



North Central
IPM
Center

2008
ANNUAL REPORT

*Promoting environmental
stewardship and enhancing
human health and safety.*

About the Center

IN SEPTEMBER 2000, THE UNITED STATES DEPARTMENT OF AGRICULTURE (USDA) FUNDED THE CREATION OF THE NORTH CENTRAL INTEGRATED PEST MANAGEMENT CENTER (NCIPMC) AS PART OF A NATION-WIDE PEST MANAGEMENT INFORMATION NETWORK ESTABLISHED TO RESPOND QUICKLY TO INFORMATION NEEDS IN BOTH THE PUBLIC AND PRIVATE SECTORS.

One of four regional Pest Management Centers, the NCIPMC helps USDA and its partner institutions identify, prioritize, and coordinate a national pest management research, extension, and education program to be implemented on a regional basis.

The Center's most basic function is to develop and maintain a pest management information network that will contribute to environmentally and economically sound pest management decisions. The network serves two major purposes: to facilitate communication among key groups of people, and to provide these groups with broad access to pest management information. This vital function of the NCIPMC is fulfilled in partnership with the region's state-based IPM Extension Coordinators.

NCIPMC works to connect a diverse array of people who have an interest in pest management policy and implementation throughout the region. These include pest management users (farmers, nurserymen, park and turf managers, building superintendents, pest control operators, homeowners, and gardeners), consumer and environmental groups, governmental regulatory agencies, researchers, and educators. NCIPMC networks with these groups both through the Center's own organizations (Stakeholder Panel, Steering Committee, and State Contacts) and through development of electronic communications structures such as e-mail lists, online bulletin boards, distance education, and web pages.

Director's Comments

THE NORTH CENTRAL IPM CENTER'S (NCIPMC) 2008 ANNUAL REPORT INCLUDES ACTIVITIES FROM SEPTEMBER 15, 2007 THROUGH SEPTEMBER 14, 2008. THE UNITED STATES DEPARTMENT OF AGRICULTURE, COOPERATIVE STATE RESEARCH, EDUCATION, AND EXTENSION SERVICE (USDA-CSREES) PROVIDES FUNDING FOR NCIPMC'S CORE ACTIVITIES. THE NCIPMC PROMOTES MANY NATIONAL AND REGIONAL EFFORTS TO INCREASE IPM ADOPTION AS OUTLINED IN THE NATIONAL ROADMAP FOR INTEGRATED PEST MANAGEMENT (<http://ncipmc.org/ipmroadmap/index.cfm>).

Our Center collaborates with the North Central IPM Coordinating Committee (NCERA-201) and the Chair and Chair-Elect of this committee serve on the NCIPMC Stakeholder Panel. The IPM Extension Coordinators, a sub-set of NCERA-201, serve as State Contacts for the North Central IPM Center's information network. This network responds to regulatory and programming information requests from USDA's Office of Pest Management Policy and the Environmental Protection Agency. In addition, the IPM Coordinators assist in the dissemination of IPM information to their state-based partners.

The NCIPMC has two internal grants programs. During the past year, we have funded eight mini-grants and ten working groups. The Center also manages the North Central Regional IPM Grants Program and conducts the relevancy review for the Pest Management Alternatives Grants Program (PMAP).

We continue to support evaluation and measurement efforts and based on a recommendation from our Stakeholder Panel, the NCIPMC invested \$100,000 in Turning Point Technology Systems (audience survey systems) for use by our region's state-based IPM specialists as part of a pilot project. IPM surveys have been developed for use at different venues including pesticide safety, production agriculture, and consumer horticulture sessions with questions that will allow for data aggregation at the regional level.

The NCIPMC leverages funds to meet regional and national IPM needs and priorities. An example of these efforts is a grant to identify IPM needs and priorities at 1994 Tribal Land Grant Colleges and on tribal lands. The project includes survey development and dissemination, a strategic planning session, and training sessions that will be conducted collaboratively by 1994 and 1862 Land Grant IPM Specialists.

In cooperation with the USDA-Office of Pest Management Policy, the NCIPMC participates in the development of pest management recovery plans and pest management strategic plans. Additional information about these two important programs is included in this report.

