Northeastern IPM Center Partnership Grants Program

A. Strengthening Partnerships and Building Tools for Advancing Vegetable IPM in the Northeast: Collaborating with NRCS to Promote IPM on Northeast Vegetables

- Type: IWG Priority
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- State(s) involved: MA, CT, DE, MD, ME, NH, NY, PA, RI, WV, VT, NJ
- Funding Year(s): 2005-2007
- Funding amount: $24,735.74

B. Summary

These grant funds are being used to engage vegetable IPM educators, consultants and farmers in a collaborative partnership with NRCS agencies across the northeast region in order to establish a network and develop plans for sharing expertise, resources and outreach activities. We have held a regional meeting that broke new ground in building understanding among members of these two very distinct agencies and opened the door for further collaboration. Many activities have supported the goal of developing IPM resources and educational programs for agricultural professionals in the Natural Resources Conservation Service, land grant universities, state agencies and other organizations and for vegetable farmers, to foster adoption of IPM through NRCS conservation programs.:

C. Introduction

The 2002 Farm Bill authorizes the USDA Natural Resources and Conservation Service (NRCS) to deliver technical assistance and financial incentives to farmers with the goal of increasing environmental stewardship of farmlands, a mission very much aligned with the goals of IPM and the NEIPM Center. Thus, some NRCS programs provide an excellent fit for promoting greater adoption of IPM practices, especially 'cutting edge' practices that could be perceived as risky by farmers. Unfortunately, recognition of the benefits of IPM both in terms of environmental protection and farm profitability is often overlooked by NRCS. A recent survey showed that only 25% of vegetable and fruit growers were aware of the availability of incentives for IPM use (Brewer et al. 2004). The same study showed that on average, less than 1% of NRCS funds allocated to grower contracts during 1997-2002 were used to implement pest management practices.

There is variation among the different NRCS state programs in terms of the degree to which existing IPM expertise and tools are utilized. Each state NRCS program can add to federally mandated technical standards and incentive frameworks to further support the adoption of IPM practices that have conservation benefits. For instance, Massachusetts NRCS has incorporated the Massachusetts IPM protocols into the NRCS Conservation Practice Standard for Pest Management (Code 595). Massachusetts NRCS has also developed a Pest Management Calculator (Devergilio and Johnson, 2002) which establishes incentive payments for adoption of IPM, detailing specific pest management practices that conserve air, water, soil, plant or animal quality, and assigns a payment rate to each one. Many other states have not gone this far in their integration of IPM standards into their incentive programs.

A recent collaborative project conducted in Michigan (Brewer et al. 2004) showed that training and outreach are key to promoting IPM through partnerships between NRCS, Cooperative Extension and other agencies. The project, which included IPM training for NRCS Technical Service Providers, modification of program award standards, and outreach to vegetable and fruit producers was credited with doubling the number of projects funded and a nearly 8-fold increase in incentive payments allocated for IPM. The Michigan project and the Massachusetts NRCS standards provide well-documented models upon which we are building to develop effective partnerships in the Northeast.

This project is building collaborative partnerships between NRCS and other agricultural support organizations including Cooperative Extension, state agriculture departments, independent crop advisors and others, to improve delivery of IPM technical service, information, and incentives to northeast vegetable producers. The project will provide a foundation for increased adoption of IPM practices designed to address documented environmental problems such as air or water pollution, or destruction of beneficial biotic components of farm ecosystems and will make a significant contribution to Northeast agriculture by enabling the vegetable working group to partner with USDA NRCS across the region to identify barriers and develop solutions for increasing delivery of IPM support and incentives to vegetable producers.

D. Objective

Develop collaborative arrangements and educational tools with NRCS agencies to promote further adoption of IPM in NE vegetable production.

This objective is an ongoing process that was initiated by the writing of the grant and has continued. Initial connections between IPM educators, farmers, consultants and federal employees from NRCS and other agencies, from most of the states in the northeast region, were initiated at a conference in December of 2005. Individuals within those states are now maintaining those connections, and the vegetable working group has been collaborating with NRCS on regional and state levels to develop and implement educational tools. This objective will continue to be realized as individual meeting participants continue to collaborate with others at the state level and to bring what they learned at the meeting to other interested parties.

E. Approach. *Briefly, in 1-2 paragraphs,* describe your approach, the methods used, and the overall design of your project.

Collaborations between IPM practitioners, farmers, and federal employees from NRCS and other agencies, with the goal of furthering adoption of IPM on vegetable farms in the

northeast must happen on two levels- regional and state. Each state has its own profile of crops, pests and environmental challenges which need to be addressed at the local level; however, solutions in one state or area can and should be informed by what has or has not worked in other states. Thus, a regional network is key to moving ahead productively.

The first goal of the project was met through a region wide meeting that inlcuded individuals describing the challenges and successes of existing collaborations, as well as the desire and needs for other connections between agencies and others in the IPM community. Information and contacts from this regional networking and educational event are being used to establish and/or strengthen local programs on the state level. The goal of establishing educational tools is being met through continuing educational meetings being held at the state level and at regional NRCS trainings. The approach is thus cyclical: the connections and information move from the regional to the state level, then back to the regional level again where it can then be shared with the other states.

F. Progress and Results

Much has been accomplished in the past year towards linking expertise and resources towards the end of helping farmers adopt IPM practices. The Vegetable Working Group sponsored a meeting for IPM practitioners, NRCS representatives, and other agencies that was well attended. The meeting highlighted some of the areas of need and possible ways to address those needs. It became clear at the meeting that each state would need to develop their own ways of collaborating and systems for encouraging IPM through NRCS programs. It was decided that people would need to move the collaborations forward by working at the state level, but that the working group would work with organizers of the regional NRCS trainings to encourage more educational opportunities for NRCS employees to learn about IPM.

Progress and activities to Date:

1) April 2005. IPM training at Eastern region NRCS technical training in Newport , RI. Attended by approximately 45 NRCS staff.

2) Dec 1-2, 2005. Initial Northeast region collaboration meeting in Harrisburg, PA on. 38 IPM practitioners, farmers, and federal employees from NRCS and other agencies, from each state in the NRCS eastern region attended.

3) January 2006. In MA Tom Akin and Deborah Johnson at the Massachsuetts state NRCS office met with Ruth Hazzard from UMass Extension and updated the pest management calculator, which is used to determine how much growers will get in cost share for IPM practices in the EQIP program in MA. Specific advanced IPM approaches were included, such as conservation and release of beneficials, spot or perimeter trap crop treatments, use of low-risk pesticides as identified by WIN-PST, and weather, crop or pest monitoring using traps, forecast networks or weather stations were included. The basic cost share for pest management practise in MA requires moderate or high levels of IPM adoption using IPM “guidesheets” developed by UMass Extension as the standard of practice.

4) The NY IPM Director (Don Rutz) attended the recent NRCS state technical committee meeting. He established good contacts with several NRCS staff at the meeting. He found out that NRCS will not be funding IPM cost sharing in NY for the next year.

5) May 2006. Ruth Hazzard presented a workshop on IPM and its connection with conservation goals, as part of a regionwide NRCS staff training in Pest Management. Approximately 20 NRCS staff from New England attended.

