

In-Depth Organic Training for Agricultural Professionals

ENE04-086

Project Coordinators:

Anusuya Rangarajan
Associate Professor, Horticulture
121 Plant Science Bldg.
Cornell University
Ithaca, NY 14853
607-255-1780
fax: 607-255-0599
ar47@cornell.edu

Vern Grubinger
Extension Professor
University of Vermont Extension
157 Old Guilford Rd., Suite 4
Brattleboro, VT 05301
802-257-7967 x13
vernon.grubinger@uvm.edu

Team Members:

- Karen Anderson, Executive Director
Northeast Organic Farming Association of NJ
- Mary Barbercheck, Professor of Entomology
The Pennsylvania State University
- Brian Caldwell, Research Support Specialist
Cornell University; the Northeast Organic Farming Association of NY
- Ruth Hazzard, Extension Educator, Vegetable Entomologist
University of Massachusetts Extension
- Sarah Johnston, Executive Director
Northeast Organic Farming Association of NY
- Margaret McGrath, Associate Professor, Plant Pathology
Cornell University
- Marianne Sarrantonio, Associate Professor, Sustainable Agriculture
University of Maine
- Abby Seaman, Area Extension Educator, Cornell Cooperative Extension
New York State Integrated Pest Management Program
- Eric Sideman, Director of Technical Services
Maine Organic Farmers and Gardeners Association
- Kimberly Stoner, Department of Entomology
Connecticut Agriculture Experiment Station

SARE Funding: \$120,000

Matching Funds: none

Project Duration: August 2004 – December 2006

Summary

Our project provided an in-depth training experience to Northeast agricultural professionals (e.g. extension, consultants, NRCS) to strengthen the human and technical capacity to better serve organic farmers. Of the 40 agricultural professionals who sought in-depth training in organic agriculture, 22 completed the course. Our target audience was experienced agriculture service professionals with at least 5 to 10 years on the job. The format for this model was an 8-month intensive training in Organic Agriculture, with four face-to-face meetings (14 days) that combined lectures with on-farm studies, and continuous inquiry and networking via electronic discussion. All participants were required to attend all sessions in order to facilitate peer teaching, enhance camaraderie, and help expand the Northeast Organic Network of service providers.

Training session content focused primarily on organic vegetable crop production. Prior to each session, participants received objectives and desired learning outcomes. Resource materials broadened the trainees' understanding of organic agriculture philosophy and principles, and resulted in each person having the start of an organic reference library. The key learning moments during the sessions occurred through case studies and as topics were synthesized, analyzed and debated. These discussions deepened understanding of how current science-based information interfaces or conflicts with practical experience or challenges in organic production or marketing.

Our key measure of success was that participants become active trainers and advisors on organic systems, creating an expanded cadre of organic service providers throughout institutions in the Northeast. Participants reported that as a result of the training, they had shared information on organics with at least 50 other agricultural educators, 356 farmers, 13 non-

agriculture office colleagues, and more than 163 other people (which includes the general public, students, aspiring farmers, and media). Participants also reported that 17 months after the beginning of this training, they had developed seven new organic teaching resources, 8 new research projects, 10 grant proposals, 9 educational courses, and 19 other types of projects. They regularly work with 155 others and two-thirds of the respondents had formed new collaborations-- with colleagues from this training or from their home state—to carry out programming in organic agriculture.

Introduction

As the organic industry continues to grow, so does the need for agricultural professionals trained to support new and transitioning organic farmers. Organic farming requires a holistic approach to farm planning and management, to optimize biological cycles that support good crop production. In addition, supporting organic farmers requires knowledge of certification, the National Organic Program (NOP) and individual state certification strategies. In the case of state NRCS programs, application of the Practice Standard for Transition to Organic also requires understanding of organic management strategies.

Most efforts to enhance the organic expertise of agricultural professionals have focused on the traditional single meeting/in-service education format. While this format can provide a broad exposure to organic principles and practitioners, it does not cultivate a holistic, integrative, in-depth view of the organic approach. We integrated lessons from these past projects to create a model for in-depth organic agriculture training for agricultural educators.

