

## **Weeds**

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### **Nonchemical Weed Control**

Use a 2- to 4-inch depth of mulch. Avoid overmulching. Suitable mulch materials include pine bark, hardwood bark, pine straw, leaves, or similar organic materials. Rock mulches can also be used in certain landscape situations for weed management and tend to provide greater weed control than an organic mulch. Consider placing a landscape fabric under a rock mulch to act as a soil separator. Do not spread mulch that has an off-odor (rotten egg/sulfur smell or an ammonia odor) or plant injury can occur. Mulches will suppress annual weeds but generally will not control perennial weeds.

Landscape fabrics overcome the porosity problem inherent to solid black plastic. Use a shallow mulch layer (1 inch) above the fabric. A rock mulch/fabric combination would be expected to provide greater weed control than an organic mulch/fabric combination. Fabric mulch combinations improve weed control over mulch alone. Use a landscape fabric with limited open space. Use landscape fabrics only in woody landscape beds. Fabrics will inhibit emergence of herbaceous perennials and will inhibit rooting in of groundcovers. Certain weeds, such as yellow nutsedge, can penetrate through landscape fabrics. Biobarrier with slow release trifluralin provides greater weed control than do landscape fabrics that do not contain an herbicide.

### **Chemical Weed Control**

There is now a selection of herbicides for use in nursery stock. Selection of a given herbicide must be based on the particular weed and crop situation. None of the preemergent herbicides are effective against all weed species. Tank-mixing of herbicides often broadens the spectrum of weed control. If a chemical application kills all but one species, that species will multiply. This results in a shift in weed population and eventually weed control with that product becomes ineffective. Chemical rotation can reduce the buildup of a tolerant species. Use of directed sprays of a nonselective herbicide (diquat, glufosinate, paraquat, or glyphosate) or cultivation is usually necessary to give control of all species.

One application of a preemergent herbicide will not give adequate weed control for an entire year. Late fall or winter applications of isoxaben, simazine, dichlobenil, or pronamide will provide weed control well into the growing season. When control begins to decrease, the area can be cultivated or a postemergence herbicide could be applied and application of one of the other preemergent herbicides can be made.

Applications should be made to limited areas until experience is gained with a given herbicide. Any application of a new herbicide should include an untreated area to allow observation of weed control and possible injury. Small and shallow-rooted plants are more easily injured than large established plants. Sandy soil and excessive watering also increases chances of injury. Irrigate after a granular herbicide application to wash the granules off the leaf surfaces. Certain granular herbicides will cause spotting of foliage.

Tables 4.7, 4.8, and 4.9 list which herbicides are registered for use on individual nursery species. Check herbicide labels to determine specific cultivars that can be treated. These registrations are only for liners or rooted cuttings planted into the field or planted in containers which are maintained outdoors. Consult herbicide labels to determine which compounds can be used in propagation, be it seedbeds or vegetative propagation. See the section on weed control in the greenhouse for plants maintained indoors.

It is wise to keep a separate sprayer for herbicides since certain ones are difficult to clean from the spray tank.

