

Title: Pesticide Education Program

Project Leader: Natalia Clifton

Project Overview

Pesticides are vital tools for controlling pests and maintaining an adequate food supply. If used improperly, pesticides can also threaten human health and the natural environment. Inexperienced applicators, accidents, inadequate protection and equipment continue to be areas of concern that increase the potential for negative personal and environmental impacts from pesticide exposure.

The Pesticide Education Project works closely with the Massachusetts Department of Agricultural Resources to educate pesticide users about safe application, state regulation and proper use of pesticides in Massachusetts. This project helps agricultural and green industry businesses stay competitive and relevant through education on new pests and new pest management strategies, environmental issues that affect their industry, and continued notice of updates to local and federal laws and regulations. This project is also part of a national wide network of land grant institutions that provide training and education to pesticide users. The project is able to adapt and include new issues of concern to pesticide applicators and the public. These new issues include, pollinator protection and health, pesticide exposure studies and incidents, farmworker health and safety, impacts of pesticides on non-target organisms and the use of genetically modified crops,

Situation & Priorities:

Workforce Development - Workers in the agricultural and green industries need training opportunities to help them operate their businesses efficiently and in ways that are safe for both people and the environment. The Pesticide Education Program conducts training in order for these workers to obtain and maintain pesticide applicator licenses.

Integrated Pest Management (IPM) - Extension Educators and UMass Faculty are recognized nationally for the development and promotion of IPM practices. IPM is a systems approach based on accurate pest identification and monitoring and suitable control measures in an ecologically compatible manner, to maintain pest population levels below those causing economically-significant injury. The use of IPM in the agricultural green industries can reduce management and production costs, reduce the risk of contamination, increase marketability, and improve the health of soil and water. Many of the workshops conducted by the Pesticide Education Program stress the importance of integrated pest management as well as the need to use pesticides appropriately with an eye to protect human health and the environment.

Participants in all workshops are given opportunities to suggest program changes and topics for future workshops during written evaluations. The Massachusetts Department of Agricultural Resources provides input on what are current topics of importance to be included on programs. All participants in

workshops are given evaluations that are completed during the workshops. These evaluations are used to determine if there are changes that need to be made to the workshops. In addition, participants are asked whether or not they have "learned" anything and whether or not they plan to "adopt" a new practice.

Activity Summary - 2015

- Pesticide Applicator State Exam Preparatory Workshops (16)
- Pesticide Recertification Training (15)
- Pesticide Exam Study Manual Revisions (1)

Total educational contacts

	Adult Contacts
In Person	2107
Indirect Contacts (Print, Web, etc...)	580

Narrative Summary and Impact

The UMass Extension Pesticide Education in cooperation with the Massachusetts Department of Agricultural Resources is responsible for providing initial and continuing education to Massachusetts licensed and certified pesticide applicators. Approximately 3000 pesticide exam study manuals were distributed by the UMass Extension Bookstore to approximately 1000 individuals preparing for the state administered pesticide exams. The Pesticide Education program conducted sixteen workshops to help individuals prepared for the Massachusetts state pesticide license exams. Approximately 16% of the individuals who take the state pesticide applicator license exam participate in the optional workshop. The workshop covers a variety of topics including, pest identification, pesticide types and formulations, toxicity of pesticides, first aid for pesticide poisoning, pesticide label comprehension, personal protective equipment, environmental fate of pesticides, integrated pest management, and state and federal laws and regulations. Individuals use this workshop as a supplement to self study and they also have an opportunity to ask questions. A practice exam is also provided to individuals to take home and use as a pesticide exam study tool. The program used exam results provided by the Massachusetts Department of Agricultural Resources to determine the exam passing rate for our workshop participants. Individuals who took the workshop continue to pass at a higher rate than those who did not take the workshop. Seventy-five percent of the individuals who took the workshop passed the exam compared to a passing rate of 61% for nonparticipants. This represents a percentage difference of 20% between the two groups.

The program also offered 15 pesticide recertification training workshops to individuals that have pesticide licenses and certifications. Topics covered in the series included: Massachusetts Pesticide Laws and Regulations, Pesticides and Environmental Fate, Pesticide Exposure Studies, Pesticides and Impacts on Wildlife, Impacts of Pest Management on Pollinators, EPA Worker Protection Standard, Integrated Pest Management and Regulations for Schools, Pesticides and Pest Resistance and Special

Topics for Pesticide Applicators. There were a total of 1,791 individuals who participated in the workshops. All participants were given an opportunity to evaluate the workshops. Of the 1212 individuals who completed evaluations, 67% indicated that they increased their knowledge, "very much" and 59% indicated that they would "very much" use the information/techniques that they learned.

The program also expanded its audience to include organic growers. In cooperation with UMass Extension Vegetable Team and the UMass Extension Risk Management Program a pesticide information session was held at the Winter Natural Organic Farmers Association (NOFA) Conference. As part of the effort to educate organic growers, three additional workshops were held throughout the state to assist organic growers in complying with the EPA Worker Protection Standard. The Massachusetts Department of Agricultural Resources assisted in this effort.

Pesticide Education lectures were also conducted at UMass Extension's Green School and the Master Gardeners Seminar Series. A presentation on pesticide licensing and career paths was given to approximately 20 students at the Lower Pioneer Valley Career and Technical Education Center.

The program is in the process of conducting an assessment of its training activities and will be exploring ways to sustain itself in the future.

Collaborating Organizations

- **(AG) Massachusetts Department of Agricultural Resources**
- **(UNCLS) University of Connecticut**
- **(UNCLS) University of Maine**
- **(UNCLS) University of New Hampshire**
- **(UNCLS) University of Rhode Island**
- **University of Vermont**