Of the 40 agricultural professionals who sought in-depth training in organic agriculture, 22 completed the course. Our target audience was experienced agriculture service professionals with at least 5 to 10 years on the job. We focused on organic row crops such as vegetables, small

fruit and small grains. We used an 8-month intensive training format of four face-to-face meetings that combined lectures with farm tours, and continuous inquiry and networking via electronic discussion and conference calls. The repeated contact allowed us to deepen the camaraderie and peer support of trainees. As a result, we expanded the Northeast Organic Network (NEON), a group of service providers throughout institutions in the Northeast committed to supporting organic agriculture.

Objectives/Performance Targets

Our performance target stated that of the 40 agricultural professionals who applied for advanced training in organic agriculture, 20 would complete the course and become actively engaged in training and advising on organic systems. Their skills would be widely utilized by both peers and clients.

We exceeded our expectations for this performance target. Twenty-two trainees completed the course and have reported creating or engaging in various organic agriculture training in their own states. They are supporting farmers, nonprofit organic organizations as well as their own institutions. In addition, the ten trainers who supported the technical program also reported increasing the breadth of their own knowledge in organics.

Methods

Recruitment: Our training targeted experienced agricultural professionals with an interest in organics and at least an introductory-level knowledge of the techniques. This enabled us to focus content on a more advanced level, without spending time debating the merits of organics or introducing brand new concepts. The application made clear that we were interested in early

career professionals with 5 to 10 years of experience. In addition, participants had to commit to attend all three sessions, to do preparatory work for each session and to participate in online discussions.

A request for applications was publicized through the SARE PDP state coordinator network and statewide Extension, NRCS and other agricultural service provider e-mail lists, organizations, and publications. Of the 40 applications received, five were deemed ineligible since the applicants were from outside the Northeast. In December 2004, four members from the planning team selected 22 applicants for the program, based upon applicant experience, location, and potential for impact with both farmer and institutional audiences. Recruits represented eight states in the Northeast. All participants' supervisors signed a form acknowledging the time commitment required of participants. Two participants could not complete the training, but were replaced by two others from within their organizations after the first session.

While trainees were expected to enter with an introductory knowledge of organics, their actual experience varied widely from entry-level to high level of expertise in one or two aspects of organics. This varying level expertise was not evident in the information on the application forms, but made more obvious during informal discussions during the sessions. This did not, however, hinder the progress of the sessions. The facilitators of each session continuously emphasized that the focus was in-depth. Additional resources were provided to participants needing additional background information.

The Planning and Training Team: The core planning team for this training consisted of twelve people, including representatives from Cornell University, University of Vermont Extension, the Northeast Organic Farming Association (NOFA) of NY and NJ, Penn State University,

University of Massachusetts Extension, University of Maine, NYS Integrated Pest Management Program, the Maine Organic Farmers and Gardeners Association (MOFGA), and the Connecticut Agricultural Experiment Station.

Ten of the planning team members were also trainers. These specialists had expertise in organic farming systems, Integrated Pest Management, plant pathology and organic disease management, weed ecology, crop production or soil quality. These specialized experts attended all three training sessions, generally making formal presentations at one or two of the sessions, and sharing their knowledge informally at the other sessions. This helped cultivate interdisciplinary discussions and debate on organic agriculture issues.

A project coordinator was hired (0.50 FTE) to manage the day to day planning and communications for the training. This coordinator worked with the individual session teams, to assure continuity in format, structure and teaching strategies. She also helped plan logistics for the trainings, including travel and lodging for participants and speakers. She maintained regular contact with the participants and kept the project website updated and administered the listserv (described below). The project would not have been possible without this important staff assistance. A minimum of 0.50 FTE is recommended to any others who provide a similar multi-day, regional, education event.

