

The IPM Report



MSU Integrated Pest Management Program

Vol. 10, No. 2 - Fall 2004

Published by the Michigan State University IPM Program

Welcome to our fall newsletter

In our fall issue of *The IPM Report*, we provide updates on key IPM/ICM projects, highlighting the teams that have been formed to get the job done. MSU IPM emphasizes partnerships with campus departments and Extension personnel,



Michael Brewer

governmental agencies, and plant-based industries. The *CAT Alert* newsletters, the pocket guide series, and participation in extension and applied research all reflect our desire to team up with our colleagues and friends to promote IPM.

I thank everyone who participated in our strategic planning activities last winter and spring. Reports, including the Recommendation Report from the external review team, are on our web site

(<http://www.ipm.msu.edu/strategic.htm>). The site has been recently updated as we have been authorized to move forward in key areas: establishing an advisory group and moving forward with our emphasis areas (web/information services, IPM/ICM training, and Implementation of sustainable IPM).

Enjoy and don't hesitate to contact us with your ideas. --
Michael Brewer, IPM Coordinator ♦

Project increases opportunities for specialty crop growers through EQIP

In 2003, Mike Brewer and Joy Landis of the MSU IPM Program worked with Larry Elworth of the Center for Agricultural Partnerships and Michigan commodity organizations (see sidebar on the next page) to help form the Putting the Farm Bill to Work Project in Michigan. The project brings together several organizations with the goal of increasing the use of IPM by encouraging growers to apply to the Environmental Quality Incentives Program (EQIP).

EQIP is administered by the Natural Resources Conservation Service (NRCS) and offers incentive payments to growers for a wide range of practices such as inte-

grated pest management, erosion control, conservation of water resources, and nutrient management. For example, growers may receive funds to help construct pesticide containment facilities, establish windbreaks, and use pest management techniques. The program is designed to help growers use practices that will improve their operation and address environmental challenges.

To better support growers' efforts in adopting practices good for the farm and environment, the federal government structured the 2002 Farm Bill to increase funding for incentive payments toward initiating conservation practices.



Brian Altonen, Elk Rapids, discusses the apple crop with Mark Doherty of HortSystems, Inc. Altonen Orchards' EQIP application was accepted in 2004 and is supporting activities like the construction of agrichemical containment facilities, installation of sod centers for erosion control, and enhancements for pest management.

Our mission: The MSU IPM Program promotes the use of integrated pest management (IPM) and affiliated management tools to safeguard farm and environmental health through research-based education, service, and demonstration and applied research.

Partners in the Putting the Farm Bill to Work Project

MSU IPM Program
The Center for Agricultural Partnerships
MSU Extension
Project GREEN
Natural Resources Conservation Service
The Joyce Foundation
Environmental Protection Agency
American Farmland Trust
Cherry Marketing Institute
Michigan Asparagus Advisory Board
Gerber Products
Michigan Apple Committee
Michigan Nursery and Landscape Association

With additional federal funds available, the Putting the Farm Bill to Work Project is focusing its efforts on increasing the number of specialty crop growers who apply to EQIP. The project also works with NRCS personnel at local, state, and national levels to build their understanding of growers' unique conservation and production needs for fruit, vegetables, and other crops.

Here are some of the results from these collaborations during the past year:

- Meetings and publicity for a pilot audience of asparagus and cherry growers increased grower knowledge of EQIP and its opportunities. Surveys indicate that grower awareness of financial incentives to support the use of IPM on their farms increased from 25 to 75 percent of the respondents. Awareness about EQIP increased from 44 to 62 percent of survey participants. In addition, the number of growers who indicated that they know how to participate in EQIP increased from 18 to 45 percent.
- Five county NRCS offices (Oceana, Mason, Grand Traverse, Leelanau, and Antrim) worked with consultants and MSU Extension staff in 2004. These efforts resulted in 42 approved contracts for fruit and vegetable growers, nearly double the number of contracts approved in 2002. The 2004 contracts will result in over \$1.6 million going to local growers to implement a variety of conservation techniques during the next three years.

