

Look What's Out There

in

Integrated Pest Management

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Rootworm Damage Observed on B.t. Corn

According to University of Illinois (UI) entomologists Mike Gray and Kevin Steffey the stacked corn traits farmers pay big bucks for are not keeping rootworms from feeding on the corn. On the positive side, genetically modified "B.t." corn does appear effective in stopping another pest, the corn borer, in its tracks, and the technology produces towering plants that produce excellent yields.

In mid-July, 2007, Gray, Steffey and their student assistants began digging up corn plants in UI fields to look at their root system health. They were surprised when they found that rootworms did significant early damage to transgenic varieties. Gray said they started digging up roots to evaluate damage in July as well as August for a very specific reason - a severe storm that swept through in July a few years ago and flattened a lot of corn fields, a sure sign rootworms have been at work in the ground. Steffey said that the technology introduced in 1996 that works so well for corn borers, killing about 99 percent of the beetles that eat it, doesn't work as well on rootworms, a technology which was launched in 2003, adding, "You don't get the expression in the roots that you get in the leaves," and that many companies don't emphasize that fact when they're selling their stacked hybrids to farmers. Gray said studies show B.t. slows rootworms down and kills some, but others survive.

(Chemically Speaking, August 2007)

Emerald Ash Borer Detected in PA

On June 26, 2007, APHIS confirmed the detection of emerald ash borer (EAB), in the Cranberry Township of Butler County, Pennsylvania. This detection was made by APHIS personnel conducting visual inspections for ash decline along the Pennsylvania/Ohio border following the confirmed detection of EAB on the Ohio side of the border. APHIS officials observed and investigated ash tree decline in the parking lot of a commercial establishment and captured two suspect specimens that have been confirmed to be EAB.

In response to this latest detection, APHIS will cooperate with the State of Pennsylvania to carry out delimiting surveys around the affected area. Furthermore, an investigation will be conducted to determine the origin or nursery source of the affected trees and evaluate the immediate area for other possible pathways through which EAB may have been introduced. APHIS will provide education and outreach materials to Pennsylvania State Parks to raise awareness about the pest and the risks associated with the movement of firewood.

EAB is present in some parts of the United States. Currently, the entire States of Ohio, Indiana, and Illinois are quarantined for EAB, together with the lower peninsula of Michigan and Prince George's County in Maryland. EAB is an invasive wood boring beetle that is native to China and eastern Asia. EAB probably arrived in

North America hidden in wood packing materials commonly used to ship consumer and other goods. It was first detected in the United States in southeastern Michigan. Since then, EAB has been responsible for the death and decline of more than 25 million ash trees in the United States. The interstate movement of firewood from quarantined areas is an especially high risk pathway for spreading EAB, and APHIS is working with State cooperators and foresters to raise public awareness about this threat.

(National Plant Protection Organizations July 2007)

USDA Distributes Oral Rabies Vaccine Across Appalachian States

The U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) will distribute oral rabies vaccine baits beginning on or about Aug. 23 to prevent the spread of raccoon rabies in portions of West Virginia and southwestern Pennsylvania. In cooperation with state departments of agriculture, health and key agencies, baits containing oral rabies vaccine will be distributed over rural areas using low-flying twin-engine aircraft. Hand baiting will occur in populated regions using ground-based vehicles. The projected one-week program will target raccoons and distribute approximately 1.5 million baits covering roughly 9,500 total square miles in two states. Since 1997, APHIS has been working to establish a rabies-free barrier in the eastern United States where the raccoon variant of rabies threatens wildlife populations and pets, as well as public health and safety. APHIS has coordinated a cooperative effort in the following states: Alabama, Florida, Georgia, Maine, Maryland, Massachusetts, New Hampshire, New York, North Carolina, Ohio, Pennsylvania, Tennessee, Vermont, Virginia and West Virginia. Baits are coated with a fishmeal attractant and could be packaged in one-inch square cubes or two-inch plastic sachets. Humans and pets cannot get rabies from coming into contact with the baits but are asked to leave the baits undisturbed should they encounter them. This vaccine has been shown to be safe in

more than 60 different species of animals, including domestic dogs and cats. Dogs that consume large numbers of baits may experience an upset stomach, but there are no long-term health risks.