The Training Format: Three 4-day sessions were organized over the course of a year--one each in February, June, and September 2005--to cultivate a holistic, integrative view of organic management techniques. A half day of travel was included at the start and end of each session, assuming that most participants would drive to the location by noon on the first day. This allowed 24 to 28 content hours per training. During the first session, we had an evening session

on the first day (noon start time). The participants, however, found that this was too long, given most had also had to drive in the morning. For the other sessions, we used evenings for optional discussions or slide presentations or social events. The planning team had considered a shorter training of 3 total days (2 days contact time, 1 day travel) but concluded that this would be inadequate if we wanted to use both lecture and field tours. We also felt that a 2-day training would not provide enough time for educators to step away 'mentally' from their job responsibilities and immerse themselves in the subject matter.

Sessions took place in NY, Pennsylvania, and Maine, and planners relied heavily on the assistance and expertise of farmers and organizers in each state. The shifting location allowed trainees to visit different organic farms, experience diverse farm management techniques and meet organic farming experts from three different regions of the Northeast. It also helped distribute the travel distances for participants coming from eight states more equitably. A fourth and final 3-day session was held in Ithaca, NY, in July 2006, to allow participants to reconnect and share their successes and challenges since the September 2005 training.

Sessions were intentionally set four months apart to allow participants time to assimilate and apply material learned. Planners hoped the participants would return to their regions and share information with colleagues as well as to have the opportunity to work with local organic growers. To encourage this, homework assignments required participants to talk to organic farmers in their region to develop deeper understanding of local organic issues. All of the participants did engage organic farmers in either educational workshops or field days by the end of the project.

The planning team decided not to offer academic credit, unlike another organic training offered by North Carolina State University in 2000 for graduate level credits. The participating

educators in the NE training were all compensated differently and had varying titles and tenure status depending on their home state and institution. Graduate credit would have been complicated to offer and not an incentive for many of them. In an effort to reward the participants' commitment beyond the new knowledge they would receive, the planning team did offer Certified Crop Advisor (CCA) credits. The project leaders also sent letters to supervisors, legislators and local organic agriculture organizations which shared the names of the participants and highlighted their availability as a new cadre of educators prepared to support organic producers in the region.

Training Content: In an organic system, every element is interrelated, so that soil fertility cannot be discussed without integrating cover crops, pest management strategies, crop rotations, and nutrient balances into the dialogue. The training curriculum was designed to continually emphasize this point. Though each session had a particular focus—1) Certification, Marketing, & Business Management; 2) Pest and Disease Management; and 3) Soil Quality—all topics were integrated in each session (Table 1). These three session topics, which represent the most encompassing, crucial aspects of organic systems, were chosen early on by the planning team. Presentations can be found at the following website: www.neon.cornell.edu/training

This training focused primarily on organic vegetable production systems, with some reference to organic grains. The planning team felt that in order to provide an in-depth training, the breadth of crops had to be limited if we were to stay within the agreed upon time commitment and budget. Restricting the content of each session proved difficult. Each session was planned by a subgroup of the project team, usually based upon primary expertise and interest. One of the project PIs or the project coordinator was involved with each planning group, to help build upon previous trainings or lessons

learned and avoid overlap or repetition. Despite these efforts, some of the participants reported feeling ‘overload’ from the amount of material and insights that they received through the training.

For each session, a set of learning outcomes and strategies was designed by the planning team, to help guide participant learning and evaluation (Table 2). A variety of instructional methods were used to accommodate a variety of learning styles. Lectures highlighted key concepts and complexity of organic management. The “Expert” presenters—generally farmers, scientists, or Extension educators-- also were available for informal discussion during each session. Multiple farm tours in each state provided on-the-ground connection to the learning outcomes each day. These experiential learning opportunities were the highlight of the training, particularly for the second and third sessions which took place during the growing season. Discussions both on- and off-farm provided an important opportunity for participants to compare different management strategies and challenges. Several of the participants already had a high level of expertise in a specific topic, enhancing peer-to-peer learning and network building. The books and resources were provided each session to help individual study and create an ‘organic production library’ for their institution. Small group discussions focused on case studies or brainstorming provided a forum peer to peer learning, questioning and debate, enhancing camaraderie in the group.

