

4. Project Description

a. Problem, Background and Justification

The Pesticide Management Education Program (PMEP) at Cornell University has a long tradition of disseminating pesticide and integrated pest management information via many sources. The PMEP (formerly known as the Chemicals-Pesticides Program) was one of the first state pesticide coordinator offices to develop a pesticide applicator certification core manual and associated recertification category manuals. It has been active in presenting educational sessions to pesticide applicators within the state and throughout the Northeast. Also, the program has maintained an electronic pesticide information network in various application configurations (primarily text-based) since 1982; the first was on the System of Computer Aid to Management of Pests (SCAMP) system, the next version was on the Cornell Cooperative Extension Network (CENET) system, and the current one on a World Wide Web/Internet-based network (<http://pmep.cce.cornell.edu>).

In 2007 the Pesticide Management Education Program (PMEP) developed a New York State Information Network for Pesticides and Alternative Strategies to serve as the State Network Project (SNP) designed to gather and disseminate information on pesticides and pest management. The SNP will be maintained by the PMEP at Cornell University. A formal directory, Integrated Pest Management Resources, was added to the existing PMEP website to supply the following types of information. 1) Northeastern IPM Center-Web site for one of several regional IPM centers, containing links to IPM resources available in other states in the northeastern U.S. 2) The New York State Integrated Pest Management Program 3) Cornell Pest Management Guidelines-Electronic versions of IPM publications from Cornell. 4) National IPM Center Home. 5) The national site for the USDA Regional IPM Centers Information System. 6) Educational Resources for the Safe and Effective Use of Pesticides Links to information concerning several topics, including understanding some of the risks associated with pesticides, how to select effective pesticides while reducing undesirable side effects, and basic pesticide safety principles. 7) IR-4 Biopesticide and Organic Database for Integrated Pest Management. 8) Pesticide Mailing List-Subscribe to the PMEP mailing list and get the latest information about IPM and other pesticide issues delivered directly via e-mail. The SNP will enhance the information currently displayed on our existing website and promote greater dialogue and information dissemination between staff and targeted audiences.

PMEP will continue to seek to improve the level of knowledge, awareness, and understanding of local, state, regional, and national pesticide laws and regulations and IPM management practices for stakeholders throughout New York and the entire Northeast. PMEP is the primary source for pesticide information in New York and regularly networks with federal and state pesticide regulatory agencies and other agencies regarding use and application of pesticides. Specifically, PMEP provides on-site pesticide certification training, including IPM information and practices, throughout New York and distributes similar information via certification/recertification manuals that are utilized throughout the Northeast region.

Also, in recent years the PMEP program and other Cornell staff have been actively involved in improving the development and production of Pest Management Guidelines for the major groups

of commodities produced within the state and the Northeast. This new system, which is based on a collection of digital content provides for a much higher level of author collaboration, stakeholder involvement, organization of information, and administrative review. This final collection of digital content can be easily used to generate products for print distribution or to be available electronically on the web.

Current PMEP Website Directories

i. Chemical Information (<http://pmep.cce.cornell.edu/profiles/index.html>): This directory contains pesticide active ingredient information, including Exttoxnet pesticide information profiles and Material Safety Data Sheets, information from EPA sources and the Federal Register. Also included are pesticide product registration letters from the NYS Department of Environmental Conservation.

Pesticide active ingredient information is organized by type of pesticide within this directory.

ii. Pesticide Applicator Certification (<http://pmep.cce.cornell.edu/certification/index.html>): Resources are provided for those pesticide applicators requiring certification and those training applicators. This site contains a pesticide training course calendar (<http://pmep.cce.cornell.edu/calendar/>), approved 30-hour certification and re-certification training courses, and pesticide training resources (<http://pmep.cce.cornell.edu/facts-slides-self/index.html>) and manuals; included in the calendar are the dates, times, and re-certification categories with credits for each course.

iii. Pesticide Regulations, Registrations, and Reporting (<http://pmep.cce.cornell.edu/regulation/index.html>): This directory contains federal and New York State pesticide regulations, including the following:

-The NYS Pesticide Product, Ingredient, and Manufacturer System (PIMS) (<http://pmep.cce.cornell.edu/pims>), is a collection of databases for pesticides currently and/or formerly registered for use in New York State. They are searchable by EPA Registration Number, product/label name, active ingredient, and company/distributor. Label images of those labels registered with the NYS Department of Environmental Conservation are provided.