For additional information concerning the raccoon oral rabies vaccine program, please visit http://www.aphis.usda.gov/wildlife_damage/rabies.shtml or contact USDA's wildlife services toll free at 1-866-4-USDA-WS (1-866-487-3297).

(USDA APHIS August 2007)

Fungal Foam Possible New Biocontrol for Termites

A fungus-filled foam is being tested as a biological alternative to using chemicals to kill termites hiding inside tree trunks and other hard-to-reach places. Developed by Agricultural Research Service (ARS) scientists in Peoria, Ill., and New Orleans, La., the foam contains spores of the fungus *Paecilomyces fumosoroseus*, which kills termites by feeding and growing inside their bodies. Since the fungus poses no such danger to people and nonhost insects, it's an appealing alternative to chemically treating termite-infested trees with insecticides, notes Chris Dunlap, a chemist with ARS' National Center for Agricultural Utilization Research in Peoria. Dunlap codveloped the foam with microbiologists Mark Jackson—also at the Peoria center—and Maureen Wright, with ARS' Southern Regional Research Center in New Orleans. A top target of theirs is the Formosan subterranean termite. A nonindigenous species that's become established in the southern and southwestern United States, the Formosan termite is unrivaled in the size of its colonies, tunneling and appetite for cellulose in wood materials and living trees. In New Orleans alone, the pest costs an estimated \$300 million annually in damages and losses. But if the team's tests in New Orleans' City Park are any indication, the fungal foam could make the heartwood of live oaks and other host trees far less hospitable to Formosan termites. Indeed, researchers have observed little to no termite activity in trees

originally treated with the fungal foam in 2005. However, because some control trees were lost to Hurricane Katrina in August 2005, additional tests were begun in the spring of 2007 to further substantiate the foam's effectiveness. When injected into trees, the foam expands into any cavities or tunnels the pests have made in the heartwood. Upon collapsing, it disperses spores onto the termites, or to areas where the termites travel.

(By Jan Suszkiw, USDA ARS, September 2007)

EPA Authorizes Use of Pheromone Products for Light Brown Apple Moth Quarantine Program

The Environmental Protection Agency (EPA) has approved four products for emergency use in a quarantine program to control an invasive pest new to the continental United States, the Light Brown Apple Moth (LBAM). This pest destroys, stunts, or deforms young seedlings. It also spoils the appearance of ornamental plants, and injures citrus, deciduous fruit-tree crops, and grapes. The approved products are Checkmate OLR-F and Checkmate LBAM-F both in a microencapsulated form; Disrupt Micro-flake LBAM Mating Disruption in flake form; and Isomate LBAM Plus Pheromone in a hanger dispenser. EPA has approved these products for ground and aerial application over wide areas where the moth has been detected, including residential areas that harbor plant hosts for the new invasive moth. Read the Fact Sheet on EPA's approval of the quarantine exemption at: http://www.epa.gov/pesticides/local/region9/lbam_quarantine.htm.

EPA believes use of these pheromone products, including aerial application over residential areas, presents negligible risks to human health and the environment. The pheromone products approved by EPA for the quarantine program do not kill moths or other pests. These products do not exhibit the toxic characteristics more common to conventional pesticides. Instead, the pheromones disrupt mating of the Light Brown Apple Moth and thereby reduce populations of

the pest. The moth pheromone products, though artificially derived, are exact chemical replicas of the natural pheromones produced by the female Light Brown Apple Moth to attract mates. The products impair males' ability to find female mates. Wide dispersal is important for product efficacy. The moth was first detected in the California Bay Area in February 2007. More than 5,000 detections of the moth have been confirmed over an affected area encompassing 500,000 acres or more. The Light Brown Apple Moth has the potential to cause significant economic losses due to increased production costs and the possible loss of international and domestic markets. USDA estimates the impact on plant production costs may exceed \$100 million in the State of California. The moth is native to Australia and is found in New Zealand, Ireland, the United Kingdom, and Hawaii.

