

Weed Control in Landscape Plantings

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Landscape beds.

Effective weed control is an essential component of a quality landscape maintenance program. Weeds have a negative impact on a landscape by reducing the aesthetic value, harboring insects and diseases and competing for water and nutrients. A number of weed control options are used in landscape management programs. While mechanical or hand removal of weeds is an option, it is rarely used in commercial landscape maintenance.

Initial Site Preparation

Site preparation before planting is critical. Multiple applications of Roundup[®] (glyphosate) are a cheap but time-consuming method of controlling many perennial weeds before planting. A typical mix is 2 to 3 ounces of Roundup Pro[®] or Roundup Original[®] per gallon of water. One application of Roundup will provide about 50 percent control of bermudagrass. Three to four applications of Roundup will control 95 to 100 percent of bermudagrass. It is essential to wait for regrowth before applying followup applications. It is very difficult to eradicate purple or yellow nutsedge

with Roundup. Only the tubers attached to emerged plants are controlled.

After planting, physical barriers or chemical control options are most frequently used to maintain weed populations at manageable levels.

Physical Barriers

Landscape fabrics or weed mats are sometimes used around trees or in shrub beds. Landscape fabric should never be used in annual color beds due to the high frequency of slits required to gain access for planting and since the fabric barrier would have a single-season use. When a fabric barrier is used, it is always covered in mulch for aesthetic reasons. The effectiveness of a fabric physical barrier is not permanent. Within a few years, weed seeds will germinate and establish in the mulch layer above the fabric necessitating either hand removal or chemical control. Placing mulch on top of weed barriers/fabrics may not be the best combination on steep slopes. In these circumstances, the mulch tends to slide more easily on the smooth barrier surface than if mulch was applied on bare ground.

Mulches prevent weed emergence by blocking light needed to stimulate germination. While very effective, mulches will not provide complete weed control. Hardwood and pine bark are two of the most popular materials. One common error made with using mulches is applying them too deep. Excessive mulching creates a

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Mulch applied over weed barrier on a steep slope.

constantly wet environment, which prevents oxygen penetration into the soil. Coarse bark mulch should be 3 to 4 inches deep (after settling) and fine-textured bark about 2 inches deep. Coarse mulches provide less water-holding capacity and are less likely to have weeds growing in the mulch. Fine mulches hold water and provide a favorable environment for weed seed germination.

Seasonal Color Beds

The most common recommendation for weed control in a color bed is to use a preemergence herbicide. When using a preemergence herbicide in an annual bed, irrigate to settle the soil around the plants before applying the herbicide. A granular product such as Pendulum[®] 2G (pendimethalin) or Preen[®] (trifluralin) is easy to apply and labeled for use on many popular bedding plants. Granular products are generally safer for use around ornamentals. For instance, sprayable Pendulum is very damaging to pansies whereas the granular form is relatively safe.

Planting to encourage the rapid formation of a canopy will help shade weeds. Avoid small, odd-shaped flower beds. They are difficult to maintain and mow around. When mowing, blow clippings



Seasonal color bed.

away from beds to prevent the introduction of weed seeds. Cultivation when changing plantings will suppress some weeds but may bring additional weed seeds to the soil surface. A preplant application of a non-selective herbicide between plantings will help reduce weed competition without disturbing the soil. Do not try to use nonselective herbicides such as Roundup Pro or Finale[®] while annuals are present. It is too easy to make a mistake. Envoy[®], Fusilade[®] II or Sethoxydim G-Pro[®] may be used postemergence to selectively control weedy grasses after planting. No selective postemergence herbicidal control exists for non-grass species.

Postemergence Grass Control in Woody Landscape Beds

For control of grass weeds in non-grass ornamentals, use the postemergence grass-specific herbicides. This group of selective herbicides includes sethoxydim (Segment[®]), fluazifop (Fusilade II) and clethodim (Envoy). These products are systemic, so they affect the rhizomes and stolons of perennial grasses. Repeat treatments are generally necessary for long-term control of established grasses. Members of this herbicide class only control grasses and have little or no adverse effect on most broadleaves, sedges and other non-grass monocots such as wild onion and wild garlic. Other non-grass monocots that are not affected include iris, monkeygrass (*Ophiopogon*) and liriopse (*Muscari*).

