

## Northeastern IPM Center Partnership Grants Program

### Project Report for Crop Profiles and PMSP's

#### A. Grant Data

Today's date: August 21, 2008

Title: Delaware Information Network for Pesticides and Alternative Strategies

Type: Pest Management Tactics Survey, Crop Profile and PMSP

Lead investigator:

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States involved: DE, MD, and NJ

Funding Year: 6/1/2007 – 6/30/2008

Funding amount: \$25,000

#### B. Nontechnical Summary.

##### Pest Management Tactics Survey

A web-based survey of ornamental pest control tactics in Delaware, eastern shore Maryland, western New Jersey and southern Pennsylvania was conducted and submitted to the NE IPM Center. The list of participants was obtained from the Delaware Nursery and Landscape Association and was a mix of nurseries, landscape maintenance contractors, greenhouse managers, and golf course ground crews. The survey satisfied our goals of learning how much the industry knew about integrated pest management tactics, use of IPM tactics, what pesticides they used and how often, what the common arthropod pests are, and efficacy of our outreach activities. The information gathered from the survey has improved outreach presentations and answered questions regarding severity of some pests in our area.

##### Crop Profile Updates

Six crop profiles were revised and new pesticides were added: apples, peaches, pepper (green), potatoes, soybean, and wheat. Extension specialist from the University of Delaware provided input into current pesticides for each commodity. The Project Director, King, researched pesticide labels using Delaware Department of Agriculture web sites and CDMS web sites to ensure that each pesticide was currently labeled for each commodity. King completed the revisions and submitted them to the NE IPM Center.

##### Bell and Non-Bell Pepper PMSP

The Project Director, King, cooperated with Project Directors in Maryland and New Jersey to plan a workshop for the pepper PMSP. King consulted with extension specialists and researchers before the workshop and wrote a draft Plan. The workshop was held on February 11, 2008 through interactive TV linkage in

Georgetown, DE and Bridgeton, NJ. It was attended by 22 subject matter specialists, growers, consultants, applicators, chemical company representatives, pesticide regulators, and representatives from EPA, USDA and IR-4. The workshop was facilitated by King at the Delaware site. King compiled the Plan which discussed the insect, disease, and weed pests of bell and non-bell pepper. Chemical and non-chemical control measures were listed. Chemical control products were identified according to their category: organophosphate pesticide, carbamate pesticide, B2 carcinogen pesticide and other pesticides. A production timeline was prepared and worker exposure was discussed. Efficacy tables for each pest/product were written. The impact of loss of critical control measure was discussed. Education, regulatory, and research needs were identified and prioritized at the workshop. The document was transmitted to the NE IPM Center upon completion.

### **C. Objectives.**

**Objective:** Conduct a mail-in survey of ornamental pest control tactics in Delaware, eastern shore Maryland, western New Jersey and southern Pennsylvania.

The survey was conducted and analyzed. Results were submitted to the NE IPM Center.

**Objective:** Revise the remaining 6 Delaware Crop Profiles.

The profiles were revised and submitted to the NE IPM Center.

**Objective:** Write a Pest Management Strategic Plan for green peppers in Delaware, Eastern Shore Maryland, and New Jersey.

The Plan was written and submitted to the NE IPM Center.

### **D. Approach.**

#### Pest Management Tactics Survey

The green industries survey, "Integrated Pest Management/Nutrient Management Survey", issued around 1997 or 1998 was reviewed for potential questions. The questions of this survey were designed to determine the following: 1) knowledge and practice of IPM, 2) Which chemicals are commonly used and frequency of use, 3) common pests, and 4) effectiveness of UD outreach activities and services. Responses were compared to the previous green industry survey.

Our survey was conducted on SurveyMonkey (surveymonkey.com), an online professional survey software site. The Delaware Nursery Landscape Association (DNLA) provided us with a list of 2,000 names on their mailing list and we randomly chose 550 names from the list after removing individuals associated with the University (e.g., Master Gardeners, University grounds crew, Delaware Dept of Ag., etc...). Each of the 550 participants was mailed a survey identification number to use when taking the survey which allowed them to take the survey anonymously. They also received a post card to return to Co-PI Kunkel with their DE pesticide applicators license number so they could receive one credit towards recertification.

Before the first mailing soliciting participation, individuals in the department took the survey to catch potential problems.

### Crop Profile Updates

The Project Director, King, consulted the 2008 Commercial Vegetable Production Recommendations Bulletin for Delaware. She compiled a list of all pesticides given in the Profiles. She researched pesticide labels using the Delaware Department of Agriculture web site that lists pesticides registered in the state. She also researched pesticide labels on the CDMS web site to ensure that each pesticide was currently labeled for each commodity. Extension specialist from the University of Delaware provided input into current pesticides for each commodity. King compiled all information, edited the Profiles and forwarded revisions to the NE IPM Center.

### Bell and Non-Bell Pepper PMSP

The Project Director, King, cooperated with Project Directors in Maryland and New Jersey to plan a workshop for the pepper PMSP. King consulted with extension specialists and researchers before the workshop and wrote a draft Plan. The Plan was edited and completed during the Workshop. The completed Plan was transmitted to the NE IPM Center.

## **E. Results.**

### Pest Management Tactics Survey

We had about 20% response rate from the survey. We learned many of the individuals randomly sampled from the list were either no longer in the green industry, did not have internet service, their service was too slow, the survey was too long, or they only wanted to do paper surveys. Our survey was forty-one questions long, so only some of the results are presented in the following text.

The respondents provided valuable information regarding pesticide use, understanding of IPM practices, and what they perceived as common arthropod pests. We found 56% of the respondents were landscape maintenance personnel or contractors. Others areas of the green industry survey included greenhouses, nurseries, golf courses, Christmas tree farmers, lawn care, and tree care. We found imidacloprid products were used often by 46% of the respondents and sometimes by an additional 34%. Horticultural oils, soaps, and biorationals were next with 44% of the respondents using them often and 33% sometimes. Sevin was used sometimes by 49% of the respondents. Common pests included Japanese beetles, aphids, scale, mites, eastern tent caterpillar, bagworms, and fall webworms. Over 70% kept records of the insect or diseases attacking their plants and about 30% kept records of the presence of beneficial arthropods. Respondents also felt efficacy of alternative products and time required could be limiting factors to usefulness of IPM. Additionally, in our additional comments section, some stated customer acceptance of damage from insect and disease is so minimal that IPM is difficult.

The data acquired from this survey has provided insight to the pest problems and

concerns of the green industry in the mid-Atlantic area. The survey has also provided us with information necessary to answer questions from the EPA regarding pesticide usage of particular chemicals. The survey showed some of the respondents did not recognize or were unable to identify different closely related species of pests (e.g., scale) so additional effort has focused on this in our training sessions. We feel the information learned in this survey will better direct research and outreach activities in the future. The complete survey analysis will be provided to the Ornamental Pest Management Advisory Committee this fall for their recommendations.

#### Crop Profile Updates

King transmitted the six revised Profiles to the NE IPM Center for publication on the web.

#### Pepper PMSP

The completed Plan was transmitted to the NE IPM Center.