

# Lawn weed prevention and control

J.C. Stier and R.C. Newman



Weeds invade lawns in a number of ways. Weed seeds are present in most lawn soils, and some weed seeds may lie dormant for years before germinating. Weed seeds also may be brought in with topsoil, mulches, and manure, or carried in by wind and water. In addition, some lawn seed mixtures contain seeds of perennial grasses such as tall fescue and bentgrass, which are weeds in bluegrass lawns.

The best defense against weed invasion and takeover is a dense stand of perennial turfgrasses. Vigorous turfgrasses successfully compete with weeds for light, moisture, and soil nutrients. Good lawn management will encourage vigorous turfgrass growth.

However, there are times when it may be necessary to use herbicides to control lawn weeds. A sound weed control program combines proper lawn management with proper herbicide use to effectively prevent and control lawn weeds.

## Proper lawn management

The following is a list of management techniques to encourage good turfgrass growth while minimizing weed problems.

1. Use disease-resistant turfgrass cultivars when planting or renovating.
2. Set mower height to 2.5–3.0 inches. Mow frequently so that no more than 30–40% of the grass plant is removed at one time.
3. Water correctly. Grasses require about 1 inch of water a week. Water thoroughly once each week; frequent light watering encourages shallow rooting and diseases.
4. Control insect pests and diseases before serious damage occurs.
5. Establish red fescue in shady areas or use a groundcover where shade is too dense for grasses.
6. Fertilize correctly. Too much or too little fertilizer leads to weed problems.

## Proper herbicide use

Herbicides are available that will control most common lawn weeds. But they must be used correctly and combined with good lawn management for successful weed control.

1. *Read herbicide label directions and follow them exactly.*  
This is the law!
2. Do not apply herbicides to nontarget plants or on hard surfaces such as sidewalks and paved driveways.
3. Apply liquid formulations on a calm day to avoid herbicide drift.
4. Apply liquids at low pressure—15–20 psi.
5. Do not use broadleaf weed herbicides (such as 2,4-D) in midsummer or when temperatures are 85°F or above, unless absolutely necessary.
6. Use ester formulations of 2,4-D only in early spring or late fall, when temperatures are below 85°F. Use amine formulations at all other times.
7. Wash sprayers with clean water and a detergent or ammonium solution after each use.
8. Store all herbicides in locked storage.

## Herbicide control of specific weed problems

Table 1 summarizes herbicides recommended to control specific weed problems in turfgrasses. *Selective* herbicides do not kill or injure turfgrasses; *nonselective* herbicides kill or injure everything they are applied to. This publication refers to herbicides by their common names; use the trade names listed in table 1 when looking for products in your local garden store.

### Crabgrass

Crabgrass is an annual grass that first appears in lawns about May 10 and may germinate as late as July. Apply preemergence crabgrass herbicides evenly on your lawn by May 1 or before crabgrass germination. Crabgrass grows rapidly during the hot summer months and is killed in fall by frost.

*Preemergence herbicides* (listed in table 1) must be applied before weed seeds germinate, as they do not injure or kill crabgrass after it has germinated. You can use siduron when seeding a new lawn, but apply the other crabgrass herbicides only to established lawns.

*Postemergence organic arsenical herbicides* such as MSMA (Daconate) generally do not control crabgrass as well as preemergence herbicides. Make two to three applications per season starting when crabgrass is in the three- to five-leaf stage. Organic arsenicals do not control mature crabgrass.

Fenoxaprop (Acclaim) and dithiopyr (Dimension) are newer postemergence crabgrass herbicides. They give excellent control when a single application is made when crabgrass is in the three-leaf to one-tiller stage. Fenoxaprop is a liquid and is used with a liquid applicator.

### **Perennial grasses— quackgrass, tall fescue, bentgrass**

You can kill individual patches or clumps (spot treatment) of coarse grasses with glyphosate (Roundup, Kleenup), a liquid that is diluted with water and applied with a sprayer, sponge, or squirt-type applicator. Apply glyphosate in spring or early fall when weeds are actively growing. Wait 7 days after application before digging or tilling the treated area.

A word of caution—glyphosate is nonselective. It kills all plants including weeds, turfgrasses, and ornamentals.

