

2007 IPM Proposal

Project Title: **Pesticide Applicator Training/Testing for Noxious/Invasive Weed Management in Northern Arizona**

Project Leaders: **Jeff Schalau**, Associate Agent, ANR, University of Arizona Cooperative Extension, Yavapai County

Team Members: **Paul Baker**, Pesticide Coordinator / Entomology Specialist, University of Arizona, Department of Entomology
Al Fournier, Program Manager, Integrated Pest Management, University of Arizona, Department of Entomology
Robin Grumbles, Agent, ANR, University of Arizona Cooperative Extension, Mohave County
Gerald Moore, Coordinating Extension Agent, University of Arizona Cooperative Extension, Navajo Nation
Jack Peterson, Associate Director, ESD, Arizona Dept. of Agriculture

Location: Northern Arizona: Apache, Coconino, Mohave, Navajo, and Yavapai Counties, and the Navajo Nation

Critical Issue/Situation to be Addressed

Many species of noxious/invasive weeds have become established and are spreading across Northern Arizona's grazed and ungrazed wildlands. Species include, but are not limited to: Scotch thistle (*Onopordum acanthium*), musk thistle (*Carduus nutans*), spotted knapweed (*Centaurea biebersteinii*), Russian knapweed (*Acroptilon repens*), diffuse knapweed (*Centaurea diffusa*), yellow starthistle (*Centaurea solstitialis*), hoary cress (*Lepidium draba*), Dalmatian toadflax (*Linaria dalmatica*), Russian olive (*Elaeagnus angustifolia*), tamarisk (*Tamarix ramosissima*), and camel thorn (*Alhagi pseudalhagi*).

Successful integrated weed management (IWM) programs combine cultural, mechanical, and biological management methods with pesticides. Integrated noxious/invasive weed management often requires the use of restricted use herbicides. In Arizona, agricultural producers and agency personnel must become Certified Pesticide Applicators before they can purchase and apply restricted use herbicides to grazing lands and wildlands. The Arizona Department of Agriculture is the authority that oversees this certification process. However, they focus their educational programs primarily on irrigated agriculture in the central and southern areas of the state.

In general, Northern Arizona has received little attention with respect to agricultural pesticide applicator training and testing. Since 2000, Yavapai County Extension Agent, Jeff Schalau, has provided ten Agricultural Pesticide Applicator training sessions to resource managers across Northern Arizona with a total of 145 total participants (Boulder City, Chinle, Fredonia, Ganado, Prescott (3), Flagstaff, and Casa Grande, and Mesa). These training sessions teach participants safe pesticide handling practices, how to understand label information, PPE, legal requirements, and integrated weed management approaches that include mechanical, biological, cultural, and chemical control. Participants are also taught integrated forest pest management to prepare them for the Forest Pest Control Category exam. Each five-hour training session is followed by the offering of the Core Pesticide Applicator Exam and the Forest Pest Control Category Exam. Upon passing these exams and paying appropriate fees (when applicable), participants are able to purchase and apply restricted use herbicides.

Currently, requests for these training/testing sessions exceed Cooperative Extension's ability to deliver these sessions. In addition, there are no resources (i.e. travel funds, AV equipment and maintenance, educational materials, and printing) to conduct these training/testing programs across Northern Arizona. This proposal will provide these resources to conduct four testing/training sessions in the spring/summer of 2007. The proposed locations are: Boulder City, NV, Fredonia, AZ; Ganado, AZ; and Flagstaff, AZ. The digital overhead projector is included in the budget to enhance weed identification and conduct demonstrations during training sessions. This proposal also requests professional development funds to ensure the most current, science-based IWM information is delivered to participants in the program.

Relevancy

This request is consistent with identified pest management priorities in Arizona and with National IPM Program goals. This project specifically addresses the APMC priority of helping to enhance noxious and invasive weed management efforts in Arizona, and having well-trained applicators in place should increase our ability to respond to new threats. By delivering up-to-date integrated weed management training to newly certified pesticide applicators, we will link recent applied research in this area to end-users through outreach. At a recent meeting of UA and partner agency stakeholders on the topic of Pesticide Applicator Training, it was noted that pesticide applicator training for weed management in Northern Arizona counties continues to be a critical need. Education of applicators provided through this project should help to reduce potential human health risks and minimize adverse environmental effects that could result from misuse of pesticides, two important goals of the National IPM Program.

Inputs

- AV Equipment
- Professional Development
- Printing (educational/resource materials)
- Reference Materials (books, CDs, DVDs)
- Travel (mileage, motels, meals)
- Agent time will be contributed without cost

Outputs

- Four Agricultural Pesticide Applicator training/testing sessions (Boulder City, NV; Fredonia, AZ; Ganado, AZ; and Flagstaff, AZ)
- Certified Pesticide Applicators across Northern Arizona that can effectively manage noxious/invasive weeds

Expected Outcomes/Impacts

Short-term impacts will be increased knowledge related to integrated approaches to noxious weed management and increased knowledge and understanding of pesticide labels safe pesticide handling, and pesticide application methods. Attendees will also have printed resource materials they can refer to when questions arise and greater knowledge of additional information resources. Individuals passing the exams will be certified as Arizona Agricultural Pesticide Applicators and will be able to purchase and apply restricted use herbicides to lands they manage when warranted.

Medium-term impacts will be: decreased spread and/or reduction in populations of noxious/invasive weeds; fewer pesticide-related injuries; and pesticide applicators continue to improve their knowledge due to continuing education requirements.

Long-term impacts will be decreased impacts to non-target organisms from pesticides and a healthier environment: due to wiser pesticide use and reduced competition for resources with noxious/invasive weeds.

