

Annual Smith-Lever Project Report

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Report Information	
Project Title	Online learning modules to improve access to DEC category recertification credits for fruit and vegetable farmers
Fiscal Year	2011

Section I. General	
<i>Check the box adjacent to all applicable Program Work Areas for this project.</i>	
<input type="checkbox"/>	Administration & Organization Support
<input checked="" type="checkbox"/>	Agriculture/Natural Resources Business Management
<input type="checkbox"/>	Agriculture/Natural Resources Producer Energy
<input type="checkbox"/>	Agriculture/Natural Resources Production Practices
<input type="checkbox"/>	Biodiversity and Natural Resources Protection
<input type="checkbox"/>	Bioenergy
<input type="checkbox"/>	Climate Change
<input type="checkbox"/>	Community
<input type="checkbox"/>	Community Energy
<input type="checkbox"/>	Consumer Energy
<input type="checkbox"/>	Decision Makers/Policy Education
<input type="checkbox"/>	Family
<input type="checkbox"/>	Food Resource Management
<input type="checkbox"/>	Food Safety
<input type="checkbox"/>	Food Security and Hunger
<input type="checkbox"/>	Healthy Eating and Active Living
<input type="checkbox"/>	Producer Alternatives and New Ventures
<input type="checkbox"/>	Waste Management
<input type="checkbox"/>	Water Resources
<input type="checkbox"/>	Youth

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Section II. Project Status

1. Progress Summary (milestones, activities, lessons learned, etc)

This project focused on developing online modules that qualify for NYS DEC pesticide applicator recertification credits. In 2011 an additional five modules were completed and made available for users:

Developing an IPM Strategy, Scouting Basics, Introduction to NEWA, Beating Phytophthora Blight, and Mechanical Weed Management, bringing the total to nine courses that qualify for Category DEC recertification credits and eight that qualify for Core credits.

The course merchant site where users pay has been operating with few problems, and between July 2010 and the end of September 2011 the courses had been purchased a total of 230 times. We summarized the pre and post-test results to evaluate learning, and added a user satisfaction survey at the end of each course.

2. Expected & Observed Impact/Outcome (economic, environmental, and social)

The CCE supported Moodle installation and the PMEP Distance Learning Center web site provide the CCE system with additional avenues for outreach and education around integrated pest management and pesticide safety issues, and certified pesticide applicators with access to recertification credits on demand without travel. This saves time and money for both users and educators, and reduces travel and its environmental impact.

We expect that users will learn information that will help them control pests more successfully, and use pesticides with the least environmental, and personal and public health impact. Infrastructure is in place for others to create additional courses, and we are in communication with other groups interested in developing courses.

The Moodle software used to create the online modules allows tracking of many elements of user experience. A comparison of pre- and post-test scores for each course can be used to demonstrate learning by module users (Table 1).

Students had a wide range of initial familiarity with course content, earning higher pre-test scores on the Core courses, which include content that they were required to learn for initial certification. Pre-Test scores for some Category courses were quite low, and

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substantial learning was demonstrated by initial post-test scores as well as subsequent attempts to reach the minimum required grade of 80% (for category courses) or 90% (for core courses) correct answers required to earn recertification credits. Some users took the post-test additional times after receiving a “passing” grade, to track down the correct answers to all the questions.

Table 1.

Course	Number of Times Course Taken	Average Pre-Test Score	Average Score of First Post-Test Attempt	Average Score of Final Post-Test Attempt
Proper Pesticide Disposal (Core)	20	91%	94%	95%
Ecology and Environmental Considerations (Core)	19	85%	98%	99%
Ecological Weed Management	29	32%	58%	85%
Insect Biocontrol	25	61%	90%	96%
Mechanical Weed Management	6	60%	95%	100%
Beating Phytophthora Blight	2	75%	80%	80%
Personal Protective Equipment (Core)	19	78%	94%	99%
Safety Precautions with Pesticides (Core)	20	82%	96%	98%
Pesticide Storage (Core)	15	90%	99%	99%
Swede Midge ID, Biology, Mgt.	5	55%	84%	98%
Sweet Corn IPM	6	41%	79%	93%
Toxicity of Pesticides (Core)	25	69%	93%	96%
Water Protection (Core)	25	87%	97%	99%
Weatherwise Application (Core)	14	83%	98%	98%

Core courses, and category courses that qualified for credits in a wide range of categories, were used most frequently. Some students took multiple courses in a short period of time,

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Section III. Project Deliverables

4. Publications (magazine, journal, etc)

Please input your publications in standard citation format. (<http://www.library.cornell.edu/resrch/citmanage/mla>)

Five new modules for Category recertification credit were developed in 2011:

Weigle, T.H. 2011. Developing an IPM Strategy

Weigle, T.H. 2011. Scouting Basics,

Weigle, T.H. 2011. Introduction to NEWA

Camp, A. R. 2011. Beating Phytophthora Blight

Mohler, C. L. 2011. Mechanical Weed Management

All are available at the PMEP Distance Learning Center:

<http://pmepcourses.cce.cornell.edu>

5. Communications (video, web site, etc)

Include: Title (or URL if applicable), media type, your role, intended audience, and estimate usage.

The PMEP Distance Learning Center: <http://pmepcourses.cce.cornell.edu>, was developed during the course of the project as a portal for payment and access to the courses.

6. Presentations (in-service, workshop, trainings, etc)

Include: Title, date, duration, your role, constituency, and number of attendees.

Gardner, Ron. March 2011. Introduction to the Distance Learning Center, Cornell Employee Pesticide Applicator Update. 95 attendees.

7. Other (policies, procedures, manuals, etc)

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A course developer's guide was created by Ron Gardner to help others develop courses that meet DEC requirements and provide a consistent look and feel for the courses.

Section IV. Terminating Projects Only

8. Project Conclusion (Summarize the entire project's impact, outcome, etc)

The goal of this project was to provide New York vegetable and fruit farmers with access to NYS DEC approved pesticide applicator recertification credits online. During the course of this project, nine online courses for category credits and eight courses for Core credits were created and made available through the PMEP Distance Learning Center web site (<http://pmepcourses.cce.cornell.edu>), also developed during the course of this project. A grant from the Environmental Protection Agency also provided partial funding for creating Core courses and developing the Distance Learning Web site. Each course includes a pre and post-test that allows us to track and document learning.

Users are able to complete all requirements for recertification credits online after a short registration and payment process, with quick turnaround time for receiving official certificates in the mail. Since the Distance Learning site went live in mid-June of 2010, courses have been used a total of 230 times. The Moodle software used to create the courses has evaluation tools that allow evaluation of user learning based on comparisons between pre-and post-test scores. Users improved their test scores substantially after accessing the course material, especially for the category courses, which include material not required for initial certification.

We have created infrastructure for others wishing to create modules for DEC recertification credits, including a guide for course developers, the PMEP distance learning website for handling payment and course access, and expertise with the Moodle software that can help others get started.

9. Other External Funding to Continue Program? (If yes, please specify)

Source:	Petzoldt, C. J. Grant. 2011. New York State (Cornell) Integrated Pest Management Program. USDA-CSREES.
Amount:	\$18,190