



# Center Update

January 20, 2006 - June 13, 2006

## FROM THE DIRECTORS

*This "Center Update" reports the activities and programs of the NC IPM Center, based upon the Center's objectives, to the National IPM Center Steering Committee, the other Regional IPM Center Directors and National Program staff from USDA and EPA. Our companion publication "NC IPM Center Connection" provides updates on IPM state programs and their successes. We hope you will find both of these publications useful to keep you informed of regional IPM programs accomplishments and opportunities. Both are available on our website.*

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## ACCOMPLISHMENTS TOWARDS NORTH CENTRAL IPM CENTER OBJECTIVE 1

*Establish and facilitate a regionally based process for stakeholder identification and prioritization of emerging pest management issues and research, extension and outreach needs to respond to economic, human health, environmental and safety concerns related to pest management practices.*

### NC RIPM RFA PRIORITIES FROM STAKEHOLDERS

To improve programmatic coordination of IPM research and extension efforts the NC Region IPM Grants Program has incorporated research and extension priorities as outlined in the IPM Roadmap. In addition, an evaluation and measurement component is required of all projects that should be based on a logic model. To obtain input on priorities from the NC Region stakeholders, an NCIPMC Stakeholder Panel is being assembled.

profiles and PMSPs, pest alerts and management guides) and Working Groups. These suggested priorities were reviewed by the Directors and Steering Committee and inserted into the RFA for possible funding. The RFA was released January 20, 2006, with February 17 as the due date for Letters of Intent, and March 17 for the full proposal. Funds available to the NC region this year are \$300,000 for Implementation grants, \$225,000 for Working Groups and \$60,000 for IPM documents.

### NC IPM CENTER RFA

Our NC IPM Center Advisory Committee (State Extension IPM Coordinators) and NC Working Group leaders were requested to submit stakeholder identified priority IPM issues to be included in the 2006 (FY2005 funds) RFA. Areas covered in the RFA are IPM implementation, IPM documents (crop

### STEERING COMMITTEE INPUT

The Steering Committee met by teleconference on December 5, 2005 to discuss the IPM Center RFA. Modifications were recommended and inserted into the RFA to reflect current IPM needs in the region. Their input was also received on the recommendations of the RFA peer review panel, and the Steering Committee accepted the panel's recommendations on which proposals to fund.

## ACCOMPLISHMENTS TOWARDS NORTH CENTRAL IPM CENTER OBJECTIVE 1 (CONTINUED)

### FORMATION OF NORTH CENTRAL IPM CENTER STAKEHOLDER PANEL

In response to the Mid-Term IPM Center Review Panel, the North Central IPM Center has begun formation of a Stakeholder Panel. People on the panel represent the eight Working Groups funded by the Center, two representatives from the NCERA201 IPM Coordinating Committee, representatives from SARE, PSEP, EPA, the United Soybean Board, the National Corn Growers Association, the National Sunflower Association, an organic producer, and a food processor. The first meeting will be held in the Fall of 2006 where the panel will work with Center personnel to develop a Strategic Plan and prioritize regional issues.

## ACCOMPLISHMENTS TOWARDS NORTH CENTRAL IPM CENTER OBJECTIVE 2

*Serve as a focal point for collaborative team building to develop, improve, maintain and expand IPM practices in the North Central Region.*

### WORKING GROUP UPDATES

The NC IPM Center established five multi-disciplinary and multi-state Working Groups who will identify and prioritize IPM needs, build partnerships with key stakeholders, increase communication between team members and address the goals of the National Roadmap for IPM including evaluation of IPM successes.

The **Ornamental Pest Working Group** - A mini-symposia was held at the Fifth National Integrated Pest Management Symposium titled, "Are Alternative IPM Approaches for Greenhouse and Nursery Pests Feasible?" Talks were given on a European perspective of IPM and biocontrol in glasshouses, on IPM in greenhouses and nurseries in the US, and developing an adoptable biological control-based IPM program for greenhouse crops. There was also a workshop for the Ornamental Pest Working Group held at the National IPM Symposium led by James Nechols and David Margolies, working group leaders. In February, the Ornamentals Working Group leaders decided they had not made substantial progress on their original goals and would need to do that before asking for any more funds. They intend to use the money they already have to complete their survey work, which was the

costliest part of the project.

