

# Weed Management in the Home Lawn

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Weeds occur in every lawn, but they seldom become problems in well-managed, vigorously growing turfgrass. Proper site preparation and turfgrass selection before planting are essential to give a new lawn a healthy start. Once a lawn is established, poor maintenance practices that weaken it - such as improper irrigation, fertilization, or mowing - are the primary factors likely to predispose it to weed invasion. Activities that lead to compaction also contribute significantly to turfgrass stress, making it easier for weeds to invade.

An integrated weed management program can reduce most weed populations to tolerable levels and prevent large, unsightly weed patches. Total eradication of weeds is not a realistic or necessary goal for most lawns. With proper maintenance a lawn can be practically free of weeds without the extensive use of chemicals.

## **WEED IDENTIFICATION**

Identifying weeds and knowing their life cycles are essential to management. Three general categories of weeds may be found in lawns: broadleaves, grasses, and sedges. Take care to distinguish annual weedy grasses (crabgrass, foxtail, barnyardgrass) from similar-looking perennial weedy grasses (quackgrass, brome grass, bermudagrass) because the approaches to their management (both cultural and if using herbicides) are often quite different. Broadleaf weeds can be annual (purslane, spurge) or perennial in their growth habits, which might require a different approach to their management (type and timing of herbicide applications, for example).

The life cycle of weeds may be annual, biennial, or perennial. Annual weeds are commonly identified as either winter (cool-season) or summer (warm-season) annuals and survive only one season. If not controlled before they flower, they can produce seed that will sprout the following year or sometimes in the same growing season. In mild climates or in lawns that are influenced by microclimates, cool-season annuals may be found growing in summer or year-round (chickweed, for example). Perennial weeds survive for many years, and though they produce seeds, most survive and reproduce vegetatively by creeping stems (stolons and rhizomes), tubers, or roots. Perennial weeds are the most difficult to control once established because they often have deep, extensive root and rhizome systems that store energy - enabling them to re-grow if pulled or treated with herbicides.

## **WEED MANAGEMENT IN ESTABLISHED LAWNS**

Weeds often invade turfgrass that is over- or under-watered, improperly fertilized, mowed incorrectly, or highly compacted. Lawns that have been weakened by plant diseases or insect pests are also likely to become weedy because there is more open space for a weed to establish. Many weed problems can be prevented with proper lawn maintenance - or good maintenance can prevent the problem weed(s) from becoming worse. The most troublesome weed species that invade turfgrass are often associated with specific conditions (compaction, low fertility, too dry, too wet, shady, salty, etc.). Identifying the weed species present may give an indication of the underlying problem responsible for the occurrence of the problematic weeds.

### *Irrigation*

Many lawns are watered incorrectly. Poor irrigation practices can weaken turfgrass, allowing weeds to invade. To maintain a healthy lawn, uniform water coverage is needed. Sprinkler heads that are broken, obstructed, or set too low or too high may not reach all areas of the lawn and can result in dry or dead spots in an otherwise healthy turfgrass.

In general, deep, infrequent irrigation will encourage healthier root growth, dense turf, and can reduce weed seed germination. Light, frequent watering is only required when the turfgrass has just been planted and the root system is developing. Watering established turfgrass lightly and frequently creates a shallow-rooted lawn, making it less durable and allowing shallow-rooted weeds such as crabgrass grow more easily – even if a preemergence herbicide is used. Allowing the soil surface to partially dry out between watering events can be useful for reducing weed pressure.

### *Mowing*

Mowing some grasses too short and/or not frequently enough can weaken the turf and increase the potential for weed invasion. In general, bluegrass, ryegrass, fescue and buffalograss lawns should be mowed at a height of 2.5 to 4 inches. Mow grasses more frequently when they are actively growing. A standard guide is to remove no more than 1/3 of the leaf blade at each mowing. If too much is removed at one time, it can take some time for the grass to recover, giving weeds a chance to invade.

### *Fertilizing*

Most bluegrass and tall fescue lawns need to be fertilized 2-4 times a year while they are actively growing, with no more than 1 pound of actual nitrogen per 1,000 square feet per application. Lawns that are older 10+ years or older require less fertilizer (1-2 times yearly) than newer lawns. Recycling grass clippings into the lawn when mowing can also reduce the need for fertilizer application significantly.