The Center participates in many multi-regional and national programs to promote IPM through educational activities. An example of these efforts is the collaborative project with the Northeastern IPM Center's Community Working Group that culminated in a large exhibit at the U.S. Botanic Garden in Washington D.C. designed to educate homeowners about IPM for lawns and landscapes. The display was open to the public from May through October, 2008. Publications from our Growing Green Lawns series (<http://growinggreenlawns.org>) were available for exhibit visitors and special mass transit posters were developed and displayed on nearby Montgomery County's bus system which averages 114,000 riders per day.

The NCIPMC recognizes its regional partners are important to the success of North Central IPM programming and looks forward to continuing existing partnerships, as well as developing new collaborative programs in the region. One way the Center promotes regional projects and programs is through our quarterly newsletter, the North Central IPM Center Connection (<http://ncipmc.org/connection/>) that highlights state and regional IPM successes. We look forward to continuing our efforts to promote IPM and facilitate programming throughout the North Central region.

-Susan Ratcliffe

North Central Region's IPM Grants Program
www.csrees.usda.gov/fo/regionalintegratedpestmgtnorthcentral.cfm

Pest Management Alternatives Grants Program (PMAP)
www.csrees.usda.gov/fo/pestmanagementalternativessrgp.cfm

Center Personnel

THE MISSION OF THE NCIPMC IS TO IMPROVE, MAINTAIN, AND EXPAND IPM PRACTICES IN PUBLIC AND PRIVATE SECTORS AND TO INCREASE ACCESS TO IPM INFORMATION, EXTENSION PROGRAMS, AND FUNDING OPPORTUNITIES FOR OUR STAKEHOLDERS.

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Stakeholder Panel

OUR NCIPMC STAKEHOLDER PANEL REPRESENTS THE BROAD IPM INTERESTS OF OUR REGION AND HELPS CENTER PERSONNEL IDENTIFY AND DOCUMENT REGIONAL-BASED STAKEHOLDER PRIORITIES (<http://ncipmc.org/about/priorities.cfm>). A SUB-GROUP OF THE STAKEHOLDER PANEL SERVES AS THE STEERING COMMITTEE WHICH PROVIDES FUNDING AND MANAGEMENT RECOMMENDATIONS FOR THE NCIPMC.

Sue Blodgett (SC)

South Dakota State University
Term: 2007 - 2010

Linda Kleinschmit (SC)

North Central Region SARE
Term: 2006 - 2009

Marlin Rice

Iowa State University
Term: 2008 - 2009

Chris Boerboom

University of Wisconsin
Term: 2006 - 2008

Deana Knuteson

University of Wisconsin
Term: 2007 - 2009

Brad Ruden

South Dakota State University
Term: 2006 - 2009

Mike Carter

Wisconsin Potato & Vegetable Growers
Term: 2006 - 2008

Vickie Kujawa

Flandreau Santee Sioux tribe
Term: 2007 - 2009

Lowell Sandell

University of Nebraska
Term: 2008 - 2009

Todd DeKryger

Gerber Products Company
Term: 2006 - 2008

Ian MacRae

University of Minnesota
Term: 2008 - 2010

Ann Sorensen (SC)

American Farmland Trust
EPA Strategic Ag Initiative
Term: 2006 - 2008

Dan Dinelli

North Shore Golf & Country Club
Term: 2007 - 2009

Dave Margolies

Kansas State University
Term: 2006 - 2008

Andrew A. Thostenson

North Dakota State University
Term: 2007 - 2009

David Epstein

Michigan State University
Term: 2006 - 2008

Mary H. Meyer

University of Minnesota
Term: 2006 - 2009

Kelley Tilmon

South Dakota State University
Term: 2008 - 2009

Rick Foster

Purdue University
Term: 2006 - 2008

Tom Novak (SC)

Wisconsin Corn Growers
Term: 2006 - 2009

Wendy Wintersteen (SC)

Iowa State University
Term: 2006 - 2009

Mark Gleason

Iowa State University
Term: 2008 - 2009

Peg Perreault (SC)

EPA - Strategic Agriculture Initiative
Grants Coordinator
Term: 2006 - 2008

Bob Wright

University of Nebraska
Term: 2007 - 2009

Thomas A. Green

IPM Institute of North America Inc.
Term: 2006 - 2009

Carol Pilcher

Iowa State University
Term: 2006 - 2009

(SC) = Steering Committee member

National Representative

Jim Jasinski

Ohio State University Extension
Term: 2006 - 2009

Ed Ready (SC)