- The NRCS EQIP incentive structure to support pest management for the 2004 program was adjusted statewide to \$3 per acre for field crops, \$10 per acre for vegetable crops, and \$20 per acre for fruit, nursery, and Christmas tree crops. A maximum payment limit (\$2,000 per year for three years) was established for each commodity sector.

We appreciate the synergy that has been created to increase the use of IPM through the efforts of NRCS, MSU Extension, growers, consultants, and commodity groups. This fall we are expanding our activities to include growers of two more commodity areas: apples and nursery stock. Special thanks to our financial supporters from Project GREEN, The Joyce Foundation, the Environmental Protection Agency, American Farmland Trust, and the Center for Agricultural Partnerships.

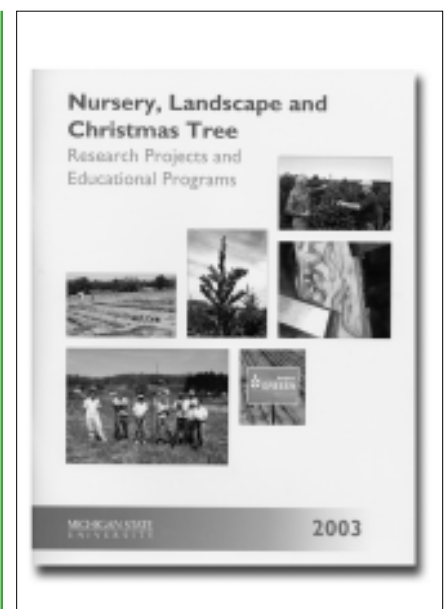
More information about the Putting the Farm Bill to Work Project and EQIP is available at: www.ipm.msu.edu/farmbill.htm and www.agcenter.org ♦

Landscape/nursery/Christmas tree research projects and educational programs in collaborative publication

This year Michigan's nursery, landscape, and Christmas tree industries received a comprehensive report on the research and outreach education activities MSU developed for them during 2003. MSU's Nursery and Landscape subgroup of the Ornamentals Area of Expertise (AoE) team collaborated with the Christmas Tree AoE to produce the annual report of activities. Since nursery growers may also be involved with Christmas tree production, a joint publication for both groups seemed to be a natural fit. Many of the research summaries presented in the publication are applicable to both of these segments of the green industry. The 80-page

publication was distributed to Michigan Nursery and Landscape Association (MNLA) members, Michigan Christmas Tree Association (MCTA) members, and others in the green industry. It is also available for downloading on the web at: <http://www.cips.msu.edu/landscape/>

Working as a team, Diane Brown-Rytlewski (Nursery and Landscape IPM Integrator) and Jill O'Donnell (Christmas Tree ICM Agent) collected and edited reports for the publication, summarizing MSU's outreach education and research in the areas of nursery production and production systems, pesticide evaluation, human re-



source management, ornamental plant diseases and disease management, plant evaluation, and insect biology and management.

This publication represents a teamwork in many ways. Articles were contributed by Ornamentals and Christmas Tree AoE team members including: field extension agents, faculty and staff from Horticulture, Plant Pathology,

Entomology, and Forestry. Production, and printing costs were financed by contributions from the two AoEs. Grower organizations covered the costs of mailing the publication to their members. Rebecca Lamb, IPM Program Communications Specialist, was responsible for the publication layout and design. This is the first year the

publication (in its fourth year of publication) included research and education for both the nursery and landscape and Christmas tree industries. Stakeholders have commented they liked the expanded resource.