**Table 4.6 - Herbicides**

<b>Time of Application</b>	<b>Weed Problem</b>	<b>Chemical Rate/Acre</b>	<b>Remarks</b>
<b>Preplant soil fumigation</b>	Most annual and perennial weeds	dazomet (Basamid 350 lb or 8.0 lb/1000 sq ft)	Incorporate after application. Irrigate or cover with plastic after application. Do not use below soil temperature of 43° F. Waiting period for transplants ranges from 10 to over 25 days.
<b>Postplant but preemergence to weeds</b>	Annual grasses and certain broad-leaf weeds	napropamide 4.0-6.0 lb (Devrinol 50DF 8.0-12.0 lb, Devrinol 2G 200.0-300.0 lb)	Use on container or field grown nursery stock. Apply to weed-free soil or include an appropriate postemergence herbicide. Safe on a wide variety of plant material. May be used on newly transplanted stock after soil has settled from first watering. Needs incorporation (mechanical or irrigation). For small areas, apply 2.9-4.4 oz Devrinol 50DF or 4.6-6.9 lb Devrinol 2G/1000 sq ft.
		oryzalin 2.0-4.0 lb (Surflan 4AS 2.0-4.0 qt, Oryzalin 4PRO 2.0-4.0 qt, Surflan WDG 2.4-4.7 lb)	Can be applied over top or as a directed spray on field and container grown ornamentals. Will not control established weeds. Irrigation will improve weed control. For small areas, apply 1.5-2.9 fl oz Surflan 4AS or 0.9-1.7 oz Surflan WDG/1000 sq ft. For those desiring a granular formulation of Surflan, XL contains 1% oryzalin and 1% benefin (Balan). The list of registered species and weeds controlled is very similar to that of Surflan.
		prodiamine 0.65-1.5 lb (Barricade 65 WG 1.0-2.3 lb, Barricade 4 FL 21.0-48.0 oz)	Apply prior to weed germination. Do not apply more than 2.3 lb Barricade 65 WG or 48 fl oz Barricade 4 FL/year. For small areas apply 0.4-0.8 oz Barricade 65 WG or 0.5-1.1 fl oz Barricade 4 FL/1000 sq ft.
		pendimethalin 2.0-4.0 lb (Corral 2.7G 76.0-113.0 lb, Pendulum WDG 3.3-6.6 lb, Pendulum 2G 100.0-200.0 lb, Pendulum AquaCap 2.1-4.2 qt)	Can be applied to container and field grown ornamentals. Do not apply to moist foliage. Will not control established weeds. For small areas apply 1.7-2.6 lbs Corral 2.7G, 1.2-2.4 oz Pendulum WDG, 2.3-4.6 lbs Pendulum 2G, or 1.6-3.2 fl oz Pendulum AquaCap.
		trifluralin 0.5-4.0 lb (Treflan 5G 10.0-80.0 lb) Preen Garden Weed Preventer 270 lb	Will not control established weeds. Use lower rate if incorporated or higher rate and irrigate after application. Apply as a directed spray. Consult label for use on specific soil types. For small areas, apply 0.3-1.8 lb Treflan 5G/1000 sq ft or 6.2 lb Preen Garden Weed Preventer.
		DCPA 10.5-12.0 lb (Dacthal W-75 14.0-16.0 lb/A)	Apply after transplanting or to established ornamentals. For small areas, apply 0.3 lb/1000 sq ft.
		flumioxazin 0.375 lb (BroadStar 150.0 lb/A)	Apply granules to dry foliage prior to weed germination and follow with irrigation. For use primarily in woody ornamental production. For small areas, apply 3.4 lb/1000 sq ft. <b>DO NOT APPLY TO NEWLY PLANTED LINERS.</b>
	flumioxazin 0.25-0.375 lb (SureGuard 8.0-12.0 oz/A)	Preemergence and early postemergence action. Apply as a directed spray to dormant nursery trees prior to weed germination or to small emerged weed seedlings. Combine with a labeled postemergence herbicide for control of larger annual weeds or perennials. Can be applied over-top dormant conifers. For small areas, apply 0.18-0.275 oz/1000 sq ft.	

**Table 4.6 - Herbicides (cont.)**

Time of Application	Weed Problem	Chemical Rate/Acre	Remarks
Postplant but preemergence to weeds (cont.)	Annual grasses and broadleaf weeds (cont.)	isoxaben 0.5-1.0 lb (Gallery 75DF 0.6-1.3 lb)	Do not apply to new plantings until soil has settled and no cracks are present. Apply prior to weed germination. Combine with oryzalin for improved control of annual grasses. For small areas, apply 0.25-0.5 oz Gallery 75DF/1000 sq ft.
		isoxaben 0.5-1.0 lb + trifluralin 2.0-4.0 lb (Snapshot 2.5TG 100-200 lb)	A prepackaged mix of the active ingredients in Gallery and Treflan. For small areas apply 2.3-4.6 lb Snapshot 2.5TG/1000 sq ft. Apply prior to weed germination.
		isoxaben 0.25-0.5 lb + trifluralin 2.0-4.0 lb + oxyfluorfen 0.25-0.5 lb (Showcase 100-200 lb)	Similar to Snapshot in activity. For small areas apply 2.3-4.6 lb Showcase/1000 sq ft. Apply prior to weed germination.
		oxadiazon 2.0-4.0 lb (Chipco Ronstar 2G 100.0-200.0 lb, Ronstar 50WP 4.0-8.0 lb)	Use on container or field grown nursery stock. The granular formulation is safe on a wide variety of plant material. Apply prior to weed germination. Disturbing soil after application may result in reduced weed control. Do not apply when foliage is wet. For continued weed control, an additional application to certain ornamentals can be made 60-120 days later. Toxic to fish. Do not contaminate water by washing equipment or disposal of waste. For small areas, apply 2.3-4.5 lb Ronstar 2G/1000 sq ft. Ronstar WP can cause foliar injury to certain species that are not injured by Ronstar G. Check WP label to determine which species can be treated.
		oxyfluorfen 1.0-2.0 lb (Goal 2XL 4.0-8.0 pt)	Apply to seedbeds, containers, or transplants of many conifer species and to certain field-grown trees. Apply before bud-break or after new growth has hardened-off. Goal has preemergence and postemergence activity if applied to weeds less than 3-4 inches in height. For small areas, apply 1.5-2.9 fl oz Goal 2XL/1000 sq ft.
		oxyfluorfen 2.0 lb + pendimethalin 1.0 lb (Ornamental Herbicide 2,100.0 lb)	Apply to weed-free soil immediately after transplanting or to established ornamentals grown in containers or in the field. Do not apply to ornamentals when foliage is moist or foliar injury can result. Apply overhead irrigation to wash granules off leaf surfaces. For small areas, apply 2.3 lb OH2/1000 sq ft.
		oxyfluorfen 2.0 lb + oryzalin 1.0 lb (Rout Ornamental Herbicide 100 lb)	Apply to a weed-free soil surface when foliage is dry and plants are not making a flush of growth. Use on container and field grown stock. Apply overhead irrigation to wash granules off leaf surface. Do not apply to ornamentals when foliage is moist or foliar injury can result. For small areas, apply 2.3 lb Rout/1000 sq ft.
			Annual grasses and broadleaf weeds (cont.)