Three types of case studies were used. The first were Northeast Organic Network (NEON) case studies. These extensive reports detailed history, cropping patterns, markets, labor requirements, obstacles, and other management details of successful Northeast organic farms. These homework assignments served as focal points for classroom discussions and field trips. The second type of case study used was farm visits. These generated lively discussion and debate as the group wrestled with complex management issues and interactions on organic farms.

A third type of case study was used at the third session to test how well participants had

integrated material they had learned. These were decision case studies, designed by the instructors. These cases consisted of a very brief description of a scenario followed by a request for help, much like a phone call an Extension agent might receive. While not difficult cases, these forced participants to consider important additional information needed prior to advising a client, the interactions of multiple factors in organic farm management and potential strategies for response. These case studies served as a final step in preparing educators to provide better support for organic producers upon completion of the training. As a capstone event, these cases were highly rated by the trainees.

Outcomes and Impacts

Ultimately, 22 trainees from 8 Northeastern states and 10 trainers completed the course. The training strengthened the network of organically-trained professionals in the Northeast by providing an extended opportunity for interaction. Having trainings throughout one year with the same group of people fostered a sense of camaraderie. This process of relationship-building within a network sets up a positive feedback loop, whereby the development of new relationships generates new collaborative projects, which further supports the network by bringing in new people and building still more relationships.

The training also improved participants' ability to serve their regional producers. Each session provided specific technical content toward this goal, but perhaps more importantly, participants unanimously requested establishment of a listserv to aid them in using each other's expertise as a resource. Organizers also established a website and posted all of the presentations from each session, and compiled and posted an extensive organic resource list for participants (www.neon.cornell.edu/training). As a result, participants reported an immediate improvement in

their ability to support farmers who approach them for help, and an increased feeling of confidence that they will be able to address future requests.

Having several months between trainings gave participants time to process the new information they had received, develop new projects, and practice providing support to local producers. Initially, the planning team intended to hold conference calls between sessions to provide an opportunity to check in with each other, ask questions, and maintain the group's momentum. In reality, four months between trainings was not that long, and participants and trainers alike agreed that conference calls were unnecessary.

The planning team bowed to participant interest and agreed to hold a fourth gathering ten months after what would have been the final session. The primary purpose of this session, aside from strengthening the network by reconnecting with each other, was for participants to highlight their own organic activities and seek support from each other for any challenges they may be experiencing.

Participant feedback was gathered after each session via anonymous written questionnaire. After the third session, trainees were asked to assess their change in knowledge across a spectrum of 13 learning outcomes from the three sessions. We received these feedback forms from 17 of the 22 trainees. Over 97% of the responses on the self-assessment reported “somewhat improved” or “much improved” knowledge across the 13 objectives. Responses from trainers were separated from trainee responses. The trainers who came with expertise in a single field reported gaining valuable broader knowledge by being present at all three trainings.

Accomplishments

Approximately half of the training participants were able to attend the fourth and optional

final session in Ithaca, NY in July 2006. These twelve trainers and trainees reported that, as a result of this training, they had shared information on organics with at least 50 agricultural educators, 356 farmers, 13 non-ag. office colleagues, and more than 163 other people (which includes the general public, students, aspiring farmers, and media).

This same sub-set of the total participants also reported that 17 months after the beginning of this training, they had developed seven new organic teaching resources, 8 new research projects, 10 grant proposals, 9 educational courses, and 19 other types of projects. They regularly work with 155 others on organic issues, and two-thirds of the respondents had formed new collaborations--with colleagues from this training or from their home state—to carry out this work.

Potential Contributions

Possibly the greatest aspect of this training was its multiplier effect. Although we trained just 22 people, due to their positions as public educators as well as their enthusiasm and prior basic knowledge of the subject, they were primed to share information about organics with hundreds of people. This has positively impacted participants' careers by making them visible as local "experts" on the rapidly growing field of organic agriculture. And, in the regions where training participants work, this training has helped make it possible for existing and aspiring farmers to get the support they need to be viable and even successful. Trainees have also used their newfound knowledge and confidence about organic topics to develop informational materials, trainings, presentations, books, and research projects with impacts that will continue to ripple out from this project.