6) Summer 2006. Jean-Paul Courtens, farmer, Vegetable Working Group member, received a three year FSA grant to pay for a scout who comes out every Thursday to give a full report on sweet corn, tomatoes, potatoes, peppers, and any other crop where he thinks he has a pest problem. He states: "Through this collaboration we also were able to get a weekly delivery of *Trichogamma ostriniae* wasps from Abby Seaman of Geneva…. In short, it has had a dramatic affect on the quality of our corn. Corn has definitely been the greatest challenge in the past for us as the timing of spraying is so crucial. This year we have 100% control of ECB between the wasps and an eventual spray of Entrust pesticide [spinosad]. So far no CEW yet and the FAW is controlled by entrust or BT. Over the season it saved on Entrust to have the wasps out but the early corn was enduring such high levels of pressure that the wasps only controlled about 40% of the larvae. Later plantings had 100% control between the wasps and one spray of entrust in 40-60% whorl stage. Last year our timing was off as I think we often sprayed too late and put on two applications five days apart in full whorl. This gave us 80% control. Walking around with John [scout] tearing open a plant to look for the larvae, is something I had never done before as I was looking for all the superficial damage to the leaves as an indicator. Also we realized that we had been buying the wrong pheromones for our trap so this had never been a reliable tool. This is something that every farmer needs as little mistakes add up and can lead to a lot of losses in the field or misuse of materials."

7) Worked with NRCS staff to organize an IPM workshop and farm tour component which were held at the East Region NRCS Technology Meeting in Richmond, VA in Apr '06. Presenters included: Joe Bagdon (NRCS), Ames Herbert (VA Extension IPM Coordinator), and Jim VanKirk (Co-Director, S. Region IPM Center).

8) In Maine, the Department of Agriculture Commissioner asked the NRCS State Conservationist, Joyce Swartzendruber, to direct some attention to the IPM/NRCS projects. Two district soil conservationists agreed to work with Kathy Murray (Veg IPM Work Group co-chair) on the NRCS/IPM project. Kathy and David Handley met with ME NRCS to initiate a discussion about the Cost Lists and Pest Management Standard and how they are used in ME. ME NRCS will present information about their programs at a summer veg and fruit growers field day/farm tour in July '06. They are working to identify potential farms to host a workshop or farm tour in August or Sept '06 (hopefully) to do a cross-walk and 'IPM/Conservation' education. Kathy plans to involve them (along with Alice Begin and Chris Jones) in providing input for the development of the 'tools' and 'IPM guidelines' parts of the 3 IPM/NRCS grants too.

9) August 15, 2006. Twilight meeting in Eastern Massachusetts at Brox Farm. 3 NRCS representatives attended and presented information (District Conservationist, Soil Conservationist, State soil conservationist). The NRCS EQIP program has helped Brox Farm

design and install drip irrigation with three shallow dug wells and multiple hydrants, and they help him with cost sharing for using IPM techniques. Fungicides, herbicides and pesticides were run through the WIN-PT computer model rating system for environmental and health risks and the results were shared with growers. As part of an EPA-funded project, the grower has been evaluating reduced-risk IPM methods for insect management in sweet corn, including release of beneficial insects and use of low-risk insecticides. These were all discussed and demonstrated at the meeting. In addition, participants all had a hands-on IPM scouting training, monitoring a late broccoli crop for caterpillars and determining if it was over the economic threshold for an insecticide application. Attended by 30 growers.

10) Invited NRCS staff to join WG (Vicky Drew, RI NRCS has agreed to join the WG)

11) Obtained examples of other tools used in DE, MD, PA, and CT from NRCS staff from each of those states. We plan to collect more of these types of documents and electronic tools (such as the RUSLE soil conditioning index program) from a number of NRCS offices within our region

12) Developing an information clearinghouse: NEIPMC co-director offered to support this by helping us to develop and host an website to serve as a clearinghouse to provide information to NRCS staff, IPM practitioners and specialists about IPM and the role that NRCS plays in support of IPM. We've had a conference call with some NRCS representatives, WG representatives (Ruth, Kathy, Kate, David Handley), and NEIPMC representatives (Carrie Koplinka-Loehr, Liz Thomas, Amy Galford) and an IPM Coordinator (Curt Petzoldt) to develop this webpage. It is still under development but the draft which can be found at: http://neipmc.org/nrcs.cfm. One followup activity has been the design of a new section of the Center Website which will provide information for both NRCS and Ex;tension staff who want to collaborate. It is clear that each agency has its own perspective, language and framework and in order to collaborate, people need information and tools. This website was nearly completely before field season, but is not posted publically yet.

New Projects:

Craig Hollingsworth and Ruth Hazzard from the University of Massachusetts, along with Richard Casagrande and Heather Flaubert from the University of Rhode Island, submitted a successful proposal to Rhode Island NRCS as part of the Conservation Innovation Grants program. The $75,000 project will adapt a successful system of assessing integrated pest management to the application of NRCS Conservation Practice 595 (Integrated Pest Management). The Massachusetts IPM Guidelines (1999) will be reviewed, revised and expanded to serve the NRCS system. The use of WIN-PST and other new IPM technologies will be included in the guidelines. Project personnel will work with growers 50 fruit and vegetable growers in Rhode Island and Massachusetts to use and field test the guidelines. Educational and training programs will be provided for agricultural consultants, NRCS and extension personnel, technical service providers and farmers in the use of IPM guidelines for conservation planning and in specific IPM practices promoted by the guidelines. The project will assess the acceptance of the guidelines by growers and its impact on specific SWAPA targets. This project will commence in September 2006.

Carrie Koplinka-Loehr submitted a proposal to the National CSREES/IPM Program to enhance collaborations between NRCS, Extension educators and researchers, and farmers with supprot from the IPM Center infrastructure.

H. Impacts.

The impacts of this project are difficult to quantify. Evaluation of the project needs to include data from NRCS offices on participation in EQIP, and specifically the Pest Management Practice Standard 595, by vegetable growers. Raising awareness, interest and willingness to work with IPM is the first step, which we hope will be followed by additional services to growers and additional use of IPM by growers, with subsequent impact on their practices. In most states, we are in the first step of this process; for example, feedback from the December meeting in Harrisburg indicates that participants learned a lot and went home with the intention of doing something new. What was clear from the meeting, however, is that NRCS is a beaurocratic system, so while some changes can happen quickly, others, especially those that need to happen on a national or regional level, will take awhile to implement. Funding levels and policy change annually making planning difficult.

Where EQIP is currently being used for vegetable IPM we have yet to develop a system for obtaining impact data from NRCS. The experiences described by Jean-Paul Courtens (see Results above), a grower from NY, is an example of what can happen when resources are made available to individual farmers.

The Conservation Innovation Grant submitted to Rhode Island NRCS represents a new collaboration and new resources for IPM that are a direct outcome of the meeting in Harrisburg.

Describe and assess any impacts of your work that you can. This section of your report will help the Northeastern IPM Center highlight the value of IPM research and education and the real-world impacts of funded projects. We will use the information in news articles and reports to showcase the worthiness of projects that our program supports. Below are some questions that will guide you in assessing the impacts of your project. The relevance of each question may vary depending on whether yours is a research or extension project. Please answer as many as you can to the best of your ability, and feel free to discuss any impacts not mentioned below.

