

Do We Need Other Control Methods?

B.C. is committed to the use of natural agents to control problem weeds. However, biological control is a very slow process, taking numerous years before any effects are visible. Other control measures, such as mowing, handpulling, digging, and herbicide application, are necessary to protect uninfested areas until the targeted weed is under successful biological control.

Successes!

Thanks to leaf and root eating beetles and seedhead and root attacking weevils, St. Johnswort (*Hypericum perforatum*) and nodding thistle (*Carduus nutans*) are successfully controlled in B.C.. Biological control efforts are continuing on fourteen other weed species.

For more information, contact the Range Section of your local Ministry of Forests Office.



RANGE

BIOLOGICAL WEED CONTROL



Insects Helping Habitats



Province of
British Columbia
Ministry of
Forests

Canada
Partnership Agreement
on Forest Resource
Development: FRDA

What is Biological Control?

Biological control is the use of natural plant pests, such as insects or plant diseases, to combat problem weeds. Following careful screening, biocontrol agents are imported from the weed's country of origin and released in B.C. on targeted weed infested sites. Biological control is a slow process, but when successfully established provides long-term control that is environmentally friendly.

Will the insects attack other plants?

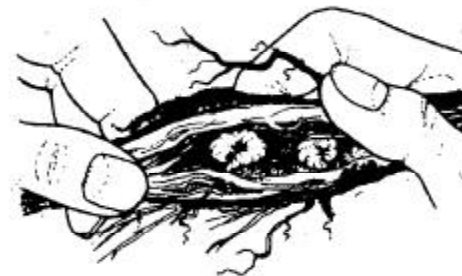
B.C. cooperates on national and international levels to ensure that the chosen control agent will only attack the problem weed species and not any native or agricultural plant.



The control agent is released into weed infested areas after approval is granted by both Canada and the United States.



The problem weed is surveyed in its native country and potential biocontrol agents are identified. These agents are then thoroughly tested to ensure that they will only eat the targeted weed species.



Ongoing monitoring and redistribution is carried out by the Forest Service and other agencies.

Why Control Weeds?

Noxious weeds are not a problem in their countries of origin because native insects use these plants as a food source. However, weeds introduced into North America without these natural enemies to keep their growth in check, very quickly become a problem. In British Columbia, noxious weeds are infesting rangeland, wildlife habitat, agricultural areas, and recreational

Without control, weeds can choke out native vegetation, encroach upon natural grasslands, and destroy precious habitat for wildlife.

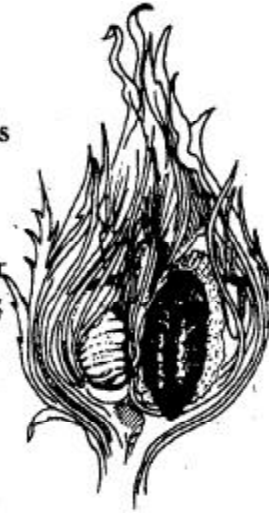


How Does Biocontrol Work?

After strict screening tests, biological control agents are released into a problem weed area and begin to attack a specific part of the targeted weed species. This attack weakens the weeds, reducing their growth and potential to spread. The insects reproduce and their population increases, causing additional damage and stress to the weeds. Weakened weeds give native plants a greater chance to compete and take over the area once again.

Seed-reducers:

Flies, moths and weevils lay their eggs in the developing flower. These eggs hatch into larvae which displace or eat the seeds. Reducing seed production decreases the weed's ability to spread.



Root-feeders:

The larvae of moths, beetles and weevils eat the root, weakening the plant. In large roots this stresses the weed, causing reduced seed production and plant growth. Small roots can be completely eaten, killing the plant.



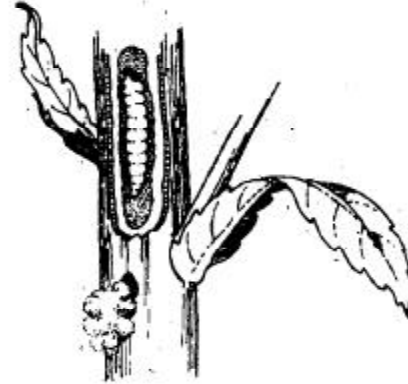
Defoliators:

Beetles and caterpillars eat the weed's leaves, causing a reduction in the plant's ability to create energy and reproduce.



Stem-borers:

The larvae of weevils eat the centre of stems, slowing the movement of food upward in the plant. This, in turn, reduces flowering and seed set.



Can Insects Get Out of Control?

Biological control is a self-regulating method of weed control. This means that as the weed population increases, so does the insect population. As the weed population decreases, insects no longer have enough food to survive and their population decreases.

The goal of biological control is to reach a balance where both the weed and insect populations are held at a low level.