Publications/Outreach

As a direct result of participation in this training, trainees have developed multiple new

workshops, handouts, organic-related events, and research projects in their efforts to educate and build the foundation of organic knowledge. Three of the research projects were funded by SARE.

Following are specific examples of the types of projects, workshops, and informational resources that directly resulted from this training:

WORKSHOPS/FIELD DAYS

- Series of organic meetings and field days – marketing, vegetable production, crop production
- Tour of organic CSA w/consumers
- An Organic Workshop at two locations in the winter of 2005-2006
- A second workshop in February 2006, where attendants received a copy of the “Resource Guide for Organic Insect and Disease Management” manual. Also, every county agricultural resources extension educator received a copy of this manual. This session was followed-up with a hand sprayer calibration demonstration at a summer twilight meeting.
- Materials from this training were used to develop a four-session Sustainable Agriculture - Organic Crop Production Course for Garrett College in March 2006.

INFORMATIONAL HANDOUTS and PRESENTATIONS

- Handouts for producers who are trying to figure out how NRCS programs can benefit their operation.
- Fact sheets on insect management
- Six enterprise budgets for organic produce
- Power point presentation on “What’s up with Organics?” - used to teach a class of 15 at a “Living on a Few Acres” series in February 2006.
- Articles on this SARE organics training and marketing organically produced farm products in a newsletter received by 250 households in Lehigh County, PA
- Handouts for workshop on organic certification requirements: Choosing a Pesticide – cross reference chart w/organic products, Mixing Organic pesticides – small scale measurement sheet, Organic guidelines for NESFP (New Entry Sustainable Farming Project) training farms, and an organic weed control fact sheet/poster
- Presentation at the Maine Agricultural Trade Show (in January 2006) on how NRCS programs and services can be used by organic producers. This presentation has been given to the state office to have on hand to be available to all NRCS field offices for future use. Several of other NRCS agents have reported that new organic producers have stopped into their offices to sign up for programs and/or technical assistance as a result of that presentation.

RESEARCH PROJECTS

- Research Projects on organic farms dealing with plant nutrition and were funded by a \$2000 S.A.R.E. – Farmer Participatory Grant through UNH Cooperative Extension.
- Included a certified organic farm in a project monitoring sweet corn insect pests (European Corn Borer, Corn Earworm and Fall Armyworm) with pheromone traps on eleven farms in Hillsborough County, funded by 3 IPM Grants from the New Hampshire Department of Agriculture, Markets and Food - the Division of Pesticide Control.
- SARE funded a flea beetle trap crop research project encompassing three farms in NY, Mass. and VT. Note: This project was a collaborative effort of three participants in this course and grew directly out of their conversations during the course.
- Northeast SARE Partnership Grant titled “Short Cycling and Approach to Successful Organic Strawberry Production”. Researchers are looking at the idea of annual spring plantings of June bearing and everbearing varieties.
- Small grant from Agriculture Extension Program Leader for looking at organic control of early blight, powdery mildew and cucumber beetle. Informational and people resources from the Advanced Organic training helped set this up. Project involves working with a producer who is transitioning to organic, and will involve trying several methods of organic control as well as holding a field day later in the summer.

OTHER

- Two NRCS trainees have been asked to help with reviewing/providing input for the NRCS Transition to Organic standards and specifications because of this training. These same participants also provided input on Cooperative extension/NRCS discussion about how to best use NRCS conservation plans to enhance and augment the landowner’s whole farm plan necessary for organic certification.

Future Recommendations

The structure and format of this training succeeded in providing in-depth information on organic vegetable production to northeastern agricultural educators. The entire training could be repeated for a new set of educators using the same format, in three to five years. By then, we suspect that there will be another 20 to 25 educators interested in this type of organic agriculture professional development. All of the materials, presentations and regional experts are available for future efforts.

One target audience whom did not participate in this training was independent agricultural consultants. Conversations were held with individual consultants, yet none actually signed up for the training. While we did offer certified crop advisor credits, we did not advertise the training with these credits listed. For future trainings, preparing initial outreach materials with CCA credits, and using

CCA networks should increase the attendance by these educators.