For more information, contact Diane Brown-Rytlewski at 517-432-0480. ♦

New resource for organic and sustainable farming

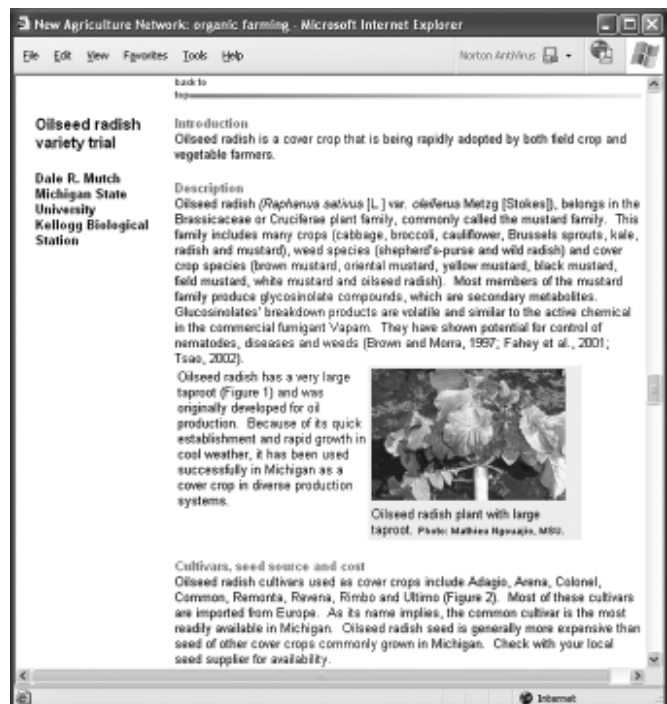
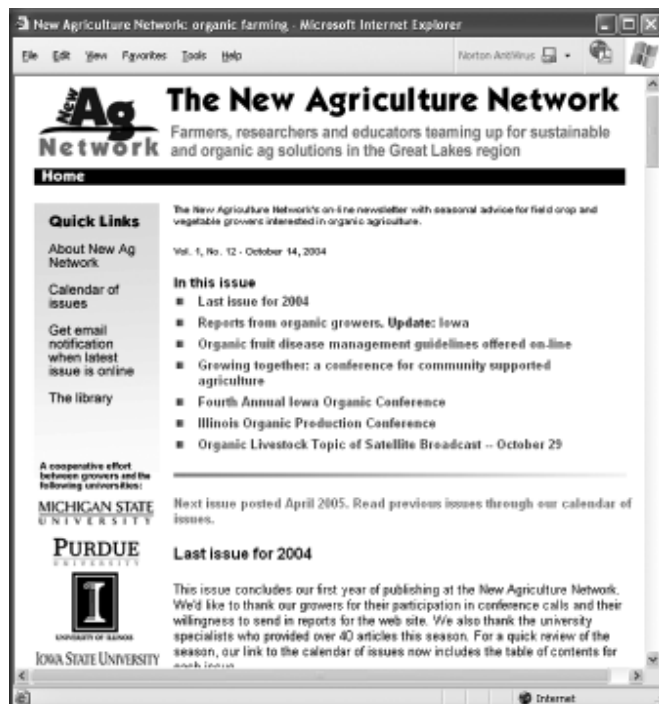
In 2004, the MSU IPM Program helped initiate an Internet resource aiming to bring together university researchers, organic farmers, and transition-to-organic farmers. Dale Mutch (MSU Extension field crops IPM specialist) and Joy Landis (Communications Manager/Asst. IPM Coordinator) collaborated with colleagues at four land grant universities to form the New Agriculture Network. These organizers include the University of Illinois' Deborah Cavanaugh-Grant, Purdue's Elizabeth Maynard, and Iowa State University's Jerry DeWitt. Grant funds from the American Farmland Trust and the Environmental Protection Agency Region 5

were awarded to establish the Network emphasizing the delivery of biological, non-chemical and long-term, science-based research information to organic farmers.

Twice a month during the 2004 growing season, farmers shared crop updates and provided reports posted on the network web page developed at the MSU IPM office (see: <http://www.ipm.msu.edu/new-ag.htm>). In addition, specialists from the four universities wrote a total of 41 biological, non-chemical articles about a variety of practices and new findings useful for organic growers and those interested in making the transition to organic. As a result, the start of an on-line

newsletter and a library of resources can be accessed from the Internet or printed and distributed. During the first season over 5,100 hits were recorded since initiation of the web site in April. The information at the Network has been primarily for field crop and vegetable growers. Expanding into other areas is being explored.

