Building IPM capacity in Missouri through train-the-trainer workshops and effective partnerships

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INTRODUCTION

Integrated Pest Management (IPM) proponents and practitioners share interests in promoting and improving environmental quality, farm economic viability, sustainable agriculture, and soil and human health. In Missouri there is a high need to bring research-based information about IPM to the state’s citizens. The Lincoln University (LU) IPM Program was established in April, 2010, in response to that need. LU is an 1890-land-grant University located in Jefferson City, Missouri.

One of the key features of the LU IPM program is the ability of its staff to conduct farm visits throughout the state. This allows us to provide on-site advice on pest identification, prevention, monitoring, and suppression methods, thus providing farmers with a timely response to their IPM needs. In addition to working with vegetable and small fruit farmers, this program has implemented annual ‘train-the-trainer’ workshops targeting extension educators and agriculture service providers. Reported here is a summary of activities and outcomes derived from four In-Service Education (ISE) workshops conducted from 2011 to 2013.

OBJECTIVE

The main goal of the ISE workshops was to provide training to agricultural professionals and educators in the Missouri’s Cooperative Extension Service on the most up-to-date information on sustainable IPM in various cropping systems.

ABSTRACT

From 2011 to 2013 the Lincoln University (LU) IPM Program partnered with the Missouri Sustainable Agriculture Research and Education (SARE) program and implemented four train-the-trainer workshops. Overall, subject matter experts from nine US states provided training to 153 Extension educators from Univ. of Missouri Extension, LU Cooperative Extension, USDA Natural Resources and Conservation Service (NRCS), Missouri Department of Agriculture, Missouri Department of Conservation, University of Illinois Extension, and University of Nebraska Extension. Educators indicated that significantly increased their IPM knowledge leading to improved abilities to assist farmers. The implementation of these 2-day workshops also resulted in important mid-term outcomes. For example, results from 9-month post-workshop surveys indicated that: (1) 2,453 farmers were assisted by the 83 trainees who answered the survey; (2) a total of 34.6% of the respondents wrote articles for newsletters and/or newspaper columns using IPM information and (3) 86.7% of the respondents visited 595 farms and used IPM information. Overall, the evaluation of this type of IPM extension activities has proven successful, and the outcomes highlight the efforts that the LU IPM program is taking to train Extension educators in necessary IPM skills within and outside Missouri.

APPROACH

Four workshops were offered by the LU IPM program from 2011 to 2013 (Table 1).

- After review, the MO SARE formally approved requests to conduct the IPM workshops as part of the Missouri SARE plan of work for each year.
- Univ. of Missouri (MU) partnered and provided logistical support the LU IPM program carried out the workshops (Fig. 1).
- The selection of topics that were presented at each workshop was based on surveys that were implemented via online as well as direct input provided by MU / LU Extension personnel.
- Trainers were chosen based on area of expertise and geographical location.
- Each workshop had about 14 hours of effective training time.

For each workshop, the following short- and mid-term outcomes were expected:

- Educators would increase their knowledge and awareness of the economic and environmental benefits of implementing IPM in various cropping systems in Missouri.
- As a result of the training workshops, Extension specialists would be able to make informed IPM recommendations.
- At least 10 educators would organize workshops with IPM as central topic.
- All educators would improve their ability to assist farmers on effective ways of managing insect pests, weeds, and diseases.

EVALUATION: Short-term outcomes were documented via a pre- / post-workshop survey. Mid-term outcomes were recorded through an online-based 9-month post-workshop survey. Additional input was requested.

Combining all four ISE workshops, 153 Extension educators and Agriculture Service Providers received training on IPM. Of these, 34.6% were from MU Extension, 39.2% from LU Cooperative Extension, 6.5% from MDA, 2.6% from MDC, 14.4% from NRCS, and 2.6% represented other institutions.

MID-TERM OUTCOMES: Results from the 9-month post-workshop surveys revealed that Extension educators in Missouri improved their ability to assist farmers as a direct result of the IPM workshops. Table 3 presents some ways in which the information presented at the workshops was used by the trainees (mid-term outcomes).

SHORT-TERM OUTCOMES: For each of the 30 IPM topics that were taught over a 3-year period, significant increases in knowledge were documented. As an example, Table 2 presents the results from the pre- and post-workshop survey reflecting increases in knowledge for one of the workshops.

CONCLUSIONS

The implementation of this type of Extension IPM activities has proven successful, and the outcomes highlight the efforts that the LU IPM program is taking to train Extension educators within and outside Missouri in necessary IPM skills. Partnerships with the Missouri SARE program and with the Univ. of Missouri have resulted in important synergisms that have benefited farmers.

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Table 1. Topics of the four ISE workshops on IPM held in Missouri (2011-2013), attendance and affiliation of the trainers who participated in the workshops.

Table 2. Increases in knowledge of Extension specialists during the workshops on sustainable management of soil-borne diseases and weeds, as documented by pre- and post-workshop surveys.

Table 3. Proportion of respondents that indicated how they applied the information gained at the IPM workshops within a 9-month period following the implementation of the workshops.