-The New York State Pesticide Sales and Use Reporting (PSUR) (<http://pmep.cce.cornell.edu/psur>) Database includes links to annual reports of pesticide sales and applications from 1997 to the present reporting year.

-A link is provided to the National State Pesticide Information Retrieval System (NSPIRS) for specialized data searches (sites and pests) for New York State pesticide products that are currently registered with the NYS Department of Environmental Conservation.

iv. Pesticide Use Information for New York State (<http://pmep.cce.cornell.edu/piap/index.html>): This site contains crop profiles specific to New York State and links to other state profiles, including those contained on the USDA website hosted by North Carolina State University. Crop

profiles are detailed documents describing the production of a specific commodity, including cultural practices, insect, disease, and weed pests, chemical and non-chemical controls, and alternatives to current controls.

vi. Program Staff (<http://pmep.cce.cornell.edu/staff.html>): Contact information is currently provided for the two groups comprising the Pesticide Management Education Program (Pesticide Safety Education and the Pesticide Sales and Use Reporting (PSUR) database group). The proposed Northeastern IPM Center-related information will have a dedicated directory on our website that will identify the appropriate SNP Coordinator and staff.

b (1) Objectives

The specific objectives of this state-networking project are to:

1. Answer queries posed by federal regulatory agencies regarding the use of pesticides and other IPM tactics throughout NY state.

b(2) Anticipated Impacts

The overall impact of PMEP's website can be estimated by tracking the annual public's use of this facility. Based on the statistics maintained for our current website and individual directories, it appears that our website has become very popular, especially with pesticide oriented stakeholders; we now display weekly updates of those pesticide products currently registered in New York State, including label images. During 2005 there were 4,697,409 successful pages retrieved by users from our site.

The greatest tool that we currently have for assessing pesticide use and its potential impacts on the environment comes from the data generated via the New York State Pesticide Reporting Law. This law requires commercial pesticide applicators to report their annual usage of general-use and restricted-use pesticides. The law also requires businesses and retailers to report sales of restricted-use pesticides and general-use pesticides intended for agricultural purposes. The PMEP staff [Pesticide Sales and Use Reporting (PSUR) database team] has developed an application that manages the information and allows access to the processed data by the state lead agency -- the New York State Department of Environmental Conservation (NYSDEC). The PSUR group assists the NYSDEC in preparing an annual report of the data that is then sent to the state legislature and the governor's office; the report and non-confidential data are also available to the general public via the PMEP website. The data has been used by Cornell Researchers to study pesticide leaching and groundwater/surface water quality. In the future, it is likely that specific data from this extensive database will be more widely utilized by various research groups looking at the effects of pesticides on human health and the environment.

Another impact resulting from the data generated via the New York State Pesticide Reporting Law is the ability of the Department of Environmental Conservation to restrict the use of certain pesticides in the state to prevent undesirable effects on humans, wildlife, and the environment. This data is also utilized for the same purpose at the national level by federal agencies(USDA and EPA).

The obvious impact resulting from the formation of a SNP containing pesticide and IPM-related pesticide information on our website and listserv is that the information is current, accessible,

and timely. Applicators can remain in compliance by knowing which pesticides are registered and those that have been suspended or cancelled. Also, access to current IPM guidelines will provide information for making better pest management decisions and the selection of appropriate pesticides. Alerting growers to emergency pest problems, pest outbreaks, and where to obtain access to state emergency exemptions and special local need labels is critical.

The enhancement of a system for web-based pest management guidelines that can be customized according to regional needs will immediately impact stakeholders throughout the Northeast. This enhanced system will improve the utilization of current pest management information by giving stakeholders access to digitally based decision trees, computer models of pest development that can be used to refine the timing and choice of IPM tactics. This IPM information can be integrated by linking pesticides listed in the guidelines with PMEP's database of pesticide information and labels. This will give growers electronic access to the most current label information that cannot be provided in printed guidelines. A major future goal of PMEP's Pest Management Guidelines Program is to enhance the capability for delivery of web-based pest management information that provides more flexibility and comprehensive interactive opportunities for stakeholders to make pest management decisions and obtain appropriate information about pesticides.

c. Approach and Procedures

Objective 1. Answer queries posed by federal regulatory agencies regarding the use of pesticides and other IPM tactics throughout NY state.