Evaluation Plan

Course evaluations will be given to participants that measure pre- and post-course knowledge of weed management principles, integrated methods, and pesticide safety. The evaluation will also gather information on how participants plan to use the knowledge gained and they plan to apply IWM. The percentage of participants that pass each of the two exams will also be tracked through the Arizona Department of Agriculture.

A final report including a summary of outcomes and impacts will be provided to the Arizona Pest Management Center and to Arizona’s Pesticide Coordinator, Paul Baker, to facilitate reporting outcomes at the regional and federal levels.

Budget

| Item | Costs |
|---|----------------|
| Travel for Pesticide Applicator Training | \$1,250 |
| Travel for Professional Development | \$1,200 |
| Reference Materials | \$300 |
| Printing | \$200 |
| AV Equipment (Elmo HV-110XG Digital Overhead Projector) | \$750 |
| Total | \$3,700 |

* All costs will be matched up to the \$3,700 in salaries from the PI, team members, and agency/tribal cooperators.

From: "Jack Peterson" <jpeterson@azda.gov>
Date: December 7, 2006 4:00:28 PM MST
To: "Al Fournier" <fournier@Ag.arizona.edu>
Cc: "Jeff Schalau" <jshalau@cals.arizona.edu>, "Peter Ellsworth" <peterell@cals.arizona.edu>
Subject: RE: IPM proposal: funding for PAT training in Northern AZ

Please excuse the informal nature of this response as I am currently in the midst of preparing for a week of training and will respond via e-mail vs. that of sending a formal letter. I quickly browsed through the proposal and think it a very worthwhile application. Northern Arizona is a part of the state which is underserved when it comes to pesticide education. This is due primarily to the distance and the small number of applicators. Any opportunity there is to provide additional opportunities for outreach to this community are beneficial. This is something we support. Please contact me if you have any questions.

Jack Peterson
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and AAPCO President
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Quality...from the land to you.

From: Al Fournier [mailto:fournier@Ag.arizona.edu]
Sent: Thursday, December 07, 2006 2:18 PM
To: Jack Peterson
Cc: Jeff Schalau; Peter Ellsworth
Subject: IPM proposal: funding for PAT training in Northern AZ

Dear Jack,

Jeff Schalau has put together the attached proposal for the Arizona Pest Management Center's IPM program, requesting funding to support pesticide applicator training activities in Northern AZ. This is a direct result of the discussions we had last month at the SW Vegetation Management association meeting. We see this as a continuation of the partnership we've formed to better address PAT needs statewide.

Would you be willing to be listed as a project team member and provide a letter of support for this effort?

Thanks for your consideration.

Al

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LOGIC Model: Pesticide Applicator Training/Testing for Noxious/Invasive Weed Management in Northern Arizona

| Situation | Inputs | Outputs | | Outcomes | | |
|--|---|--|--|--|--|--|
| | | Activities | Participation | Short-term | Medium-term | Long-Term |
| <p>Many species of noxious/invasive weeds have become established and are spreading across Northern Arizona's grazed and ungrazed wildlands.</p> <p>Integrated noxious/invasive weed management often requires the use of restricted use herbicides. Applicators of these products need training and certification to purchase and apply restricted use pesticides.</p> <p>Northern Arizona is not a production agriculture area and is underserved with respect to agricultural pesticide applicator training/testing opportunities.</p> <p>Cooperative Extension has the knowledge, skills, and training materials to effectively teach land managers about integrated weed management strategies for noxious/invasive weed populations.</p> | <p>PI and team member time.</p> <p>Meeting locations will be provided by host agencies collaborators.</p> <p>Funding as outline in the proposal budget for: -AV Equipment -Agent Professional Development -Printing -Reference Materials (books, CDs, DVDs) -Travel (mileage, motels, meals)</p> | <p>Four Agricultural Pesticide Applicator training/testing sessions will be offered in: Fredonia, AZ; Ganado, AZ; Flagstaff, AZ; and Boulder City, NV.</p> <p>Evaluation: -Pre- and post-course knowledge of weed management principles, integrated methods, and pesticide safety -Measure knowledge gained and they plan to apply IWM -The percentage of participants that pass each of the two exams will also be tracked</p> <p>A final report including a summary of outcomes and impacts will be provided to the Arizona Pest Management Center and to Arizona's Pesticide Coordinator, Paul Baker, to facilitate reporting outcomes at the regional and federal levels.</p> | <p>Farmers Ranchers Tribal members Agency Personnel: -Bureau of Indian Affairs -Bureau of Land Management -US Forest Service -Arizona State Land -Department -National Park Service -and others</p> <p>Persons from these groups will become Certified Pesticide Applicators across Northern Arizona that can effectively manage noxious/invasive weeds.</p> | <p>Participants will have increased knowledge related to integrated approaches to noxious weed management and increased knowledge and understanding of pesticide labels safe pesticide handling, and pesticide application methods.</p> <p>Participants will also have printed resource materials they can refer to when questions arise and greater knowledge of additional information resources.</p> <p>Individuals passing the exams will be certified as Arizona Agricultural Pesticide Applicators and will be able to purchase and apply restricted use herbicides to lands they manage when warranted.</p> | <p>Decreased spread and/or reduction in populations of noxious/invasive weeds</p> <p>Fewer pesticide-related injuries</p> <p>Pesticide applicators continue to improve their knowledge due to continuing education requirements.</p> | <p>Healthier environment: due to wiser pesticide use and reduced competition for resources with noxious/invasive weeds</p> <p>Decreased impacts to non-target organisms due to use of science-based integrated weed management strategies and proper use of pesticides</p> |