United Soybean Board
Term: 2006 - 2009

Frank Ellis

EPA, Office of Pesticide Programs
Term: 2008 - 2010

State Contacts & Regional Land Grant Universities

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ILLINOIS

University of Illinois

INDIANA

Purdue University

IOWA

Iowa State University

KANSAS

Kansas State University
Haskell Indian Nations University

MICHIGAN

Michigan State University
Bay Mills Community College
Saginaw Chippewa Tribal College

MINNESOTA

University of Minnesota
Fond du Lac Tribal and Community College
Leech Lake Tribal College
White Earth Tribal and Community College

MISSOURI

University of Missouri
Lincoln University

NEBRASKA

University of Nebraska
Nebraska Indian Community College
Little Priest Tribal College

NORTH DAKOTA

North Dakota State University
Cankdeska Cikana (Little Hoop) Community College
Fort Berthold Community College
Sitting Bull College
Turtle Mountain Community College
United Tribes Technical College

OHIO

The Ohio State University

SOUTH DAKOTA

South Dakota State University
Oglala Lakota College
Sinte Gleska University
Sisseton Wahpeton College

WISCONSIN

University of Wisconsin
College of Menominee Nation
Lac Courte Oreilles Ojibwa Community College

Mini-Grants Program

BASED ON RECOMMENDATIONS FROM A REGIONAL REVIEW PANEL, THE NORTH CENTRAL IPM CENTER INVESTED APPROXIMATELY \$80,000 TO FUND EIGHT MINI-GRANTS IN 2008. WE ENCOURAGE YOU TO CONTACT THE PROJECT INVESTIGATORS TO LEARN MORE ABOUT THEIR PROJECTS.

ASSESSING THE STATUS OF BUFFER ZONES IN ORGANIC PRODUCTION:
IS THERE ROOM FOR IMPROVEMENT?

Matt O'Neal, Iowa State University

\$9,510

SWEET CORN PEST IDENTIFICATION AND MANAGEMENT POCKET GUIDE

Jim Jasinski, The Ohio State University

\$10,000

THE NORTHERN GREAT PLAINS SOYBEAN IPM FORUM

Kelley Tilmon, South Dakota State University

\$10,000

DESIGNING LURES TO ATTRACT BED BUGS

Changlu Wang, Purdue University

\$9,530

IS THIS PLANT A WEED? AN ON-LINE DIAGNOSTIC TOOL TO IDENTIFY
COMMON AND INVASIVE WEEDS IN MINNESOTA

Robert Mugaas, University of Minnesota

\$9,993

EASTERN EXPANSION OF TWO MIGRATING CORN PESTS: FIRST-YEAR
WESTERN CORN ROOTWORM AND WESTERN BEAN CUTWORM

Andrew Michel, The Ohio State University

\$9,914

DEVELOPING A NODE-BASED SAMPLING PLAN FOR ESTIMATING SOYBEAN
APHID POPULATIONS IN SOYBEAN

Brian McCornack, Kansas State University

\$9,995

A MOLECULAR FINGERPRINTING METHOD TO DETECT BIOTYPES OF THE
RUSSIAN WHEAT APHID

C. Michael Smith, Kansas State University

\$10,000

Working Groups Grant Program

BASED ON RECOMMENDATIONS FROM AN EXTERNAL REVIEW PANEL, THE NORTH CENTRAL IPM CENTER INVESTED APPROXIMATELY \$300,000 TO FUND TEN WORKING GROUPS IN 2008. WE HAVE INCLUDED A BRIEF SUMMARY ABOUT EACH WORKING GROUP BELOW AND WE ENCOURAGE YOU TO CONTACT THE PROJECT INVESTIGATORS TO LEARN MORE ABOUT THEIR WORKING GROUPS.

BUILDING WEEDSOFT AS AN INTERNET-BASED INTEGRATED WEED MANAGEMENT DECISION TOOL

Mark Bernards and Lowell Sandwell, University of Nebraska - Lincoln

\$30,000

WeedSOFT is a bioeconomic decision-support software developed by weed scientists from seven North Central region universities that was only available to subscribers in a CD format. The objective of this project is to program key components of WeedSOFT on an internet-based platform. The WeedSOFT suite of tools will be accessible free-of-charge to producers, consultants, and educators.

