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Pilot Projects Take Flight

Schools embrace IPM for all the right reasons

On a sunny April morning, thirty students squeeze themselves into chairs in a public elementary school classroom. But here in Exeter, New Hampshire, these students are school operations staff, pest control professionals, advocacy workers, extension educators, and staff from the state's departments of agriculture, education, health, and environmental services. They have come to learn how they can bring IPM practices into schools. It's a diverse group and a remarkable turnout.

School IPM deserves the attention and enthusiasm it has sparked in New Hampshire. Children are more vulnerable than adults to both pests and pesticides, either of which can trigger asthma, the leading chronic illness in U.S. children. Studies show that IPM schools can have up to 90% fewer pest problems and pest-related allergens, and significantly less pesticide use and pesticide residues on exposed surfaces.

Nationwide, there's a push to make IPM the standard practice in all schools by 2015. The case for change is compelling, but making it real is a complex task involving "change agents" in every region, state, and school district.

The northeastern School IPM Working Group, led by Lynn Braband (NYS IPM Program) and Kathy Murray (Maine Dept. of Agriculture), is doing its part to achieve the national goal by helping to organize pilot events like the one in Exeter, and by gathering members who will support the move toward school IPM in each state in the region.

The New Hampshire workshop was based on the Monroe Model for implementing school IPM, which emphasizes raising awareness throughout the school community and secur-

ing commitments from key change agents—the kinds of folks who attended this workshop.

In Rhode Island, a similar pilot project is taking shape in the Chariho School District. Chariho's workshop, also held in April, was based on the STAR Certification Model. Developed by the IPM Institute of North America, the STAR



Marc Lame (Indiana Univ.) developed the Monroe Model, which uses pilot schools as a basis for expanding the IPM approach throughout each school district. Photo by Arife Ozkan, New Hampshire Dept. of Agriculture, Markets and Food.

program focuses on IPM training, assessments, and implementation plans that enable schools to verify that IPM is indeed being used.

The movement toward school IPM is happening in all states throughout the region, some of which developed model school IPM plans years ago or already require the use of IPM in schools.

With the national school IPM goal now framed in a specific timetable, the regional working group aims to ensure that every state, every district in the Northeast, is adopting an IPM approach to ensure a healthy environment for learning.

IPM Saves Potato Growers \$17 Million

Maine's Potato IPM Program made great strides in 2008, saving growers \$17 million while minimizing pesticide usage. This is big news in a state where potatoes are the top agricultural commodity, valued at more than \$500 million.

The savings can be credited both to a network of electronic weather stations across the state, which helps growers gauge whether their crop is threatened by late blight (a fungal disease that spreads in cool, wet weather), and to weekly monitoring for late blight and other pathogens and insects.

The program, coordinated by James Dwyer and James Dill (Univ. of Maine Cooperative Extension) with USDA funds, recommends the timing of fungicide sprays based on the weather data and scouting results. With access to this IPM expertise via a telephone hotline, newsletter, and website, growers spray only when their crop is truly at risk.

The environment is a big beneficiary of this IPM technology: growers attribute their savings to better timing of and fewer pesticide applications on potato crops, which cover nearly 60,000 acres in the state.

IPM Resources

... supported with
Northeast IPM funds!

On the Internet

Online Video Gives Consumers the Story Behind IPM-Grown Fruit. New England's Eco Apple brand is bringing consumers closer to their food with a terrific new video. Against a scenic orchard backdrop, family farm owners explain how hard work, a conscientious outlook, and research-based knowledge underpin their farm's success. Land-grant expertise and IPM strategies are crucial to their farming approach, as is the loyalty of local consumers who, as Eco Apple's slogan says, "trust the farmer, know the farm, and LOVE the fruit."

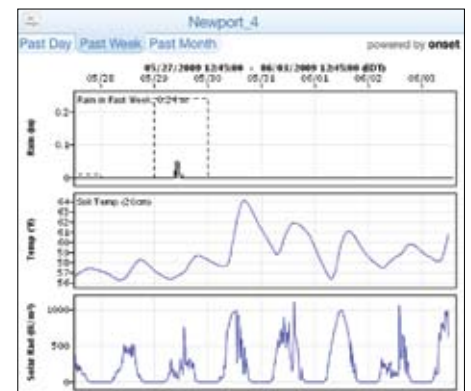


View Eco Apple's video at
www.redtomato.org/ecoapple.php



An IPM Library at Your Fingertips. At www.NortheastIPM.org, thousands of science-based IPM resources have been assembled in a fully searchable online database. Visitors can quickly put their hands on pest alerts, advisories, crop profiles, fact sheets, field guides, IPM guidelines, curricula, program and project websites, videos, CDs, and more — all published by land-grant universities, Cooperative Extension, or government agencies. Users can tailor their searches to yield results for specific states, crops, pests, and settings. Visitors are also welcome to contribute additional resources to the database.

Southern New England Grape Information Network Supports Disease Forecasting. Grape production is on the rise in southern New England, attracting winegrape growers who are new to this crop in the region. This season, growers have access to a new online system that delivers on-site, real-time disease-risk information to support sound decisions for managing grape diseases. Francis Ferrandino (CT Agricultural Experiment Station) and a team of land-grant cooperators have deployed cell-phone-based weather stations at several vineyards in Connecticut, Rhode Island, and Massachusetts. Graphs of the weather data for each location (see sample at right) are available on an hourly update. Visit www.ct.gov/caes, and follow links to "weather data" on the left side of the screen. Ferrandino's team is also working to create a new powdery mildew disease-risk model suitable for the climate of southern New England, and will eventually teach growers about improved control strategies.