For more information about pesticides, contact the National Pesticide Information Center at <http://npic.orst.edu/> or by phone at 1-800-858-7378. NPIC is a cooperative effort of EPA and Oregon State University that offers science-based information on a variety of pesticide-related subjects.

(EPA September 4)

Funding Opportunity

- The **IR-4 Biopesticide Research Program** announces a request for grant proposals for funding of efficacy research in 2008. IR-4 is especially interested in proposals containing biopesticides as resistance management tools, rotated with conventional products. While resistance management is an important interest, the proposal must still have a majority focus on biopesticides. Project proposals will be accepted in Early, Advanced and Demonstration stage categories. The total amount of funding available will be around \$ 400,000. Most successful grants have generally ranged from \$5,000 to \$25,000. The primary objective of the IR-4 Biopesticide Research Program is to

further the development and registration of biopesticides for use in pest management systems for specialty crops or for minor uses on major crops. Proposals will be due November 12, 2007. For more information, go to:
<http://ir4.rutgers.edu/Biopesticides/biograntaannouncement.htm>.

- **Sustainable Agriculture Research and Education (SARE): Partnership Grant Program.** The Partnership Grant is for agricultural professionals who work directly with farmers—specifically Cooperative Extension, NRCS personnel, non-governmental organizations, and others operating in the farm community—who are interested in developing on-farm demonstration, research, or marketing projects related to sustainable agriculture. Sustainable agriculture is understood to be agriculture that is profitable, environmentally sound, and beneficial to the community. The purpose of the Partnership Grant is to build knowledge farmers can use, to encourage the understanding and widespread use of sustainable techniques, and to strengthen partnerships among farmers, extension, non-governmental organizations, and NRCS personnel that support useful inquiries into how agriculture can be made more profitable through good stewardship. Partnership projects can address a variety of topics, including the development of beneficial insect habitat, alternative crops or animals, practices that make use of biological cycles for improved soil, plant, and pest management, marketing, adding value, grazing, tool or technology development, agroforestry, farm management, and water quality. Proposals should be relevant to farming and sustainability issues in the northeast region, and should offer both research and outreach components so that results will be available to the wider farm community. The deadline for application is December 4, 2007. For more information or to apply, go to
<http://www.uvm.edu/~nesare/PARTinfo.html>

or call (802) 656-0471.

- **Sustainable Agriculture Research and Education (SARE): Farmer Grant Program.** The goal of the Farmer grant program is to develop, refine, and demonstrate new sustainable techniques and to explore innovative ideas developed by farmers across the region. Information gained from these farm-based projects may be used to redirect research priorities. To apply, you must be a farmer in the Northeast SARE region. You need not be farming full time, but your operation should have an established crop or animal product that you sell on a regular basis. Nonprofit farms may apply, but the primary activity of the farm must be to produce and sell food under the kinds of economic constraints that affect commercial growers. Many community-supported farms qualify, but farms where the primary mission is educational normally do not. The deadline for application is December 18, 2007. For more information or to apply go to
<http://www.uvm.edu/~nesare/FGinfo.html> or call (802) 656-0471.
- The United States Department of Agriculture (USDA) has announced that \$4 million will be available in Fiscal Year 2008 for a 4-year Coordinated Agricultural Project (CAP) to research ways to improve the health and protection of honeybees, which are facing serious threats that have the potential to heavily impact the nation's food supply. Bee populations throughout the United States are in serious decline, said Gale Buchanan, USDA under secretary for Research, Education and Economics. As the threat of Colony Collapse Disorder and other bee health problems increases, it becomes more important that USDA takes the necessary steps to help protect these valuable assets. The overall goal of the Protection of Managed Bees CAP is to improve the health of managed bee populations in agricultural systems. The research USDA is seeking to fund is expected to address genomics, breeding, pathology, immunology and