1. Innovations:

2. Safeguarding human health and the environment:

No direct measurements of this impact have been made.

3. Economic benefits:

a. W*hat is (or could be) the economic benefit (e.g., dollars saved) for clientele who adopt IPM strategies and systems you studied? Do you envision potential commercialization or mass production of these systems?*

Economic benefit of this project will be cost share provided to vegetable farmeres from NRCS, and subsequent savings associated with use of IPM. At this time we have no data from NRCS on how many growers are enrolled in the pest management standard nor how much cost share is involved. We need to adhere to the NRCS privacy policies and seek a way to obtain general data that is allowed to be publically circulated.

b. How many IPM personnel might be employed as a result of your work? (e.g., private consulting services, nursery operators, food service growers)

c. How many clients are satisfied with IPM results (such as improved yield, quality of yield, reduced pest populations, more effective pest control, greater preservation of nonpest species)?

d. Are there other financial benefits that might be realized as a result of your project?

4. Implementation of IPM:

a. *How many IPM strategies and systems have been validated through this project (e.g., through on-farm trials, large plot tests, and other methods used to confirm efficacy)?* Not applicable.

b. *How many educational materials were delivered? To whom?*

Examples of WIN-PST printouts were delivered directly to approximately 30 groweres and 20 NRCS staff in Massachusetts. A new Pest Management Calculator was used by NRCS field offices in MA, but numbers of growers that they worked with on this are not known.

c. *What is the number of growers/personnel trained?*

Growers: 30. NRCS staff: 100. Extension: 25.

d. *For a website, what volume of traffic and type of use has the site experienced? (For example, # visitors per day/month; # page views; # of unique user sessions; change in volume during growing season; average viewing time).*

NRCS/IPM website is not posted publically yet so no traffic has occurred.

e. *How many more people adopted IPM practices as a direct result of your project, or how many people adopted new IPM practices?*

No data at this time.

f. Are there other ways in which your work will result in improved use or increased implementation of IPM strategies in your region or across the Northeast?

5. *Has your project or study enhanced collaboration among stakeholders interested in the development and implementation of improved IPM strategies and systems? (For example, number of growers or other types of stakeholders that have participated in advisory committees, surveys)*

Collaboration and discussion among NRCS and Extension staff has increased in Rhode Island, Massachusetts, Maine, Pennsylvannia. Connecticut already had a strong collaboration and I don't think that this project either helped or hindered it. In New York, an Extension staff person is participating in the state technical committee but it is not clear that this will increase collaboration in other ways. We do not have additional data at this time.

I. Appendices.

Appendix A. Notes from the NRCS/IPM meeting Dec. 1-2, 2005, Harrisburg, PA
Appendix B. Summary of Participant Evaluations, NRCS/IPM Meeting Dec. 1-2, 2005

Appendix A

Joint NE IPMC Vegetable Working Group/NRCS Meeting

01-02 Dec 06 Harrisburg, PA

Log (discussion, presentations, and action recommendations)

-recorded and edited by Ruth Hazzard and Kathy Murray

Meeting called to order at 8:00am. R. Hazzard gave an overview of the history and mission and of the Vegetable IPM Working Group (Veg WG) and asked all participants to introduce themselves and indicate what they would like to get out of this meeting.

- Shelby Fleisher (Penn State U): wants more implementation of IPM in the Northeast
- Tim Elkner (Penn State U): noted that for small growers the impediment to trying IPM is often financial; financial incentive will help
- Alice Begin (ME NRCS): wants to find out how to integrate IPM into cost share, technical service
- Sandra Primard (VT NRCS): there is a small technical staff in VT. Need to find connections so we have the technical support; we are not pest mgt specialists; need ways to work better with Extension; match technical resources with financial resources
- Richard Martin (NY NRCS): need to find ways to get more money on the ground – hire pest mgt specialists, use Extension to make plans for us
- Vicky Drew (RI NRCS): no technical service providers in RI and RI lacks Extension staff for agric., growers cannot get assistance; my goal is to improve the linkage, get ideas from other states
- Tom Akin (MA NRCS): MA has very diversified small farms; field offices are looking to Extension for technical support.
- Kathy Murray (ME Dept of Agriculture): looking for ways to promote more IPM on the ground; farmers face problem with access to financial resources to deliver IPM resources. Limited to what Extension can provide which is shrinking
- Brad Majek (Rutgers U): wants to promote better understanding of best practices for weed control
- Jude Boucher (UConn): curious about how other states are working out this system with EQIP and their delivery methods
- Rakesh Chandran (WVU): wants to work closer with NRCS – try to offer technical expertise and work together. Seeing interest in NRCS staff in his state
- Bill Coli (UMass): MA has history of good collaboration with NRCS. SP53 covered cost of scouting and implementing. NRCS are in a good position to document impact, which is a concern of IPM programs.
- Curt Petzoldt (Cornell U): In New York we have been enthusiastic and excited as well as disappointed and confused – want to get back to the enthusiastic
- Tom Green (IPM Institute): works with eco label programs that work with farmers to document practices and market those; performance guarantees for farmers who try IPM
- Carrie Koplinka-Loehr (NE IPM Center): would like to come away with specific action steps for NRCS and Extension working together throughout Northeast.
- John Timmons (DE NRCS): DE does cost sharing through EQIP for pest mgt primarily through farmer incentive for having a crop consultant to scout their crop and give recommendations. Extension has good capability; have 30 CCA's in the state; consultant

businesses; 600,000 acres of crops, 60,000 acres veg. To meet national pest mgt standard need to do some things differently – look more at rotation, what crops, what potential pesticides, look at soils, look at sensitive resources on the farm, identify resource concerns. Worked with J. Bagdon and WIN-PST. Identify risk of specific pesticides, identify resource concern, doing practices that offset the risk of using those pesticides. This EQIP signup this year, pest mgt payments will be in 2007. What dollar value should we give that risk assessment and what should we pay consultants to do the assessments. How many times do you need to scout a veg crop? How should scouting results be recorded/reported?