### **Moss**

Moss in a lawn indicates unfavorable growing conditions for grass. Excess shade, infertile soil, extremely acid soil, compacted soil, and water-logged soil are associated with moss.

You can temporarily kill moss by applying 1 ounce copper sulfate in 1 gallon water to every 200 sq ft of lawn, or by applying ferrous ammonium sulfate. However, unless the unfavorable growing conditions responsible for the moss are corrected, control is temporary.

### **Yellow nutsedge**

Yellow nutsedge looks like grass but has yellowish-green leaves. It can be distinguished from grasses by its triangular stem; grass stems are round or somewhat oval in cross-section but never triangular. Nutsedge is perennial and spreads vegetatively by underground nut-like tubers as well as by seed.

Bentazon (Basagran) is recommended for selective control of nutsedge in turf. Apply liquid bentazon with a sprayer in spring when nutsedge is in the three- to five-leaf stage. Bentazon does not injure established turfgrasses.

### **Poison ivy**

Spot treat poison ivy with glyphosate (Roundup, Kleenup) or dicamba (Banvel). Keep in mind that glyphosate is nonselective and that dicamba should not be applied more than once a year under trees and shrubs. Also, dicamba is most effective when mixed with 2,4-D and/or mecoprop.

### **Broadleaf weeds**

To reduce the potential for injury to desirable plants, apply herbicides for broadleaf weed control in established grass in May before flowers and vegetables are transplanted to the garden or in September around the time of the first frost. Table 2 lists common broadleaf weeds and their susceptibility to dicamba, mecoprop, and 2,4-D.

Dicamba, mecoprop, and 2,4-D are available as liquids, granules, or combined with fertilizers. Apply granular herbicides or fertilizer-herbicide combinations with a fertilizer spreader when the grass and weeds are wet with dew or irrigation water.

Mixtures of dicamba, mecoprop, and 2,4-D are available both in liquid and dry granule forms.

Triclopyr and 2,4-D are recommended for hard-to-control plants such as ground ivy, sorrel, and spurge. However, triclopyr and 2,4-D products generally are not available to homeowners but are available to professional users. Contact a commercial applicator if it is necessary to use 2,4-DP and/or triclopyr products.

### **Soil sterilization**

Soil sterilization before seeding or sodding can only be done by a properly licensed professional applicator.

*References to pesticide products in this publication are for your convenience and are not an endorsement of one product over other similar products. You are responsible for using pesticides according to the manufacturer's current label directions. Follow directions exactly to protect the environment and people from pesticide exposure. Failure to do so violates the law.*

**Table 1. Summary of herbicides for turfgrass weed control**

Herbicide use	Herbicide		Time to apply	Remarks
	Common name	Trade name		
Annual grass (crabgrass)—preemergence	benefin benefin + trifluralin bensulide oxadiazon pendimethalin prodiamine siduron	Balan Team 2 G Betasan Ronstar G Halts, Pre-M Barricade Tupersan	Apply in late April or before crabgrass germinates.	
Annual grass (crabgrass)—postemergence	DSMA MSMA	(many) Drexel MSMA, Daconate	Apply when crabgrass is in three- to five-leaf stage.	Requires two to three applications; will not control mature crabgrass.
	dithiopyr fenoxaprop	Dimension Acclaim	Apply at any stage of growth.	Kills crabgrass in established lawns. Do not treat during dry periods.
Broadleaf weeds—postemergence, selective (for established turfgrass)	2,4-D 2,4-DP <sup>a</sup> dicamba mecoprop (MCP) triclopyr <sup>a</sup>	(many) (many) (many) (many) Turfcon products	Apply in May or September. Avoid use in midsummer or when temperatures are high.	Dicamba, mecoprop, 2,4-D, and 2,4-DP are sold as combinations of two or more ingredients. Do not apply dicamba more than once a year beneath trees and shrubs.
Moss—postemergence	copper sulfate ferrous ammonium sulfate		Apply anytime.	Provides temporary control. For permanent control, poor growing conditions must be corrected.
Poison ivy—postemergence	dicamba glyphosate	(many) Roundup, Kleenup	Apply in spring or early summer when poison ivy is actively growing.	Use dicamba only as a mixture with 2,4-D and/or mecoprop; do not apply dicamba more than once a year beneath trees and shrubs. Glyphosate is nonselective.
Quackgrass—postemergence, nonselective	glyphosate	Roundup, Kleenup	Apply anytime during the growing season.	Nonselective; use only prior to establishment or for spot treatment after establishment.
Yellow nutsedge—postemergence, selective	bentazon	Basagran	Apply when nutsedge is in three- to five-leaf stage.	
Nonselective contact herbicides, no soil residue	cacodylic acid glyphosate	(many) Roundup, Kleenup	Apply anytime during the growing season.	Nonselective; use only prior to establishment or for spot treatment after establishment.