Certain turfgrasses can tolerate the grass-specific herbicides. Tall fescue and zoysiagrass have limited tolerance to Fusilade II. Segment and Envoy are safe around centipedegrass. Envoy is the only product in this group that controls annual bluegrass. This highlights the importance of weed identification when choosing a herbicide. Also, remember that nutsedge, sometimes referred to as nutgrass, is not a grass and is unaffected by this group of chemicals. Obviously, you must not apply these materials over the top of ornamental grasses such as *Miscanthus*. In addition,



Warm-season grasses in ornamental beds.

be careful to avoid drift onto adjacent turf areas when applying these products to ornamental beds.

Check the label to determine which broadleaf ornamentals you can treat with over-the-top applications of a given postemergence grass herbicide. Although most broadleaf species have excellent tolerance to these chemicals, occasionally damage will result. Check the label carefully for plant tolerances. If there is any doubt about potential damage, treat a limited area before making a more wide-scale application.

Do not apply herbicides to drought-stressed grasses. Poor control will result. Drought-stressed weeds do not readily absorb and translocate herbicides. Treat annual grasses when they are small (before tillering) for optimum results. Make sure perennial grasses are actively growing when you treat them. Repeat applications usually are necessary for long-term control. Consult the label to determine if a surfactant should be added.

Consumer versions of these postemergent grass herbicides include Ortho Grass-B-Gon[®] (fluzifop-butyl), Fertilome Over-the-Top[®] (fluzifop-butyl) and Hi-Yield Grass Killer[®] (sethoxydim).

Preemergence Herbicides

Surflan[®] 4AS (oryzalin). May be applied over the top or as a directed spray on ornamentals. Try to apply as a directed spray. Surflan does not control established weeds. Irrigate immediately after application to improve weed control. XL is a granular formulation of 1 percent Surflan and 1 percent Balan[®]. Do not tank mix Surflan with Pennant[®] due to physical incompatibility.

Barricade[®] 65 WDG (prodiamine). Apply before weeds germinate. Do not apply more than 2.3 lb of Barricade per year. Barricade, compared to pendimethalin or oryzalin, is often safer as a sprayed, overtop application due to its relative insolubility.



Pendulum 2G (pendimethalin). Good product for those starting preemergence use in ornamental beds. Do not apply to moist foliage. Will not control established weeds. Weed control spectrum similar to Treflan[®] but tends to be more stable on the soil surface.



Preemergent herbicides are ineffective against large-seeded woody plants. Consult FSA6124, *Woody Plant Control in Landscapes*.



Broadcast application of granular preemergent herbicides.

Preen 1.47G (trifluralin). Will not control established weeds. If mulching, apply to top of mulch. Water in immediately. *Ajuga*, *Vinca* and *Pachysandra* must be well established. One of the safest preemergence herbicides for color beds.

Snapshot[®] 2.5TG (isoxaben + trifluralin). Apply before weeds germinate. Not recommended for bedding plants. Isoxaben is known to injure mockorange (*Philadelphus*), *Euonymus* and lilac (*Syringa*). Postplant, preemergence applications may kill the following plants: *Veronica*, *Digitalis*, mints, legumes, mustards.

Pennant[®] 7.8E (metolachlor). Used primarily for nutsedge suppression. Performs best on yellow and annual sedges. Partial control of purple nutsedge. Apply to weed-free soil. Direct toward base of ornamentals established for at least two weeks. Do not tank mix with Surflan due to physical incompatibility.

Gallery[®] 75DF (isoxaben). Do not apply to new plantings until the soil has settled and no cracks are present. Apply before weeds germinate. Combine with Surflan for improved control of annual grasses. Gallery is known to injure mockorange, *Euonymus* and lilac. Postplant, preemergence applications may kill the following plants: *Veronica*, *Digitalis*, mints, legumes, mustards.

Postemergence Nonselective Herbicides

Finale (glufosinate). Apply as a directed spray. Do not contact bark or foliage of desirable plants. Use on a spray-to-wet basis. Add 1.5 to 4.0 fl oz/gal plus 0.5 percent nonionic surfactant. Complete coverage is important. Finale may be tank mixed with Surflan, Factor[®], Gallery or Pendulum to provide residual control. Contact herbicide. Safer (on non-target plants) and faster acting than Roundup but not as effective. Better on legumes than Roundup.