- David Handley (UMaine): wants to find ways to expand IPM programs and adoption
- Andrea Szylvian (EPA Region I): suggests emphasis should be on leveraging funds.
- Mike Fitzner (USDA CSREES): USDA is in the funding business; IPM is a way we do plant protection; coordinator of plant diagnostic network and IPM centers; wants better understanding of how NRCS and extension can work together to make IPM work better on the ground
- Kate Everts (UMaryland/UDelaware): her region is in an environmentally sensitive area. What can come out of this meeting, work together to become more effective. Having a position in two states is difficult; need more resources to accomplish more together.
- Joe Bagdon (NRCS pest mgt specialist): His NRCS program focuses on environmental risk assessment --- support states via technology, look for ways to reduce environmental risk. Need to match with IPM technical know-how for management of pests. Need to work out the details so that it can happen easily.
- Dave Biddinger – (PennState U tree fruit specialist): His program develops reduced risk IPM for apples and peaches. Works with AMA to setup IPM programs, up to $400,000 last year. Have been giving training sessions to NRCS staff; develop tech bulletin with check-off list for growers to follow. Ecological toxicity data to measure risk of pesticides. We could save a lot of pesticide if we could implement low risk but costs more so growers need incentives to get into it.
- Hank Bissell (Lewis Creek Farm) – noted that the vegetable industry in VT is scattered, farms each have own microclimate. Makes IPM difficult; no scouting services; has to happen on each farm almost in a vacuum. In NRCS when you apply for a grant you are competing with big manure storage facilities. Occupy nebulous area between conventional and organic 'ecologically grown' ' IPM'.
- Warren Lamborn (Fifer Orchards)– wants to explore and learn more about NRCS and IPM
- Jim Ward (Ward's Berry Farm) – his farm has used IPM for almost 20 years and has been the beneficiary of IPM; extension is an important resource for us; started practicing IPM with idealistic goals but economic value is also important – it does not need to cost more money. IPM can save money. 'Pheromone trap makes me go out into the field to scout for one pest but by being there I see so much more. By scouting on my farm it improves every part of my farm.' Wants to advance IPM.
- Luke McConnell (McConnell Agronomics): 'I appreciate being in the farmer's corner because that's where I stand.' Interested in the process of IPM – it has to be economically viable for the farmer: if we cannot positively affect the farmer's bottom line, they should fire us. It is an economically viable alternative to spraying on schedules. Help from NRCS monies to enhance and encourage the practice is good – look

at it from the environmental standpoint with tools like WIN-PST. How to pay for it, make clear when and what the expectations are for the NRCS programs. NRCS are very good stewards of the environment; most are engineers and not biologists; if we can come together in providing biology of IPM will help farmers

- Cathy Thomas (PA Dept Agriculture): wants to know how can her agency better support IPM
- Ed Rajotte (Penn State U): 'NRCS and RMA represent the future of IPM, as coordinators of IPM we need to understand their programs and figure out the details of their programs'.
- Jana Malot – (PA NRCS): 'we teach engineering to our staff and we have come to realize that we have shortfalls in environmental/agronomy areas so we are taking steps to correct that. AMA was such a success with apple growers. We set aside certain funds for specific areas: eg. this year no till, to develop and implement (conservation) plans.'
- Pat Cimino –(US EPA Office of Pesticide Programs): Has worked in IPM, NJ, PA, industry, NRCS. Sees NRCS as having big job with current farm bill tasks. There have been lawsuits against farmers from environmental groups about spray drift. Looking at spray drift reduction technologies that could be put onto labels; if used would not have to use certain mitigation practices.
- Kathy Johnson (CT NRCS): works with J. Boucher and others at Extension in an effective partnership.
- Kelly Ireland (PA NRCS)
- Pam Westgate (UMass)

Brief discussion of Issues/Concerns/Challenges/Solutions for Addressing IPM through NRCS programs:
Additional challenge noted: The extreme variation in economic and spatial scales of farming across the NE influences what we can do. There is also variation in infrastructure and people among states--range from Amish and Mennonite to farms with larger agri-business enterprises.

V. Drew gave presentation on NRCS programs and how they relate or provide opportunity for IPM

- Deer fencing and new irrigation often included under AMA but AMA will not be funded this year.
- Payments: Financial assistance payments to producers
- Technical assistance –can be hired by NRCS or by farmer (have to be certified tsp if hired by program)
- NRCS contract options include:
    - NRCS issues a Request for Proposals for service contracts.
    - NRCS signs Contribution Agreements—NRCS covers 50%
    - NRCS signs Cooperative Agreement – NRCS covers 100% (eg. universities that are part of North Atlantic CESU)– allows NRCS to avoid going out to bid. Pete August is contact. www.cesu.org/index.html Can enter into agreement to do technical assistance to all conservation program participants with pest management in their contract. Can be steep learning curve, especially as related to 'mitigation' concepts. NRCS needs to train IPM practitioners to understand mitigation practices. Can be difficult for Extension staff to separate out their traditional role from what is required to meet NRCS standard when they are hired as contractors.
- Mitigation practices: What constitutes 'pesticide use-rate reduction'? Label rate on pesticide product label is not the standard. Pesticide lbs per acre is the standard – that can be achieved with fewer applications or lower rate per application.
- Process of NRCS EQIP payments to farmers: Growers submit an application, then NRCS works with grower to develop the conservation plan, then all applications received within the state for a particular program are ranked.
    - There can be a waiting list to work with NRCS to develop the conservation plan: varies between states. Each state NRCS office sets schedule. For example, RI NRCS has set deadline for completion of conservation plans as Feb 15 but that is late. Moving toward farmers doing a lot of work in advance of application – difficult to do, takes time and information. Application ranking period takes a month. Agreements must be signed by June 1. Timing is tricky
    - Contract dollars must be approved by March 15 (national). .
- Conservation Security Program (CSP): Pays farmers to address a resource concern beyond the minimum required in the Standard through 'enhancement activities'. Farmers self-certify that they are doing the practices.

E. Rajotte presented information on development and implementation of initiatives to increase PA fruit growers participation in NRCS programs for IPM implementation.

- Discussed marketplace influences and gov't policy. We in IPM need to keep up with changes so we can keep up with IPM as demanded by growers, new trends eg NRCS & Risk Management Agency programs will be very big in the future. To keep agriculture viable in US, need transfer of wealth from society to ag (US farmers are not competitive globally – there has been a recent decrease recently in price support payments, increase in 'green payments', and underwriting risk via insurance
- NRCS: Federal program with local control. State conservationist and staff/conservation districts/state technical committee which can be 'stakeholder network-intensive'; NRCS really likes to hear from growers – grower groups a very influential. IPM community must understand this and become part of the stakeholders.
- In PA: Extension worked with NRCS to revise pest management standard. Extension staff joined state technical committee (STTC) and learned how NRCS programs worked. Stakeholders showed up: and protected their turf. Assistant state conservationist listens and integrates needs at STTC meetings and outside meetings.
- IPMers don't need to understand all the rules; NRCS know the rules and how they can be flexible.
- PA experience: First mistake: NRCS tend to be unfamiliar with fruit crops; fruit growers felt they had been left out. Strategy: held meetings with fruit grower leadership and NRCS leadership; formed fruit technical team to supply programmatic details. Farm business, fruit agents –work out practices and costs on a spreadsheet which was exactly what NRCS wanted. NRCS determined that AMA program was best fit. Allocated $275,000 in 2004, $460,000 in 2005. Conservation plans are not needed to sign up for AMA but these plans are developed anyway in the process of making a contract. Extension fruit specialist wrote two-page fact sheet to explain specific practices including a checklist and up-to-date research-based IPM practices.
- Recommendations for overcoming rough spots:
    - Education -- Inform growers about what programs are available and what IPM is--have to know both sides (both NRCS and IPM/Extension). Use news releases, websites, FAQs.
    - Create opportunity for Extension: for a particular Extension team or a given watershed to work with growers.
    - Hire someone who understands the details to broker (a private business, someone who will do this for a fee). Use this program to encourage crop consultants; these folks could do this work in the winter. Perhaps University should offer courses to teach consultants how to do this. Money from NRCS could help growers to fill this role.

