

# **Development of Educational and Training Materials to Support Preparation for the Arizona Pest Control Licensing Exams**

2006 IPM Proposal

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**Location:** Statewide effort, with involvement of campus, county, and experiment station personnel.

## **Situation and Need:**

Licensing of crop consultants and pest control advisors (PCAs) ensures that the professionals working in diverse production systems are knowledgeable and up-to-date with respect to the latest information and technologies available. The State of Arizona administers a PCA licensing program through the Arizona Department of Agriculture (ADA). The ADA provides educational materials to the applicants for a PCA license to help them prepare for the exam. A recent review of these training materials by ADA and the Arizona Crop Protection Association (ACPA) revealed that these materials are out of date and in serious need of revision. The ACPA has approached UA to request assistance in revising and reshaping PCA exam preparation materials, taking a multi-disciplinary systems approach, incorporating IPM and integrated crop management (ICM) elements.

The objective of this proposal is to address this critical need by developing a new and fully up-to-date set of educational materials to support the PCA license exams in Arizona. We will accomplish this by drawing upon the expertise of UA personnel and existing extension publications and resources, including information on forage and grain crops, cotton, vegetables, tree crops, urban plant systems and native plants. Based on these resources, we will develop the PCA licensing educational materials using a fully integrated, multi-disciplinary approach, incorporating IPM and ICM principles to foster sustainable, systems-level management skills in our professional clientele. This is a logical partnership, since the UA is the primary entity in the state responsible for providing information on the production and management of agronomic and horticultural crops, while the ACPA represents the professional clientele who are the primary beneficiaries of this effort.

## **Outputs**

### *Activities:*

- (1) We will organize a review committee made up of key faculty representing the needed areas of expertise, along with representatives from the ACPA and ADA.
- (2) The committee will initially meet to discuss project objectives and establish a timetable for project completion. We will evaluate existing education materials (and related extension pubs) and identify needs for revisions and new materials, assigning work tasks as appropriate.
- (3) A student employee of Jeff Silvertooth's will work with Al Fournier to coordinate completion and peer review of the education materials and related extension publications.

### *Products:*

- (1) A completely revised set of training materials for the PCA licensing program, which will be made available through the ADA and/or the ACPA and posted to the Arizona Crop Information Site (ACIS).
- (2) New and revised extension publications, which will be made available to agents and posted on the Arizona Crop Information Site (ACIS).

### *Participation:*

The target audience for the revised ADA training materials includes crop consultants and pest control advisors (PCAs) working in urban, agricultural, and natural systems. County agents will benefit from the resulting review and revision of extension publications, as will growers, homeowners, land managers, and other extension clientele.

## **Expected Outcomes and Impacts**

*Short-term:* The review of available extension materials will identify gaps and needs in our research and publications and lead to a plan and timetable for addressing those needs. Interactions between faculty and members of the ACPA and ADA to accomplish this task will strengthen ties between the university and important stakeholders in the private sector.

*Medium-Term:* Revised and updated PCA license preparation materials; revised and updated extension publications, made available on ACIS. The scope of materials to be revised/created includes information on forage and grain crops, cotton, vegetables, tree crops, urban plant systems and native plants.

*Long-term:* The revised training materials will improve the quality of PCA training by incorporating elements of IPM and ICM into a broad systems approach to crop and pest management in agricultural, horticultural, urban and natural resource sectors. This will result in better-educated professionals and improved and more sustainable crop and urban pest management, consistent with IPM goals of economic benefits and reduced health risks and environmental risks. Extension publications developed through this effort will benefit people working numerous desert production systems throughout the Southwest, and will encourage adoption of IPM and ICM management principles throughout these systems.

## Plan for Evaluation

Al Fournier will develop a program evaluation instrument, which will be reviewed by project participants and finalized prior to the initial use of the new training materials. This voluntary evaluation will be administered to PCA licensing program participants to collect anonymous data for program measurement and improvement. The objectives of the evaluation will be: (1) to evaluate the quality of the revised educational materials and current examination instrument; (2) to refine the educational materials (and possibly the examination instrument) based on participant's feedback; and (3) to assess the intention of program participants to adopt ICM and IPM principles and practices. In combination, these strategies will allow us to assess and improve the educational materials and gain insights into the impact of the educational experience on pest management and production practices of clientele.

## Relevance to Priorities

This project is consistent with national IPM program goals and several APMC priorities. The revised education materials will foster the development of systems-level understanding and encourage adoption of ICM/IPM management principles by our professional clientele working in production agriculture, natural resources and residential/public areas. ***Adoption of these principles should lead to decreased use of non-selective pesticides, thereby reducing pests and pesticide-related risks to humans and the environment.*** This educational project is consistent with the APMC priority of incorporating systems-level approaches to address the broad pest management needs of clientele, and spans the agricultural and community IPM foci of the APMC. It also links the IPM/ICM research efforts and expertise of our specialists and agents to an important statewide education and licensing program that will have a broad impact on professional clientele.

## Inputs/Budget

Funds requested are for personnel needs related to project coordination, primarily for a graduate student in Jeff Silvertooth's lab who, along with Al Fournier, will provide overall logistical support for this project. Additional funds are requested for partial salary support for a student worker who will post revised extension publications on the Arizona Crop Information Site (ACIS). There is a potential for leveraged funds through a Western Regional IPM Competitive Grant submitted in December 2005. That proposal is still pending.

Participating faculty will invest time and expertise to review and revise educational materials and extension publications. Al Fournier will also dedicate time to help coordinate this project, but is not requesting funding.

### Proposed Budget

|                                       |                |
|---------------------------------------|----------------|
| Graduate Student Coordinator          |                |
| Student salary + ERE for project term | 17,000         |
| ACIS web support: student worker      |                |
| Student salary + ERE                  | <u>\$3,000</u> |
| Total                                 | \$20,000       |