

1995 Missouri Private Applicator Survey

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Abstract

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Attendees of Missouri's Private Applicator Training Program were surveyed in 1995 following their completion of certification training. The purpose of the survey was to determine the effectiveness of our training programs and if behaviors would likely change in regards to pesticides and their use. Very positive results were indicated in both the instructional and behavioral modification areas.

KEYWORDS: applicator, extension, education, pesticide, safety, training, survey

Introduction

University of Missouri Outreach and Extension provides training for those desiring to become legally certified and licensed as private pesticide applicators. Training programs are given in essentially all of Missouri's 114 counties at least once per year by regional field faculty who have pesticide responsibility. At the present time in Missouri, private applicators are not tested; attendance at a training program is the only requirement to become certified and licensed.

Training materials are updated on a regular basis and distributed to the regional field faculty for use in their training programs. Until 1995, there were no measurements of the effectiveness of these programs and training materials. The purpose of this survey was to determine if our programs and materials were effective and if behavior patterns regarding pesticides and their use would change. Obtaining such results may prove to be valuable in future material updates and programming efforts.

Procedures

Surveys were targeted to 170 aspiring private applicators who had completed a training program. The participants completed the surveys on-site immediately following the training program. These 170 attendees, who

resided in 30 counties, represented nine percent of the total private applicator certification audience in Missouri for 1995. Surveying was conducted by seven regional field faculty at various locations around the state. The survey used a sliding scale of 1 to 5 with 1 representing a response of "never," "not familiar," "not aware," or "not likely" and 5 representing "always," "very familiar," "very aware," or "very likely."

Results

Demographic Data

"To how many acres do you apply pesticides in a typical year?"

acres	0	1 - 100	101 - 500	501 - 1000	>1000	unknown
% of responses	7	39	22	16	15	1

The majority of growers attending the training programs have farms of relatively small size (less than 500 acres). Those who don't apply pesticides to any land area (7%) may have been in the training for other reasons than to become certified. Such reasons could have been to meet the training requirements of the Worker Protection Standard or for self-interest to increase their knowledge of pesticides and their use.

Pesticide Laws and Regulations

“Has this training made you more familiar with rules and regulations about pesticide use in Missouri?”

Scale	% of responses
1 (not familiar)	0
2	2
3	21
4	40
5 (very familiar)	37

“Did this training help you become familiar with the Worker Protection Standard?”

Scale	% of responses
1 (not familiar)	0
2	0
3	14
4	45
5 (very familiar)	40

“Did this training help you become familiar with the Federal Pesticide Recordkeeping regulation?”

Scale	% of responses
1 (not familiar)	4
2	8
3	27
4	38
5 (very familiar)	24

Concerning the Pesticide Laws and Regulations section, essentially all of the respondents indicated very clearly that our training did make them aware of these issues. If we consider that a response of “3” or greater at least makes attendees “familiar,” then this would be considered a successful outcome. Reports from the Missouri Department of Agriculture indicate that there is not sufficient awareness of the Federal Pesticide Recordkeeping regulation in Missouri. In general, our training should aid in solving that situation, at least with newly certified private applicators.

Reading Pesticide Labels

“Did this training make you more familiar with understanding pesticide labels?”

Scale	% of responses
1 (not familiar)	0
2	0
3	14
4	36
5 (very familiar)	50

Results indicate that teaching label comprehension is very successful in these training programs. A scale rating of “5” or “very familiar” was scored by 50% of the attendees. Future surveys may attempt to determine if applicators are more likely to fully read pesticide labels or at least spend more time in reviewing appropriate labels prior to applying pesticides.

Environmental Concerns

“Has the training increased your awareness of the need to protect the environment?”

Scale	% of responses
1 (not aware)	0
2	0
3	11
4	27
5 (very aware)	61

“Did this training make you more aware of the factors that influence pesticide movement into groundwater?”

Scale	% of responses
1 (not aware)	0
2	0
3	11
4	32
5 (very aware)	56

“Did you become familiar with the Endangered Species Program?”

