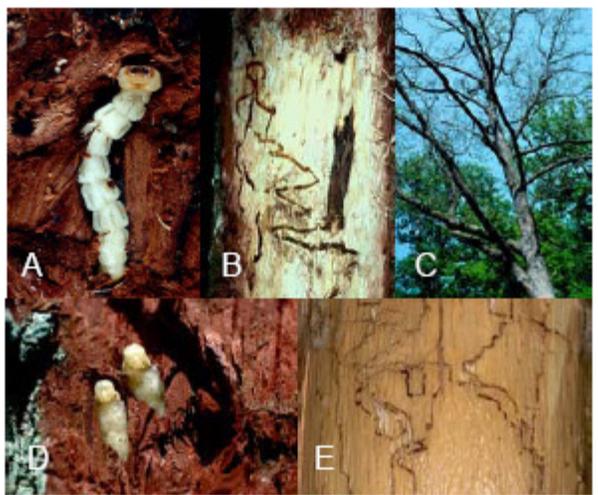


Fig. 2. Life stages and damage caused by *Agrilus biguttatus* (A) larva tunneling in *Quercus robur*; (B) cambium necrosis with characteristic "zig-zag" gallery pattern; (C) tree death resulting from *A. biguttatus* infestation; (D) pupae visible in bark; and (E) "stair" gallery pattern. Images are not to scale.

[Images from Louls-Michel Nageleisen, www.invasive.org].



Search the Pest List:



NAPIS PEST TRACKER

This website publishes distribution maps for pests of agricultural and forest commodities and provides links to pest news and information.

The National Agricultural Pest Information System (NAPIS) stores and manages pest survey data that is collected by CAPS and other PPQ survey programs. Detection surveys are one tool used to manage the introduction of exotic pests.

PPQ

[Plant Protection and Quarantine](#) is a division of the United States Department of Agriculture's Animal and Plant Health Inspection Service charged to protect American agricultural resources.

Mission Statement

APHIS-PPQ safeguards agriculture and natural resources from the risks associated with the entry, establishment, or spread of animal and plant pests and noxious weeds. Fulfillment of its safeguarding role ensures an abundant, high-quality, and varied food supply, strengthens the marketability of U.S. agriculture in domestic and international commerce, and contributes to the preservation of the global environment.

CAPS

<http://pest.ceris.purdue.edu/index.php>



st Information S

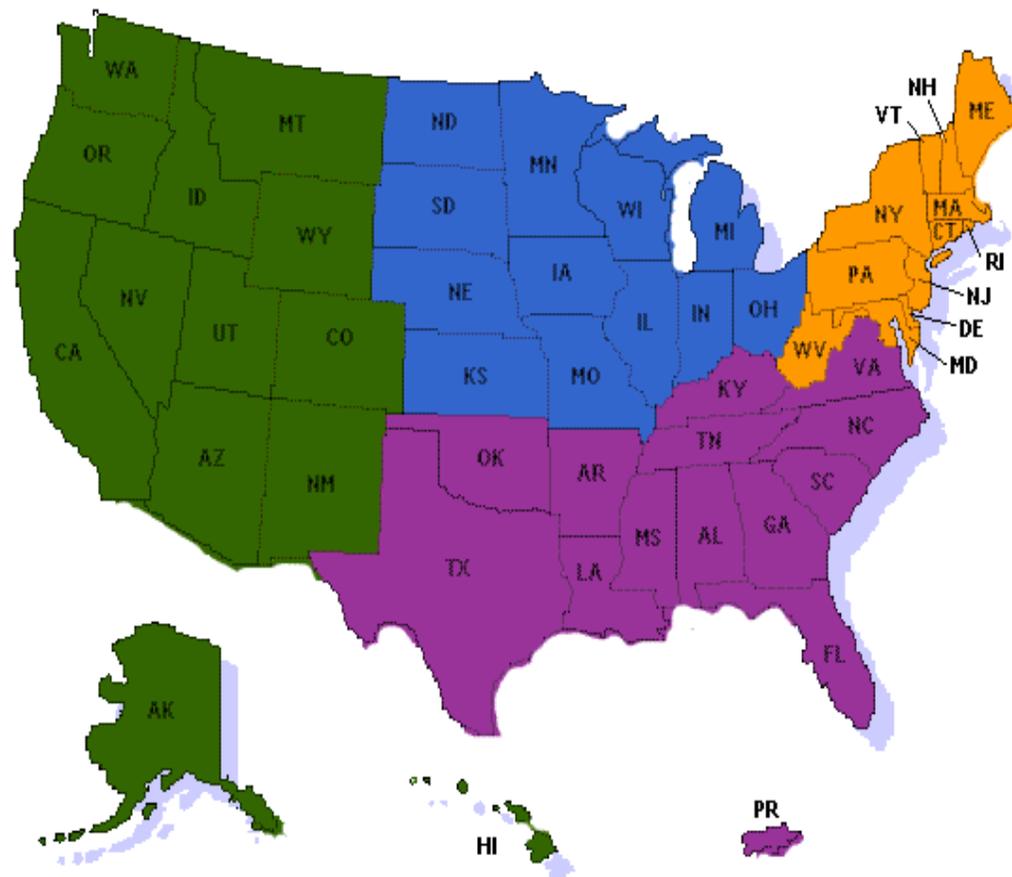
Search the Pest List:

Click on a state for more information.

APHIS-PPQ Region

Plant Board Region

State



Plant Board Region

- Western
- Southern
- Central
- Eastern

Or choose from: [Guam](#) | [U.S. Virgin Islands](#)



Search the **Pest List:**

Pennsylvania

Contact Information

- [Blosser, Walt](#) - State Plant Regulatory Official (717-772-5205)
Serves on the [National Plant Board](#), oversees state level pest detection and regulatory activities and coordinates survey activities between government agencies, public and private sector organizations. Also coordinates the state's initial emergency response if an exotic pest is detected.
- [Richwine, Nancy](#) - State Survey Coordinator (717-772-5223)
Coordinates annual survey planning, execution and reporting as well as community outreach activities.
- [O'Hern, Coanne](#) - State Plant Health Director (717-241-2465)
Directs federal APHIS-PPQ pest detection and regulatory activities in cooperation with state officials, and coordinate the initial PPQ emergency response if an exotic pest is detected in the state.
- [Nyce, Rachel](#) - Pest Survey Specialist (717-241-0133)
Provides technical support to the SSC in planning, executing and reporting annual surveys and coordinates pest detection activities with neighboring states.

Latest News

10/29/2009	PA Plum Pox Virus Eradicated After 10 Years	Pest Info
10/29/2009	PA Declared Free of Plum Pox Virus	Pest Info
10/29/2009	Removal of PA Plum Pox Federal Quarantine	Pest Info
10/08/2009	No gypsy moth spraying in 2010	Pest Info
10/01/2009	Gypsy Moth Spraying Rare in 2010	Pest Info
09/24/2009	Additional EAB Quarantines in PA WI	Pest Info
09/18/2009	EAB Quarantine Areas MD MI MN MO PA VA WV WI	Pest Info
09/12/2009	Seed Collection Initiative To Help Save Ash	Pest Info
09/06/2009	Be on the beetle look out.	Pest Info
09/02/2009	BioControl Assessment for Japanese Beetle	Pest Info