Roundup Pro (glyphosate). Apply as a directed spray in established plantings. Adjust rate of application to weed species according to label instructions. Do not contact bark or foliage of desirable plants or severe injury may occur. Do not add surfactant. Spray to slightly wet the foliage of target weeds.



Directed sprays of postemergence herbicides.

Postemergence Grass Herbicides

Fusilade II (fluazifop-butyl) may be applied over the top to selected ornamentals and as a directed spray to others. Check label for listing of those species that require a directed application. Treat bermudagrass when runners are 4 to 8 inches long and quackgrass when it is 6 to 10 inches tall. Treat johnsongrass when it is 8 to 10 inches tall. Spray annual grasses before they tiller. Apply only to actively growing grasses not under moisture stress. Add 0.5 fl oz nonionic surfactant and spray to lightly wet the grass foliage.

Envoy (clethodim). Apply to actively growing grasses that are not under drought stress. Add 0.33 fl oz of nonionic surfactant per gallon of mix. Spray to wet the foliage but not to runoff. Spray bermudagrass with 6- to 8-inch runners; johnsongrass, 12 to 24 inches tall; quackgrass, 4 to 8 inches tall; wirestem muhly, 4 to 8 inches tall.

Segment (f. Vantage) (sethoxydim). Apply over the top of ornamentals to actively growing grasses. Do not apply during moisture stress. Use the lower rate on grasses less than 6 inches tall and the higher rate on larger grasses. Treat perennial grasses with the higher rate. Spray bermudagrass with 6-inch runners; johnsongrass, 15 to 20 inches tall. Some landscape plants that have been injured by sethoxydim include 'Snow' azalea, Japanese privet, snow-in-summer (*Cerastium*) and *Potentilla*.

Sedge Herbicides

SedgeHammer[®] 75 DF (halosulfuron). Apply as a post-directed spray around any established woody ornamental plants. Wait three months after transplanting before using this product. Begin nutsedge treatment program in May to early June to reduce tuber formation. SedgeHammer injured foliage of azalea, crapemyrtle, cotoneaster and Japanese holly. Mix 0.9 gram of this product with 0.33 ounce surfactant and one gallon of water.



Sedge.

Quick Reference for Common Ornamental Weed Control Options

	Herbaceous Ornamentals		Woody Ornamentals	
	Selective Preemergence Control	Selective Postemergence Control	Selective Preemergence Control	Selective Postemergence Control
Large crabgrass	Pendulum, Surflan, Barricade, Preen. Apply split applications for full-season control.	Envoy, Fusilade, Ornamec or Sethoxydim G-Pro. Treat before crabgrass tillers. In our trials, Sethoxydim G-Pro has been more effective on large crabgrass.	Pendulum, Surflan, Barricade, Preen. Apply split applications for full-season control.	Envoy, Fusilade, Ornamec or Sethoxydim G-Pro. Treat before crabgrass tillers. In our trials, Sethoxydim G-Pro has been more effective on large crabgrass.
Prostrate spurge	Pendulum and Surflan (fair control). Apply split applications for full-season control.	No	Snapshot. Apply split applications for full-season control.	No (carefully directed applications of Roundup or Finale)
Annual bluegrass	Pendulum, Surflan, Barricade, Preen (apply in August).	Envoy	Pendulum, Surflan, Barricade, Preen (apply in August).	Envoy
Common chickweed	Pendulum, Surflan, Barricade, Preen (apply in September). Ronstar does not control this weed.	No	Pendulum, Surflan, Barricade, Preen, Gallery (apply in September). Ronstar does not control this weed.	Limited options (carefully directed applications of Roundup or Finale).
Bermudagrass	No	Fusilade/Ornamec, Sethoxydim G-Pro, Envoy (repeat applications needed). In our trials, Fusilade has been the most effective for bermudagrass.	No	Fusilade/Ornamec, Sethoxydim G-Pro, Envoy (repeat applications needed) In our trials, Fusilade has been the most effective for bermudagrass.
Yellow nutsedge	Pennant. Not as effective on purple nutsedge.	No	Pennant. Not as effective on purple nutsedge.	Directed applications of SedgeHammer.
Wild garlic	No	No	No	No (carefully directed applications of Roundup or Finale).
Creeping woodsorrel	Yes (from seed) Barricade, Pendulum 2G.	No	Yes (from seed) Gallery, Snapshot, Surflan.	No (carefully directed applications of Roundup or Finale).

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