


 HORTICULTURE
 FACT SHEET No. 54-1981
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Weed Control in Lawns and Other Turf

Weeds are plants out of place. A plant may be desirable in one situation and a weed in another. For example, creeping bentgrass plants can invade a Kentucky bluegrass lawn and cause unsightly patches. On a golf green, however, creeping bentgrass is highly desirable as the predominant plant. Weeds detract from the beauty of lawns due to the contrast in color and texture between the desired grass plants and the weeds. In addition, weeds compete with the desired grass plants for available water and nutrients, usually resulting in thinning of desirable plant cover.

Weed Identification and Characteristics

Lawn weeds may conveniently be divided into two classes based on the way in which they emerge from the seed. Monocots emerge with a single seed leaf whereas dicots emerge with two seed leaves. Most monocot weeds found in turf are from the family Gramineae and are termed **weedy grasses**. Examples include crabgrass, annual bluegrass, tall fescue, and quackgrass. Dicots, on the other hand, are termed **broadleaf weeds** and include such plants as dandelion, clover, ground ivy, knotweed, and plaintain.

Grass weeds and broadleaf weeds are further divided into groups according to the length of life of the plants. **Perennial weeds** have a life of more than two years, though new seeds may be produced every year. **Biennial weeds** have a life span of two years, generally storing up food reserves in the leaves and roots the first year and producing seed in the second year. The biennial weeds often are grouped with perennial weeds since control is similar. **Annual weeds** germinate from seed, grow, flower, and produce seed in less than one year. **Summer annuals** germinate in the spring and mature in the fall, whereas **winter annuals** germinate in fall or late winter and mature in late spring.

Effective control of weeds in turf is based on correct identification. Many books and charts are available to help in identifying common lawn weeds. For additional help in weed identification you can inquire at your County Agricultural Extension Service.

Methods of Control

The most effective method of controlling lawn weeds is to maintain a dense and vigorously growing turf cover. Weeds are often an indication of problems in the grass plant environment, and killing the weeds without correcting the underlying problem will lead to unsatisfactory results. For example, a problem with knotweed is usually an indication of severe soil compaction. Control of knotweed without correction of the soil com-

paction will only lead to bare soil until the area is again invaded by weeds that can grow in compacted soil.

Often turf weeds can be controlled simply by altering the cultural practices to favor the grass plants rather than the weeds. These cultural controls may include raising (or lowering) the mowing height, changing the frequency of mowing, lengthening (or shortening) the period between irrigations, increasing (or decreasing) the application of fertilizer, or aerifying the soil.

A combination of proper cultural practices plus prudent use of chemicals is sometimes necessary to control weeds effectively in turf. Whenever herbicides are used container labels should ALWAYS be read and followed carefully.

Preemergence herbicides affect germinating seeds. To be effective the herbicide should be applied two to four weeks before the weed seeds germinate. Consequently, preemergence herbicides are most effective against annual weeds. For control of summer annuals such as crabgrass, application of preemergence herbicides between May 1 and May 15 is most effective in a normal year.

Postemergence herbicides are used to kill weeds after the weed plants are up and growing. To be effective, most post-emergence herbicides must be absorbed through the leaves; consequently, liquid sprays generally work better than dry, granular materials. However, granular formations may be the most practical way for homeowners to apply these materials. Postemergence herbicides are most effective if applied when weeds are young and growing vigorously.

Selective postemergence herbicides are usually used to control annual, biennial, and perennial broadleaved weeds because they will kill many broadleaf plants without damaging grass plants. These herbicides can severely damage or kill trees, shrubs, and flowers; thus, they should be used with great care around these plants. When applying 2,4-D, a common postemergence herbicide, only the *amine* formulations should be used. Fumes from the ester formulations are more likely to damage ornamentals.

Postemergence herbicides may be applied any time the weeds are actively growing, but most effective control is obtained when applied in early fall (August 15 - October 15) or in spring (April - May). The postemergence herbicides should be applied when the air temperature is 60° - 80° F, when there are no winds, and when there is no rain in the forecast for 48 hours. For some weeds, repeated applications at 10 to 20 day intervals may be required for control.

Nonselective grass herbicides kill all grass plants, both desirable and undesirable. These herbicides are used to control

perennial grass weeds that are not affected by selective herbicides. To spot treat an area, thoroughly wet the foliage of the weeds with herbicide solution but avoid run-off and accumulation in the soil. A paint brush or sponge can be used to apply the herbicide to small areas.

With any herbicides, preemergence, selective postemergence, or nonselective postemergence, granular materials may be applied with a fertilizer spreader, but the spreader should be adjusted to apply recommended rates. Application rates higher than label recommendations can injure the desired grass plants. The preferred method of application is to apply one-half the recommended rate in one direction and one-half at right angles to that direction. They are most effective if applied when grass leaves are moist so granules stick to the leaf blades.

Gravity flow applicators, compressed air sprayers, or sprayers that attach to a garden hose are effective for liquid applications. Remember that the higher the pressure and the finer the mist, the more likely it is that the herbicide will drift and injure shrubs and trees. Sprinkler cans can be used on small areas, but once any applicator has been used to apply herbicides, it should not be used to spray ornamental or garden plants. You should use a separate sprayer for weed killing. Be sure to clean the sprayer thoroughly after each use.

Table 1. Summary of Chemical Weed Control Methods for Lawns and Turf

BROADLEAF WEEDS

Group 1

Dandelion
Dock
Plaintain
Purslane
Thistle

These weeds can be controlled with 2,4-D. Sprays are most effective. The best time to apply is early fall (August 15-September 20). Spring and fall applications are necessary to control some of these weeds. Apply when soil is moist, temperature is 60° - 80°F, no wind, and weeds are growing vigorously.

Group 2

Black Medic A
Chickweed A or P
Clover P
Ground Ivy P
(Creeping Charlie)
Henbit WA
Knotweed A
Mallow A or P
Spurge A
Yarrow P

These weeds are best controlled by mixtures containing 2,4-D, MCPP, and Dicamba. Repeated applications are frequently required. Early fall is the best time to apply for winter annual (WA) and perennial (P) weeds. Spring is the best time for summer annual (A) weeds. Apply when soil is moist and weeds are young and actively growing. Dicamba is especially dangerous to trees and shrubs because it can move in the soil and be taken up by tree and shrub roots. Any herbicide mixture containing dicamba should be used only in open areas away from trees and shrubs.

GRASS WEEDS

Group 1 - Annuals

Annual Bluegrass
Barnyardgrass
Crabgrass
Fall Panicum
Foxtail
Goosegrass

Use preemergent herbicides such as DCPA (Dacthal), benefin (Balan), bensulide (Betasan), siduron (Tupersan), or oxidiazon (Ronstar). Apply two to four weeks prior to expected germination of weed seeds. Some of these herbicides may injure fine fescues or bentgrasses. Reseeding can follow siduron application immediately.

Group 2 - Perennials

Bromegrass
Johnsongrass
Quackgrass
Tall Fescue

These weeds can be controlled only with non-selective herbicides such as glyphosate (Kleenup, Roundup). Treat only spots because herbicide also will kill desirable grass plants. Apply when weeds are actively growing.