<http://pest.ceris.purdue.edu/index.php>

- Home
- Pest
- State
- Pest List
- Directories
- Resources
- Contact Us

Common Name	Scientific Name	Options
Bark Beetle	<i>Scolytus schevyrewi</i>	Pest Info NAPIS Map
British Root-knot Nematode	<i>Meloidogyne artiellia</i>	Pest Info NAPIS Map
Camphor Shoot Beetle	<i>Xylosandrus mutilatus</i>	Pest Info NAPIS Map
Columbian Root-knot Nematode	<i>Meloidogyne chitwoodi</i>	Pest Info NAPIS Map
Eur. Hardwood Ambrosia Beetle	<i>Trypodendron domesticum</i>	Pest Info NAPIS Map
European Oak Bark Beetle	<i>Scolytus intricatus</i>	Pest Info NAPIS Map
European Shot-hole Borer	<i>Xyleborus similis</i>	Pest Info NAPIS Map
False Columbia Root-knot Nema.	<i>Meloidogyne fallax</i>	Pest Info NAPIS Map
Geranium S. Bacterial Wilt	<i>Ralstonia solanacearum R3 B2</i>	Pest Info NAPIS Map
Giant Wood Wasp	<i>Urocerus gigas gigas</i>	Pest Info
Golden Nematode	<i>Globodera rostochiensis</i>	Pest Info NAPIS Map APHIS-PPQ Page
Japanese Pine Sawyer	<i>Monochamus saltuarius</i>	Pest Info
Japanese Pine Saywer Beetle	<i>Monochamus alternatus</i>	Pest Info NAPIS Map
Large Pine Weevil	<i>Hylobius abietis</i>	Pest Info NAPIS Map
Mediterranean Pine Engraver	<i>Orthotomicus erosus</i>	Pest Info NAPIS Map
Oak Ambrosia Beetle	<i>Platypus quercivorus</i>	Pest Info NAPIS Map
Pine Shoot Beetle	<i>Tomicus destruens</i>	Pest Info NAPIS Map
Redbay Ambrosia Beetle	<i>Xyleborus glabratus</i>	Pest Info NAPIS Map
Redhaired Pine Bark Beetle	<i>Hylurgus ligniperda</i>	Pest Info NAPIS Map
Scolytid Beetle	<i>Xyleborus maiche</i>	Pest Info NAPIS Map



NAPIS Data Notifications

USDA/APHIS/PPQ DATA NOTIFICATION REPORT 10/27/2009 04:00 EST

This report includes data which have been entered into the National Agricultural Pest Information System (NAPIS) by members of the Cooperative Agricultural Pest Survey (CAPS). Best efforts are made to enter accurate and complete data, however, neither the USDA nor Purdue University certify as to the accuracy or completeness of the data.

Record Selection Criteria

Process-Date : 10/26/2009

=====

USER-ID: **OHIO** PDOH201

[Banded Elm Bark Beetle , Scolytus schevyrewi](#)

Pest was designated 'New in County'

Observation-Date: 20090721 State-County: OH-Preble

Pest-Status description: POSITIVE (PRESENT)

NOT KNOWN TO BE ESTABLISHED

[map link](#)

USER-ID: **PENNSYLVANIA** PDPA201

[Emerald Ash Borer , Agrilus planipennis](#)

Ash , Fraxinus sp./spp.

Pest is first positive NAPIS data entry for the county

Observation-Date: 20091022 State-County: PA-Juniata

Pest-Status description: POSITIVE (PRESENT)