A four-state video conference is scheduled between the researchers, farmers, and extension agents on December 6, 2004. The New Ag Network project will continue publishing through the 2005 growing season. For more information, contact Dale Mutch at 269-671-2412, *Extn 224*. ♦



IPM offers pest management training for agencies

Ag agencies in Michigan were offered a new facilitated training program, Pest Management Considerations in Conservation Planning, in March 2004 in Dewitt, Mich. This training was planned by a group of agencies – MSU Extension, Natural Resources Conservation Service, and the Michigan Department of Agriculture. Amy Irish-Brown (MSU Extension ICM Agent), Rebecca Lamb (MSU IPM Program), and Mike Brewer (MSU IPM Program) were the course organizers.

There were 50 people attending the conference in this first year. These attendees were from the NRCS, MDA, and employees from various conservation districts who are working with the Michigan Groundwater Stewardship Program.

The workshop was designed to provide classroom and hands-on training and to fulfill the requirements for Module 7 of the NRCS course, *Nutrient and Pest Management Considerations in Conservation Planning*. Other pre-requisite modules in this coursework are self-paced and available on-line (<http://www.nedc.nrcs.usda.gov/catalog/>). This hands-on training is the only group activity involved in this whole certification training program.

Instructors were professionals from the planning agencies and EPA. The first day of training was devoted to providing a background to the pest management certification process for planners. Topics included: environmental stewardship and the resources related to it such as Food Quality Protection Act (FQPA), Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), and Worker Protection Standard (WPS); environmental and legal issues identified by the pesticide label; and pest management-related resources for planners.

On the second day, instructors gave attendees a look at a “day in the life” of various commodity production systems. The goal of this instruction was to give a broader perspective of pest management as it relates to fruit, vegetable, nursery, and field crop production. Topics included a general introduction to IPM and IPM components. Then participants examined specific IPM tactics available for fruit, vegetables, nursery, and field crops. Organizers concluded the day with a group exercise that introduced how to prepare the pest management component of a conservation plan. This is a necessary part of a

total farm plan needed for applying to NRCS conservation programs like EQIP and CSP.

The third day participants met in smaller working groups and were assigned case studies from real-world situations in various production systems. They were asked to develop the pest management component of a conservation plan for their scenario. Groups were provided the pest management standard, several MSUE publications, and sample labels. Instructors were on hand to answer questions as needed. The final assignment for the conference was for each group to make a short presentation of their plan. There was time for discussion about each presentation and it was interesting to see the similarities and differences each group developed for their plan. In order to receive certification from the NRCS, participants needed to complete a conservation management plan that included pest management considerations. These plans were to be verified by NRCS state-level personnel for completeness and accuracy.

This course will be offered again in March 2005 and possibly 2006. For more information, contact Amy Irish-Brown at 616-693-2193. ♦

Spinach production could provide vegetable growers with new options

With the trend towards healthier foods and lifestyles, an opportunity and market has developed for some Michigan vegetable growers – frozen chopped spinach. In the past, spinach has been grown in Michigan on a limited acreage, but to grow a possible 1,000 acres presents some production challenges. After successful limited plantings in 2003, acreage was expanded in 2004.

Spinach, a short season crop, can be planted for three harvests

during the year. The primary production season is early spring with harvest in June. Planting in early August will be harvested in October. Also, spinach can be planted as an overwinter crop in October with harvest the following spring. As ICM Vegetable Agent in West Central Michigan, Jim Breinling was approached by Chase Farms to assist in establishing spinach production with growers in Mason and Oceana Counties.



Oomen Farms in Oceana County irrigates one of the spinach fertilizer trials. On October 5, 2004, Warncke, Breinling, and crew harvested the trial.

The learning curve

Part of learning how to grow spinach was to see spinach production and learn from other growers. With assistance from the MSU Vegetable AoE, Breinling attended the 2003 National Spinach Conference along with three growers. They observed spinach and greens production and harvesting in Arkansas and Oklahoma and shared this information with growers at meetings this past winter in Oceana County.

Production challenges

There are a number of challenges to successful spinach production in west central Michigan. The major challenge is soil and fertilizer management. Nitrogen fertilizer use and proper soil pH levels are difficult to manage in light sandy soils especially for spinach production. A second challenge is

weed control because there are limited herbicides approved for use on spinach. Another challenge is to develop the best planting system for spinach in light sandy soils where wind and water erosion can be serious.

