**KANSAS DEPARTMENT OF AGRICULTURE**

# OFFICIAL CONTROL METHODS FOR FIELD BINDWEED

Convolvulus arvensis L.

**Revised May 20, 2020**

## DESCRIPTION

Field bindweed is a twining perennial forb native to Europe and Asia. It reproduces by seeds and rootstocks. The root system is extensive, extending to a depth of 20-30 feet. The smooth, slender stems twine or spread over the soil and vegetation. Leaves up to 2 inches long are alternate, simple, petioled, and highly variable in shape and size. The leaf blade may be oblong to elliptical or may be rounded to pointed with spreading basal lobes. Flowers are white, pink, or white with pink, funnel-shaped, about 1 inch across, and usually borne singly in the axils of leaves. Each flower stalk has two tiny, scale-like bracts ½-2 inches below the flower; the bracts, along with leaf shape and small flower size, distinguish field bindweed from hedge bindweed. Seeds are dark, brownish-gray, about 1/8-inch-long, and have one rounded and two flattened sides. Flowering from June-August; fruiting from August-October.

## PREVENTION OF SPREAD

The Noxious Weed Law (K.S.A. 2-1313a et. seq.) requires all people to control the spread of and to eradicate field bindweed on all lands owned or supervised by them. Methods used for control must prevent both the production of viable seed and destroy the plant's ability to reproduce by vegetative means. Because field bindweed is a perennial, with the exception of herbicide applications, two or more of the following methods must be used together to control field bindweed. Infestation sites must be monitored after control methods have been accomplished to ensure that dormant seeds in the seedbank do not germinate and establish new infestations.

## FIELD BINDWEED CONTROL PRACTICES

Field bindweed control means that both the roots and the flowers must be destroyed. The seeds of field bindweed will remain viable in the soil for up to 50 years so even repeated control practices may not deplete the seedbank resulting in the re-establishment of the infestation. Contact your county noxious weed director for more information.

### Cultural Control

Cultural weed control involves land and vegetation management techniques used to prevent the establishment or control the spread of noxious weeds.

Using the combination of no-till farming methods, good crop rotation to break weed cycles, and keeping the soil covered to decrease weed seed germination are practices that minimize the establishment of new bindweed populations.

Planting a dense cover crop in the spring, after a period of intensive cultivation, may provide effective competition for field bindweed. The effectiveness of all competitive crops depends on intensive cultivation during the field bindweed growing season when land is not in crop.

Frequent surveys of fence lines, roadway, ditches and other susceptible areas for new infestations and the quick removal of any new plants will prevent field bindweed from becoming established.

### Mechanical Control

Mechanical weed control involves the physical removal of all parts or just the reproductive parts of weeds.

As a perennial species, field bindweed is difficult to control mechanically.

Deep, repeated cultivation has been shown to reduce field bindweed infestations.

Once cultivated, the plant will regenerate its root system in about three weeks and any piece of a root that was broken during cultivation may establish a new plant. Therefore, to be effective, cultivation should occur every two to three weeks annually. Such repetitive cultivation throughout the growing season will deplete the root system and provide control. It is important to clean roots and root fragments from equipment before entering uninfested areas of the field or other fields to prevent the spread of field bindweed. This is not financially practical for most agricultural production systems and may also increase erosion of the topsoil. In general, mechanical control is not a good option because field bindweed is able to reproduce from roots, and its seed remains viable in the soil for up to 50 years.

## Chemical Control

The following herbicides may be used for cost-share with landowners. Other products labeled and registered for use on this noxious weed in Kansas may be used in accordance with label directions but are not available for cost-share. Be sure to read and follow all label directions and precautions. For additional information consult the most recent edition of the KSU publication of "Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland".
The use of tank mixes or pre-mixes of two or more of the following herbicides may be available for cost share if approved by your county Weed Director and allowed in accordance with the appropriate labels. Contact your county weed program for availability of these herbicides.
It is highly recommended that you switch between herbicides with different modes of action often.

| Herbicide | Mode of Action |
|---|---|
| 2,4-D | 4 |
| dicamba | 4 |
| diflufenzopyr | 19 |
| diquat | 22 |
| glyphosate | 9 |
| imazapic | 2 |
| imazapyr | 2 |
| picloram | 4 |
| quinclorac | 4 |

## Biological Control

Biological control refers to the deliberate application of a living organism to control the spread of weeds. These agents will not eradicate their host plant, therefore other control methods must be used in addition to the use of biological control agents as part of an integrated pest management strategy. The importation of biological control agents is regulated by USDA-APHIS and is allowed by permit only.

While the following biological control agents are available for field bindweed, they have proven to be ineffective in the state of Kansas and therefore the Kansas Department of Agriculture will not be able to provide any for use. Other agents may be available for use if the appropriate permit is obtained.

| | |
|---|---|
| Aceria malherbae | gall mite |
| Tyta luctuosa | leaf-feeding moth |