A few of the participants felt that a 4-day session was too long. The planning team debated the length and the frequency of sessions for the training. We settled on three sessions to manage budget and workload. The three topic areas (certification and marketing, pest management, soil management) were natural divisions for material. Some of the reasons to continue with the same structure include:

- The session started at noon on day 1 and ended at noon on day 4. This allowed ½ day for travel to be included in the planning of the participants. Thus, a 4-day training really only provided for 3 days of contact time.
- During each session, one full day was devoted to farm tours. With travel time and breaks, this allowed for three to four farm visits in one day. Each farm provided numerous illustrations of organic management innovations and challenges. At each farm, the trainers would emphasize principles discussed in lectures. Growers would also answer detailed questions, allowing the participants to deepen their understanding of organic management. A shorter training would not allow us to use a full day for these experiential learning opportunities.
- During the pest management session, participants approached to project leaders asking for less lecture and more discussion. Design of this session was particularly difficult, given the breadth of material on soil and plant diseases and insects, as well as weeds. As a result of the comment, however, we completely redesigned the final day to be small group reflections and discussion. This important feedback also indicates that for the educators to feel that they have assimilated the material, they need time to discuss and reflect with their colleagues.
- Lecture formats are common and efficient for transferring information. Using case studies and other analytical teaching methods requires more time. With a shorter session, and fewer topics,

it would be difficult to employ diverse teaching strategies to accommodate different learning styles.

- If the entire course time is devoted to lecture, there is little time for individuals to learn of other participants background and interests. To insure future collaborations to support organic agriculture, we felt that group discussion times were very important to future activities.
- With about 50% of the funds allocated to travel, having more days per session was more cost effective than hosting more sessions.

There are some reasons to consider extending the training to include one more session, such as:

- The pest management session had too much material for the time allotted. In addition, discussions about crop rotation (a fundamental pest management strategy) had to be shortened severely to accommodate more discussion time.
- An additional session could focus on weed management and crop rotation planning. The weed management could focus more closely on weed ecology and cultivation techniques. Hands-on training on cultivator adjustments and tool selection was not possible with the current time and format.
- A minimal amount of additional funds (estimate about \$5000) would have provided the needed resources for a full 4 day additional session. We hosted a fourth session, using remaining budget, but it was optional and only about ½ of the participants attended. Instead, we could have hosted an additional required training.
- With an additional session, more time could be devoted to discussion and case studies, which were the most effective teaching tools for the in-depth training.

We were very pleased with the outcome of this training. We do hope that NE SARE will consider reinvesting in this type of professional development for agricultural educators in the future. The structure lends itself to other training topics as well, such as organic grain, dairy or livestock production, holistic management/ farm planning. By creating a space for educators to learn and analyze material together, over time, we believe we created the type of cadre needed to guarantee long term support of organic farmers in the Northeast.

Table 1. Overview of Indepth Organic Training Sessions

<p>Certification, Marketing, and Business Management <i>Presentations</i></p> <p><i>Evening Discussion</i></p> <p><i>Field Trips/Demonstrations</i></p> <p><i>Exercises</i> <i>Homework</i></p>	<p>Hudson Valley, NY, February 2005</p> <p>History of Organic Farming Organic Certification: NOP Rule & Certif. Process Certification Record-keeping & Paperwork Transition Strategies Farmer Perspectives on Transition to Organic Direct and Wholesale Marketing Organic Crop Yields and Profitability Organic Market Trends</p> <p>Why Organic? What do Farmers Need from Extension? Current and Future Projects w/ Organic Farmers</p> <p>Local cooperative grocery</p> <p>Mock Organic Farm Inspection Read assigned articles, case study, and websites</p>
<p>Pest and Disease Management <i>Presentations</i></p> <p><i>Evening Discussion</i></p> <p><i>Field Trips/Demonstrations</i></p> <p><i>Exercises</i> <i>Homework</i></p>	<p>Penn State University, June 2005</p> <p>Overview of Systems-Level Pest Management Cultural, Biological, & Org. Chemical Pest & Disease Control Strategies Weed Ecology Systems-Level Weed Management Strategies Management of Soil-Dwelling Pests Examples of Key Pest Challenges and Management Strategies Crop Rotation for Pest and Farm Planning Group Discussion: Synthesis of this Session</p> <p>Tour of cover crops and organic fields at local research center</p> <p>Tours of three local farms</p> <p>Field scouting for pests Read NEON Case Study on local farm visited</p>
<p>Soil Quality <i>Presentations</i></p> <p><i>Evening Discussion</i></p> <p><i>Field Trips/Demonstrations</i></p> <p><i>Exercises</i> <i>Homework</i></p>	<p>Auburn, Maine, September 2005</p> <p>Soil Organic Matter Compost Soil Biology for Nutrient Release & Disease Suppression Cover Crops Hoophouse Fertility Nutrient Management Group Discussion: Future Projects and Training Needs</p> <p>Organic No-till</p> <p>On-farm Soil Quality Demonstration Tours of 4 local farms</p> <p>Putting it all Together: Making Recommendations for Organic Farms Developing a Nutrient Budget for local farm</p> <p>None</p>