Scale	% of responses
1 (not familiar)	1
2	7
3	17
4	41
5 (very familiar)	34

The issue of protecting the environment is under constant public scrutiny. These training programs are obviously creating an awareness or reinforcing existing knowledge. Approximately 33% of Missouri's citizens obtain drinking water from groundwater sources. Future updates of training material may need to place more emphasis on surface water protection. A relatively small percentage of applicators did not become familiar with the Endangered Species Program. Since only 37 of Missouri's 114 counties are targeted to be affected by this program, it is possible that regional field faculty in some unaffected areas of the state did not emphasize this topic in their training programs.

Basics of Pests

“Did this training make you more familiar with the importance of proper pest identification?”

Scale	% of responses
1 (not familiar)	3
2	3
3	19
4	36
5 (very familiar)	39

“Do you plan to take additional measures to have a pest that you feel is causing a problem properly identified?”

Scale	% of responses
1 (never)	2
2	2
3	15
4	35
5 (always)	46

Training apparently made the majority of the private applicators at least “familiar” with the importance of pest identification (94% scoring a “3” or greater). A very similar response rate was observed concerning behavioral modification (96% scored a “3” or greater). Apparently, applicators learned the importance of proper pest identification prior to making the appropriate control measure decision.

Protective Equipment and Applicator Safety

“Has the training increased your awareness about the importance of protective equipment?”

Scale	% of responses
1 (not aware)	0
2	1
3	5
4	27
5 (very aware)	67

“Are you more likely to use protective equipment such as nitrile gloves and coveralls?”

Scale	% of responses
1 (not likely)	0
2	1
3	12
4	29
5 (very likely)	57

Although the training made 67% of the attendees very aware of the importance of protective equipment while handling pesticides; interestingly, fewer were very likely to use protective equipment (57%). This section of the training would still be considered a success based on the fact that 98% of the audience scored at least a “3” in response to the likelihood of using protective equipment.

Application Equipment and Calibration

“Has the training increased your awareness on the importance of proper equipment calibration?”

Scale	% of responses
1 (not aware)	0
2	2
3	15
4	37
5 (very aware)	45

“Will you take more time in the future to ensure that your equipment is properly calibrated?”

Scale	% of responses
1 (never)	0
2	1
3	9
4	30
5 (always)	59

A greater percentage of the audience (59%) indicated that they would always take more time in the future to properly calibrate their application equipment than the percentage of the audience that became very aware of the need for proper calibration (45%). This may indicate that much of the audience was already aware of the importance of calibration prior to the training. These responses may also be economically driven by pesticide costs and the narrow window for application errors with low rate technology.

Transportation, Storage and Spill Cleanup of Pesticides

“Has the training increased your awareness for the needs of proper transportation, storage and spill cleanup of pesticides?”

Scale	% of responses
1 (not aware)	0
2	0
3	9
4	32
5 (very aware)	59

“If applicable, are you more likely to improve or upgrade your present storage facility?”

Scale	% of responses
1 (not likely)	3
2	2
3	9
4	39
5 (very likely)	47

Greater than 90% of the audience increased their awareness for the needs of proper transportation, storage and spill cleanup of pesticides. Interestingly, 95% of the attendees responded that they would at least be likely to improve or upgrade their present

pesticide storage facility. The training covers some proper storage techniques that could be implemented by an applicator at a very nominal cost.

Conclusions

Training private applicators to meet certification requirements is an annual activity of approximately 35 University of Missouri Outreach and Extension field faculty. Based on our surveys, field faculty effectively meet the needs of aspiring private applicators in the following priority areas regarding pesticide training:

- Pesticide laws and regulations
- Pesticide label comprehension
- Protecting the environment
- Pest identification
- Protective equipment
- Equipment calibration
- Transportation, storage and spill cleanup of pesticides

Our surveys also indicate that these applicators are likely to take these factors into serious consideration prior to making pesticide applications. With the constant public scrutiny of pesticides and their use, it is essential that private applicators receive highly effective educational programs and utilize such knowledge in their operations.

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