

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.

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 - 2018

- Pesticide Applicator State Exam Preparatory Workshops (17)
- Pesticide Recertification Training Workshops (18)

Totaleducationalcontacts

	Adult Contacts
Direct Contacts	2322
Indirect Contacts (Print, Web, etc...)	

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 2750 pesticide exam study manuals were distributed by the UMass Extension Bookstore to approximately 1050 individuals preparing for the state administered pesticide exams.

The Pesticide Education Program conducted seventeen workshops to help individuals prepare 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. Participants in these workshops come from several different industries. The most significant participation comes from the lawn care industry (29%), followed by the landscaping industry (28%), indoor pest control (16%), municipalities (housing authorities, schools, and departments of public works) (16%), and agriculture (11%). There were participants from golf courses, botanical gardens, invasive plant management companies and organizations, wood treatment companies, water treatment programs, universities and colleges, pesticide dealer companies, mosquito control programs, tick management companies, U.S. Fish and Wildlife, and state apiary inspectors.

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 to ask questions. A take-home practice exam is provided to individuals to 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 percent of the individuals who took the workshop passed the exam compared to a passing rate of 62% for nonparticipants.

The program also offered 18 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, Fungicides Modes of Action, Pesticide Exposure Studies, Pesticide Applicator Safety, Pesticide Respirator Fit Testing and Special Topics for Pesticide Applicators. There were 1,949 individuals who participated in the workshops. All participants were given an opportunity to evaluate the workshops. Of the 1009 individuals who completed evaluations, 61% indicated that they increased their knowledge, "very much" and 61% indicated that they would "very much" use the information/techniques that they learned.

The EPA Worker Protection Standard requires compliance with OSHA's respirator regulations. In 2017, the Program saw a demand for respirator fit testing and review of OSHA's requirements. It has been twelve years since our most recent respirator training workshops. The Program offered four Respirator Fit Testing: Train-the-Trainer workshops in 2018. Both agricultural establishments and commercial companies must provide annual respirator fit testing and respirator training for all employees who are required to wear respirators. With this workshop, individuals can learn the OSHA requirements and be able to conduct annual training for others in their respective companies.

The two hour workshops include a "hands-on" section. Participants use their own respirators or borrow the Program's respirators and an abbreviated fit test is conducted. There were 293 participants at the workshops representing many industries including, extermination, agriculture, landscaping, lawn care, municipalities, universities, horticultural societies, golf course, and ventilation maintenance companies. Of the 199 individuals who completed evaluations, 74% indicated that they increased their knowledge, "very much" and 73% indicated that they would "very much" use the information/techniques that they learned.

Collaborating Organizations

- **Massachusetts Department of Agricultural Resources**

