

contact with each state and with the IPM Center to monitor the functionality and use of the database.

4d. Evaluation Plans.

We will document use of the database (hits per month, types of searches, etc). When we survey growers regarding priority needs, we will include a question about their knowledge and use of database. There is also a form for feedback on the website.

III. IPM Issues: Second Regional Workshop with the Natural Resources Conservation Service to Foster IPM as a Conservation Practice.

4a. Problem, Background and Justification

USDA NRCS programs are designed to help farmers adopt conservation practices, such as IPM techniques, that protect the environment and help to offset some of the costs of adopting new practices. One such program, NRCS Environmental Quality Incentive Program (EQIP), is an excellent fit for promoting greater adoption of IPM practices, especially ‘cutting edge’ practices that could be perceived as risky by farmers. The mission of the EQIP program and other NRCS technical assistance services is very much aligned with the goals of IPM, the NEIPM Center, and the National IPM Roadmap. However, numerous barriers have prevented this program from effectively helping vegetable growers make greater use of IPM.

In 2005 we initiated a project, in concordance with the 2005 Vegetable Working Group plan of work, to build collaborative partnerships between NRCS and other agricultural support organizations including Cooperative Extension, state agriculture departments, and independent crop advisors. Our goal was to improve delivery of IPM technical service, information, and incentives to Northeastern vegetable producers. This project addresses the following published priorities:

1. “Working with NRCS on programs that help growers benefit from addressing both IPM and NRCS goals” as stated by the Northeastern IPM Center in the 2007 IPM Partnerships RFP.
2. “Development of IPM packages that improve eligibility for NRCS program funds and satisfy the food industry” as stated in the Areas of Emphasis for IPM in the Northeastern Region of the United States, developed by the Northeast Research, Extension, and Academic Program Committee for IPM (NEREAP) (<http://northeastipm.org/nereap/priority/2006.htm>.)

The NRCS Environmental Quality Incentive Program (EQIP) is available in every county of every state, to farms of all sizes who qualify for and develop a farm conservation plan. Thus, this effort also addresses the following priority needs that have been identified by the Vegetable IPM Working group:

1. Serving the needs of small or isolated operations and highly diversified farms where monitoring services are not available, with the goal of growers being able to accomplish IPM independently (2005 Vegetable IWG Priorities);

2. Expanding adoption of IPM through addressing the unique needs of all types of vegetable growers including small or isolated operations and highly diversified farms, larger growers in more concentrated crop production areas, and organic farmers (2006 Vegetable IWG Priorities).

The NRCS/IPM project has received support through Northeastern IPM Center Partnership Grants ‘*Advancing Vegetable IPM in the Northeast: Tools and Resources for IPM Implementation on Northeast Vegetable Farms*’, 2006; ‘*Strengthening Partnerships and Building Tools for Advancing Vegetable IPM in the Northeast*’, 2005 and the ‘*Building Bridges Between IPM and NRCS: Workshops and Guidelines*’ grant (2006, C. Koplinka-Loehr, PI), and through a Conservation Innovation Grant from Rhode Island NRCS, ‘*Integration of IPM Guidelines for Fruit and Vegetable Crops with NRCS Conservation Practices*’ (2006, C. Hollingsworth, PI).

The objectives of the NRCS/IPM project include:

- To develop tools to promote utilization of cost share for IPM on Northeast vegetable farms,
- To organize training workshops to demonstrate conservation benefits of IPM practices
- To inform vegetable growers about how to apply for NRCS cost-share programs for adoption of new IPM practices.

Project accomplishments to date include:

- Organized a regional meeting of NRCS staff and other agricultural specialists in Harrisburg, PA in 2005 to discuss and generate ideas for collaboration.
- Organized IPM workshops at NRCS Technical Conferences in 2005 and 2006.
- Organized farm tours in ME and MA in 2006
- Offered on-farm conservation IPM workshops in MA, ME, and RI in 2007. Both growers and NRCS staff participated in these.
- Worked with NEIPM Center to develop IPM/NRCS website to serve as an information clearinghouse: www.northeastipm.org/nrcs.cfm
- Developed drafts of three ‘tools’ including a generic ‘IPM Practices for Vegetable Production Guidesheet’ (Attachment D); updated sweet corn IPM guidelines/checklist with links to environmental impact measures (SWAPA: soil, water, air, plants, animals) and a field guide, Sweet Corn IPM Scouting Guidelines

Many NRCS representatives have generously shared tools, information, and their time on this project. Several regional conference calls have been held, including most recently at the Vegetable IWG meeting on November 27, 2007, which included NRCS representatives from five states (ME, MA, PA, CT, MD). We continue to discuss, develop and assess what tools and training will be most effective and helpful to NRCS staff in their work with growers.