The **Great Lakes Vegetable Working Group** finalized the IPM surveys for growers in the Great Lakes States and put the surveys on-line for growers to complete. Pumpkins were the crop chosen for the regional survey and each state could choose up to two additional crops to survey. An article for inclusion in all participating states/province pest newsletters was drafted and distributed to all members of the Project Committee the first week of February, 2006. The surveys were designed to be taken online and were hosted at Surveymonkey.com. The annual Great Lakes Vegetable Working Group meeting was held February 22-23, 2006 in Lansing. Over 35 people attended and many gave updates on their research. Plans were made for the survey and report that will follow. The website <http://glvwg.ag.ohio-state.edu/> is being maintained and the listserve is a very effective communication tool.

The **Potato Working Group** is continuing to develop regional IPM approaches for potato pest management. Investigating the resistance of early blight to strobilurin fungicides, over 100 disease samples were collected last summer from Michigan and Wisconsin fields. Walt Stevenson's UW laboratory has isolated the DNA from the samples. These isolates have been sent to the North Dakota laboratory of Neil Gudmestad which will analyze the isolates for the loci that leads to strobilurin resistance. The Working Group met March 30 and 31, 2006 in Minnesota in conjunction with the NCR 205 Potato Research and Extension Regional Project. Larry Olsen attended and provided an update on the Center's RFA and recently completed mid-term review.

The Pulse Crops Working Group's list serve continues to slowly grow, with 55 members so far, including university research personnel, regulatory officials and producers from SD, ND, NE and WA. The Western Region IPM Center proposed to update the current US/Canada PMSP for Pulse Crops to become a US-focused document. There was a strong desire to have the North Central Region represented at this event. The Working Group proposed a change in the budget to allow the group to sponsor up to seven members from the region to attend the national PMSP meeting. Two North Dakota growers, one South Dakota grower, four university Extension research personnel as well as a grower group representative from North Dakota and the Project

## ACCOMPLISHMENTS TOWARDS NORTH CENTRAL IPM CENTER OBJECTIVE 2 (CONTINUED)

Director attended the event. The primary need for education identified at the national PMSP meeting was the need for a single, point source website for pulse crops information. This has prompted the Working Group project director to propose that the regional website be expanded to a national website. This web page is currently being developed by the Ag Communications Group at SDSU. The website URL will be <http://www.pulsecropinfo.org>.

The Evaluation/Measurement Working Group - Specific activities that have been accomplished include the following: (1) The Project Director of this Working Group is the chair of the National IPM Interagency Subcommittee on Evaluation. This subcommittee has been actively working with the IPM Roadmap (USDA 2004), the IPM Matrix (Hoffman 2004) and Logic Models (University of Wisconsin-Extension 2004) to develop a framework to evaluate IPM. Three subcommittee meetings have been held and IPM Logic Models have been developed for each cell of the IPM Matrix. Each model provides a visual representation of how IPM can impact the environment, health, and economics in production agriculture, residential/public areas, and natural resources/recreational environments. To date, the subcommittee has developed 16 IPM Logic Models. In the near future, each will be reviewed by experts in the respective areas of IPM. The revised IPM Models will be used to develop outcome level indicators. These indicators will focus on the environmental, health, and economic impacts associated with adoption of IPM. Pilot programs will be conducted to determine the usefulness of the indicators for grant programs and reporting systems (regional level pilot—NC IPM Center). It is anticipated that products that arise from this committee will be instrumental for outcome, especially impact level, evaluations. (2) The Project Director is actively working with the Great Lakes Vegetable Working Group to analyze the data from 10 surveys that were conducted to measure the adoption of IPM in vegetable crops in the Great Lakes Region and Ontario. These results will provide baseline adoption information for the region. (3) The Project Director is also working with the NCERA 201 Committee to develop a regional level impact evaluation. This involves examining previous PPRS IPM Reports to determine common commodities and common levels of measure among

the North Central Region. A common commodity (i.e. corn or soybean) will be proposed as a common level of measurement for a regional level evaluation.