Addressing the challenges

A grant through Project GREEN and the MSU Product Center for Agriculture and Natural Resources sponsored the planting of approximately 160 acres in spring 2004. With this support, Darryl Warncke, MSU Crop and Soil Sciences, established a fertilizer trial at a grower cooperator's farm in Oceana County. An additional 90 acres were planted for fall harvest in August, which included another expanded fertilizer trial by Warncke. In spring 2005, Bernie Zandstra, MSU Horticulture, will

organize research looking at herbicides and weed control in spinach.

Vegetable growers in west central Michigan are very innovative and are experimenting with different planting methods such as grain drills versus conventional row planting. Some growers have also tried no-till to protect young seedlings and soil from wind damage and erosion.

This effort to establish spinach production has provided a great opportunity for MSU Extension to put all the pieces together into what is truly integrated crop management. Hopefully, the end result will be an additional crop growers can produce to improve crop rotations, sustainability, and add profitability to the Michigan vegetable industry.

For more information, contact Jim Breinling at 231-757-4789. ♦

Project aims to help cherry growers meet new pest management challenges

Like many sectors of U.S. agriculture, the tart cherry industry was posed with some difficult pest management challenges by the government's passing of the Food Quality Protection Act (FQPA). To prepare for the changes ahead, in 1999 the industry began a USDA-facilitated process to develop a Pest Management Strategic Plan that includes a series of aggressive IPM research and adoption priorities. These strong linkages between the U.S. tart cherry industry, the USDA, and Michigan State University resulted in a \$1.6 million grant from the USDA Risk Avoidance and Mitigation Program (RAMP) in 2003. The project is based on the research and education priorities identified in the strategic plan and ends in 2007.

USDA RAMP supports multi-state or regional projects that develop reduced risk pest management strategies to address environmental quality and human health

concerns while maintaining grower productivity and profitability. We have brought together a team with expertise in entomology, plant pathology, horticulture, soil microbiology, agricultural economics, and program evaluation to develop, deliver, and evaluate tart cherry orchard management practices in Michigan, Wisconsin, and Utah. The team involves researchers from Michigan State University; University of Wisconsin; Utah State University; Haley Consulting, LLC; and Cornell University.

To insure industry participation and leadership in the project, a management team comprised of 17 tart cherry industry representatives guides the tart cherry RAMP. The management team is chaired by Don Gregory of Cherry Bay Orchards in Suttons Bay, Mich., and Jim Seaquist of Seaquist Orchards in Sister Bay, Wis. Other members include Extension personnel, project researchers, input suppliers, proces-



One of the project's research goals is to improve control of plum curculio. Above: A pyramid trap in a tart cherry orchard for monitoring plum curculio. Left: Plum curculio larva.



Contact information

For more information on the Tart Cherry Integrated Orchard Management Project, please visit the website (<http://www.ipm.msu.edu/tartcherry.htm>) or contact:

- Mark Whalon, Principle Investigator, 517-353-9425, whalon@msu.edu
- Dave Epstein, Project Manager, 517-432-4766, epstei10@msu.edu, or
- Andrea Coombs, Project Coordinator, 517-353-6798, biasiand@msu.edu

sors, growers, and pest management consultants. The management team meets twice a year to offer stakeholder input on all project activities.

IPM research is being conducted on both insect and disease pests of tart cherry. Mark Whalon and Larry Gut, MSU Entomology, are evaluating reduced risk insecticides on 10 commercial orchards around Michigan. Currently registered organophosphate alternatives such

as Actara, Spintor, and Provado and products that may be registered within the next couple years such as DuPont's Avaunt have shown promise for control of plum curculio, eastern cherry fruit fly, and lepidopteron pests such as green fruitworm and obliquebanded leafroller. They are also testing monitoring techniques and phenology models to be used in conjunction with reduced risk insecticides to manage plum curculio, cherry fruit fly, and mites.

Entomologist Diane Alston, Utah State University, is looking at biological control of plum curculio, which has now been found west of the Rocky Mountains and poses a threat to tart cherry orchards in Utah. She is also evaluating reduced risk insecticides for control of the western cherry fruit fly.