Table 2. Learning outcomes and participant evaluation

The Overall Learning Outcome for this training was:

Participants will have a clear understanding of the principles and practices of organic vegetable farming and can articulate these to clients and colleagues. They are able to plan and deliver programs, services, and/or projects (appropriate to their professional responsibilities) that meet the needs of established and aspiring organic vegetable farmers and/or agricultural service providers who may work with these farmers.

Given this goal for the training, please indicate how your confidence and skills to support organic agriculture have improved in these areas:

Describing the NOP	Not at all 1	Somewhat 8	Much improved 8
Explaining the certification process	Not at all 1	Somewhat 6	Much improved 9
Describing key components of an organic farm plan	Not at all	Somewhat 9	Much improved 8
Identifying major certification concerns on an organic farm	Not at all	Somewhat 4	Much improved 13
Explaining strategies for transition	Not at all	Somewhat 6	Much improved 11
Explaining cultural control strategies for common pests of organic vegetables	Not at all	Somewhat 5	Much improved 12
Finding information and resources for organic pest control	Not at all	Somewhat 5	Much improved 12
Identifying potential nutrient management problems	Not at all	Somewhat 7	Much improved 10
Explaining the importance of soil organic matter for fertility	Not at all	Somewhat 6	Much improved 11
Making suggestions for alternative nutrient sources	Not at all	Somewhat 10	Much improved 7
Describing key factors affecting compost quality	Not at all 1	Somewhat 10	Much improved 6
Suggesting cover crops for rotations	Not at all	Somewhat 2	Much improved 15
Conducting research on organic farms	Not at all 2	Somewhat 9	Much improved 6

Appendices:**1. Changes in Plan of Work**

We did not do the conference calls as originally proposed, since the participants did not feel that there was that long enough between trainings between sessions to need this type of refresher.

2. Resources – see enclosed form**3. Primary Audience (required) (detailed contact and affiliation available at project website)**

Rebecca Elwood	900 Northrup Road, Suite A	Wallingford, CT 06457
Jennifer Hashley	150 Harrison Ave.	Boston, MA 02111
Caragh Fitzgerald	3525-L Ellicott Mills Dr.	Ellicott City, MD 21043
Laura Hunsberger	PO Box 219	Snow Hill, MD 21863
Willie Lantz	1916 Maryland Hwy.	Mt. Lake Park, MD 21550
Rick McCrobie	687 Moser Rd.	McHenry, MD 21541
Rick Kersbergen	992 Waterville Rd.	Waldo, ME 04915
George Hamilton	329 Mast Road - Room 101	Goffstown, NH 03045
Jody Peloquin	191 Camden Road	Warren, ME 04864
Ariff Hjee	16 E. 34th St.--8th Floor	New York, NY 10016
Molly Shaw	56 Main St.	Owego, NY 13827
Bob Weybright	2715 Rt 44	Millbrook, NY 12545
Michelle Hughes	51 Chambers Street, Suite 1231	New York, NY 10007
Emelie Swackhamer	4184 Dorney Park Rd.	Allentown PA 18104
Mena Hautau	PO Box 520, 1238 County Road	Leesport, PA 19533- 0520
Leslie Zuck	406 S. Pennsylvania Ave.	Centre Hall, PA 16828
John Hayden	3727 Rt. 15	Jeffersonville, VT 05464
Chuck Armstrong	28 Farmvu	White River Jct., VT 05001
Charles Mitchell	109 Professional Dr.	Morrisville, VT 05661
Ann Hazelrigg	105 Carrigan Dr.	Burlington, VT 05405
Laura Lecker	12 High St. Ste #3	Skowhegan ME 04976
David Johnson	1446 Auction Road	Manheim, PA 17545
Organizers & Trainers		
Vern Grubinger	11 University Way, Ste. 4	Brattleboro, VT 05301

