Frequently Asked Questions

What is a Gall?
A gall (i.e. leaf gall) is the curling and blistering response by the plant to the feeding activity of the mites.

How long does it take for the mites to kill the bindweed?
Aceria malherbae can kill a bindweed plant in its first year. Often it takes two to three years for the plant to die. However, control begins at the time of establishment as flowers (and thus seeds) are limited in production by the feeding activity of the mite. This is of great benefit since seeds can remain viable in the soil up to 50 years.

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 to request controls and be placed on the waiting list.

What happens to the moths and mites once the bindweed is gone?
Both the moths and the mites are very mobile and will either fly or are transferred by the wind to new locations of field bindweed.

Once the mites have been applied, can I spray herbicide or pull out the bindweed?
No! Once the beneficial has been applied, the bindweed may be mowed to help spread the mites to new locations but otherwise left alone to finish its lifecycle.

Is there a charge for the controls?
The Insectary charges a fee for most of our biological controls. Please visit our website or call for pricing.

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.

The Field Bindweed Program
We've been working with field bindweed at the Insectary since 1997. A few releases per year have grown into hundreds or more. This program has been extremely successful due to the combined efforts of the Colorado Department of Agriculture, CSU Extension Service and APHIS PPQ (for releases outside of Colorado).

We are going to continue to release these beneficial agents throughout Colorado and other states affected by field bindweed in order to reduce this invasive species.

For more info on the field bindweed biocontrol program at the Insectary please write or call:

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Biological Control of Field Bindweed

COLORADO
DEPARTMENT OF AGRICULTURE

Division of Conservation Services
Biological Pest Control Division
Palisade Insectary

What Is Field Bindweed?

Field covered in bindweed near Mt. Garfield

Convolvulus arvensis, (common name: field bindweed, creeping jenny, or wild morning-glory) is a serious weed pest throughout most of the temperate world. In Latin, "convolv" means "rolling together" or "entwining," and "arvensis" means "a field." Thus by definition, field bindweed is a noxious weed that commonly engulfs fields, roadways, orchards and yards.

Originally from Europe, field bindweed was first detected in the United States as early as 1739 in Virginia. It is thought to have come to the United States in contaminated crop seed and has developed into a highly invasive species that is very difficult to control. Making it even more difficult to control is the fact that it reproduces by both seeds and rhizomes.

This species has been known to reduce crop yield by up to 60% and, in 2003, crop losses in the U.S. were estimated to exceed $377.8 million per year. Twenty two states have reported a significant loss in production; these impacted areas were primarily located in the central and western states.

Biological Control of Field Bindweed

Tyta luctuosa

Tyta luctuosa is a moth in the family Noctuidae. The original source of these moths is Europe, more specifically Italy. They are native throughout Europe and Asia as well as many other Mediterranean areas. This moth was first introduced in the U.S. in 1987 in Arizona, Iowa, Missouri, Oklahoma and Texas.

The majority of the damage to field bindweed comes from the larval stages of *T. luctuosa* feeding on the leaves and flowers of the plant.

This moth is host specific, targeting field bindweed. The adult can lay in excess of 660 eggs but averages 435 on the bindweed. Once the larvae emerge from the eggs they go through five developmental stages (instars) over a period of 45 days. The larvae pupate in the litter and soil around the plants and emerge as adults after 3 weeks. The *T. luctuosa* go through two life cycles per year and can be found from May until September.

Biological Control of Field Bindweed

Aceria malherbae

Aceria malherbae is commonly called the bindweed gall mite. The mites originated in Greece and are native to central and southern Europe and northern Africa. The mite was first introduced to the U.S. in 1989 in Texas. This mite is microscopic and, although not visible to the naked eye, the damage that is inflicted on the bindweed is extremely apparent.

The bindweed gall mites are host specific and infest the leaves, petioles and stem tips where they form galls. These galls can be seen through the folding and twisting of the midrib of the leaf. The gall, which is a growth of the plant, houses the mites while they are feeding. These mites are on the plant year round and have multiple generations per year.

A. malherbae can begin to control the population of the field bindweed by reducing flower and seed production. Stunting of plant growth may be seen within weeks of mite introduction. Mowing of infested bindweed is recommended since it helps spread the mites.