NORTH CENTRAL REGION SCHOOL IPM WORKING GROUP

Thomas A. Green, IPM Institute of North America and Mark Shour, Iowa State University

\$30,000

This project is a multi-disciplinary, multi-organizational working group that will address school IPM issues. The group will create an opportunity for interactive discussions and resource sharing among fragmented school IPM programs in our region, and coordinate with a new national school IPM working group and three other regional groups working with support from three of the other regional IPM Centers.

NRCS AND IPM WORKING GROUP: GROWER INCENTIVES FOR IPM

Thomas A. Green, IPM Institute of North America and Michael Brewer, Michigan State University

\$30,000

The NRCS and IPM Working Group encourages adoption of Integrated Pest Management (IPM) through participation in conservation programs administered through the Natural Resources Conservation Service (NRCS) in the North Central region. The group is multi-state and multi-disciplinary to include university extension, state offices of NRCS, state lead agencies, Environmental Protection Agency (EPA), and industry.

NORTH CENTRAL EXTENSION ENTOMOLOGISTS WORKING GROUP, WITH EMPHASIS ON DEVELOPING AN EXTENSION JOURNAL OF INTEGRATED PEST MANAGEMENT

Marlin E. Rice, Iowa State University; Kevin L. Steffey, University of Illinois; and John VanDyk, Iowa State University

\$26,398

The North Central Extension Entomologists Working Group will bring together the institutional and individual expertise needed to address a range of insect management issues confronting field crop producers and agribusiness personnel. As demand for increased crop production escalates and as new crops (e.g., biofuel crops) are introduced into the region, the accompanying insect management issues will require a concerted, consensus effort among Extension entomologists.

NORTH CENTRAL REGION WEATHER WORKING GROUP

Mark L. Gleason and Forrest W. Nutter Jr., Iowa State University

\$30,000

This working group fosters region-wide and nationwide communication on weather-based IPM tools among agricultural meteorologists, plant pathologists, entomologists, and IPM stakeholders that leads to new collaborations and breakthroughs in research and outreach.

Working Groups Grant Program

CONSUMER HORTICULTURE WORKING GROUP

Mary H. Meyer, University of Minnesota; Rhonda Burrows, South Dakota State University; & Susan Mahr, University of Wisconsin

\$30,000

Consumers and residential homeowners are a huge population using pesticides that have a significant environmental impact. The goal of this project is the same as one of the goals of the NCIPM Center: to reduce the environmental and human health risks associated with managing pests in residential areas. University Extension consumer horticulture specialists are uniquely situated to offer educational expertise in IPM through this network of Extension offices and Master Gardeners.

PULSE CROPS WORKING GROUP

Brad Ruden and Darrell Deneke, South Dakota State University; Rubella S. Goswami and Samuel G. Markell, North Dakota State University

\$30,000

This working group facilitates communication between established pulse crops researchers and the NC region, implements and validates effective molecular screening techniques for seed borne ascochyta and strives to implement effective disease management plans. The working group addresses information needs identified in the US Pulse Crop PMSP.

THE NORTHERN GREAT PLAINS IPM WORKING GROUP

Kelley J. Tilmon, Sue Blodgett and Darrell Deneke, South Dakota State University; Janet Knodel and Samuel Markell, North Dakota State University; and Ian MacRae and Bruce Potter, University of Minnesota

\$29,998

The Northern Great Plains IPM Working Group's mission is to increase adoption of IPM practices in production agriculture in the Northern Great Plains sector of the North Central region by increasing communication and collaboration among IPM-enablers and by increasing the multi-direction flow of information among IPM-enablers and Practitioners. The organizers of the NGPWG are comprised of Extension and research faculty in a range of disciplines, in SD, ND, and MN. The NGPWG will have a membership base of both IPM-enablers and Practitioners.

GREAT LAKES VEGETABLE WORKING GROUP

Jim Jasinski, The Ohio State University

\$30,000

The Great Lakes Vegetable Working Group (GLVWG) facilitates communication between vegetable production specialists and addresses priority issues in vegetable production in IL, IN, KY, MI, MN, NY, OH, PA, WI and Ontario, Canada. The GLVWG members are connected via an electronic listserv that currently contains about 150 vegetable related specialists (researchers and Extension agents) and other stakeholders (industry, grower & commodity associations) throughout the region.