Anu Rangarajan	Cornell University	Ithaca, NY 14853
Brian Caldwell	Cornell University	Ithaca, NY 14853
Mary Barbercheck	Penn State University	University Park, PA 16802
Eric Sideman	31 Anson Road	Greene, Maine 04236
Ruth Hazzard	408 Goodell, Box 33285	Amherst, MA 01003
Kim Stoner	PO Box 1106	New Haven, CT 06504
Abby Seaman	NYSAES	Geneva, NY 14456
Meg McGrath	3059 Sound Ave.	Riverhead, NY 11901
Marianne Sarrantonio	5722 Deering, Dept. of PSE	Orono, ME 04469-5722

4. Trainee Testimonials

“Personally, I learned a lot of new information to help my own farm business grow and I gained a new respect for my ag extension colleagues in the research trials they conduct for farmer benefit. Professionally, I am very pleased with the contacts I’ve made, I’m happy to be part of a greater organic network and this training has significantly expanded my technical confidence and competence to better serve the growers with sound organic production advice. I am especially grateful for all the new ideas gained from farm tours and the resources (books, videos, etc.) that were made available to us. Hopefully we can continue to work together and keep sharing new info!”

“It has been extremely beneficial to have all of the resources from the training made available to me. It’s helpful to have the background in the organic production vs. conventional production and I’ve been more inclined to follow the issues, debates, etc. as they unfold.”

“Most valuable to me is to have email access to the group if I run into problems.”

“I find I get many more phone calls regarding organic production. I think others know I am a good resource for this now and send the calls along.”

“The training has opened some doors to colleagues in the organic industry (mostly suppliers) that I would probably not have met otherwise. I have also met a few organic farmers at winter meetings and in-service trainings.”

“I have used images taken on the farms we visited to demonstrate many different ideas. It is great to have an image library of growing practices, different crops, and marketing examples ready to use!”

“It has greatly increased my professional network. Knowing the presenters and participants of this training will benefit my work for years to come.”

“In my recent participation in pasture ecology training recently, I was able to bring the organic issues and concerns to the table and help everyone (class of 30, from all over the US) think about the fact that some of what we were learning didn’t fit (in some cases) constraints that organic producers work with, and that some alternative suggestions/assistance needed to be developed in order to be inclusive of organic producers. This caused a lot of good discussion and may even lead to some changes in the pasture ecology course itself (which I intend to follow up on).”

“Now that I have this base of understanding from the training, I am able to think about our programs, training and technical assistance from a new perspective and can ascertain if (and how) these things could be improved to be more useful to organic producers. I can then take action on trying to effect these changes.”

“It is both professionally and personally rewarding to have organic growers contact me for help and to have answers, especially those who are not located locally.”

“Great times with colleagues at these meetings, a bit of renewal and refreshing, everyone else has similar problems as I do! Soil quality information applies to organic and conventional both—soil stuff I learned at the ME meeting I use with many conventional farmers, more conventional than organic actually because there are more of them and soil quality matters to them too. I have a very decent understanding of organic philosophy and can speak intelligently with colleagues and others when the topic of organic comes up.”

5. Final Financial Report (required)

A final financial report will be sent to NE SARE under separate cover by Cornell's Division of Financial Affairs.

8. Project Profile (required) – see enclosed Project Profile