INFORMATION TO ACTION:
Teaching Ecological IPM for Invasive Plants in Natural Areas

An interactive panel discussion at the
5th National Integrated Pest Management Symposium, April 4-6, 2006
St. Louis, MO

ABSTRACT

Effective integrated pest management programs are site-specific and dependent on the invasive plant biology, site ecology, land use goals, and appropriate and available control methods. Teaching resource managers to design successful, ecologically-based IPM programs is a great need. During this interactive workshop, we will discuss methods of teaching ecologically-based IPM and adaptive management. The workshop will yield clear suggestions on how to improve teaching methodology and increase resource managers' understanding of ecological IPM for invasive plant management.

Moderator and Organizer[1]: **Janet Clark**, cipm@montana.edu, Center for Invasive Plant Management, Montana State University, Bozeman, MT.

Sponsor and Organizer: **Jennifer Vollmer**, Ph.D., jennifer_vollmer@basf.com, BASF Corporation, RTP, NC

Facilitator: **Bruce Erickson, Ph.D.**, berickso@purdue.edu, Beck Ag Com, Inc., Clarks Hill, IN

Panel members:

- **Nicholas Jordan, Ph.D.**, jorda020@umn.edu, Department of Agronomy and Plant Genetics, University of Minnesota, St. Paul, MN
- **Richard Lee, Ph.D.**, Richard_Lee@blm.gov, Bureau of Land Management, Denver, CO
- **Scott Steinmaus, Ph.D.,** ssteinma@calpoly.edu, California Polytechnic State University, San Luis Obispo, CA
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DISCUSSION SUMMARY

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Teaching adult-learners about invasive plants in natural areas was the focus of a lively two-hour, facilitated discussion among the panelists and audience. The teaching experience of the panelists ranged from college undergraduate instruction, to Extension work with farmers and ranchers, to training of federal agency personnel. Members of the audience also had a wide range of experience and knowledge.

Discussions touched on the following areas:

- Some of the **difficulties in training** people to manage invasive plants include: convincing people that invasive plants are a problem; lack of understanding of ecosystem dynamics and invasive plant impacts; complexity of the multi-disciplinary issues involved; lack of time – for the trainer *and* the trainee; shortage of identification skills and taxonomists for native and nonnative plants.

- Successful techniques for **engaging adult learners** include: explaining how the information is relevant; integrating new information into existing (and accepted) knowledge; providing experience as well as theory; and engaging learners with visual, audio, and kinesthetic (physical) styles whenever possible. Key points should be restated repeatedly. Field tours effectively engage students in hands-on learning about biology and ecology.

  It was also pointed out that adults often enjoy having a group to share and compare their experiences with. Experiential "learning groups" that involve scientists and land managers have been shown to be time-consuming, but very effective. The knowledge and perspective of the land managers/farmers/ranchers is considered as well as that of the scientists. For the cohesion and sustainability of the group, it is important that it have a sense of growth and moving toward a goal.

- Teaching **ecological principles** rather than providing prescriptions for control is essential in training for ecological IPM in natural areas. Control prescriptions are problematic because management must be based around land use goals, current and desired vegetation, site ecology and hydrology, socio-political considerations, technical expertise of the land manager, budget, etc. Natural resource managers should be encouraged to analyze the needs and possibilities of each site and develop long-term management plans.