Patricia D. Hastings

From: "Patricia D. Hastings" <hastings@AESOP.RUTGERS.EDU>
To: "NJinPAS Network" <NJinPASNetwork@AESOP.RUTGERS.EDU>
Cc: "Karyn Malinowski" <Malinowski@AESOP.RUTGERS.EDU>
Sent: Wednesday, August 25, 2004 3:29 PM
Subject: Northeastern Integrated Pest Management Center's Regional IPM Grants Program Awards

Courtesy of Elizabeth Myers, Staff Writer for the Northeastern IPM Center (NE IPMC) NYSAES. The NE IPMC is the grantor of funds to support the New Jersey Information Network for Pesticides and Alternative Strategies.

August 24, 2004

IPM Innovations for the Northeast:
New Research and Extension Projects Funded for 2004

GENEVA, NY -- The Northeastern Integrated Pest Management Center's Regional IPM Grants Program has awarded more than $580,000 in support of 10 new projects designed to solve insect, disease, and other pest problems. These projects promote science-based, safe, and effective IPM strategies through a wide range of research and extension approaches, including models for predicting pest activity, new avenues for public outreach, and development of pesticide alternatives.

Predictive Models for Pest Activity

Predictive models help IPM users control pests with optimal efficiency and minimal risk. Gaining access to such forecasting technologies is a high priority for growers, who can use the models to time their pest management activities around critical events. Four of the newly funded projects focus on the use of such models.

Fire blight is one of the most destructive and difficult-to-control diseases of apple. The antibiotic streptomycin can effectively control fire blight when applied at appropriate times, and a computer forecasting model called MARYBLYT enables growers to improve the timing of their streptomycin applications. Alan Biggs (West Virginia Univ.) is building on this existing model to calculate factors such as the costs of disease management, which will *help growers better understand the economic risks involved in their fire blight management decisions*.

Spinach is an important crop in Maryland, Delaware, and New Jersey, where white rust is cited as the most prevalent and difficult-to-control disease of the crop. Fungicide use is very high on spinach to control white rust, yet losses from the disease persist due to poor timing of applications. Kathryne Everts (Univ. of Maryland) will help northeastern growers to *adapt an existing weather-based fungicide application model for management of spinach white rust.*

In Pennsylvania, Dennis Calvin (The Pennsylvania State University) will work to *verify the accuracy of weed and insect predictive models on a wide scale.* His study will help to expand the use of existing models by ensuring that they adequately track pest development and provide the most reliable information to growers.

Cornell University's Juliet Carroll will lead a project to expand the Northeast Weather Association (NEWA), *bringing weather information and pest forecast models to apple growers* in eastern New York and adjacent regions of Vermont, Massachusetts, Connecticut, and Quebec. Not every grower can afford to own weather stations, so NEWA's instruments are purchased by certain growers who contribute their data to a computer network, which others can access for free on the web (newa.nysaes.cornell.edu). The sharing of these valuable technological resources will promote the use of IPM and will enhance the sustainability of apple production in the region.

Public Awareness of IPM Practices

Research has shown that citizens are interested in alternatives to chemical pesticides but remain uninformed about IPM and how to practice it at home. In New York, Carrie Koplinka-Loehr (Cornell Univ.) responds to this need for information by *developing a series of IPM displays for the public*: interactive IPM exhibits and an educational kit to be presented at a local science museum, a brochure on pest-resistant trees and shrubs, an introductory IPM brochure, and an informational packet and web page that can be used by IPM programs in the region. All of these outreach tools are being designed for a general public audience to broaden awareness and use of IPM strategies.

The principles of IPM can often be applied to reduce wildlife damage and nuisance problems, which are costly, significant, and pervasive. In an effort funded by multiple regions, Paul Curtis (Cornell Univ.) leads an effort to *revise and expand the website for an information clearinghouse called the Internet Center for Wildlife Damage Management* (http://wildlifedamage.unl.edu). Curtis's team will improve the site's visibility, utility, and ease of navigation, thereby increasing its impact and value in helping to address this nationwide issue.

Pesticide Alternatives

IPM tactics that reduce our dependence on pesticides can help to minimize health and environmental risks, slow the development of pesticide resistance, and lower the costs of crop production. Four of the funded projects focus on specific pest management strategies that may reduce the need for pesticides.

Young nursery plants often have insects and mites present at levels that are undetectable to the grower. These pests can survive and increase as the plants grow, building to levels that ultimately require repeated pesticide applications. At the University of Maryland, Stanton Gill will lead an effort to *control pests using a nonchemical system that involves dipping young nursery plants in hot water*. This method holds promise for controlling several major pests of nursery plants.

Honey bees pollinate more than 80 crops in the United States whose annual value exceeds $47 billion. Parasitic bee mites are a serious threat to bee-pollinated crops, and they are increasingly resistant to chemical mite control tactics. In New Jersey, Michael Stanghellini (Rutgers Univ.) will *evaluate the use of organic acids as an effective, sustainable alternative for controlling parasitic mites of honey bees.* If successful, these organic acids could be a practical, economically viable way of reducing or eliminating the use of conventional pesticides to control these parasitic mites.

Spring flower crops in the Northeast contribute about $500 million annually to the economy. Impatiens and geraniums are vulnerable to aphids, a pest for which there are currently no biological control options. Roy Van Driesche (Univ. of Massachusetts) will *explore nonchemical options for aphid control using a technology called "banker plants."* Banker plants are noncrop plants that are interspersed among the crop plants, functioning as alternative hosts. Van Driesche will infest these banker plants with aphids that are not pests to the flower crops and then introduce parasitoids to attack both the nonpest and pest aphids. The banker plants will ensure that growers have a fresh, reliable supply of natural enemies to protect their crops from pest aphids.

Strawberry sap beetle is of great concern to northeastern growers because pesticides are generally ineffective against this pest, which can cause significant economic losses. Although primarily a pest of strawberries, the beetle feeds and reproduces on a number of other crops. Cornell's Greg English-Loeb will work with colleagues in Pennsylvania and Massachusetts to *examine the strawberry sap beetle's use of and growth on alternative food plants.* The team will also study the quality of the beetle's overwintering habitat, identify its aggregation pheromone, and evaluate the resistance/susceptibility of strawberry cultivars to the pest. These efforts will enhance our understanding of the pest and support the development of effective alternative management strategies.

Patricia D. Hastings
Program Associate in Pest Management
Pest Management Office
Rutgers Cooperative Extension of New Jersey, the Garden State!
hastings@aesop.rutgers.edu; phone: 732-932-9801 (messages); 732-932-4271 (direct)
PMO websites @ http://www.pestmanagement.rutgers.edu; Farm Safety website @ http://www.rce.rutgers.edu/farmsafety/