

AGRICULTURAL GUIDE

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Weed Control 

Vine weeds in soybeans

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Vine weeds not only vigorously compete with crops, but they also plug up the combine and contribute to serious lodging. Once they are entangled in the soybean canopy, any attempt at cultivation strips foliage from the soybean plants. Severe infestations may cause 40 percent yield reduction. High moisture at harvest can also be a problem.

Problem vine weeds in Missouri fall into two general groups: annual or perennial species. Annuals include wild buckwheat (*Polygonum convolvulus*) (figure 1) and several morning glory species (*Ipomoea* spp.) (figure 2). Included among the perennial vines are field bindweed (*Convolvulus arvensis*) (figure 3), hedge bindweed (*Convolvulus sepium*) (figure 4), climbing milkweed (*Ampelamus albidus*) (figure 5), and wild potato vine (*Ipomoea pandurata*) (figure 6). Trumpet creeper (*Campsis radicans*), a woody vine, is a serious problem in localized areas and is not so widely distributed.

Control methods differ for annuals and perennials. Annuals originating from seed each growing season, are relatively easier to control than perennials, surviving from year to year and spreading by extensive root systems. However, once established, an annual vine weed can be as aggressive and competitive as a perennial.



Figure 1. Wild buckwheat.

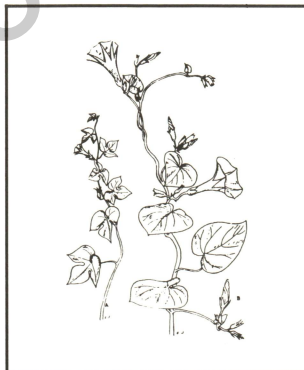


Figure 2. Morning glory.



Figure 3. Field bindweed.



Figure 4. Hedge bindweed.

Control of annual vines

Mechanical

When they are growing in conventionally prepared seedbeds, morning glories and wild buckwheat can be suppressed with a late tillage before planting. Tillage destroys the first flush of emerged vines and other annuals. Where row spacing permits, cultivation controls weeds between rows but not those growing in the row. Rotary hoeing kills the first flush of weeds and enables the soybeans to get a good start. And just getting off to a good start is a problem when tillage is the only control method.

Chemical

Pre-emergence: Lorox (Linuron). Apply this herbicide after beans have been planted but before emergence. Rates vary with soil types and organic matter content. Application rates are included on the container label. Lorox is also effective in controlling several other broad-leaved annuals and grasses.

Postemergence: Recently considerable progress has been made in the development of new postemergence herbicides for control of both broad-leaved and grass weeds.

Basagran (Bentazon) + Butyrac (2,4-DB). Apply this tank mix when morning glories are actively growing but before the vines reach a length of 10 inches. To the label rate of Basagran, which you select according to all other weed species you want to control, add 2 fluid ounces Butyrac per acre.

Blazer (acifluofen) applied alone is effective in controlling most species of annual morning glory. Apply at 2 pints per acre in a minimum of 20 gallons water to ensure adequate foliar coverage. You'll get

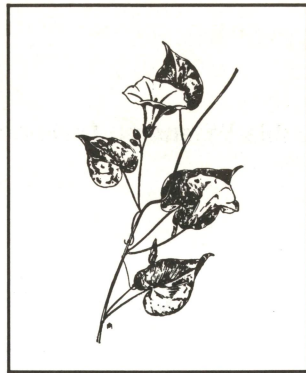
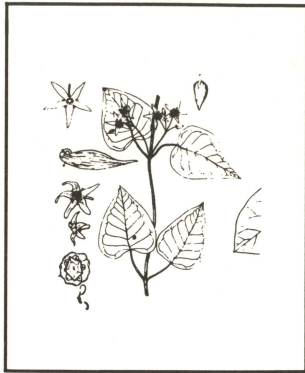


Figure 5. Climbing milkweed. Figure 6. Wild sweet potato.

the best results when you apply Blazer to young, actively growing morning glories that have not developed beyond the three to four-leaf stage of growth.

Cultivation before Blazer application is not recommended because plant stress may result in poor herbicide performance. Timely cultivation seven to 10 days after application may enhance control. Besides morning glory, Blazer also controls pigweed, lambs-quarter, cocklebur, velvetleaf, and certain annual grasses.

Adding 2,4-DB to Blazer enhances control. Check the label for tank mix rates.

2,4-DB (numerous trade names). Apply directly at 0.2 pounds per acre when soybeans are at least 8 inches tall. Direct the spray to lower third of the soybean plants. Don't spray drought-stressed beans, and don't use wetting agents or detergents. Do not apply later than seven to 10 days before bloom.

Dyanap. Apply 2 to 4 quarts Dyanap as a directed spray after soybeans have reached the second trifoliate leaf stage of growth, but before morning glory or wild buckwheat have reached a height of 6 inches. Do not apply Dyanap after beans start to bloom.

Control of perennial vine weeds

The bindweeds, climbing milkweed and, to a lesser extent, wild potato vine and trumpet creeper are perennial vines that are extremely difficult to control. Of these vine species, climbing milkweed is most widespread in Missouri and is a major problem. It spreads rapidly because seeds are carried by the wind and are blown in all directions from the infested area. Consequently, a small infestation can be a menace to surrounding areas.

Intensive tillage, herbicides, or a combination of both can control perennial vines. Preferably, control should be accomplished before growing a soybean crop. Two growing seasons of intensive tillage, designed to cut off plants about 4 inches beneath the surface eight to 10 days after each emergence, will control but not completely eradicate these problem perennials. A duckfoot cultivator is an effective tool for this purpose. Using this system, you can sow winter wheat in the fall and harvest it before you resume tillage the following summer. Herbicide application when weeds emerge above wheat stubble after harvest may enhance the effectiveness of the control program. Roundup or 2,4-D will enhance the effectiveness of repeated tillage.

Where an infestation of perennial vines is limited to a small area, complete eradication may be possible and desirable. Spot treatment with Roundup or a soil sterilant can be used to advantage. However, where the infestation is so widespread that the entire field is overgrown, eradication may not be economically feasible. In such situations, it may be advisable to keep the species under control, so farming operations can be carried on. A control program to reduce weed vigor results in less competition with the soybeans, inhibits seed production, and prevents spread to uninfested areas.

Finally, persistent perennial vines, like climbing milkweed and the bindweeds, cannot be effectively controlled in a growing crop. Implement a control program that will result in minimum competition after the crop has been planted.