More discussion of examples and ideas:

- S. Primard: in VT—a crop mgt cooperative association has evolved out of the funds available from NRCS that hires someone to work with NRCS to help farmers apply for and qualify for participation in NRCS programs.
- L. McConnell: US veg and fruit producers ARE competitive on the world market, not subsidized. Less competitive because of things like FQPA (federal pesticide-use restrictions) which does not apply to food grown outside US and favors foreign food production compared with US-grown that must comply with those restrictions. Nutrient mgt plans could be developed under a very standard template. But IPM perspective might be different – need someone who does understand these programs, farmers can make money by 'working the programs' and some are very good at doing that. Will growers quit doing the practice as soon as the money runs out? Might not be to the best advantage of long-term adoption of IPM. Among his clients, less than two percent of the acreage is funded by these (NRCS) programs.
- J. Boucher: Has view from the field operator's eyes. Started with NRCS Coop. Agreement in 2004. NRCS has clearly distinct programs – they select which program is most appropriate for the needs you are trying to address with the producer. AMA -- main focus is risk management; EQIP is incentive payment: focus on resource concern as primary – what resource have you conserved? Water, soil, or crop? Water is usually main focus.

Presentation by L. Elworth – Center for Ag Partnerships.

- What we did with growers nearly always cost more. New farm bill gave new opportunity for growers to be involved. 'Locally driven' vs federally mandated policy – both are happening. Successes are based on working closely with people on the ground: growers, university people, NRCS. Investment of time in setting up programs have reaped tenfold benefit in incentive payments to growers. MI program – hired go between to get understanding of the program and help growers create plans. Unrestricted grants to county Extension programs to pay for Extension personnel to do it.
- Need outreach, training. TSP's (Technical Service Providers) are not available to provide this service. AMA funding is tenuous – don't depend on it. Growers are going to have to prepare themselves to be involved in EQIP. If you are involved in EQIP you will be ready for CSP. Not enough private consultants out there.
- If IPM is going to be widely available through the conservation programs – need to build the foundation right now. New farm bill will change things. IPM folks need to become conversant in NRCS programs. IPM by itself is tenuous in funding. IPM Centers could allocate money to fund people to provide training to IPM professionals to be conversant with conservation programs. Lets expand our IPM view to include conservation perspective. Use what we've learned from isolated programs that are working to develop info/publications to train others about how to do it. IPM has not been a presence in the national discussions of conservation.
- For more info visit www.agcenter.org Click on 'Putting the Farm Bill to Work'

Presentation by T. Green – marketing opportunities

- Many new ecolabels have been developed: many listed on Consumers Union website http://www.eco-labels.org/ Also: www.lohas.com. Most ecolabels have set of required

production practices; farmers must do enough of them to qualify such as those offered by the Rainforest Alliance. Forest Stewardship Council, Food Alliance, Protected Harvest, SYSCO ($31 billion food service distributor) uses a 'Sustainable Ag/IPM audit' in contracts with their producers.

- Opportunities
  - Land grant research is key – educate public about
  - Eco label auditors already doing paperwork. Do paperwork once
  - Third party audit costs –why not cost share those
  - Cost share for improvement mandated by third part audit programs.
  - Provide guarantees for Best Management Practices/IPM results.

Round Table discussion after lunch:

- Bissell: sees extreme views among growers of 'get in and out' to work the program vs 'I don't want to deal with the NRCS bureaucracy' but he is more in the middle. Likes J. Boucher's approach of training farmers, which seems like they will continue (using conservation/IPM practices). Boucher confirms that.
- McConnell: 'judicious use of pesticides' includes organic, is based on observation and response to what is happening. Regarding sustainability of using IPM on the farm, it all comes down to profitability to the producer. In order for there to be more private consultants there has to be profitability. Consultants must have clusters of farm clients to avoid too much driving. Agree that the interaction between NRCS, Extension and farmer would be extremely beneficial, to help farmer to understand the NRCS perspective, Extension can help the farmer think about that.
- Rajotte: looking ahead ten years, green payments will increase; private sector markets will demand more sustainable practices, IPM requirements for crop insurance (RMA) – all demanding same paperwork –we can promote benefits of IPM within this context.
- Petzoldt: 100% of (Extension) IPM programs in the northeast would accept money to do what J.Boucher is doing.
- McConnell: hiring college students as scouts won't work; need full time year round employees, build trust and respect.
- Elworth: long-term future for training people in IPM is not going to be through NRCS; basically NRCS is not an education program; that is going to be kept clear. I think CSREES needs to be funding that kind of training over the long term.
- Majek: weed science has been less active part of IPM over past 20 years. NJ has made attempts to incorporate it. What we can do is not always of immediate benefit to the grower as with insects and diseases. I have idea where the weaknesses are in most growers weed control programs but wonder how it fits from NRCS perspective. NRCS conservation programs don't fit farms using cultivation; need better ratings for no-till systems.
- Fleisher: herbicide tolerant sweet corn is one option – would that be a conservation practice, if you are using a transgenic variety.
- Drew: soil tillage component does not apply to programs other than CSP. Tillage is ok in other programs.
- Majek: we are losing herbicides at a faster rate than gaining them; no new products coming along; profit is driven by acres and high acreage (corn,soybeans, cotton) now have 'Round-Up Ready' (herbicide-tolerant) transgenic varieties available; Round-Up herbicide is off patent so is inexpensive. Today, spending $7-14 per acre where used to spend $30-60/A.

Less profit potential in big acre crops; which is where our herbicide research comes from. Endosulfuron has provided good progress. Investors in Round-Up Ready vegetables have been developed but are on the shelf from fear of public outcry. No till? In most veg crops no till is not a viable production practice – soils warm too slowly and veg not tolerant. Also with no-till the tillage opportunity for weed control is lost which means you need postemergence herbicides to clean up any preemergence weed control failures –no backup plan. For example no postemergence control for lambsquarters; pumpkin no till can be lost to lambsquarters that breaks through the herbicide (Strategy, Sandea) nor can you replant with another crop due to restrictions on pesticide label.

- Lamborn: No-till not widely accepted by processors either.
- Majek: no-till peas were a big failure: toad problem.
- Johnson: IPM project with Extension is working well. However farm bill keeps changing so programs will always change, she recommends its better to think about how to communicate not just one way to do it.
- Coli: cost issues of new systems: how do we accommodate increased cost of new systems that might have environmental and health and pest mgt benefit but are more expensive. How does that fit into NRCS?
- Malot: in AMA they can get payments for the life of the contract ie 3-5 years. This is good time frame because after 3-5 years farmers are either they are sold on it and continue practices, or they let it go. We can't subsidize these practices indefinitely. There is some ethic within the producers to see other benefits.
- Petzoldt: or maybe market benefit? Other points: it's important to IPM people that NRCS sees university IPM people as a resource. If NRCS staff or TSP's or growers need extensive training Extension people are willing to do that but can't do it without additional resources -- $ won't come from CSREES, has to come from NRCS. IPM people don't want to make funding decisions.
- Rajotte: yes but we in IPM have a duty to educate people on IPM. Availability of NRCS programs is part of our selling script.
- Petzoldt: yes some training but fact sheets and extensive training programs do need extra resources.
- Coli: given we are seeing resource depletion in extension resources we do need resources to do trainings.
- Green: 14,000 crop advisors exist but most earn their living from sales of products many are starving because product sales eg herbicides are lower; they need to shift to making money from information/service rather than product sales. Questions why Extension partnering with NRCS would not be sustainable.
- Elworth: there is an awful lot of education to be done over a lot of crops. There has been a lot of rivalry between NRCS and CSREES at the federal level; outcome of this has been distinguishing their roles (education/research is purview of CSREES).
- Drew: OMB (US Office of Management and Budget) watches what we do very closely. We have to stay true to what we are funded for. In 2002 they took away money for outreach or education. But we can pay for technical assistance to implement our programs. If it also trains farmers to use IPM after the program is over, that's ok but it has to be called technical assistance. And you have to be on the farm providing tech assistance to one producer.
- McCracken: In EQIP we got rid of education grant but we kept Conservation Innovation Grant. These grants are for demonstration and innovation – not research. Every state can

have a CIG program this year. If you want CIG grants in your state get on the state technical committee to advocate for them.