Two new Working Groups were funded through the NC IPM Center Enhancement Grants for Working Groups. The new Working Groups will be the Great Lakes Fruit IPM Working Group led by Greg Lang at Michigan State University, and the Working Group for IPM and NRCS led by Tom Green of the IPM Institute of North America, Inc.

## NORTH CENTRAL REGION EXTENSION ENTOMOLOGY TELECONFERENCES

The North Central Region IPM Center is providing funds to cover teleconference charges for field crop extension entomologists to share entomological observations and discuss pest management recommendations. Thus far, three teleconferences have been conducted: May 16, May 23, and June 6, 2006. The 1-hour long teleconferences serve to strengthen this network of extension entomologists and improve communication among this group of potentially important pest infestations across the region. Ultimately, producers benefit from this enhanced level of communication. Mike Gray serves as the organizer of these teleconferences.

## ACCOMPLISHMENTS TOWARDS NORTH CENTRAL IPM CENTER OBJECTIVE 3

*Enhance the ability of the land-grant system and USDA to provide IPM users, researchers, governmental agencies, and the public with the information and knowledge they need to increase IPM adoption and reduce unreasonable adverse environmental effects from pests and the use of pest management practices.*

## NC IPM CENTER ENHANCEMENT RFA/ GRANTS

This year, funding opportunities through the NC IPMC Center were combined into one RFA that was released in January, 2006. Each of the five Working Groups currently funded had the opportunity to apply for an additional year of funding if their group was making significant progress in coordinating regional and national efforts to improve IPM implementation. In addition, resources were available to fund up to three new Working Groups. Funds were also available for IPM related documents including pest management strategic plans, crop profiles, pest alerts and IPM management guides. For the third year of funding,

## ACCOMPLISHMENTS TOWARDS NORTH CENTRAL IPM CENTER OBJECTIVE 3 (CONTINUED)

the NC IPM Center budgeted \$225,000 for Working Groups, \$300,000 for Implementation grants, and \$60,000 for IPM documents. Thirty-five Letters of Intent were submitted and 28 full proposals were received (19 Implementation, 3 IPM Documents and 6 Working Groups). A Peer Review Panel met April 19, 2006 in St. Louis, Missouri to review the proposals. All members were from outside the NC Region. The Steering Committee provided their input by e-mail on May 5, 2006 and accepted the peer review panel's recommendations on which proposals to fund. Three IPM Documents were funded, six Working Groups were funded (four previous WG were renewed and two new WG formed) and seven IPM implementation proposals were funded (one previous proposal was renewed and six new proposals were funded). The following proposals were funded or refunded in FY 2006:

### Working Groups

- 1) Developing Standardized Measurement Tools for Program Evaluation – ISU
- 2) Great Lakes Vegetable Working Group – OSU
- 3) Pulse Crops Working Group – SDSU
- 4) Potato IPM Working Group – U of WI
- 5) Great Lakes Fruit IPM Working Group – MSU
- 6) Working Group for IPM and NRCS – IPM Institute for North America, Inc.

### IPM Documents

- 1) Management Guide for Corn Rootworm – U of Ill
- 2) A PMSP for the North Central Grape Industries – MSU
- 3) School IPM PMSP - IPM Institute for North America, Inc.