### *Thatch and Compaction Management*

Regular thatch and compaction management will help keep your turfgrass healthy, easier to water and fertilize, and more competitive against weeds. Thatch is a layer of organic matter (stems, stolons, roots) that develops between the turfgrass blades and the soil surface on some lawns (bluegrass especially). A thin layer of thatch (1/2 inch is OK) is normal and even beneficial; it can help provide wear/traffic tolerance if you have dogs and/or children that play in the lawn. Some people prefer to use a thatching machine (aka “power-rake”) to remove thatch, while others use core cultivation (aka “aeration”) to manage thatch. The advantage to using aeration is that you will also help reduce soil compaction – which is sometimes a contributing factor towards excessive thatch accumulation (roots don’t grow deeply into soil that is too compacted and/or wet). Lawns on heavy clay soils or lawns with heavy foot or equipment traffic may need to be aerated twice yearly (spring and fall) while lawns with little activity may only need to be aerated once a year or less. Aerate when the turfgrass is actively growing, in the spring or fall (avoid the hottest months of summer). Power-raking is best done in the spring before the grass begins active growth – allowing time for it to regrow in the spring and early summer.

### **Herbicides for Broadleaf Weeds**

The easiest weeds to control in grass lawns are YOUNG (small) annual broadleaf and grassy weeds, like crabgrass, foxtail, spurge and purslane. Generally these herbicides are postemergence, systemic herbicides containing combinations of two or three active ingredients, such as dicamba, mecoprop, or 2,4-D, and are very effective in controlling numerous broadleaf weeds without damaging the grass. Triclopyr is also an effective broadleaf herbicide that is found in products for more difficult-to-control weeds. Newer herbicides carfentrazone, sulfentrazone, and quinclorac also have broadleaf weed activity and are often formulated with the other broadleaf herbicides to increase the speed or spectrum of weed control (and they may provide control of some grassy weeds and sedges). If crabgrass or other annual grassy weeds are present, it’s essential the quinclorac be listed on the herbicide label.

Broadleaf herbicides are also effective against perennial broadleaf weeds, although more than one application may be necessary. Be aware that many postemergence broadleaf herbicides are prone to drift in the air and may contact desirable plants, especially when applications are made in windy conditions or when temperatures exceed 80-85 F. Also be aware that certain broadleaf herbicides, such as dicamba and triclopyr, can be absorbed by tree roots growing in lawns and may cause tree injury if applied too many times during the growing season (more than twice) or at excessively high rates. Always consult the herbicide label for recommended rate usage and application frequency to avoid injury to non-target landscape plants.

### **Herbicides for Grass Weeds**

Annual grasses such as crabgrass, foxtail, and barnyardgrass can be effectively controlled in established lawns with preemergence herbicides such as benefin, bensulide, dithiopyr, pendimethalin, and prodiamine. The key to success for all preemergence herbicides is to apply the herbicide 2 to 4 weeks prior to weed germination. Pre-emergence herbicides must be thoroughly watered into the lawn as soon as possible after application, and cultural practices that encourage annual grassy weeds must be modified to favor the turfgrass (most importantly, mow at 2.5-4 inches). Be aware that overseeding or reseeding lawns may not be possible for several weeks or months after applying a preemergence herbicide. It is more difficult to control annual weedy grasses growing in established lawns with postemergence herbicides. Products containing quinclorac are available to control crabgrass, foxtails, and barnyardgrass infestation.

### **Herbicides for Newly Seeded Lawns**

Special care should be taken when applying herbicides on newly seeded lawns because of the sensitivity of seedling plants. Among the preemergence herbicides, only mesotrione can be used on newly seeded or established cool-season turfgrass for control of broadleaf seedlings and warm-season grassy weeds such as crabgrass, foxtails, and barnyardgrass. Mesotrione is combined with a starter fertilizer to be used at planting and is available to home gardeners as Scotts Turf Builder Starter Food For New Grass Plus Weed Preventer. Postemergence herbicides selective for broadleaf weeds can be used once the turfgrass has produced several tillers and has been mowed two or three times.

### **Weed and Feed Products**

Some fertilizer products contain either preemergence or postemergence herbicides (or both) for weed control (usually crabgrass prevention or broadleaf weed control). Use these combination products only when the lawn has a known weed problem and not every time you fertilize. Be sure the active ingredient in the product is one that will control the weed species causing your problems and also that the timing of the application is right. There is no point in applying preemergence herbicides after the majority of target weeds have emerged. Weed and feed products for existing weeds (dandelion, clover, thistle, etc) must be applied to wet grass and weeds; follow all label instructions in order to get good weed control and to avoid turf injury.

### **Corn Gluten Meal for Organic Weed Control**

This is a waste product left over from the processing of corn and is often marketed for weed control. It has high nitrogen content (9-10 percent nitrogen by weight) and makes for a good organic nitrogen fertilizer. Research conducted at a number of universities across the U.S. suggests that the use of corn gluten meal as an organic weed control product provides little to no reliable control of crabgrass and other weeds. However, corn gluten meal may help in weed management because its fertilizer effect makes the turfgrass more competitive against weed invasion. Corn gluten meal has no effect on already emerged weeds.