- Biddinger: he submitted CIG grant last year in PA and did not get it.
- McCracken: we did have state flexibility there is money available in the state if they decide to do it.
- Koplinka-Loehr: sees role for NE IPM center in translating from one organization to the other – that's a lot of what we are doing: translating. Hopeful of Center doing something.
- Timmons – there are a lot of other things besides pesticides you need to focus on, eg. get pH right; avoid too much N to avoid aphid problem; irrigate early in day to avoid leaf wetness overnight. There has been more $ in many states in EQIP than in CSP (Conservation Security Program). Farmers may be more advanced than needed for EQIP. If you get into a CSP watershed, you can keep a farmer doing things that he's already doing well. For example, are you maintaining or increasing soil OM? Veg crops are going to be needed as land values go up; grain crops not viable; need to work out ways to include more veg growers.
- Drew: national policy: Soil conditioning index has to be positive to qualify for CSP and if you till you don't qualify.
- Akin: soil condition index has three subfactors: 1) tillage; 2) organic matter depletion or amended; 3) erosion. Other soil losses also. If you had a rotation system with fallow cover crop fields but tilling some, that would qualify. Or addition of organic soil amendments. Sod farms a difficult issue.
- McConnell: takes issue with the idea that moldboard plowing means unhealthy soil. Healthy soil is productive soil; sees most productive soils are those that are moldboard plowed.
- Johnson: NRCS rules will keep changing – this year's standards may work for some growers, more may qualify in future after more dialogue with stakeholders.
- Handley: if application process is a barrier in itself, why can't it be changed? If NRCS program is not long term sustainable why orient ourselves toward it? Disagrees with previous statement that college students can't be effective implementing IPM as long as there is good support and regular visits from Extension staff. Those scouts also become future consultants.
- Szylvian: recommends that 'state lead agency' (=agency that regulates pesticides) be more involved in the process of creating standards. There are some things not quite right.
- Everts – is there any collaboration and input from other groups (eg Chesapeake Bay Foundation) so there is a united front that the growers can deal with?
- Drew: state technical committee is the place where state policy is discussed and set. We invite university people every year and they don't come. State Ag Dept does come and is very involved.
- Malot: Chesapeake Bay Initiative has set standards for best management practices; they are similar to the 595.
- Martin: NY has committee that reviews National standards– gets specialists to review any standards that come – sends copies for comment. If they don't comment, then they are published as set forth.
- Timmons: Dept of Ag when they look at pesticides are looking at human risk – spill, mixing, spray. NRCS is looking at resource concern on that farm, potential to leach or runoff. Extension is looking at when to spray and with what. Different roles.

- Boucher: our IPM programs are involved with all of those functions: resistance mgt, efficacy, non target effects, record keeping. Not mutually exclusive.
- ? : Bay guidelines are sometimes more restrictive than NRCS; not in conflict with NRCS.
- Handley: Its been good working with AMA to get more outreach. We've been able to see benefit. Cost of reduced risk has been only 33% higher in apples and 15% higher in *(not sure which crop)*. As scout and consultant realized that consultant is needed as the system is extremely complex. Biggest cost for tree fruit is labor not pesticides. We have gotten away from training consultants. One issue at university level is that commodity specialists are going away. In reduced risk pesticide program we need a system to measure impact. Something like EIQ (Environmental Impact Quotient) – need to show impact of IPM to environmental groups. Funding for CSREES grants has declined, too competitive; CIG grants have more funds but we have not figured out how to 'crack' them. Reduced risk systems are going to have to be implemented in tree fruit, heavily impacted by FQPA, scrambling with few people to solve these problems. So we'd like to tap into NRCS but have to think more about environmental impacts and work back from that. We are not doing what Europe does to require impact on beneficial organisms as part of registration. That info would make it easier to document environmental impact.
- Lamborn: plow may have a bad name but it's a very valuable tool, it does still have a place and we need to keep using. We avoid a lot of copper by moldboard plowing. IPM driven purchases in the market is a wonderful thing but it's an uphill battle. Any time there's one little thing wrong eg one worm in a load of corn. There is a lot of merit in precision ag not mentioned much here, has future.
- McConnell: agrees with using college students but puts them on one crop and makes sure follows up by scouting same fields same day in some proportion. Would promote the utilization of irrigation for better quality crops, more corn with less N per bushel.
- Rajotte: demand goes back to the institutional level.
- Elworth: this is a good opportunity; hope this group empowers a subgroup to build ways to support assistance at the technical level.
- Elkner: anything you can do to get a farmer out looking closely at his crop is going to make him a better farmer. Might open their eyes. If this is what we need to do that then I'm all for that.
- Lamborn: with large operations, farmer gets less time to get in the field.
- Elkner: how to get someone built into the farm organization to get into the field; more challenges for veg farmers; anything we can do to help is good.
- Lamborn: when you already decided to use something, if the pesticide salesman says maybe not to use it, you should listen!
- Ireland: Invasive plants are important now, an important role for weed scientists. CCA's are very helpful, a bonus for us working with pest mgt and IPM
- Begin: don't know history of how NRCS and extension have worked together. There have been successes in blueberries and potatoes. We can have teamwork that gets things done at a local level. Things do change all the time. At this meeting I have met two people from Maine, I think we can open communication, then find ways to get things done locally where it needs to get done.
- Primard: NRCS focus has been heavily on nutrient mgt in livestock, dairy operations; pest mgt has not been important. Now we have trained our employees on pest mgt and extension has been part of that, learned WIN-PST. We may require that farmers get training – if they

have taken on pest mgt practice, possibly also require scouting. Need to know IPM coordinator in my state. VT just has one flat rate for pest mgt practice whereas PA has many different practices getting flat rate payments.

- McCracken: we have done co trainings with VT, put in another plug for CIG grants. Look to your state.
- Drew: one challenge for Extension folks is that it's different in every state. Certain issues that are important in that state come up, are discussed at the state technical committee mtgs. It's always going to have to come back to the state. Competition for funds in their budget: funds for tech assistance is also same money they use to pay staff. RI has excess money 4 million last year can't spend it all but larger states may not be in the same boat.
- Cimino – Glad to see IPM up and running because things are getting harder in the pesticide registration area. Spray drift needs to be tackled at the state level but there is a lot of pressure coming in at the national level. Things are getting harder. We do need IPM because the regulatory world is going to get tougher and harder.