applied ecology that explain the cause behind dwindling bee populations. Unique to this CAP program is that the researchers will work closely with the extension community and stakeholders to develop mitigation strategies for Colony Collapse Disorder (CCD) and other significant problems that threaten the bee industry and U.S. agriculture. CAP projects focus around the coordinated activities of individuals, institutions, states and regions to promote open communication and the exchange of information in response to emerging areas of national priority and need. The project should complement and/or link with existing programs and projects at the national level. In Fiscal Year 2007, CSREES committed another \$1.7 million to honeybees and pollinator research, while USDA's Agricultural Research Service (ARS) will spend about \$7.7 million on honeybee research focused on mites, pathogen and nutrition. National program leaders at ARS and CSREES developed an Action Plan for CCD which is a long term plan for research, extension and educational activities that are recommended to address this important problem. The plan is available on the ARS Web site. In October 2007, ARS will begin research on the Honeybee Health Areawide Project, which will provide robust bee colonies for early season crops such as almonds in California or squash in Florida. It will also include all major beekeeping routes, such as cherries, apples, cranberries, etc., with a focus on bee nutrition and pest resistance. The 5-year project will be funded at \$1 million per year, with 2007 funded at \$670,000. The USDA Cooperative State Research, Education, and Extension Service (CSREES) is funding the CAP project under the National Research Initiative's 2008 Request for Applications. Dr. Mary Purcell-Miramontes, national program leader for arthropod and nematode biology, developed this new CAP project and will be coordinating this new funding opportunity. The deadline for application is November 26, 2007. More information about the Protection

of Managed Bees CAP funding opportunity can be found online. Background information about CCD and the Action Plan is also available at <http://www.ars.usda.gov/is/br/ccd>.

Did You Know That



Many plant pathogens survive through the winter in old plants and plant debris remaining in the garden. Removal of the plant material will reduce the chance of certain diseases increasing over years. Debris from diseased plants should not be added to a compost pile, but buried outside the garden or destroyed.

Events



October 2-4, 2007

2007 Pesticide Worker Safety and Health Conference

Hilton Crystal City at Reagan National Airport
2399 Jefferson Davis Highway, Arlington, VA.

For more information go to:

http://www.epameetings.com/meeting_details.cfm?meetid=19

**October 15-16, 2007, Optional Workshop on
October 17th**

Phragmites Workshop

Cornell University, Ithaca New York

If you are interested to attend the meeting please send an email with Phragmites in the subject line and your contact information to Debbi DeWeese (dwd24@cornell.edu). Please also indicate whether you would like to present a talk and send a title and a one paragraph Abstract (200 words or less). Talks will be approximately 15-20 minutes.

October 22-26, 2007

**North American Plant Protection
Organization's Annual Meeting**

St. John's Newfoundland and Labrador – Canada.

For more information go to:

<http://www.nappo.org/annualmtg/2007/Annualmtg07-e.htm>

October 28-31 2007

**13th International Research Conference on
Methyl Bromide Alternatives, San Diego, CA.**

For more information go to <http://www.mbao.org>

February 10-13 2008

**International Plant Resistance to Insects
Workshop, Fort Collins, CO.**

For more information contact Frank Peairs by sending an email to Frank.Peairs@colostate.edu or by phone at 1-970-491-5945.

February 11-15 2008

4th Hemlock Woolly Adelgid Symposium

Harford, CT. For more information send an email to DSouto@fs.fed.us or call 1-603-868-7717.

Comments or Questions?

If you have any comments or questions regarding any of the material presented, please let us know by sending an e-mail to:

John.Baniecki@mail.wvu.edu. Thank you.