The PMEP ListManager (cce-pmep-l), often referred to as "listserv," provides pertinent regulatory, educational and IPM information primarily from the Federal Register, EPA's listserv, USDA (Office of Pest Management Policy), the New York State Department of Environmental Conservation, the Northeastern IPM Center, from university faculty and staff, and cooperative extension educators to those desiring such information. A directory (<http://pmep.cce.cornell.edu/maillist.html/>) on the PMEP website provides individuals, commodity organizations, stakeholders, the regulated community, and the public the opportunity to join the ListManager, free of charge, and allows them to ask questions about pesticide and IPM-related issues; at present there are over 600 subscribers. Much of the information from federal agencies is spawned by the EPA review of pesticide active ingredients, per the 1996 Food Quality Protection Act (FQPA), and changes in pesticide regulations. Information from New York State Agencies consists primarily of new product registrations, crisis/emergency exemptions, 2(ee) registrations, and changes in state pesticide regulations. Information relative to pest outbreaks (e.g. Asian soybean rust) is also provided as it is received from commodity specialists.

A formal directory, Integrated Pest Management Resources, was added in 2007 to the existing PMEP website to supply the following types of information. 1) Northeastern IPM Center-Web site for one of several regional IPM centers, containing links to IPM resources available in other states in the northeastern U.S. 2) The New York State Integrated Pest Management Program 3) Cornell Pest Management Guidelines-Electronic versions of IPM publications from Cornell. 4) National IPM Center Home. 5) The national site for the USDA Regional IPM Centers Information System. 6) Educational Resources for the Safe and Effective Use of Pesticides

Links to information concerning several topics, including understanding some of the risks associated with pesticides, how to select effective pesticides while reducing undesirable side effects, and basic pesticide safety principles. 7) IR-4 Biopesticide and Organic Database for Integrated Pest Management. 8) Pesticide Mailing List-Subscribe to the PMEP mailing list and get the latest information about IPM and other pesticide issues delivered directly via e-mail. The SNP will enhance the information currently displayed on our existing website and promote greater dialogue and information dissemination between staff and targeted audiences.

d. Evaluation

Evaluating the effectiveness of the proposed Northeastern IPM Center-related information can be measured and cataloged per our web-based statistical package. Statistics can be provided for each directory that include: number of requests, requests for pages, domain name types, browser summary, requests by day of week and by time of day. During 2005 there were 4,697,409 successful pages retrieved by users from our site.

Sales of publications, including certification manuals and pest management guidelines, produced and distributed by PMEP is another way to evaluate the effectiveness of our SNP. Our program has its own distribution center and can easily track orders and sales of individual publications.

Finally, an on-line survey can easily be produced to capture user input and determine if the information is serving the needs of our stakeholders and user community.

5. Cooperation and Institutional Units Involved

Pesticide Management Education Program: Harvey Reissig, Director/Pesticide Coordinator; William Smith, Senior Extension Associate; and Ronald Gardner, Senior Extension Associate - will provide the overall leadership and coordination of the project. The Pesticide Management Education Program (PMEP) at Cornell University collaborates with other land-grant universities, including mid-Atlantic partners Delaware, Maryland, West Virginia, and New Jersey.

New York State Department of Environmental Conservation, Bureau of Pesticides Management: - Provides state product registration data, label images, and pesticide certification information for inclusion on the PMEP website.

The New York State Integrated Pest Management Program: The New York State IPM Program develops sustainable ways to manage pests and helps people to use methods that minimize environmental, health, and economic risks. IPM Commodity coordinators will interact with PMEP personnel to assist them in developing web-based information to educate stakeholders on the proper choice and integration of pesticides into IPM programs.

Northeastern IPM Center: The Northeastern Integrated Pest Management Center fosters the development and adoption of IPM, a science-based approach to managing pests in ways that generate economic, environmental, and human health benefits. The Center works in partnership with stakeholders from agricultural, urban, and rural settings to identify and address regional priorities for research, education, and outreach. PMEP will work with the center to disseminate information more widely on its website.

Mid-Atlantic SNP Partners -- Delaware, Maryland, West Virginia, and New Jersey (NJinPAS):
- Working in collaboration, the Mid-Atlantic SNP partners maximize regional resources and partners to develop and disseminate information.