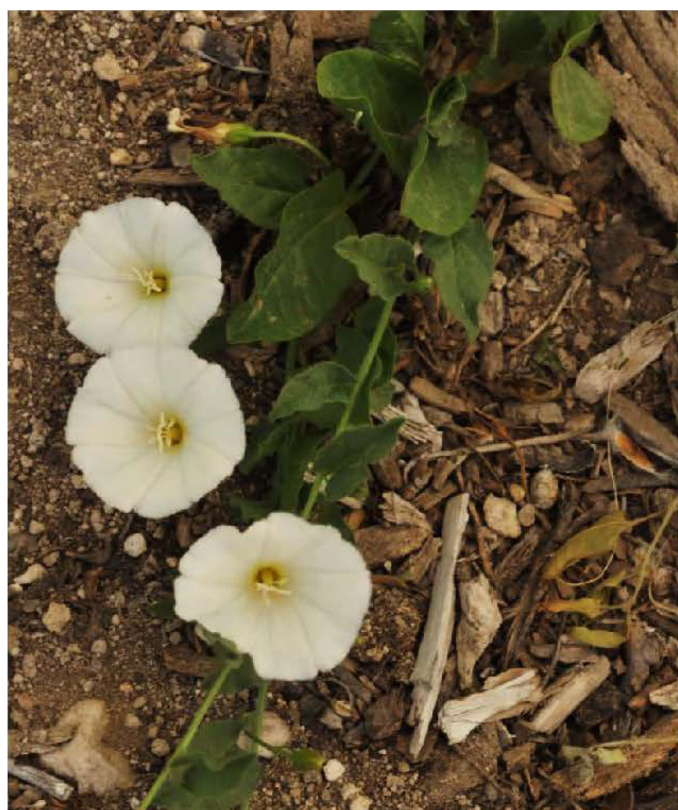




Field Bindweed – An Attractive Nuisance, and Worse

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Introduction



Have you ever looked at your yard, vegetable garden or raised bed and been surprised to discover an abundance of white to pink flowered vining plants spreading all over? Its flowers and foliage look similar to those of its relation, morning glory, but the blossoms are smaller and the leaves narrower. Once you are certain that you did not place it in the ground, you may realize that this pretty thing is a very serious weed. Attractive it may be, but field bindweed (*Convolvulus arvensis*) is indeed a problem. Compounding the problem is the fact that it may be cultivated in some areas, while prohibited in others. It is not listed as a noxious invasive species in Nevada, but it is on the lists of invasive weeds of most surrounding states.

What it is

Field bindweed originated in Europe and Asia, but it has been causing difficulties for North American gardeners and farmers since the mid-

18th century. This perennial can thrive in a wide range of climates, from temperate through tropical and Mediterranean. Its drought tolerance and preference for bright sunlight makes it surprisingly widespread. As long as it obtains water, it will survive even in North America's driest desert. It is a perennial, which means it can produce flowers and seeds for years on end. Its seeds can remain dormant for several years.

Bindweed is generally a low-growing vine but can reach 6 feet tall if it finds support. New plants can grow from the nodes along the stem, so a single plant can generate many more. It also has a root system that will grow as deep as 20 feet, if soil conditions will permit it. Most of the roots occupy the top 2 feet of soil.

With such deep roots, it is difficult to remove them all. The roots can also spread, sending out new plants. As if that were not enough, it will also produce robust underground horizontal stems (rhizomes) with nodes that can develop into vigorous plants.

How it causes problems



Field bindweed can produce many new plants from its low-growing stems, as well as from seeds. Photo: A. O'Callaghan.

Since it grows easily and looks much like morning glory, people have planted it as a ground cover, in hanging pots, and climbing up trellises. Because people often believe that it is too pretty to pull out and discard, controlling it may be challenging. This is an unfortunate example of a weedy plant that can establish itself and thrive, with or without human assistance. If all weeds were ugly, they would probably be much easier to control!

When bindweed has become established, few other plants can successfully compete with the dense stand it creates. The name "bindweed" gives an indication of one of its most troublesome features. It is not a parasitic plant since it creates its own food through photosynthesis. It forms dense mats, however, and these block light from

tender young plants. It can become so tightly tangled with other landscape plants that it can injure them. This pest is a robust invader that will draw large amounts of nutrients and water from the soil, weakening the plants you have installed.

Not only do the stems and foliage inhibit the growth of other plants, bindweed's vigorous root and rhizome system also interferes with desirable plant growth.

Prevention

The only truly effective way to deal with field bindweed is to keep it from becoming a problem in the first place. When installing any new plant in the landscape, examine it closely. It is common for some nuisance weeds to be present with a potted plant, but these can be removed with ease. Inspect the surface of the potting soil for the small arrow-shaped leaves of bindweed. Should you find them, select another plant.

When purchasing soil, compost or mulch, be sure that the source is reputable, not selling contaminated merchandise. Seeds are brownish-beige and approximately 4 mm (approximately 1/6 inch).



If a field bindweed plant should appear:

1. Remove seedlings as soon as they emerge.
2. Remove plants before they flower.
3. Remove flowering plants before they set seed.

Controlling it

If bindweed becomes established, it is very difficult to eradicate. Simply pulling it from the soil, like weeding other plants, is only an effective form of control for very young seedlings. With older plants, the roots and rhizomes spread throughout the planting bed, so removing a single plant or even a few plants, will only give the underground structures the opportunity to produce new growth aboveground. Even the seeds are a serious problem; they are known to have survived, dormant in the soil, for over 50 years.



The sprawling habit of bindweed makes mowing ineffective for control. Photo: A. O'Callaghan.

A few methods have shown some control, but no single one is completely effective. To get rid of it entirely, it is essential to repeat any method several times.

Hoeing the plant vigorously can help manage the weed, but this must be repeated every few weeks.

This plant thrives in full light, so if it is shaded, it becomes less of a problem. Dense plantings of other plants, such as alfalfa or grains, can block light, but are effective only if the weed does not climb up their stems. While we generally describe bindweed's ground-covering growth, it can also climb on fences, stakes, and other plants' stems. Shade cloth can also help to decrease bindweed's vigor. Creating a thick

layer of newspaper or cardboard, topped by several inches of mulch, interferes with the plant's growth.

Some authorities recommend vigorously roto tilling the ground to break up the root and rhizome system. Unfortunately, the broken pieces of roots and rhizomes (as small as 2 inches) may become more planting stock, exacerbating the problem.

There is a biological control agent, *Aceria malherbae*, bindweed mite. Some research has found this effective, although the mite is not yet readily available.

Common herbicides (weed killers), especially used in conjunction with shade cloth, can help control bindweed, but not eliminate it. If this is the option you select, choose one that will move through the plant, not just burn the leaves that it touches. These types of contact herbicides can control part of the weed but will not kill it entirely.

If you choose to use any pesticide, including any herbicide, read the label carefully. It will have information on the safest way to use the product.

Conclusion

Field bindweed is one of the most problematic pests in horticulture. It thrives in bright light and can tolerate infertile soils as well as drought. It can interfere with the growth and yields of many desirable plants.

Try to prevent this plant from becoming established in the garden. Only purchase soil and soil amendments from reputable sources. Scout the landscape regularly for seedlings and remove them as soon as possible. Place mulch between desirable plants to interfere with bindweed.

No matter what control method is selected, it will not work immediately. To control it, a gardener must be as tenacious as the weed itself.



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