At the 2005 Harrisburg meeting, 35 participants representing IPM programs, federal and state agencies, the farming community, the Vegetable IWG, and NRCS identified needs and developed an implementation strategy for further partnership. This groundbreaking regional

meeting began the process of building understanding among members of the IPM community and NRCS and opened the door for further collaboration. The success of this meeting is reflected by the fact that it served as a model for a similar meeting organized by the NC IPM Center held in St. Louis in November 2006. The NE Vegetable IWG was invited to participate at this second meeting, where Ruth Hazzard (Vegetable IWG chairperson) presented and shared insights from the NE Vegetable IWG's projects at the St. Louis meeting. The meeting may also have helped lay the groundwork for more dialogue at the national level between NRCS and CSREES/IPM regarding integration of IPM and conservation programs. Participants agreed that a second meeting should take place two to three years after the first, when significant progress had been made.

Next steps: In 2008 we will organize additional workshops, further refine and test the 'tools', post additional information on the IPM Center Website, explore training opportunities, and continue work on IPM guidelines/checklists. See Vegetable Working Group NRCS Project Activities Summary (Attachment E) for more details. These activities are funded through existing grants.

Second Regional Meeting. The Vegetable IWG has built a strong foundation of interest and engagement and is now very well positioned to be a leader in fostering dialogue at the regional level among NRCS, Extension, and others involved with conservation and IPM on farms in the Northeast. Much has been accomplished in the past two years towards linking expertise and resources towards the end of helping farmers adopt IPM practices. Ultimately, partnerships and outreach need to occur at the state-level but it has become clear to the Vegetable IWG that regional collaboration and information sharing among states can be of great benefit. This has been proven already through the sharing of programs, training models, and technical tools among states through this Vegetable IWG initiative. Information and contacts from this regional networking will enable the Vegetable IWG to establish and/or strengthen local initiatives at the state level.

We believe that a second regional meeting in 2009 will be well timed to share our progress and accomplishments at the state and regional level and to assess how our work together needs to move forward. After three years of long-distance communication, a face to face meeting will be productive and very much appreciated.

4b.Objectives and Anticipated Impacts.

Objective. Organize and host a second regional workshop with the Natural Resources Conservation Service to foster IPM as a conservation practice.

Anticipated Impacts. Specifically, the second regional NRCS/IPM meeting will result in greater understanding of the needs of other agencies and programs that deliver IPM information and incentives and the tools and training that ensure effective programs. Overall, this project will result in an increase in the number of farms and acres of vegetable production approved for cost-share funds supporting IPM implementation. NRCS staff will have an improved understanding of how IPM can be used to address resource concerns and protect natural resources from potentially damaging agricultural practices. Agricultural educators and farmers will have an improved understanding of the utility of NRCS programs for supporting IPM and other

agricultural best management practices as part of a sustainable approach to farm production.

4c. Approach and Procedures

This meeting will be held in Feb 25-26, 2009 immediately following the next meeting of the Vegetable IWG. In addition to members of the working group, we will invite field, state, and national level NRCS staff to participate. We will also invite others who have a vital stake or have made important contributions in this collaborative effort at the regional or national level. Like the Harrisburg meeting it will be 1 ½ days long.

4d. Evaluation Plans.

We will contact participants prior to and after the meeting and ask them several questions regarding their activities in this area and their assessment of the effectiveness of NRCS program support in helping growers to use IPM. We will identify future needs and discuss how to meet them. The impact of the overall NRCS/IPM collaboration can be measured in several ways, including the number of vegetable farms in each state with EQIP contracts that include the Pest Management Practice Standard, and which resource concerns are mitigated through IPM.

5. Cooperation and Institutional Units Involved.

This project will be directed by Ruth Hazzard at the University of Massachusetts Amherst. Only one institutional unit is formally involved: the University of Massachusetts Extension, Agriculture and Landscape Program.

6. Key Personnel.

Ruth Hazzard, University of Massachusetts Amherst, will serve as Project Director and coordinate all aspects of the project. She has been the Chair or Co-Chair of the Vegetable IPM Working Group since its inception in 2002 and the group has requested that she continue in a leadership role. She will facilitate meetings of the Vegetable IWG and the NRCS/IPM meeting in 2009, network on behalf of the Vegetable IWG, organize one or more NRCS/IPM farm tours, and supervise staff dedicated to each of the projects. Ruth has been working to develop and implement IPM programs in vegetable crops since 1986. See Attachment F, Curriculum Vitae.