## Herbicide Success Tips

Lawn and garden companies market their own brand names of herbicides. These trade names are so numerous and change so often that they cannot all be listed in this publication. Shop for herbicides by looking for the common name or active ingredient that appears on the label in small print under the title “Ingredients.” Unlike brand names, common names for active ingredients do not change from company to company. Different products will vary in the percentages of active ingredients they contain. Some products are formulated as ready-to-use to allow for the convenience of no mixing, others as granules, and many others as higher-concentration liquid sprays that require mixing with water.

Follow all label directions carefully and only apply herbicides at the time of year and at the rates recommended. Be sure the herbicide is effective against the weed you are trying to control and that it is recommended for your type of lawn. Improper use could injure or kill desirable turfgrass or other plants in the landscape.

Remember that many broadleaf weed herbicides are prone to drift, volatilization (forming a gas at temperatures greater than 80 F), or can be injurious to shallow tree and shrub roots growing in the lawn. Do not apply herbicides under hot, dry, or windy conditions as they could injure turfgrass or nearby ornamentals.

### Selective Preemergence Herbicides (*Herbicides applied before weeds emerge*)

Common Name	Sample trade name(s)	Comments
benefin + trifluralin	Team 2G	Controls grasses and some broadleaves; has extended grass control; has some turfgrass species restrictions
dithiopyr	Crabgrass & weed preventer (many brands – often combined with fertilizer)	Controls many grasses and broadleaves (e.g., oxalis, spurge); (has postemergence activity on young crabgrass); safe for most turfgrass species
isoxaben	Bayer Season Long Weed Control for Lawns; Gallery	Controls broadleaves (e.g., oxalis, spurge) and has very minimal activity on grasses; has some turfgrass species restrictions
mesotrione	Scotts Turf Builder Starter Food for New Grass Plus Weed Preventer; also Tenacity	Controls grass weeds and yellow nutsedge in newly seeded lawns; several turfgrass species restrictions
pendimethalin	Scotts Halts Crabgrass Preventer	Controls grasses (very effective on crabgrass) and some broadleaves; has some turfgrass species restrictions; often included with fertilizers
prodiamine	Sta-Green Crab-ExPlus with Lawn Fertilizer	Controls grasses (very effective on annual bluegrass and crabgrass) and some broadleaves (spurge)

## Selective Postemergence Herbicides (*Herbicides applied after weeds emerge*)

Common Name	Sample trade name(s)	Comments
Mixtures of 2,4-D, dicamba, and mecoprop (MCP)	Trimec Lawn Weed Killer Spectracide Weed Stop Ortho Weed B Gon Weed Killer for Lawns products	Many brand names and formulations available; combines 3 active ingredients and controls most broadleaves (weak on oxalis); dicamba products may harm ornamentals if roots are in lawn or drift occurs
mixtures of 2,4-D, 2,4-DP, dicamba, MCP, carfentrazone, quinclorac	Bayer All in One Weed & Crabgrass Killer Gordon's Speed-Zone Lawn Weed Killer Monterey Crab-E-Rad Plus Ortho Weed B Gon Weed Killer products Spectracide Weed Stop for Lawns plus Crabgrass Killer	Many brand names and formulations available; combines 2-4 active ingredients and controls most broadleaves and some weedy grasses; dicamba products may harm ornamentals if roots are in lawn or drift occurs
Mixture of 2,4-D, dicamba, MCP, sulfentrazone, quinclorac	Roundup for Lawns	Very broad spectrum weed control: broadleaf weeds, annual grassy weeds, yellow nutsedge.
halosulfuron	Sedgehammer, Monterey Nutgrass Killer II	Effective on sedges
mesotrione	Tenacity	Safe for use on both seedling and established turf. Do not use on bermudagrass or fine fescue lawns unless damage can be tolerated. Provides good control of annual grassy weeds (crabgrass, foxtail, barnyardgrass) and some perennial grassy weeds (bentgrass, windmillgrass, nimblewill).
quinclorac	available combined with other broadleaf weed herbicides Drive XLR8, Quinclorac	Selectively removes some weedy grasses and broadleaves from many established turfgrasses; some turfgrass species restrictions. Will control fountaingrass in cool-season lawns.
sulfentrazone	Ortho Nutsedge Killer for Lawns	Effective on yellow and purple nutsedge, green kylinga, and several hard to control broadleaves such as curly dock, knotweed, plantain, spurge, wild garlic, wild onion, woodsorrel (oxalis)
triclopyr	Monterey Turflon Ester Turflon	Controls broadleaves (especially clover, oxalis) and suppresses bermudagrass in cool-season lawns; not for use on warm-season turfgrass species
triclopyr + MCP + dicamba	Monterey Spurge Power Ortho Weed B Gon Weed Killer for Lawns products	Controls a broader spectrum of broadleaves (e.g., spurge, wild violet, dandelion); not for use on warm-season turfgrass species

Inclusion of product names does not imply any endorsement or that the products will work effectively, nor does exclusion of any product names imply criticism of the product. Please contact author with corrections, or to have additional products added to these lists.

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