



The Plant

Purple loosestrife is native to Europe and Asia. It grows four to seven feet tall and blooms in long spikes of showy purple flowers. It grows prolifically in wetlands and other moist areas.

The Problem

Purple loosestrife has spread throughout much of the United States and Canada, where it has no natural predators. A fierce competitor, purple loosestrife eventually overtakes native vegetation, forming nearly impenetrable stands of this single species. As the native plants are replaced the wildlife species that depend on them are affected. Dense stands of purple loosestrife effect wildlife, impair recreational use of wetlands and river, and impede water flow in drainage ditches. Purple loosestrife infestations are causing serious problems in many areas.



A Solution

Three species of plant-feeding beetles, *Galerucella californiensis*, *Galerucella pusilla*, and *Hylobius transversovittatus*, show particular promise as biological controls for purple loosestrife. These insects have undergone extensive testing to determine their safety, host specificity and effectiveness, receiving USDA approval for importation in 1992. *Galerucella* beetles have been especially effective since they are easy to raise and feed on buds, leaves, and stem tissue, causing defoliation and prevention of flowering and seed production. Introducing native competitors will help keep a more natural ecological balance between the plants and insects.

For More Information:

Locate and contact your state coordinator:
www.msue.msu.edu/seagrant/pp/html/nacontacts.htm

Resources

Informational websites:

www.four-h.purdue.edu/purple.htm

Sea Grant Nonindigenous Species Site (SGNIS)

www.sgnis.org/

Curriculum:

4-H 917, Biological Control of Purple Loosestrife, Youth Guide (\$2 each)

4-H 918, Biological Control of Purple Loosestrife, 4-H Leader's Guide (\$8 each)



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Biological Control of Purple Loosestrife



(the problem)

Community Service Project



(a solution)

Objectives of this Project:

- To release beetles to provide a biological control of purple loosestrife to increase wetland diversity
- To enlist local wetland stewards by offering educational materials developed to meet 4-H Standards of Quality in Community Service Learning



Outcomes

- Inoculation wetlands with natural controls of purple loosestrife
- Project participants will have the knowledge, skills and materials necessary to rear and release natural enemies in wetlands over the next several years

How long will it take to see a change?

Most estimates range from 5 to 15 years for large impacts of these beetles to be realized. However, recent results from Illinois, Minnesota, and Ontario indicate that *Galerucella* can have a dramatic impact on purple loosestrife infestations in as little as three years. Larger releases and better rearing techniques may help to shorten the time to impact.

Obtaining plants and beetles:

Note: If you are interested in doing this project you will need to follow state's regulations and/or guidelines since the possession of purple loosestrife and the transport of *Galerucella* beetles are generally restricted. Regulatory personnel in many states will recommend beetle release sites and require follow-up monitoring. For a contact in your state check the website www.msue.msu.edu/seagrant/pp/html/nacontacts.htm or contact your local Cooperative Extension office for assistance.



***Galerucella* beetles:** You may be able to locate beetles in wetlands where releases have been made and populations are healthy. If you do not have beetles available in your area check the website listed above for a state contact to help you locate these biological control insects.

Example Documentation (required in Indiana):

- DNR Application to Obtain or Possess *Lythrum* Species in Indiana
- Reporting forms
 - Release Form - fill out and send to your County Extension Office after beetle release.
 - Fall Report form - fill out and send to your County Extension Office after your fall sampling.
 - Spring Report form - fill out and send to your County Extension Office after spring sampling.

These forms may be reviewed at the website:

www.four-h.purdue.edu/purple.htm

Note that these forms were written for use in Indiana and your state may have other requirements.

