

# Field Bindweed



FIELD BINDWEED—*Convolvulus arvensis*—showing entire plant, nature of root growth, and seed. Seed magnified  $3\frac{1}{2}$  diameters.

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# Field Bindweed

(*Convolvulus arvensis*)

Field bindweed, often called wild morning glory, European bindweed, and creeping jenny, is a perennial weed that is found in all sections of the Northwest. Field bindweed is a serious problem in the summer fallow wheat areas. It is a nuisance in home gardens, orchards, and irrigated crops.

Field bindweed prefers deep, well-drained land; however, it adapts itself to shallow, less productive lands.

**Plant characteristics.** Field bindweed spreads both by seed and a creeping root system. The stems are prostrate or twining. The leaves are more or less arrow-shaped, usually about 1 to 2 inches long. The flowers are bell-shaped, generally about 1 inch across, and the color varies from white to light pink. The seeds have a rough surface, dark brown in color, flattened on one side, and rounded on the other. The seeds are about 1/8 inch long. The main root system can penetrate well-drained soils as much as 20 feet. In addition to the main root system, there is an underground system of lateral root-like stems (rhizomes) from which new sprouts arise. These rhizomes are a factor in the rapid spread of bindweed patches. This underground lateral system is normally located within 2 feet of the soil surface and the stems are easily spread by cultivators, moldboard plows, and similar tillage implements.

**How field bindweed spreads.** Field bindweed seed, because of its size, is not readily cleaned from wheat, barley, vetch, and pea seed. Field bindweed is spread into new areas through the use of impure crop seed and by livestock grazing from infested to clean areas. Plants, when established in an area, produce many seeds. These seeds can live in the soil as long as 30 years, waiting for favorable conditions for germination. A few plants soon result in dense

patches. Their creeping root systems are rapidly spread by tillage implements.

**Restrictive seed laws.** Forty-eight states, the District of Columbia, and Canadian provinces, have laws prohibiting or restricting the use of crop seed containing field bindweed seed. Laws also regulate the sale of feed containing field bindweed seed.

## Control

**Chemical.** Chemical control methods depend on the extent of the field bindweed infestation, the use of the land where the field bindweed is growing, and whether or not the area can be irrigated. Check the label for grazing and harvesting restrictions when crops are involved.

**2,4-D.** Selective spraying with 2,4-D is an economical and practical control method for extensively infested areas. Wheat, oats, barley, corn, and grasses can be selectively sprayed for field bindweed control. 2,4-D sprays must be timed carefully to control field bindweed without damage to grain or grass crops. Small grains and grasses have two sensitive growth periods to 2,4-D—one during the seedling stage, the second during the late boot and flowering stage.

For best control with 2,4-D, field bindweed should be sprayed during the early blossom stage of growth. The growth rate of spring grain and field bindweed are enough alike that selective spraying of bindweed is practical. For selective spraying, use 3/4 to 1 pound acid equivalent of 2,4-D per acre, 3 to 40 gallons of water.

The 2,4-D sprays can be better timed for spraying field bindweed when the infested area is sprayed during the summer fallow season. The infested field should be cultivated until the first of

July. Field bindweed should be sprayed with 3 pounds acid equivalent of 2,4-D about mid-August when it is in the early blossom stage of growth. Amine and acid formulations of 2,4-D give better control of field bindweed than do the ester formulations. This is apparently due to less volatilization during hot dry weather. For best field bindweed control with 2,4-D, the infested area must be sprayed each year. During the grain season, spraying can be done before harvest or immediately following harvest.

**Dicamba (Banvel).** Banvel at 5 to 6 pounds acid equivalent (4 to 5 quarts), applied when the bindweed is growing actively, is effective for spot spraying bindweed in crop and pasture areas. Usually this is applied by mixing the Banvel in 100 gallons of water and spraying to wet the plant. One hundred gallons of water on an acre basis is required with hand nozzles to adequately cover the plants.

Wheat should not be seeded on Banvel sprayed areas for 60 days after spraying. Broadleaf crops such as alfalfa, potatoes, etc., should not be planted in Banvel sprayed areas within 2 years of the application (check the label for specific details).

**Picloram.** Picloram (Tordon) is one of the more effective herbicides for

eradication of field bindweed. However, it is not registered for use on crop and grazing lands. It can be used on areas not grazed and on waste areas. Care must be used to avoid drift or other contamination of nearby crop areas because Tordon can be injurious to several crop species.

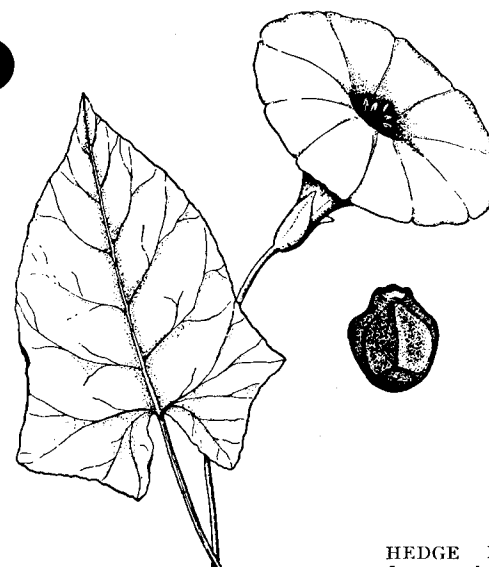
For spot spraying, use 1-1/2 to 2 pounds of active picloram per acre. Sprays can be applied any time top growth can be observed. Tordon remains active in the soil surface for at least a 2-year period. No crop or grazing area uses are registered for this material.

**Chlorate.** Sodium chlorate or borate-chlorate mixtures are effective for controlling small patches of field bindweed. Treatment rates for chlorate should be 4 to 5 pounds product per square rod. For polyborchlorate use 10 to 12 pounds product per square rod. Chlorates often cause soil erosion. Chlorates should be applied under low rainfall conditions in September and October and under high rainfall conditions in April. Chlorates, because of fire hazard, should be applied dry. Clothes and equipment should be carefully washed following the application of chlorate. Registration prevents the use of chlorates on crop and grazing lands.

**Tillage.** Field bindweed can be eradicated by a thorough tillage program. Best results are obtained by early spring plowing, followed by thorough cultivation after the field bindweed shows 10 to 14 days green regrowth. Eight to 10 cultivations are needed the first year. The tillage program must be followed for at least 2 years. Tilled areas should be fall seeded to protect the land from erosion during the winter months. The cover crop can be harvested for grain, silage, or pasture. After removing the cover crop, the land should be replowed and cultivated throughout the second summer. The selective use of herbicide sprays is more practical than tillage for the control of field bindweed.

## Hedge Bindweed (*Convolvulus sepium*)

Hedge bindweed is another species of bindweed similar to field bindweed, but



HEDGE BINDWEED—*Convolvulus sepium*—showing leaf, flower, and seed. Seed magnified 3 diameters.

the flowers and leaves are twice as large. It is less aggressive and is easier to control. 2,4-D, Banvel, and Tordon

are effective chemical methods of control. Use the same methods recommended for field bindweed.

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