Funding opportunity

Vegetable and Strawberry IPM Travel Grants. Would you like to visit another state to see the field work that is being done in vegetable or strawberry IPM? Do you wish you had funds to get to a twilight meeting, or spend a few days with a colleague in another state? The Northeast Vegetable IPM Working Group offers a travel grant that will pay up to \$800 for qualified expenses to help agricultural professionals in the Northeast learn about and share IPM practices in vegetables and strawberries. For complete information, visit www.NortheastIPM.org.

New Tomato Hybrids on the Way

Seed companies put IPM researchers' findings to use

In 2010, growers will have access to new tomato varieties that resist some of the most threatening tomato diseases and can be grown in ways that are gentler to the environment.

As a commercial crop grown throughout the region, tomatoes were valued at nearly \$90 million last year in New Jersey, New York, and Pennsylvania alone. They are an emblem of northeastern gardens, prized for their extraordinary flavor and rich in the antioxidant lycopene, which protects cells from free radicals that can potentially lead to cancer.

Both conventional and organic growers have voiced a need for improved control of early blight and late blight, two of the main fungal diseases of tomato. Conventional growers rely on fungicide applications that can cost up to \$200 per acre each season, using compounds that have high environmental impact yet still fail to adequately control the diseases. Copper fungicides are used in organic fresh market tomato production, but copper has been shown to suppress only late blight.

Plant breeder Martha Mutschler and plant pathologist Tom Zitter (both Cornell Univ.) rose to this IPM challenge, and with Regional IPM funding assembled a team of breeders, pathologists, horticulturists, and conventional and organic growers from several states. The team tested tomato lines and hybrids with late blight and early blight resistance to see if the diseases could be controlled using low-impact products.

The resistant lines that Mutschler developed provided outstanding control of both early blight and late blight when treated with pesticides that have low environmental impact (as measured by the environmental impact quotient formula). The new lines also work well when treated with biological fungicides in combination with fixed copper.

U.S. and international seed companies are using the early- and late-blight-resistant lines in varietal development and expect new hybrids to be commercially available in 2010. Growers are likely to reduce losses and also realize cost savings, since they will not need to rely so heavily on the use of pesticides. They will also be able to grow healthier crops with organic products or fungicides that present lower environmental risks. Home gardeners should be able to use the new varieties without having to spray their tomatoes for early blight and late blight.



Fungus-resistant lines can lower grower costs and reduce environmental impact. Above, Martha Mutschler (right) and Tom Zitter (center) discuss their early findings with IPM Center co-director Carrie Koplinka-Loehr. Photo by Dede Hatch

The urgent need for development of these new disease-resistant tomato varieties became clear when the team found that some early blight pathogens were not controlled by strobilurin fungicides. Mutschler and Zitter also discovered a high occurrence of *Septoria* leaf spot in the study's early stages, prompting them to launch a new effort to add *Septoria* resistance, creating triple resistant lines to control all three fungal diseases. The promise of their results has helped them obtain additional funding so the team can continue their work and bring these benefits to fruition.

To find out more about this project and future availability of the new seeds, contact Mutschler at mam13@cornell.edu or Zitter at taz1@cornell.edu.

Urban IPM Training Modules at StopPests.org

The "IPM Training in Public Housing" program is in full swing. By the end of June, all trainers will have been trained, future maintenance trainings for public housing staff and contractors will be scheduled, and a residents' briefing video will be in production. This nationwide program is coordinated by our Center through an interagency agreement between the U.S. Dept. of Housing and Urban Development and the Dept. of Agriculture.

Downloadable versions of the program's training modules and references are available at StopPests.org. If you are interested in using the materials at StopPests.org or would like to have training done through this program at a housing authority, contact program coordinator Allison Taisey at aat25@cornell.edu.

At the 6th International IPM Symposium, Taisey described the "IPM in Multifamily Housing" maintenance training, which was developed with stakeholder input and designed to be specifically applicable to affordable housing audiences. Approximately 20 people attended the session, which featured case studies of several innovative partnerships in urban settings.

IPM Partnership Program Supports 23 Projects in 2009

This year, the Northeastern IPM Center awarded nearly \$390,000 to support the following research and outreach projects in northeastern states.

IPM Working Groups

Northeast School IPM Working Group 2009: Demonstrating and supporting IPM implementation and education
Northeastern Region IPM Evaluation Working Group
Community IPM Working Group
Small Fruit IPM Working Group
Eco Apple IPM Working Group

IPM Issues

Developing improved protocols to assess alfalfa varieties for resistance to *P. sclerotioides*
Developing key indicators for greenhouse grower discovery and implementation of guardian plants in IPM
Development of a new IPM outreach campaign: A bold website and IPM messages on city buses
Enhancing floral resources for conservation biological control in urban landscapes

Educating the next generation of IPM users: Supporting and promoting IPM education in schools
Trial of a minimum-risk botanical compound to control the vector tick of Lyme disease

IPM Planning and Assessment Documents

Christmas Tree Crop Profile for New England
New England Pumpkin IPM Tactic Survey
Pest Management Strategic Plan for Processing Peas in New York

IPM Minigrants

Fungicide resistance management guidelines for cucurbit downy and powdery mildew control in the northeastern U.S.
Stored grain IPM: Practical information and experience for on-farm storage practitioners
Testing the effectiveness of a sanitizing agent for suppression of American foulbrood in beehives

State Network Projects were funded to respond to federal requests about pest management methods.

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