<sup>a</sup>Should be applied by a commercial applicator

**Table 2. Susceptibility of broadleaf weeds to 2,4-D, mecoprop, and dicamba**

Common name <sup>a</sup>	Herbicide <sup>b</sup>		
	2,4-D	Mecoprop	Dicamba <sup>c</sup>
Bindweed, field (perennial)	intermediate–susceptible	intermediate	susceptible
Carpetweed (annual)	susceptible	susceptible	susceptible
Carrot, wild (biennial)	intermediate	intermediate	susceptible
Chicory (perennial)	susceptible	susceptible	susceptible
Chickweed, common (annual)	resistant	intermediate–susceptible	susceptible
Chickweed, mouse-ear (perennial)	resistant	intermediate–susceptible	susceptible
Clover, white (perennial)	intermediate	susceptible	susceptible
Dandelion (perennial)	susceptible	susceptible	susceptible
Ground ivy (creeping charlie) (perennial)	resistant	intermediate	intermediate–susceptible
Henbit (annual)	resistant–intermediate	intermediate	susceptible
Knotweed, prostrate (annual)	resistant	intermediate	susceptible
Mallow, roundleaf (annual/biennial)	resistant–intermediate	intermediate	intermediate–susceptible
Medic, black (annual)	resistant	intermediate	susceptible
Plantain, common (perennial)	susceptible	intermediate	resistant
Plantain, buckhorn (perennial)	susceptible	intermediate	resistant
Sorrel, red (perennial)	resistant–intermediate	resistant	susceptible
Spurge, prostrate (annual)	intermediate	intermediate	intermediate–susceptible
Thistle, bull (biennial)	susceptible	intermediate	susceptible
Thistle, Canada (perennial)	susceptible–intermediate	intermediate	susceptible
Violet (perennial)	resistant	resistant–intermediate	resistant–intermediate
Wood sorrel, yellow (perennial/annual)	resistant	resistant–intermediate	intermediate
Yarrow (perennial)	intermediate	resistant–intermediate	susceptible

<sup>a</sup>Annuals live 1 year; biennials live 2 years; perennials live more than 2 years.

<sup>b</sup>Intermediate, more than one application is necessary.

<sup>c</sup>Use dicamba only as a mixture with 2,4-D and/or mecoprop. Do not apply more than once a year beneath trees and shrubs.

**UW**  
**Extension**

**Copyright © 1999** by the Board of Regents of the University of Wisconsin System doing business as the division of Cooperative Extension of the University of Wisconsin-Extension. Send inquiries about copyright permission to: Director, Cooperative Extension Publishing, 201 Hiram Smith Hall, 1545 Observatory Dr., Madison, WI 53706.

**Authors:** J.C. Stier is assistant professor of horticulture and R.C. Newman is professor emeritus of horticulture, College of Agricultural and Life Sciences, University of Wisconsin-Madison and University of Wisconsin-Extension, Cooperative Extension. Produced by Cooperative Extension Publishing.

**University of Wisconsin-Extension,** Cooperative Extension, in cooperation with the U.S. Department of Agriculture and Wisconsin counties, publishes this information to further the purpose of the May 8 and June 30, 1914 Acts of Congress; and provides equal opportunities and affirmative action in employment and programming. If you need this material in an alternative format, contact the Office of Equal Opportunity and Diversity Programs or call Cooperative Extension Publishing at (608) 262-2655.

**This publication is available** from your Wisconsin county Extension office or from Cooperative Extension Publishing, 45 N. Charter St., Madison, Wisconsin 53715. Phone (608) 262-3346 or call toll free 877-WIS-PUBS (947-7827). To view other Extension publications, visit our web site at [www1.uwex.edu/ces/pubs/](http://www1.uwex.edu/ces/pubs/). Before publicizing, please call for publication availability.