**Table 4.6 - Herbicides (cont.)**

Time of Application	Weed Problem	Chemical Rate/Acre	Remarks
<b>Postplant but preemergence to weeds (cont.)</b>	Annual and certain perennial weeds	dichlobenil 4.0-6.0 lb (Barrier, Casoron 100.0-150.0 lb)	Apply in the late fall, winter, or early spring. If dichlobenil remains on the soil surface during warm weather, activity will be lost. Do not apply until 4 weeks after transplanting. <b>NOTE:</b> Use higher rate for control of certain perennials in ornamentals established at least one year. Do not remove old weed growth before making a surface application in the fall for control of perennial weeds. For small areas, apply 2.3-3.4 lb Barrier or Casoron/1000 sq ft.
	Primarily annual grasses and yellow nutsedge	metolachlor 1.2-2.4 lb (Pennant Magnum 1.3-2.6 pt)	Apply to weed-free soil. Direct toward base of ornamentals established for at least 2 weeks. For additional broadleaf weed control, tank-mix with Princep where labeled. For small areas, apply 0.5-0.9 fl oz Pennant Magnum/1,000 sq ft.
	Annual grasses, yellow nutsedge, and certain annual broadleaf weeds	pendimethalin + dimethenamid 1.75-3.5 lb ai/A (FreeHand 1.75G 100-200lbs/A or 2.3 - 4.6 lbs/1000 sq ft)	Apply to established plantings prior to weed emergence. Delay application for 2-4 weeks after transplanting bare-root liners. Irrigate after transplanting to settle the soil prior to application.
	Annual grasses, yellow nutsedge, and certain annual broadleaf weeds	dimethenamid 0.98-1.5 lb/A (Tower 6EC 21.0-32.0 fl oz/A or 0.48-0.73 fl oz/1000 sq ft)	Apply to established plantings prior to weed emergence or include a postemergence herbicide to control emerged weeds. Apply as directed spray either prior to bud break or after new growth has hardened. Combine with a preemergence broadleaf herbicide for broader-spectrum control. Use a shield spray if ornamentals have been in the ground less than one year.
	Annual weeds and certain perennial grasses	pronamide 1.0-2.0 lb (Kerb 50W 2.0-4.0 lb)	Fall application when temperatures are below 60° F. High rate has given quackgrass control as well as control of other cool season grasses. Do not use on fine-textured soils of high organic content. Kerb should not be applied to transplants less than 1 year old. For small areas, apply 0.7-1.4 oz Kerb 50W/1,000 sq ft. <b>RESTRICTED USE.</b>
<b>Postemergence to weeds</b>	All weeds contact kill	diquat 0.5 lb (Reward 2.0 pt + nonionic surfactant)	Avoid contact with desired foliage. For spot treatment, mix 3/4 fl oz Reward plus a nonionic surfactant per gallon. Thorough coverage of weed foliage is needed for best results.
		paraquat 0.63-1.0 lb (Gramoxone Inteon 2.5-4.0 pt + nonionic surfactant 1.0-2.0 pt/100.0 gal)	Paraquat must be applied as a directed spray to immature and succulent weeds. Application to perennial weeds usually requires retreatment. Do not contact desirable foliage or green bark. Will not injure woody bark. May be combined with other herbicides such as simazine or oryzalin to give residual activity. For small area application, mix 2/3 oz of formulation plus 0.5 fl oz spreader sticker/gal water and lightly wet weed foliage. <b>RESTRICTED USE.</b>
		glufosinate 0.75-1.5 lb (Finale 3-6 qts/A)	Apply as a directed spray. Do not contact bark or foliage of desired plants. For spot application use 2.0-4.0 fl oz/gal on a spray to wet basis, prior to runoff. Ensure complete coverage of weed foliage.