George Sundin, MSU Plant Pathology, and Patricia McManus, University of Wisconsin – Madison, are heading up the disease management studies of the IPM research. Together, they are developing reduced risk fungicide spray programs for control of leaf spot, brown rot, and powdery mildew. Specifically, two forms of copper – a Bordeaux mixture and a fixed copper fungicide – will be evaluated to relieve resistance selection pressure by sterol inhibitors and

strobilurin fungicides, as replacements for chlorothalini. In addition, Amy Iezzoni, tart cherry breeder in MSU's Horticulture Department, has developed cultivars with resistance to cherry leaf spot. This material will also be evaluated by the project.

The project team is also collecting and analyzing detailed economic and social data. Suzanne Thornsbury, MSU Agricultural Economics, is measuring the net returns from moving from traditional pest management programs to reduced risk options. Jean Haley, Haley Consulting, is developing an industry-wide survey to create an industry baseline for the project in eight management areas: field scouting, information sources, pest management decisions, field management decisions, weed management, insect management, disease management, and soil and water quality management. In addition to the management areas, information about attitudes and perceptions of IPM will be collected.

Education and outreach efforts will be conducted through the guidance of Jim Nugent, District Horticulture Agent and Coordinator, Northwest Michigan Horticultural Research Station, and Nikki Rothwell, Fruit IPM Agent with Michigan State University. ♦



Project coordinator Andrea Coombs meets with the management team of the cherry RAMP project. The team includes representatives from industry, research and extension from all of the cooperating states.

Cooperative project to address soybean aphid IPM

The soybean aphid is a major new invasive insect soybean producers, industry, and university research/extension personnel have identified as one of the greatest threats to the U.S. soybean industry. A new multi-state project funded by the USDA Risk Avoid-

ance and Mitigation Program (RAMP) aims to help producers address this new threat.

The four-state project, entitled “Soybean Aphid in the North Central U.S.: Implementing IPM at the Landscape Scale,” has the goal of helping to transition the North Central U.S. soybean industry to a sustainable and ecologically-based IPM system for soybean aphid. The multidisciplinary team from Michigan, Minnesota, Iowa, and Wisconsin represents expertise in entomology, plant pathology, invasive species, vector biology, and agricultural economics. The specific objectives of the project are to:

- 1) Conduct regional research/demonstration trials comparing IPM practices for soybean aphid,
- 2) Understand soybean aphid biology at the landscape scale,
- 3) Integrate soybean aphid IPM into multi-pest, multi-crop systems, and
- 4) Develop and implement systems for delivery and measurement of soybean aphid IPM implementation and adoption. ♦

Soybean aphid RAMP Project team members

Team members include: Christina D. DiFonzo, Michael J. Brewer, Scott M. Swinton, Douglas A. Landis, Mary M. Gardiner, and Shaun Langley of Michigan State University; David Ragsdale, Robert Venette, George Heimpel, and Kent Olson of University of Minnesota; Matthew O’Neal of Iowa State University; and Claudio Gratton, Craig Grau, and Tom German of the University of Wisconsin.

Contact information

For more information, contact Christina DiFonzo by e-mail at: difonzo@msu.edu



Top: A dime on a soybean plant helps indicate the size of soybean aphids covering the plant. Bottom: A multi-colored Asian ladybeetle feeds on soybean aphids.

Rothwell hired as fruit IPM agent

Nikki Rothwell has joined MSU as a fruit IPM agent stationed at the Northwest Michigan Horticultural Research Station near Traverse City. Nikki has statewide responsibilities in cooperation with the MSU IPM Program. She began her position September 7.

“Nikki will focus on fruit IPM projects in northwest Michigan but her counsel will be available to growers statewide,” says Jim Nugent, MSU Extension district horticulturalist at the Northwest Michigan Horticultural Research Station. “She will work on developing innovative, system-type methods and strategies for minimizing the risk from fruit pests. Nikki worked

one summer as a technician for our former IPM agent. She also spent a summer scouting orchards and some potatoes for UAP. Those experiences are part of how she became interested in IPM. I’m looking forward to having her join the Michigan fruit team.”

