Applying knowledge to improve water quality

New England

Regional Water Program

A Partnership of USDA CSREES
& Land Grant Colleges and Universities

The 2007 New England Regional In-Service Training for Agricultural Service Providers – Summary Report

Introduction

The Certified Crop Advisor (CCA) Program is a professional certification program offered by the American Society of Agronomy (http://www.agronomy.org). For over ten years, the University of Maine Cooperative Extension has conducted a collaborative two-day annual New England Regional In-service Training for CCAs and other agricultural service providers and interested participants.

This program provides New England CCA recertification credits and encourages agricultural service providers and farmers to use agricultural Best Management Practices (BMPs) for water resource protection with specific applications to nutrient management, crop management, soil-water management and integrated pest management. Extension educators, university researchers, consultants, and affiliates from various agencies and organizations such as the Natural Resources Conservation Service (NRCS) present subject matter that is integrated across all CCA competency areas.

Highlights from the 2006 in-service training program

This year's program was conducted February 7 and 8, 2007 at the Marriott Wentworth by the Sea Hotel in New Castle, NH. Over 55 people attended the conference representing a diverse audience from private sector consultants and agri-businesses, agencies, universities, non-profit organizations and farmers from all of New England, New York and Canada.

Fifteen speakers from across the New England region presented a wide array of current and emerging topics covering agricultural research, implementation of BMPs, laws, marketing and programs with soil testing and interpretation and soil quality being a core theme this year.

Each year we invite at least one out-of-region speaker to add diversity to the program. This year's program featured two presentations by Doug Beegle, Penn State University on improving manure use efficiency and soil test interpretation. He also led a facilitated discussion on soil test interpretation. Other highlights included presentations by the USDA Agricultural Research Service, the Maine Board of Pesticides Control, a local organic food producer, and New England Land Grant University researchers and Extension educators.

Participants also received a copy of the **2007 New England Guide to Weed Control in Field Corn Guide**, which has been updated by the University of Maine Cooperative Extension and includes recent research on alternative pest controls.

John Jemison, University of Maine Cooperative Extension and organizer of the in-service training program presents long term trends in soil testing of agronomic crops, 2/8/07.

Program participants network and exchange information and ideas during a short break, 2/7/07.

Agenda

February 7, 2007

9:30-10:00 AM	**Organic Dairy 2004-2005: Challenges and Rewards** – Rick Kersbergen, University of Maine Cooperative Extension
10:00-10:30 AM	**Experiments with alternative grains:** – Tim Griffin, USDA Ag. Research Service (ARS), Maine
10:30-11:00 AM	**Forage Quality Issues** – Sid Bosworth, University of Vermont (UVM)
11:00-11:30 AM	**Developing local food communities to support Maine business** Jim Amaral, Borealis Breads, Maine
11:30-12:00 PM	**Issues around alternative grain production: Discussion** – Tim Griffin, USDA ARS, Maine
12:00-1:15 PM	**Lunch**
1:15-2:15 PM	**Consultants assisting farmers to meet Worker Protection Standards** – Gary Fish, Maine Board of Pesticides Control
2:15-2:45 PM	**Bt corn evaluation: yield and quality evaluation** – John Jemison, UMaine CE; and Lachlan Titus, Private Consultant/CCA
2:45-3:00 PM	**Break**

3:00-3:30 PM	**Potato response to mustard and other N sources -** Peter Sexton, UMaine CE
3:30-4:00 PM	**Crop insurance issues update -** Tori Jackson, UMaine CE
4:00-4:30 PM	**Improving manure use efficiency** – Doug Beegle, Penn State University
4:30-5:00 PM	**Bio-diesel for Maine and the Northeast: Issues** – Peter Sexton, UMaine CE

February 8, 2007

8:30-9:00 AM	**Long term trends in soil test levels: potatoes and agronomic crops** – John Jemison, UMaine CE
9:00-9:30 AM	**Soil Test Interpretation –** Doug Beegle, Penn State University
9:30-10:00 AM	**Soil testing – University of Maine's approach -** Bruce Hoskins, UMaine Soil Testing Lab
10:00-10:30 AM	**Soil testing…working discussion** – Bruce Hoskins, UMaine and Doug Beegle, Penn State University
10:30-11:00 AM	**Break**
11:00-11:30 AM	**Soil nitrate testing: origins and use today** – Fred Magdoff, UVM
11:30-12:00 AM	**Soil and phosphorus movement: rainfall simulation** – Tim Griffin, USDA ARS, Maine
12:00-1:15 PM	**Lunch**
1:15-1:45 PM	**Massachusetts farmer evaluation and fecal P indicator test -** Stephen Herbert, University of Massachusetts (UMASS)
1:45-2:15 PM	**Soil organic matter and soil quality** – Fred Magdoff, UVM
2:15-2:45 PM	**Success and failures of early cover crops to protect water quality -** Stephen Herbert, UMASS
2:45-3:15 PM	**NRCS soil quality activities and resources** – Lisa Krall, USDA Natural Resources Conservation Service
3:15-3:45 PM	**Implementing Soil Health Testing On-farm: Opportunities and Challenges –** Heather Darby, UVM Extension

Program Evaluation
Each year, a program evaluation is administered that allows participants to evaluate speakers, topics presented and the overall training program, which helps to shape the following year's program. A short questionnaire is also administered to gain input on developing a summer field training program each year. Every few years, participants are asked to complete an additional assessment tool to track impacts as a result of the program. One was conducted during 2004 and another was conducted again this year (2007).