GREAT LAKES FRUIT WORKING GROUP

Greg Lang and David Epstein, Michigan State University; Patricia McManus, University of Wisconsin; Art Agnello, Cornell University; and Margaret Appleby, Ontario Ministry of Agriculture, Food and Rural Affairs

\$29,953

Within the North Central region, the most significant fruit production is located in the Great Lakes region (MI, WI, OH, IL, and IN) due to the favorable climate-modifying effect of the Great Lakes. This multi-state/multi-organization group of fruit production professionals (research and extension scientists including entomologists, pathologists, horticulturists, ag economists, ag engineers, and soil biologists, plus industry advisors and pest managers involved in IPM), which also includes NY and Ontario, meets on an annual basis at a location that rotates among the participating states.

Pest Management Strategic Plans (PMSPs)

PEST MANAGEMENT STRATEGIC PLANS (PMSPs) ARE DEVELOPED WITH A COALITION OF SCIENTISTS, CROP CONSULTANTS, INDUSTRY REPRESENTATIVES, ENVIRONMENTAL GROUPS, COMMODITY ORGANIZATIONS, GROWERS, STATE LEAD AGENCIES, USDA-CSREES, IR-4, AND EPA.

PMSPs are widely recognized as a conduit for communication from growers and other IPM practitioners to regulators and granting agencies. These documents give a realistic view of pest management issues and strategies used in the field and provide a forum to set meaningful research, regulatory, and educational priorities. Pest Management Strategic Plans are developed by growers or other stakeholders to identify their pest management needs. The plans take a pest-by-pest approach to identifying the current management practices (chemical and non-chemical) and those under development. Plans also state priorities for research, regulatory activity and education/training programs needed for transition to alternative pest management practices.

Researchers in the North Central region have obtained grant funding in excess of four million dollars to target research and educational priorities growers identified in the PMSPs.

In the North Central region the following PMSPs were completed in 2008: a Parsley PMSP in Ohio, a Carrot PMSP update for the region, the IPM in Schools PMSP for the nation, an Apple PMSP in Michigan, and a regional Blueberry PMSP for Michigan and Indiana. There are currently 37 PMSPs completed for the North Central region. The PMSPs for the North Central region can be found at:

<http://ncipmc.org/pmosp/index.cfm>

Recovery Plans

THE NATIONAL PLANT DISEASE RECOVERY SYSTEM (NPRDRS) IS CALLED FOR IN THE HOMELAND SECURITY PRESIDENTIAL DIRECTIVE NUMBER 9 (HSPD-9). THE PURPOSE OF THE NPDRS IS TO INSURE THAT THE TOOLS, INFRASTRUCTURE, COMMUNICATION NETWORKS, AND CAPACITY REQUIRED TO MITIGATE THE IMPACT OF HIGH CONSEQUENCE PLANT DISEASE OUTBREAKS ARE SUCH THAT A REASONABLE LEVEL OF CROP PRODUCTION IS MAINTAINED.

USDA/Agricultural Research Services (ARS) provided funds to the NCIPMC to develop Recovery Plans for these high consequence plant diseases. Government decision-makers are the target audience but Plans are expected to be useful to research granting agencies (such as CSREES), the National Plant Diagnostic Network (NPDN), and the USDA IPM Centers. Each disease-specific Recovery Plan is intended to provide a brief primer on the disease, assess the status of critical recovery components and identify disease management research, extension and education needs.

These documents are not intended to be stand-alone documents that address all of the many and varied aspects of plant disease outbreak and all the decisions that must be made and actions taken to achieve effective response and recovery. They are, however, documents that will help USDA and others guide further efforts directed toward plant disease recovery.

The Recovery Plans are a cooperative effort of university, industry, and government scientists sponsored by the American Phytopathological Society and the USDA. Currently there are six Recovery Plans completed and eight in progress. Michigan State University (MSU) is responsible for the subcontracts with the authors of the Recovery Plans.

Completed Recovery Plans can be viewed at:
<http://www.ars.usda.gov/research/docs.htm?docid=14271>

NORTH CENTRAL INTEGRATED PEST MANAGEMENT CENTER
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