### Implementation Projects

- 1) Plant Biodiversity for Pest & Nutrient Management in Conventional & Organic Cucumbers – MSU
- 2) Monitoring the Prevalence and Spread of the Western Corn Rootworm, *Diabrotica virgifera virgifera* Leconte using gut content ELISA – Purdue Univ
- 3) Disease-resistant Cultivars for Healthy Apples and Healthy Profits – U of Ill
- 4) Set Treatment for Controlling Internal Discoloration of Horseradish Root – U of Ill
- 5) Establishing a Midwest Corn Earworm Migration and Insecticide Resistance Monitoring Network – U of MN
- 6) Sustainable Management of Soybean Cyst Nematode Using Natural Population Density

Suppression by Tillage System and Microbial Communities – Purdue Univ

- 7) Development of Regionally Based Educational Materials for Ornamental IPM – second year – MSU

## NC RIPM RFA

On August 11, 2005, the FY06 NC RIPM RFA was released and Letters of Intent and fully developed proposals were required to be submitted electronically through the NC Region IPM Center eGrants on-line system developed by Michael Greifenkamp (<http://www.ncipmc.org/egrants>). Seventy-nine Letters of Intent were submitted via the eGrants system and 52 fully developed proposals were received by October 21, 2005. The peer review panel met in St. Louis, Missouri on December 13-14, 2005. Of the 52 proposals submitted, six research only projects were recommended for funding, two research/extension projects were recommended for funding and two extension/education projects were recommended for funding. Proposals funded in FY 06 included the following:

- 1) Can Increased Predator Foraging Efficiency Contribute to More Effective & Cost Effective & Cost-Competitive Biological Control Programs in Greenhouses? - Kansas State University
- 2) Movement of Rotation-Resistant Western Corn Rootworm Beetles from Soybean Fields to Corn fields - Ill. Nat. History Survey
- 3) Predicting Wheat Curl Mite Movement and Wheat Streak Mosaic Virus Spread – U of Nebraska
- 4) A Bio-Herbicide for Common Waterhemp and Pigweeds – Purdue University
- 5) Understanding the Weedy Chenopodium Complex as a First Step Towards its IPM – University of Illinois
- 6) Integrated Management of Weeds and Stalkboring Insects in Sunflower – Kansas State University
- 7) Meteorological-Based Forecasts and Targeted Insecticide Application to Improve Control of Green Peach Aphid – University of Minnesota
- 8) Decision Making Tools to Accelerate Adoption of Variant Western Corn Rootworm IPM – University of Wisconsin
- 9) North Central Region Suction Trap Network – Illinois Natural History Survey
- 10) Educating Growers About Glyphosate Stewardship – Michigan State University

## ACCOMPLISHMENTS TOWARDS NORTH CENTRAL IPM CENTER OBJECTIVE 3 (CONTINUED)

### PEST MANAGEMENT ALTERNATIVES PROGRAM

New Grants Review Process for the Pest Management Alternatives Program – As part of the proposal review process for the USDA-CSREES sponsored Pest Management Alternatives Program (PMAP) Grants Program, CSREES utilized a new set of review procedures for the current round of proposals that were submitted for consideration. On April 18-20, 2006 a technical review panel considered the merits of all proposals submitted from each of four regions across the United States. This technical review constituted 60% of a given proposal's merit. A separate "relevancy" review also was conducted and counted for the remaining 40% of the proposal's merit. The relevancy review was conducted on a regional basis. Co-directors from each of the regional IPM Centers participated in the review process in Washington, D.C. Mike Gray represented the North Central Region. In all, 35 proposals were submitted nationally for consideration of funding. Only six proposals were submitted from the North Central Region. This is significantly below the number of proposals (15) submitted from the North Central Region in 2005. None of the proposals from the North Central Region were recommended for funding in 2006. This was the second time such a two-step review (technical and relevancy) was conducted for this specific program.

### NORTH CENTRAL SOYBEAN APHID SUCTION TRAP MONITORING NETWORK

Dr. David Voegtlin of the Illinois Natural History Survey was awarded a grant from the NC Region IPM Center to create a regional Soybean Aphid Suction Trap Network. The network provides a regional view of aphid movement and relative abundance and these data are of interest to both growers and scientists. This network spanned six states in the region in 2005: Minnesota, Iowa, Wisconsin, Illinois, Michigan, and Indiana. Mike Greifenkamp created an on-line system to upload and view trap data by map locations. See <http://www.ncipmc.org/> traps for more information. Over 600 suction trap samples were received and processed at the Illinois Natural History Survey (Voegtlin lab). Funding from NC IPM Center was critical to the development of the trapping network. With this basic development support provided, others were willing to add funding to expand the network. Kansas set up a

trap last summer but only got it operational near the end of August. Missouri and South Dakota and Kentucky will join the network in 2006. The network has expanded to include over 40 traps in 2006.