Presentation by M. Fitzner: This discussion has been great and I've learned a lot. Thanks to Northeast Veg IPM working group and Center for sponsoring this meeting, this is what we need to help this collaboration happen more widely. We know that rubber meets the road at local and state operation level for both NRCS and Extension. At national and regional level, levers are few. Need to jump-start local action.

Points: money. We always want more. There is already a lot of money in our programs; there is sometimes a need to prioritize and shift focus; we can do things with what we've got. It does bad things to a relationship when it seems like you are doing things just for money. Our agency has moved from partnership approach to a competitive mercenary environment with faculty fighting for funds for grad students also. But NRCS also has to understand that this is the environment that we work in.

Come to competitive programs with good idea of real need of growers on the ground; you will likely be successful. If result of collaboration will have environmental and economic benefits then it will get money. (EPA has the 319 (non point source pollution) grants program)

We have been successful in getting RMA money for IPM. Also a source of money. Soybean rust modeling was paid for by this via southeastern IPM center. RMA angle is financial risk more than environmental risk. Extension IPM program provides core resources for IPM programs throughout the country, slow downward track. Formula funded. Could increase it if group of stakeholders got together and advocated for a program like that: provides core support for IPM in every state – could have impact on more funding.

To IPM'ers: EQIP can show IPMers the way to success. There is a problem – gives IPM programs an opportunity to solve the problem.

Soybean rust vitalized Extension and gave CSREES attention. Is all we want to do is chase ambulances? No, but a few ambulances are a good idea. NRCS could help us show which ambulance to chase. Sometimes NRCS might see a particular area of a state that needs help, sometimes there is no one in Extension nearby.

Comes down to building one-on-one relationships. Across country, where those relationships have been built, there are successes, but not true in all states—very uneven.

For land grant people – there are already Extension people representing you on state tech committee usually.

Ideas for follow-up – more meetings. It will take more of those to build partnerships. Ideas: IPM coordinators should meet with NRCS rep from each state together. IPM and NRCS from each state plan a meeting within the state – do something like this in each state. Likes Rajotte's idea of working on a watershed basis for twilight meetings, look at certain crop in certain watershed. Lessons of partnering: eg Larry's website. There are resources around, some things don't cost a lot, but with good ideas you can get money – money will follow a good idea.

Discussion:

Boucher: we like this program because it gets us back in the field working one on one which is what we were created for.

---Conservation innovation program – could it get a regional framework? Links between NRCS and CSREES in grants programs?

---What is the best way to have discussions with NRCS at state or national level? Best to come in with grower groups and have land grant scientist there to back up the validity of the science base. State or county level is best. Grower groups need to be the driver. For changes in national program, have to come in higher – state levels can't influence it. Look for opportunities to give comments on farm bill. Grower groups could talk with senator or congressman. Can still make comments till end of December on farm bill.

Bagdon presentation and discussion

NRCS focuses on environmental risk reductions based on a resource concern – solve a problem or prevent a future problem from occurring. There is tremendous amount of IPM info out there but needs to be structured to meet conservation framework.

For example: see water quality resource score sheet on the back of his handout.

- Question: would enhancing biodiversity fit standards? Any documentation that you are furthering those natural resource goals would be recognized but not picked out as an individual resource concern. Does it affect air, water, or soil? See pg 4—if there is a particular resource concern related to a particular pesticide, that could be a pressure to develop new IPM methods. Specific practice lists should be based on what's most useful for the producer. This can link the IPM system implementation with the NRCS funding.
- Discussion of how to define the specific practices – who, when, -- to qualify for CSP. It would be helpful from NRCS's point of view to get input from Extension on what practices are important for IPM. Timing: Select watersheds in Fall, sign up in Winter, contract in Spring, gear up in summer and fall before sign up. Input should early enough to be useful. New watersheds assigned each year and enhancement list is different for each watershed.
- Universities can define IPM practices and discuss with NRCS who could determine which practices could be built into which NRCS program.

McConnell: Gave an example of good IPM program for cabbage with good stewardship of the land.

- Weed map
- Cover crop
- Select proper herbicide
- Pheromone traps
- Scout twice a week

- Moldboard plow to reduce disease potential. (rhizoctonia, seed corn maggot)
- Use lower rates on herbicides. Because we know that we can cultivate twice.
- Bare soil will give us better disease control
- When we have insects we will use Dipel. But not twice in a row. Alternate with Avaunt, which is not the harshest pesticide but somewhat detrimental to beneficials.
- Maintain high fertility, not skimp on nutrients
- Irrigate for good plant health to reduce potential for pests
- After harvest, disk under crop residue to get rapid breakdown
- Plant cover crop right away.
- This is high level IPM but would not qualify for CSP. CSP standards should be run for a particular rotation and is based on mathematical models for soil loss. If you change growth of cover crop, etc, it changes the rating. Run it through the RUSLE rating.
- Next year, plow again, plant sweet corn but not no till not allowed by processors.

Next Steps.

Friday morning we broke into smaller groups (by region) to discuss:

1)Mechanisms for achieving successful outcomes for advancing IPM through NRCS programs, 2) Standards and practices that define IPM as needed by NRCS programs and 3) Measuring impacts?

Here's what the groups presented:

Mid-Atlantic Group

1. Encourage cover crop use on ground previously receiving manure
2. Use higher seeding rates for cover crops to increase organic matter and increase mitigation of particle run-off.
3. Have NRCS breakdown amount of EQIP money/acre into categories. That way growers would know the value of paperwork - could either do it themselves or hire a consultant to do the paperwork.
4. Before grower groups try to discuss vegetable practices with NRCS they should be mentored so that they can communicate effectively.

NY-PA Group

1. For each state, develop set of common goals between IPM and NRCS
2. IPM Coordinators and NRCS program staff meet twice annually at the state level.
3. IPM representative should be included on the State Technical Committee (don't need to be invited)
4. Explore opportunities for CESU with land grant in each state (cf. North Atlantic CESU) and explore opportunities for IPM projects within framework of CESU
5. Set priorities in funding and go to Resource Conservation and Development units (within NRCS) for funding and projects at the state or district/local. (eg for development of guidelines, surveys of crop)
6. Identify contacts in every state in NRCS and extension (NRCS: program person, resource person, agronomist); also crop specific contacts for IPM resources; post on IPM Center website; Center website also has searchable database of IPM resources and is developing a contacts database; highlight IPM guidelines.