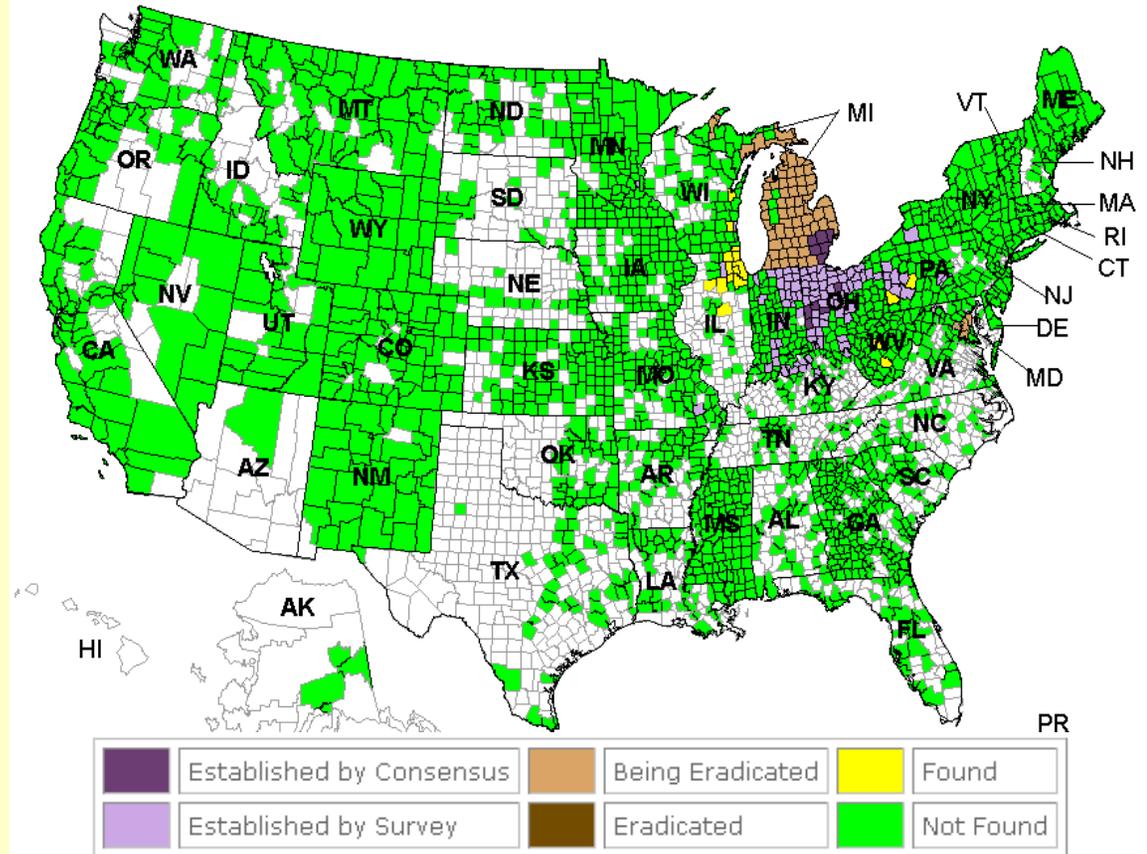
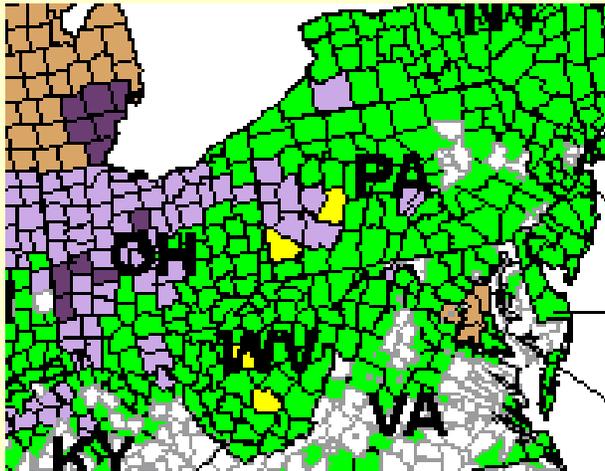
KNOWN TO BE ESTABLISHED

[map link](#)



NAPIS Data Notifications

Reported Status of *Emerald Ash Borer - Agrilus planipennis*



This map represents all pest survey data submitted to the NAPIS database by CAPS partners. Presence or absence is based on summarization of survey data at the county level. Maps are updated regularly with data currently available in the NAPIS database.

CERIS does not certify the accuracy or completeness of this map.



Update: Ralstonia

Ralstonia solanacearum Race 3 Biovar 2 (RsR3B2)

Common Names: Southern bacterial wilt, Ralstonia wilt of geranium and Brown Rot of potato



- Imported in infected geranium cuttings from off-shore propagation stations in Guatemala and Kenya;



- First intercepted in 1995
- Also intercepted each year 1999-2003
- Plants exposed were all destroyed; sites were sanitized according to the 2003 PPQ Action Plans
- Follow-up monitoring continues





Update: Potato Cyst Nematodes

Golden Nematode (GN)
Pale Cyst Nematode (PCN)