**Table 4.6 - Herbicides (cont.)**

<b>Time of Application</b>	<b>Weed Problem</b>	<b>Chemical Rate/Acre</b>	<b>Remarks</b>
<b>Postemergence to weeds (cont.)</b>	All weeds controlled	glyphosate 0.75-3.75 lb ae (Roundup Pro 1.0-5.0 qt, Roundup Pro Dry 1.2-6.25 lb or Touchdown Pro 1.0-5.0 qt for wiper application, use 1 part herbicide to 2 parts water; for cut stump treatments, use a 50% to 100% solution)	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 desired plants or serious systemic injury may occur. For small area application with a hand sprayer, use 2.0 fl oz/gal water and lightly wet the foliage. Also cleared for site preparation prior to planting nursery stock. Other glyphosate formulations are available. See label for application rates.
	Annual and perennial grasses including bermudagrass, quackgrass, and johnsongrass	clethodim 0.09-0.25 lb (Envoy 13.0-34.0 fl oz +0.25% nonionic surfactant)	Apply to actively growing grasses. For spot treatment use a 0.5 to 1.0% (0.65-1.3 fl oz/gal) solution plus 0.25% nonionic surfactant (0.33 fl oz/gal). A repeat application may be required for perennial grass control.
		fenoxaprop-ethyl 0.06-0.17 lb (Acclaim Extra 13.0-39.0 fl oz)	Primarily useful in landscape maintenance. Controls annual grasses and suppresses bermudagrass and johnsongrass. Apply when grasses are small and actively growing. Do not apply under drought stress. For spot treatment, mix 0.3-0.46 fl oz Acclaim Extra/gal.
<b>Postemergence to selected weeds</b>	Annual and perennial grasses including bermudagrass, quackgrass, and johnsongrass (cont.)	fluazifop-P-butyl 0.25-0.375 lb (Ornamec 64-96 fl oz/A, Fusilade II 16.0-24.0 fl oz/A, or other labeled formulation + 0.5 pt nonionic surfactant/25.0 gal)	May be applied overtop to ornamentals and as a directed spray to others. Treat bermudagrass when runners are 4-8" long, quackgrass when 6-10" tall and johnsongrass when 8-10" tall. Treat annual grasses prior to tillering. Apply only to actively growing grasses not under moisture stress. For spot treatment, use 2.5 fl oz Ornamec or 0.75 fl oz Fusilade II plus 0.5 fl oz nonionic surfactant/gal and lightly wet grass.
		sethoxydim 0.28-0.46 lb (Segment 36.0-60.0 fl oz)	Apply overtop of ornamentals to actively growing grasses. Use lower rate on annual grasses less than 6 inches tall and higher rate on grasses up to 12 inches in height. Treat perennial grasses with higher rate as follows: bermudagrass, 6 inch runners; johnsongrass, 15-20 inches tall; quackgrass, 6 inches tall; wirestem muhly, 6 inches tall. Repeat applications may be necessary on perennial grasses. Less than optimum results are likely if treatments are applied during moisture stress. For spot treatment, use or 2.0-3.0 fl oz Segment/gal.
	Yellow nutsedge and certain broad-leaf weeds	bentazon 0.75-1.0 (Basagran T/O 1.5-2.0 pt + 1 qt crop oil concentrate)	Apply as a directed spray to small, actively growing weeds. A second application 7-10 days later may be needed for acceptable yellow nutsedge control. Minimize contact with foliage of desired trees and shrubs. For small areas, mix 3/4 to 1 1/2 fluid ounces Basagran T/O plus 3/4 fl oz crop oil concentrate/gal.
	Yellow and purple nutsedge	halosulfuron 0.0321-0.062 lb (SedgeHammer 0.66-1.33 oz plus 0.25-0.5% nonionic surfactant)	Apply as a directed spray around woody ornamentals that have been established at least 3 months after transplanting in landscapes. Do not contact leaves of desired woody plants. Do not apply to herbaceous perennials or bedding plants. For small areas, mix 0.9 g SedgeHammer plus 2 tsp (0.33 fl oz) nonionic surfactant/gal and wet entire foliage of sedges.