### INFORMATION REQUESTS AND RESPONSES

In the past three months, the NC IPM Center has received 13 requests for information on copper compounds (two separate requests), dimethoate, carbofuran, dimethoate for additional crops, PCNB, permethrin, botran, dimethoate on ornamentals and Christmas trees, malathion, malathion on walnuts and pecans, metaldehyde and aldicarb. Requests are sent to the IPM Coordinators and they in turn, ask their specialists to respond. If needed, the Center calls specialists directly to get information needed to complete the response. The Center consolidates these responses into one regional response and sends these to OPMP and the EPA.

### POTATO WART RECOVERY PLAN

USDA is providing funds to develop recovery plans for a series of serious plant diseases of national importance. NC IPMC staff members at Michigan State University are developing the recovery plan for potato wart (*Synchytrium endobioticum*). The goal of a recovery plan is to review the current status and develop a plan to manage the disease in the event that it enters the United States. This is in response to Homeland Security Presidential Directive No. 9 (HSPD-9). A conference call for the working group was set up to discuss the recovery plan. Topics covered in the recovery plan include disease spread, survey and detection methods, economic impact, diagnostic techniques, mitigation, disease management and research priorities. Lynnae Jess also attended the APS/USDA Workshop on Recovery Plans and Disease Prioritization for the NPDRS in Memphis, TN, April 13-14.

### NCR-046 CORN ROOTWORM PUBLICATION

Drs. Ratcliffe and Gray are collaborating with members of NCR-046 (Development, Optimization and Delivery of Management Strategies for Corn Rootworms) on a corn rootworm publication. The purpose of this project is to gather the expertise for a user-friendly management guide. The printed version will provide a concise summary of corn rootworm IPM strategies and the web version will provide additional links to more detailed information. This project received funding through

## ACCOMPLISHMENTS TOWARDS NORTH CENTRAL IPM CENTER OBJECTIVE 3 (CONTINUED)

the NC IPM Center's Enhancement Grants for IPM Documents this year. Joe Spencer from the Illinois Natural History Survey is taking the lead on this project.

### SOYBEAN RUST: SCOUT BEFORE YOU SPRAY VIDEO ON CD

A Soybean Rust CD showing proper scouting techniques and fungicide application (if necessary) was produced using footage obtained from a tour of soybean fields in Brazil. The development of this CD was a collaborative effort with USDA CSREES, APHIS, ARS, the IPM Centers, the National Plant Diagnostic Network, the Illinois Farm Bureau and the University of Illinois. Two thousand copies of the training video CD have been distributed throughout soybean production areas with the assistance of Land-Grant University soybean research and Extension specialists.

The video has been linked from the sbrusa.net web site and as part of the Legume PIPE Project will be offered to an additional 25,000 certified crop advisors, independent crop consultants, United Soybean Board farm managers, state Farm Bureau offices and Extension offices in states participating in the PIPE project.

### UPDATE ON PEST ALERT AND TRAINING CDs

The development of regional and national pest alerts, in addition to training CDs has continued to address numerous IPM related issues. To date, over 1.25 million copies of nine national and two regional pest alerts have been distributed by the NC IPM Center with the assistance of the Land-Grant Universities, the National Plant Diagnostic Network, APHIS, ARS, U.S. Forest Service, the National Plant Health Board, and CSREES. A WANTED poster was developed as part of the Sudden Oak Death education program. New pest alerts include Woodboring Insects authored by Russell Mizzell and Asian Longhorned Beetle authored by a committee from the Western IPM Center. New pest alerts are under development for Whitefly Q Biotype (national), Citrus Greening (regional) and Chili Thrips (regional).