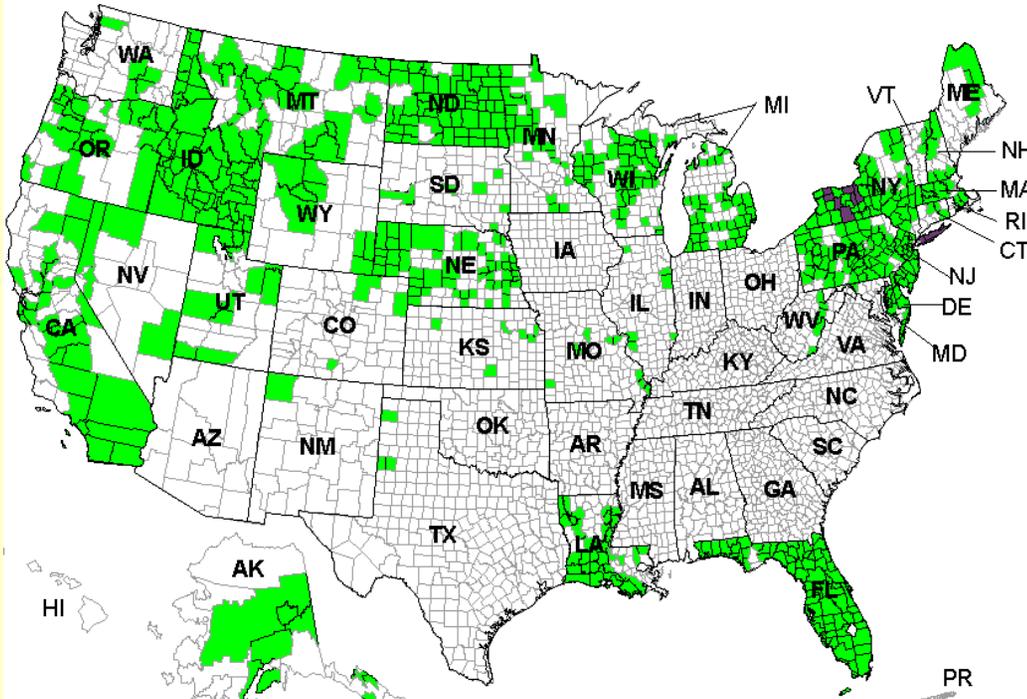


Reported Status of

Golden Nematode - *Globodera rostochiensis*

Map views: [last 3 years](#) | [alltime](#) | [2009](#) | [2008](#) | [2007](#) | [2006](#) | [2005](#) | [2004](#) | [2003](#) | [2002](#) | [2001](#) | [2000](#)

This map represents all survey data entered into the NAPIS database.



PA surveys since 1981

PA counties in 2-yr rotation

Sampling by hand and by tractor-drawn sampling wheel

Laboratory analysis - PDA Harrisburg

No Target Nematodes Detected



Collaborators

PA State Survey Committee Members

PA Dept. Agric.

Shu Ambe, Entomology
Walt Blosser, State Plant Regulatory Officer
Melissa Bravo, Weed Scientist
Earl Flack, Nematology
Seong Hwan Kim, Plant Pathology
Sarah Pickel, IPM
Nancy Richwine, State Survey Coordinator
Sven-Erik Spichiger, Entomology
Cathy Thomas, IPM Coordinator
Karl Valley, Plant Protection Chief
Ashley Walter, Invasive Spp Coordinator

Customs/Border Protection, US DHS

Hal S. Fingerman, Agric. Specialist Chief
Joanne Coughlin, Agric. Specialist Supervisor

Plant Protection and Quarantine, USDA-APHIS

Bruce Cahan, Phila. Officer in Charge
Tim Newcamp, Carlisle Officer in Charge
Coanne O'Hern, State Plant Health Director

National Identification Service, USDA-APHIS

Grace O'Keefe, Plant Pathology Identifier

PA DCNR Forest Pest Mgmt. Penn State

Tom Hall, Forest Pathology
Fengyou Jia, Forest Entomology
Houping Liu, Forest Entomology

Tim Abbey, Capital Region Horticulture Extension
Dennis Calvin, Entomology
John Peplinski, Plant Pathology Diagnostic Clinic/NPDN



Pennsylvania Department of
AGRICULTURE



CAPS Mid Atlantic Counterparts

State Survey Coordinators (SSC)

	Name	Phone	Email
DE	Ciurlino, Randy	302-698-4585	randolph.ciurlino@state.de.us
MD	Bean, Dick	410-841-2743	beanra@mda.state.md.us
NJ	Vaiciunas, Saulius	609-984-2262	saul.vaiciunas@ag.state.nj.us
OH	Fisher, John Robt. (Rob)	614-995-1489	jfisher@mail.agri.state.oh.us
PA	Richwine, Nancy	717-772-5223	nrichwine@state.pa.us
WV	Carrington, Terry	304-558-2212	tcarrington@ag.state.wv.us

