

## Frequently Asked

## Questions

### Are biocontrols safe?

That is the most frequently asked question about biocontrol. Releasing a new species of insect or mite comes with risks, but the risks are small due to the years of research and testing that are now required before a new biocontrol agent is approved for release in the U.S. Newly introduced weed biocontrol agents will have been through at least 10 years of extensive testing by the USDA and overseas cooperators to assure that they won't have an impact on non-target species. Because of these precautions the safety record for weed biocontrol in the U.S. has been excellent; there have been no unforeseen non-target impacts.

### How do I get some of these controls?

Simply call the Insectary toll-free at (866) 324-2963 or visit our web site [www.palisadeinsectary.com](http://www.palisadeinsectary.com) to request controls and be placed on the waiting list. Positive identification of your weeds is necessary. Our website as well as the Colorado Weed Management Association's web site [www.cwma.org](http://www.cwma.org) has helpful photos and identification keys of Colorado's noxious weeds. Many of our controls have a relatively short period when they can be collected and distributed. Supplies are variable due to climatic and other conditions and we may not be able to fulfill your request. In that case your request will be filled when the controls become available again during their next season. Please see the list of our controls for the approximate time period when they are available.

### How much do the controls cost?

The Insectary charges for most of the controls we distribute. Please call us or see the website for current pricing.

### How do I find out more?

For more detailed information about weeds and biocontrol, see the books *Weeds of the West* by Tom D. Whitson, Robert Parker, Burrell E. Nelson, Richard D. Lee, David W. Cudney and *Biological Control of Invasive Plants in the United States* by Eric M. Coombs (Editor), Janet K. Clark (Editor), Gary L. Piper (Editor), Alfred F. Cofrancesco (Editor).

## About the

## Palisade Insectary

### Mission Statement

Our mission is to develop and distribute safe and effective biological controls for non-native weed and insect pests.



Tyta moth larva & adult on bindweed

### For more info on the Biological Pest Control Program at the Insectary please write or call:

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## Biological Control of Weeds

# Palisade Insectary



**Division of Conservation Services  
Biological Pest Control Division  
Palisade Insectary**



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What  
is

## Biological Control?

Biocontrol is the use of natural enemies (predators, pathogens, parasites and herbivores) to control insects, weeds or other pest organisms. The advantages of using natural controls are that they are inexpensive, safe for the environment and for human health and they are self propagating, which means that small numbers released may expand into large and persistent populations for long term pest control. Biocontrol works by establishing a balance between the target pest and the control agent. The pest and the agent will always be around but, after the balance is achieved, the pest population will be lower.

The agents control invasive weeds by consuming parts of the plant, like the foliage, seeds or roots, by forming galls in the stems where larvae develop, or, in the case of the bindweed mite, forming the leaves into galls around themselves while they feed on plant juices. Control is accomplished on insect pests by egg parasitism – the control insect lays eggs into the larvae of the invasive insect so that they develop into the non-harmful control insect. These agents are naturally occurring and are not genetically altered or otherwise specially bred to perform these tasks.



Collecting toadflax weevils

Biological  
Control

## Background

The Colorado Department of Agriculture has promoted the use of biological control in pest management since the 1940s. At that time the Palisade Insectary first released biocontrols (parasitic wasps) for use against the Oriental fruit moth, a serious pest of peaches in the fruit growing regions of the Grand Valley. The program was a success and continues to this day. Following this first success other biocontrol agents were released for a number of insect pests, and then for some of the most difficult-to-control noxious weeds. The Palisade Insectary is now home to the Biological Pest Control Program, within the Conservation Services Division of the CDA. The Insectary releases and monitors about 20 different species of biological control agents for use against both weeds and insect pests.

We raise a number of biocontrols at the Insectary for research and establishing field insectaries that will be used for later collection and distribution on a greater scale. Since the large numbers of biocontrols needed for our programs cannot be raised in the lab, most of the controls we distribute are collected from established field insectaries around the state. Sometimes we are unable to locate and collect enough insects to distribute to all requestors because of natural habitat fluctuations, climatic conditions and other factors.



Greenhouses at the Insectary

Available  
and  
Approximate

Agents  
Delivery season

Target Pest	Name	Approx. Season
Alfalfa Weevil	<i>Tetrastichus incertus</i>	May - early June
Canada Thistle	<i>Urophora cardui</i> Canada thistle gall fly	May - early June
Diffuse and Spotted Knapweed	<i>Larinus minutus</i> Lesser Knapweed Flower Weevil	May - early June
Spotted Knapweed	<i>Cyphocleonus achates</i> Knapweed root weevil	July - August
Field Bindweed	<i>Aceria malherbae</i> Bindweed mite	Mid June - August
Field Bindweed	<i>Tyta luctuosa</i> Bindweed moth	May - September
Leafy Spurge	<i>Apthona spp.</i> Spurge flea beetles	July
Musk Thistle	<i>Trichosirocalus horridus</i> Musk thistle rosette weevil	July
Puncturevine/ "Goatheads"	<i>Microlarinus spp.</i> Puncturevine seed and stem weevils	September
Yellow and Dalmatian Toadflax	<i>Calophasia lunula</i> Toadflax moth	July - August
Dalmatian Toadflax	<i>Mecinus janthinus</i>	May - June