### 5TH NATIONAL IPM SYMPOSIUM

The 5th National IPM Symposium was held April 4-6, in St. Louis, Missouri, with over 650 people from 23 countries attending. The symposium began with a plenary session followed by 65 mini-symposia, workshops, roundtable sessions and social events that revisited roots by remembering the basic tenets of IPM and addressing challenges to educate the public about the importance of IPM. Sessions addressed state of the art strategies and technologies that will successfully solve pest problems in agricultural, recreational, natural and community settings. Approximately 200 posters were submitted for display during the two evening receptions to facilitate interaction by the attendees and presenters. Mike Gray offered a presentation in the plenary session titled: "Historical Overview of IPM: Are We Repeating the Mistakes of the Past." His power point presentation can be viewed at the following website: <http://www.ipmcenters.org/ipmsymposiumv/sessions/index.html>.

### LEGUME PEST INFORMATION PLATFORM FOR EXTENSION AND EDUCATION (PIPE)

The coordinating committee for the PIPE Project conducted two training sessions for Extension Plant Pathologists and Entomologists. The second training session also served as a Focus Group session with participants including growers, certified crop advisors, independent crop consultants and representatives from soybean operating boards. A magnetic ruler has been developed promoting the sbrusa.net web site that will be distributed by Extension Specialists in the participating states. Extension Plant Pathologists received 1,000 copies of the National Pest Alert for Soybean Rust. A postcard has been developed and will be mailed to an additional 25,000 certified crop advisors, independent crop consultants, United Soybean Board farm managers, state Farm Bureau offices and Extension offices in states participating in the PIPE project. The postcard promotes various educational materials currently available to assist growers and others with identification of soybean rust. Two new CDs are under development to train individuals to scout for Soybean Aphid and a tutorial to assist users with the functions of the web site and documentation of good farming practices.

## ACCOMPLISHMENTS TOWARDS NORTH CENTRAL IPM CENTER OBJECTIVE 3 (CONTINUED)

### REGIONAL WATER QUALITY ISSUES WITH PESTICIDES

Larry Olsen was invited as a representative of the NC IPM Center by the EPA Region 5 Great Lakes National Program Office to discuss contamination of surface waters in the region that serve as drinking water sources and provide excessive inflow of pesticides to the Great Lakes. At the initial meeting several offices presented their programs and concerns. Future meetings will begin the discussion of what each can do to reduce the problem to acceptable levels.

## ACCOMPLISHMENTS TOWARDS NORTH CENTRAL IPM CENTER OBJECTIVE 4

### MID-TERM CENTER REVIEW

The mid-term review of each of the Regional IPM Centers took place February 13-17, 2006 in Washington, DC. An external review panel evaluated the programs and accomplishments of each Center, and offered suggestions to increase the effectiveness of each Center. A recommendation given specifically to the North Central IPM Center was to appoint a more diverse advisory committee consisting of representatives of stakeholder groups across the region. When the Advisory Committee is formed, a subset of these members may constitute and serve as the

NC IPM Center Steering Committee. Other items to consider were to continue with the efforts to draw input from all IPM coordinators of all states in the region, complete a strategic plan for our region, sponsor meetings and symposia with a regional focus, produce an annual report that summarizes the Center's accomplishments and successes for the preceding year, provide feedback to PMSP participants, increase partnering with other federal agencies and programs on a variety of activities, consider farmer-level grants, develop linkages with LGU and other institutions on graduate research, encourage whole systems approaches to pest control, and consider regular updates from Centers to stakeholders. The NC IPM Center has begun soliciting names for our Stakeholder panel and these representatives are being contacted regarding their participation.

### PROJECT ACCOMPLISHMENTS

Impacts and results from projects funded through the NC RIPM Grants Program were highlighted regionally and nationally in a publication released in December, 2005 featuring projects from 2001-2004 funding cycles. A total of 2000 copies have been distributed. The publication was sent to all federal congressional delegations within the North Central Region, Experiment Station Directors, Extension Directors, Governors in the North Central Region as well as the grants' project directors.

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