



Biological Control of Invasive Plants

FY 2009 President's Budget

ISSUES

Classical biological control (biocontrol) is a viable method of controlling invasive plants that involves the use of imported natural enemies to suppress or maintain populations of the target pest species below an economically or ecologically relevant threshold. Much of the current entomologically-based research on classical biocontrol is focused on finding, testing and providing to management personnel, safe, legally-approved, and effective biocontrol agents. For invasive plants that infest large areas of wildlands, biocontrol may be the only management option.

IMPORTANCE

Studies are needed to simultaneously evaluate multiple weeds and biocontrol agents, and to match biocontrol agent life-cycles and behaviors to the phenology of the target weed, while recognizing that both the target weed and its potential biocontrol agent are both introduced organisms. While biocontrol is a useful tool for mitigating the impacts of exotic invasive plants, its application is not without risk. Consequently, it is essential that long-term monitoring be a major part of the process to assess effectiveness as environmental conditions change.

FUTURE PLANS

Rocky Mountain Research Station (RMRS) plans to enhance the research scope of the classical biocontrol research program to include: (1) Foreign Exploration: locating, selecting, and evaluating the target weed's natural enemies in their homelands to select potential agents; (2) Quarantine Testing: test potential agents in



Biocontrol agent of invasive weed (tansy ragwort)

approved U.S. quarantine facilities to determine their host specificity, effectiveness, and potential, (3) Permitting: follow the regulatory processes necessary to obtain approval from the U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) for the release of new agents in the U.S.; and (4) Release and Establishment: colonize newly approved biocontrol agents in the field, evaluate their effectiveness and impact on the target weed, and subsequently establish nursery sites to provide large numbers of agents for further redistribution.

EXPECTED OUTCOMES

Biocontrol is compatible with other methods of invasive plant control as part of an integrated pest management program. Once new biocontrol agents are established and spread through the range of the target species, biological control provides effective and relatively long-term suppression.