Andy Cavanagh and Amanda Brown, University of Massachusetts Amherst, will serve as project administrators. Both have five years of experience with sweet corn, Brassica and cucurbit IPM field research and extension and have served as project administrators for the Vegetable IWG since September 2007. Currently the Educator Exchange and Resource Database are being managed by Andy Cavanagh, while meeting arrangements and the NRCS/IPM project are being management by Amanda Brown.

Joanne Whalen, Vegetable Entomologist, University of Delaware, is serving as co-chair of the working group. She is the IPM coordinator for Delaware and has been active in planning and developing IPM programs in the mid-Atlantic region for many years, and is recognized regionally as a leader in IPM. She is taking responsibility for membership and other tasks.

Kathy Murray, Maine Department of Agriculture, Food, and Rural Resources, will continue to work on coordinating the NRCS partnership, funded through the 2006 Vegetable Working Group Partnership grant. Kathy has 16 years experience in IPM research, demonstration and teaching. She coordinates IPM programs for the State of Maine Department of Agriculture.

7. Collaborative Arrangements.

Collaboration and shared leadership among members of the Vegetable IWG will be extensive, but does not involve financial arrangements except that the project will cover individual travel costs to working group meetings and stipends to individuals who work on updating the vegetable IPM resource database.

Vegetable Working Group NRCS Project Activities Summary November 2007.

Year 1: 1) Developed contacts and initiated working relationship with NRCS agencies in all of the northeastern states, 2) Presented an IPM workshop and discussion forum at NRCS's annual regional technical conference in Rhode Island, and 3) Organized and hosted a two-day collaborative meeting in Harrisburg, PA December 2005 attended by 35 participants representing IPM programs, federal and state agencies, the farming community, the Vegetable IPM WG, and NRCS representatives.

Year 2: 1) Cooperated with two related grant projects funded: Building Bridges Project (Project Leader: Carrie Koplinka-Loehr, NE IPM Center) and Conservation Innovation Project (Project Leader: Craig Hollingsworth, UMASS), 2) organized a workshop at NRCS Technology Conference in VA April 2006. 3) worked with NE IPM Center to develop NRCS and IPM website (<http://northeastipm.org/nrcs.cfm>). 4) organized farm tours in MA and ME for NRCS staff, farmers, Extension, ag support reps.

Year 3 (Current Project):

Objective 1. Demonstrate and improve understanding among NRCS, educators and farmers, on how IPM fits within the framework of farm conservation planning and implementation.

- **Organized workshops** to showcase IPM and conservation practices, underscore how IPM fits within conservation planning. **Developed and shared educational materials:** Handouts, agendas, speaker lists, descriptions of hands-on activities, photos, and examples of publicity materials and methods shared region-wide.
 - **Progress:** Workshops held in 2007 (ME, RI, MA)
 - **Still to do:** more workshops in 2008. Potential cooperators: 1) Ed Rajotte PA, 2) Jean-Paul Courtens NY, 3) Kathy Murray ME, 4) JoAnne Whalon, Kate Everts, Luke McConnell MD and DE, and 5) Ruth Hazzard MA.

Objective 2. Test the utility of tools designed for use in the development and assessment of the IPM plan component of a farm conservation plan.

- **Progress:**
 - Developed 'IPM Practices for Vegetable Production Guidesheet'
 - Updated sweet corn IPM guidelines and added environmental impacts measures (SWAPA)
 - Developed Sweet Corn IPM Scouting Guidelines
 - Identified other tools and training curricula available from various NRCS state programs.
- **Still to do:** Test the tools. Get more input from NRCS. Demonstrate their utility at 2008 workshops. Offer training. Put all tools on NE IPM Center's 'IPM and NRCS' website.

Objective 3. Demonstrate and educate farmers about the process and requirements of participating in NRCS conservation programs.

- **Progress:** NRCS staff presented information and demonstrated methods at workshops held in ME, RI and MA (see Obj. 1).
- **Still to do:** more of the same at 2008 workshops.

Impact Evaluation

- Collect and compare NRCS EQIP cost-share data before and after this initiative and among states. Summarize and compare data over the 3-year period begun in 2005 to determine the impacts of these NRCS/IPM projects. Track changes in numbers of acres, numbers of farms, and dollars allocated from NRCS EQIP programs for IPM.
- Pre- and post-workshop participant questionnaires administered at workshops plus another post-workshop questionnaire sent to participants 6 months after workshops. The numbers of participants at each workshop will also be used as a measure of impact.

Written by Kathy Murray, Maine Dept of Agriculture, November 2007