ME/NH/VT

1. Call meeting among interested parties. If necessary, could be held in conjunction with another existing meeting such as annual ag trades show or growers meeting – to discuss options, needs, ideas and to find opportunities and to solve challenges for enhancing IPM through NRCS programs. Include Extension water quality and soils specialists.
2. Identify a way to provide technical assistance to support growers in implementing IPM – could be through agreements with Cooperative Extension
3. Network with neighboring states to share reports regularly on projects, ideas, progress on IPM, perhaps via regional meetings every 2-3 years.
4. IPM workshop as part of eastern region technology conference; include farm tour.
5. On farm tours in state or neighboring states to look at farms from both resource conservation and ipm perspective –collaborative training session.
6. Extension can do education, outreach and press releases about NRCS

CT/MA/RI

1. Northeast IPM Center can add a webpage on 'working with NRCS' to post information from each state. Could be shared via a listserv; any small listserve can be set up.
2. Share the details of CTs cooperative agreement between Cooperative Extension and NRCS to serve as a model for other states.
3. Share fact sheets about CT's IPM program (electronically)
4. IPM/NRCS (or a Working Group) revise IPM Guidesheets at state or regional level and include more crops. Identify how practices relate to NRCS resource concern areas – SWAPAH (soil, water, air, plants, animals and interactions with humans)
5. Form IPM/NRCS working group to get funding from NE IPM Center or other sources. (alternative funding source: EPA Pesticide Environmental Stewardship Program, available to state & local governments, universities or nonprofit organizations as partners; or Strategic Ag Initiative; any organization can apply; deadlines change)
6. Talk to each other (NRCS and Extension) within each state.
7. Extension staff and NRCS need to reprioritize: figure out what you are willing to give up in order to support this collaboration and our common goals.

WI

1. Develop an efficient option for CSP recipients to communicate their stewardship achievement to the marketplace. (that request has come from growers in CT EQIP participants also)

Other ideas

1. Provide information and data to NRCS about vegetable crop production practices and soil management that could be used to adapt RUSLE model to vegetable and other high value crops

2. Adapt crop profiles and Pest Management Strategic Plans to include conservation concerns

3. Create IPM definitions (practices) for specific crops and states/regions to use as an assessment, education and documentation tool

We then gathered again into the small regional groups to discuss:

What training is needed for whom to improve technical assistance for ipm implementation?

Ideas generated included:

1. Provide NRCS staff with good information about expertise in Extension and vice versa. Include State IPM coordinator.
2. Train crop consultants in the NRCS programs and rules.
3. Add NRCS field or state staff to Extension vegetable newsletters
4. Invite NRCS staff to speak at grower meetings
5. Make sure any TSP's that are hired are able to write the IPM component of plans.

What specific steps should the NE regional Vegetable IPM Working Group take next to build on this meeting to support partnerships aimed at improving adoption of conservation IPM practices on the farm?

1. Follow up on ideas generated from this meeting.
2. Raise the issue of concern about the RUSLE program -- to see if the data is accurate for our area; to introduce new data relevant to high value vegetable and strawberry crops.
3. USE SWEET CORN AS A MODEL for revising IPM guidelines, developing guidesheets, cost lists, and other documents needed for use in NRCS programs.
    - Modify sweet corn Pest Management Strategic Plan to include resource concerns.
    - Review MA and NY sweet corn IPM guidelines and see if it is possible to adapt for regional use (flexibility relative to markets and region).
    - Use technical specialist from Greensboro office (Norm Whitman and Livia Marquez) to work with these issues for the region. Aim for general heading with some details for practices. Some kind of weighting mechanism to decide 'what is enough' relative to conservation goals; look at guidelines from point of view of environmental benefits.
    - NRCS staff could put in request that they be liason to working group for this purpose.
    - Develop guidelines listing all the pest management practices -- incorporate soil, water, disease, insects, weeds, economic viability for specific crops to refer to in developing components in a pest management plan. Needs to be adapted for each state. Points may or may not be useful.
4. Make readily available any current IPM guidelines to NRCS offices as a model to be adapted for the states – in hard copy and on website. Emphasize need to adapt to each state.
5. Revisit holding this kind of meeting in 2-3 years. Express value of this meeting to other regions and organizations.
6. Have NRCS person join the Vegetable IPM Working Group. – a regional technical specialist.

What are the opportunities for a region-wide IPM/NRCS partnership?

1. More opportunities to get together. Expand partnership to include farmers, private consultants

2. Write letter to national NRCS policy makers (Bruce Knight) or farm bill policymakers (comment period open till end of December) regarding needs of high value crop IPM in the CSP program (letters from growers or grower groups have weight). Rajotte will send a rough draft to working group leader (Hazzard) and to the NE IPM Center (Koplinka-Loehr). Great opportunities are being missed.
3. Review organic matter/tillage component of RUSLE soil quality model for high value crops.
4. Explore partnerships in other commodity areas.
5. IPM Center in next round of RFP's put priority on developing relationships with NRCS
6. Develop guidelines listing all the pest management practices -- incorporate soil, water, disease, insects, weeds, economic viability for specific crops to refer to in developing components in a pest management plan. Needs to be adapted for each state. Point-based practice list (showing priority practices) may or may not be useful.
7. Northeast IPM Center should post a summary of the meeting on the website and develop a section with contacts and suggestions for cooperative efforts. Make sure interactions of various pests and components of pest management practices are considered.

Appendix B.

Summary of Participant Evaluations
NRCS/IPM Meeting Dec. 1-2, 2005 Harrisburg, PA

Question	Average Response (1=great, 5 = bad) and comments
How effective was this meeting in providing you an opportunity to network and dialog with potential partners?	1.8
How effective was this meeting in helping you identify challenges and ideas for partnerships for improving adoption of conservation related IPM practices on vegetable farms?	2.1
How useful was this meeting to you in improving your understanding of other organization's programs and perspectives?	2.3
How useful was this meeting to you in improving your understanding of resources available for IPM technical assistance?	2.4
Describe something you learned about an organization that is not your own	NRCS more willing to collaborate than realized; NRCS perspective of veg IPM based on tillage; NRCS appears to want other agencies, TSPs, private sector to do much of the work; about CT IPM/NRCS success; possibility to be involved with NRCS at county/state level; structure and goals of NRCS, crop soil quality index; involvement of extension with orchardists in PA; extension's 'mercenary' status; availability of extension info/pest mngt guidelines; extension losing people and funding; existence of NE IPM Center; better understanding of Veg IWG and IPM Centers; partnerships such as those used in CT

	and PA could be readily implemented in my state.
What will you do to follow-up on something you learned?	Center IPM/NRCS website and report to other IPM Center directors; get involved with NRCS committees; work with NE, PA; get info about NRCS State Tech Committee; Meet with state NRCS leaders to explain extension IPM programs and discuss opportunities for cooperation; Pursue action steps described (update IPM guidelines to work better for NRCS); meet with all players to communicate needs and availability of NRCS programs; Meet with IPM reps in my state; soil quality on veg farms; Meet with state partners; Pester UMASS IPM people; Meet with counterparts in extension; Meet my state's IPM Coordinator; Improve EQIP to enhance payments to farmers;
What new resources did you learn about?	People resources; CESU land grant connection with NRCS; new EQIP funds avail for diverse needs; tech support funds avail for IPM; NE IPM Center, Center for Ag Partnerships, IPM Institute; IPM guidesheets; crop profiles on NE IPM Center website
What changes in agenda, format, participation would you like if similar meeting held in future?	None; more farmers; more goal-oriented; smaller meeting for subregions such as New England; limit discussion; more emphasis on integrated IPM guidelines, more farm leaders participation, how much scouting needed at different crop stages?; well done; include other crops besides veggies; include a mtg of IPM Coordinators and NRCS contacts to discuss how working together
Other Comments	Great job; Productive and hope there will be improvement in communication in future; Very well done, good location; Great program; Meet every 2 yrs; Learned a lot, now more enthusiastic about IPM