Funding for Rothwell’s position comes from the MSU IPM Program, MSU Extension, MSU Agriculture Experiment Station, the Cherry Marketing Institute, and a USDA RAMP grant (See separate article on the cherry RAMP project). “The partnership established between Michigan cherry growers and MSU research and Extension will ensure continued

delivery of the research-based information needed to assure continued economic prosperity and responsible environmental steward-



Nikki Rothwell

ship," says Gary Lemme, associate director of the Michigan Agricultural Experiment Station and director of Project GREEN (Generating Research and Extension to meet Economic and Environmental Needs).

Rothwell began her academic career at Western Michigan University with a major in biology and minor in chemistry. She went on to receive her M.S. in entomology from MSU and an entomology Ph.D. from the University of Massachusetts. She hails from Kingsley and is eager to be back working in Michigan.

"Nikki's interest in and experience with IPM and outreach activities will nicely complement MSU's ongoing fruit IPM efforts and contribute substantially to the MSU fruit team," says Michael Brewer, MSU IPM Coordinator.

"She will be a real asset to Michigan's fruit industry," adds Patrick Cudney, MSU Extension North Region director.

Nikki Rothwell can be contacted at: Northwest Michigan Horticultural Research Station, 6686 S. Center Highway, Traverse City, 49684, by phone at: 231-946-1510 or by e-mail at: rothwel3@msu.edu. ♦

New pocket guide for scouting blueberries available in December

A team of specialists is completing production of a pocket-sized guide for scouting highbush blueberries. MSU Extension plans to begin selling the publication in December at the Great Lakes Fruit, Vegetable and Farm Market Expo in Grand Rapids, Michigan. Authors are Annemiek Schilder (MSU Plant Pathology), Rufus Isaacs (MSU Entomology), Eric Hanson (MSU Horticulture), and Bill Cline (North Carolina State University Plant Pathology). MSU IPM Program's communication team is editing and designing the publication.

The field guide will be the fifth in a series that includes apples, stone fruits, woody landscape plants, and grapes. In addition to photos and

descriptions to identify diseases and insects, the physiological/chemical disorders section describes signs of nutrient deficiencies, chemical injury, and abiotic conditions. The authors also include a handy chart of growth stages and a scouting calendar that indicates the best times to monitor for specific insects and diseases.

Funding to support development of the publication was provided by MBG Marketing, Project GREEN, Michigan State University, and the USDA RAMP Blueberry Project. The guide should be suitable for use in highbush blueberry fields throughout the eastern half of the United States and regions with similar climate. ♦

Affiliated MSU Services

MSU provides a suite of pest and crop management services. Please visit on-line:

- ♦ **MSU Diagnostic Services:** <http://www.cips.msu.edu/diagnostics/>
- ♦ **NC Regional IPM Center:** <http://www.ncpmc.org/>
- ♦ **Pesticide Education Program:** <http://www.pested.msu.edu/>
- ♦ **Agricultural Weather:** <http://www.agweather.geo.msu.edu>

Upcoming events

Great Lakes Fruit, Vegetable, and Farm Market Expo
December 7-9
Grand Rapids, Mich
Contact: Dave Epstein, 517-432-4766

MNLA Great Lakes Trade Expo
January 10-12
Grand Rapids, Mich
Contact: Diane Brown-Rytlewski, 517-432-0480

2005 Michigan State University Tree Fruit Integrated Pest Management School
February 14-16, 2005
Kellogg Biological Station (KBS), Hickory Corners, MI
Contact: Nikki Rothwell, 231-946-1510

Michigan Christmas Tree Association winter meeting
March 4 and 5
Comfort Inn Mt. Pleasant
Contact: Jill O'Donnell, 231-779-9480

MSU Grape IPM Scout Training Program
Begins February -- runs one day per week for five weeks
SWMREC, Benton Harbor
Contact: Ann Hanley, 517-561-5040

IPM resources from the MSU Extension Bulletin Office

Pocket-sized scouting guides

These plastic-coated scouting guides fit easily into your pocket for field use. With color pictures and descriptions, they help identify insect and disease pests, pest damage, and beneficial species.