PestTracker, 12 Sept 2008

<http://pest.ceris.purdue.edu/index.php>





CAPS Mid Atlantic Counterparts

State Plant Health Directors (SPHD)

	Name	Phone	Email
DE	Kitzmiller, Colleen	302-678-5868	colleen.kitzmiller@aphis.usda.gov
MD/ DC	Travis, Matt	410-631-0073	matthew.a.travis@aphis.usda.gov
NJ	Blaskovich, Ron	609-259-8649	ronald.m.blaskovich@aphis.usda.gov
OH	Burch, John	614-834-4625	john.m.burch@aphis.usda.gov
PA	O'Hern, Coanne	717-241-2465	Coanne.E.O'Hern@usda.gov
WV	Watkins, Jason	304-372-8590	jason.j.watkins@aphis.usda

PestTracker, 12 Sept 2008

<http://pest.ceris.purdue.edu/index.php>





CAPS Mid Atlantic Counterparts

Pest Survey Specialists (PSS)

	Name	Phone	Email
DE/ NJ	O'Connor, Michael	609-259-8650	Michael.R.OConor@aphis.usda.gov
MD/ PA	Nyce, Rachel	717-241-0133	Rachel.S.Nyce@aphis.usda.gov
OH	Eitam, Avraham	614-834-4625	Avraham.Eitam@aphis.usda.gov
WV	Braud, Rachel	304-372-8590	Rachel.A.Braud@aphis.usda.gov

PestTracker, 12 Sept 2008

<http://pest.ceris.purdue.edu/index.php>





PA Plant Pest Survey Targets 2009

Insects:

Emerald Ash Borer

Exotic Wood Destroying Beetles (including Sirex)

<http://www.barkbeetles.org/exotictousofconcern.cfm>



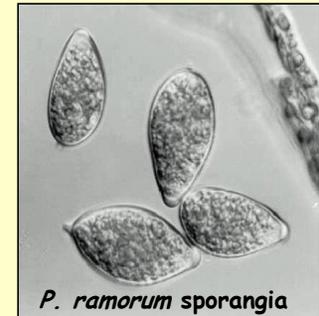
Oak Splendour Beetle
Bugwood.org

Pathogens:

Plum Pox Virus

Ralstonia Wilt of Geranium R3B2

Phytophthora ramorum Blight (Sudden Oak Death)

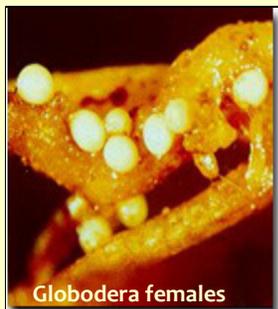


P. ramorum sporangia

Nematodes:

Golden & Pale Cyst Nematodes

Columbia Root-knot Nematode



Globodera females

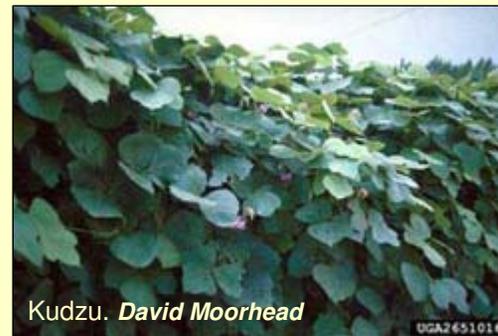
Noxious Weeds:

Giant Hogweed

Goatsrue

Kudzu

Mile-A-Minute



Kudzu. *David Moorhead*



More information

CAPS

www.aphis.usda.gov/plant_health/plant_pest_info/pest_detection/pestlist.shtml

NAPIS Pest Tracker

pest.ceris.purdue.edu/index.php

APHIS -Pest Detection and Management Programs

www.aphis.usda.gov/ppq/ep/

Emerging Pests

New Export Requirements For Wood Packaging Materials

Center for Plant Health Science and Technology

www.cphst.org/index.cfm

Handouts





Credit & Copyright: Kerry-Ann Lecky Hepburn (www.WeatherandSky.com)