2007 Training Program Evaluation Summary
Overall Program:
Two separate evaluations were conducted for repeat attendees and first time attendees, respectively. 27 evaluations were returned for repeat attendees and 8 evaluations were returned for first time attendees.

- 96% of repeat respondents work directly with farmers covering all 6 New England states, New York and Canada. 78% of repeat respondents rated the overall program as very good or excellent and 93% are interested in attending next year's program.
- 75% of first time respondents work directly with farmers covering 5 New England states, New York and Canada. 88% of first time respondents rated the overall program as very good or excellent and 75% are interested in attending next year's program.

Summary of impacts:
Repeat attendees were asked to provide information on how they have used the knowledge gained from attending the program and specific actions taken on farms as a result of these programs. Many (63%) of our participants have attended the program four or more times, and another 37% reported having attended the training program two or three times.

Knowledge gained and utilized

- Respondents indicated that they gained valuable new knowledge: 89% in the area of nutrient and crop management; 81% soil and water management; 78% manure management; and 63% pest management.
- 93% indicated having utilized this knowledge in their work with 85% sharing this knowledge with farmers; 78% sharing with other professionals; 67% incorporating into agricultural programs or policy; and 44% incorporating into education programs and workshops.

Nutrient management practices adopted

- Respondents indicated that they have assisted 404 farmers with implementing over 11 different nutrient management practices on over 69,000 acres.
- Respondents indicated assisting farmers with the following key nutrient management practices as follows: 63% reduced the overall amount of nitrogen applied, 78% reduced the overall amount of phosphorus applied, 78% changed timing and/or rate of applications to enhance efficiency and environmental protection, 63% based nutrient management decisions on soil tests, and 56% based nutrient management decisions on crop and tissue tests.
- 41% of respondents indicated that money saved due to a reduction and/or more efficient use of nutrients ranged from $25-50/acre. Using the low scale presented, and assuming that farmers have implemented these practices on the reported 69,000 acres, farmers in the region will have saved about $1,725,000.

Manure management practices adopted

- Respondents indicated assisting 206 farmers with implementing over nine manure management practices on over 34,000 acres.
- Respondents indicated assisting farmers with the following key manure management practices: 67% changed timing and/or rate of applications to enhance efficiency and environmental protection, 67% based manure applications on soil tests, and 63% based manure applications on manure tests.
- 15% of respondents indicated that producers saved money due to a reduction in purchased fertilizer because of more efficient use of nutrients. Placing an exact dollar figure to this is difficult. Others indicated that producers used the cost savings to pay to move manure to more distant fields, which improves soil quality and reduces P loading on fields closest to the barn.

Pest management practices adopted

- Respondents indicated that they have assisted 328 farmers with implementing over 10 pest management practices on 53,000 acres.
- Respondents indicated assisting farmers with the following key pest management practices as follows: 96% implemented non-chemical pest controls (mechanical, biological, cultural, etc.) to reduce/eliminate pesticide applications, and 41% stated that producers reduced the overall amount of pesticides applied, 41% changed timing and/or rate of pesticide applications to enhance efficiency and environmental protection, and 41% based pest management decisions on scouting results.
- 33% of respondents indicated that money was saved due to a reduction and/or more efficient use of pesticides ranging from $6-50/acre. Assuming the low end of this dollar value, we can say that participants have helped producers save at least $318,000 in pest management costs.

First time attendees were asked to provide information on knowledge gained and actions they plan to take as a result of participating in the training program.

- Respondents indicated that valuable new knowledge was gained: 88% nutrient management; 75% manure management; 63% soil and water, and crop management; 38% pest management.
- 88% indicated they plan to utilize this knowledge in their work with 100% planning to share this knowledge with farmers; 75% planning to share with other professionals; 63% planning to incorporate into agricultural programs or policy; and 50% planning to incorporate into education programs and workshops.

<u>Summer Field Training Program – Needs Assessment</u>

One questionnaire on summer field training needs was administered to all program participants. Some 30 questionnaires were returned; 87% of the respondents indicated an interest in attending a summer field training program with 70% being willing to travel out of state. 67% of respondents are from northern New England, 23% from southern New England, 7% from New York, and 3% from Canada. 77% of respondents are interested in seeing applied research; 57% are interested in touring a bio-diesel plant and visiting farms growing energy crops; and 53% are interested in visiting farms to discuss other agricultural issues.

Next Steps

A New England Regional In-Service Training for Agricultural Service Providers will be planned in Southeastern New Hampshire for the winter 2008. Based on the 2007 program evaluations, core themes may include: Integrated and alternative pest management techniques and pest diagnosis and prevention; and Bio-diesel and energy crop production issues. Planning for a 2007 Summer Field Training Program, to be conducted by the University of Maine Cooperative Extension, is underway and will incorporate the preferences expressed within the needs assessment. Program participants will also be notified of other regional workshops, farm tours and field days.