Fruit Crop Ecology and Management book

This book discusses growing fruit with attention to the system that connects soil, plants, animals, humans, landscapes and the atmosphere. Readers will learn how these factors interact in a changing environment where it is impossible to change one aspect of a farming system without affecting others. The 104-page soft-bound book contains many color photos and diagrams.



A Practical Guide to Scouting Apple Orchards (DVD format)

This DVD is designed to give apple growers and consultants easy access to information that helps de-mystify the pest management decision-making process. The 90-minute DVD covers topics from choosing a weather monitoring system to discussions on degree-day models and monitoring primary disease and insect pests.

Distinguishing Ash From Other Common Trees

This publication was developed to help homeowners and others concerned about emerald ash borer. Photos with identification tips will help you detect if your tree is an ash and therefore susceptible to borer infestation.

How to order

Visit the IPM web site for details on how to order publications at: <http://www.ipm.msu.edu/Pubs.htm>

Staff of the MSU IPM Program and Project GREEN ICM initiative

On the MSU campus

MSU IPM Program
B18 Food Safety & Toxicology Bldg.
Michigan State University
East Lansing, MI 48824
<http://www.ipm.msu.edu>

Michael Brewer, IPM Coordinator
Joy Landis, Communications Manager and Assistant IPM Coordinator
Rebecca Lamb, Communications Specialist
Diane Brown-Rytlewski, Nursery and Landscape Integrator (statewide appointment, jointly funded by Project GREEN and the Michigan Nursery and Landscape Association)
Dave Epstein, Tree Fruit Integrator (statewide appointment, jointly funded by Project GREEN, Cherry Marketing Institute, Michigan Apple Research Committee, and Gerber Products)

At Michigan Agricultural Experiment Stations

Dale Mutch, Extension Sustainable Ag and IPM Specialist (statewide appointment, at the Kellogg Biological Research Station)
Nikki Rothwell, Fruit IPM Agent (statewide appointment, at the Northwest Horticulture Research Station)

The IPM Report is published bi-annually as an educational service. MSU is an Affirmative Action/Equal Opportunity Institution. MSU Extension programs and materials are open to all without regard to race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, marital status, or family status.

Integrated Crop Management agents in the field

Jim Breinling, West Central Vegetable ICM agent (at Mason and Newaygo County Extension offices)
Amy Irish-Brown, District Fruit and Vegetable ICM agent (at Clarksville Horticultural Experiment Station)
Dean Krauskopf, Integrated Crop Management Agent — Southeast Michigan appointment for greenhouse and statewide for sod (at Wayne County Extension office)
Jill O'Donnell, Christmas Tree ICM Agent (statewide appointment, at the Wexford County Extension office)
Mira Danilovich, West Central District Horticulture/Marketing Fruit ICM Agent (at Oceana County Extension office)

Major funding sources for the MSU IPM Program

Personnel and base project funding: Project GREEN, USDA Cooperative State Research, Education and Extension Service (CSREES), Michigan Department of Agriculture, Michigan Nursery and Landscape Association, Cherry Marketing Institute, Apple Research Committee, Gerber Products.

Core partners

Personnel in the MSU departments and units of Plant Pathology, Entomology, Crop & Soil Sciences, Horticulture, Forestry, Diagnostic Services, MSU Extension and the Michigan Agricultural Experiment Station; the Michigan IPM Alliance; the Michigan Department of Agriculture, the Environmental Protection Agency, and the USDA CSREES and Natural Resources Conservation Service (NRCS).



The IPM Report

MICHIGAN STATE
UNIVERSITY
EXTENSION



In this issue

- 1 Project increases opportunities for specialty crop growers through EQIP
- 2 Landscape/Nursery/Christmas tree research projects and educational programs in collaborative publication
- 3 New resource for organic farming
- 4 IPM offers pest management training for agencies
- 4 Spinach production could provide vegetable growers with new options
- 5 Project aims to help cherry growers meet new pest management challenges
- 7 Cooperative project to address soybean aphid IPM
- 7 Rothwell hired as fruit IPM agent
- 8 New pocket guide for scouting blueberries available in December
- 8 Upcoming events
- 9 IPM resources from the MSU Extension Bulletin Office