**Table 4.6 - Herbicides (cont.)**

Time of Application	Weed Problem	Chemical Rate/Acre	Remarks
Postemergence to selected weeds (cont.)	Certain broadleaf weeds	clopyralid 0.09-0.5 lb (Lontrel 0.25-1.33 pt/A)	Provides postemergence control of primarily legume and composite weeds such as clover, vetch, thistles, ragweed, and horseweed. Do not apply to container-grown ornamentals. Avoid drift to sensitive ornamentals such as daisy, redbud, locust, or linden. Apply as a directed spray.
	Poison ivy	glyphosate (Roundup Pro 2.67 fl oz/gal or other labeled formulation)	Apply as a foliar spray when poison ivy is actively growing. Do not allow herbicide to contact leaves or green bark of desired plants. Use shielded sprays or other techniques. For wiper applications, use a 33% to 75% solution. For cut stump treatments, apply a 50% to 100% solution immediately after cutting stems.

**Table 4.7 - Guide for Herbicide Selection - Annual and Perennial Flowers, Vines, and Groundcovers<sup>1</sup>**

	Acclaim	Barricade	Dacthal	Devrinol	Envoy	FreeHand	Gallery	Ornamec	Pendulum WDG	Pennant	Segment	Ronstar G	Snapshot	Surflan	Treflan
<b>Annual And Perennial Flowers</b>															
Alyssum	-	-	F	-	C,F	-	-	-	C,F	F	C,F	-	-	-	F
Aster	-	C,F	F	C	-	-	-	-	C,F	F	-	-	C,F	-	F
Begonia	F	-	-	-	-	-	-	-	C,F	-	C,F	-	-	-	-
Chrysanthemum	F	-	F	C	C,F	-	-	-	C,F	F	C,F	-	C,F	F	F
Coleus	F	-	F	-	C,F	-	-	-	-	-	C,F	-	-	-	-
Daffodil	-	C,F	-	C	-	-	-	-	C,F	F	-	-	-	F	F
Dahlia	-	-	F	C	C,F	-	-	-	C,F	-	-	-	-	-	F
Daylily	F	C,F	-	-	C,F	C,F	C,F	C,F	C,F	F	F	-	C,F	-	-
Delphinium	-	-	F	-	-	-	-	-	-	F	-	-	-	-	-
Ferns	-	-	-	-	-	-	-	-	C,F	-	-	-	-	-	-
Forget-me-not	F	-	F	-	-	-	-	-	-	-	-	-	-	-	F
Four-o'clock	-	-	F	-	-	-	-	-	-	-	-	-	-	-	F
Geranium	F	-	F	C	C,F	-	-	-	-	F	C,F	-	-	F	-
Gladiolus	-	F	F	C	-	-	-	-	C,F	F	C,F	-	-	F	F
Hosta	F	C,F	-	C	C,F	C,F	C,F	C,F	C,F	C,F	C,F	-	C,F	-	-
Impatiens	-	-	-	-	-	-	-	-	-	-	C,F	-	-	F	F
Iris	F	C,F	F	-	C,F	C,F	-	-	C,F	F	C,F	-	C,F	F	F
Lily	-	C,F	F	-	-	-	-	-	C,F	F	-	-	-	-	-
Marigold	-	-	-	-	C,F	-	-	C,F	C,F	F	C,F	-	-	F	F
Nasturtium	-	-	F	-	-	-	-	-	-	-	-	-	-	-	F
Pansy	-	-	-	-	-	-	-	-	C,F	-	C,F	-	-	F	-

<sup>1</sup>This table should be used only as a guide. A 'C' indicates the herbicide is registered for use on that species when container-grown. An 'F' indicates the herbicide is registered for use on that species when field-grown or planted in landscapes. Check the herbicide label for special considerations such as variety, plant growth stage, rate adjustment, or application precautions prior to application.

**Table 4.7 - Guide for Herbicide Selection - Annual and Perennial Flowers, Vines, and Groundcovers<sup>1</sup> (cont.)**

	Acclaim	Barricade	Dacthal	Devrinol	Envoy	FreeHand	Gallery	Ornamec	Pendulum WDG	Pennant	Segment	Ronstar G	Snapshot	Surflan	Treflan
<b>Annual And Perennial Flowers (cont.)</b>															
Peony	F	-	F	-	-	-	-	-	-	-	-	-	-	-	-
Periwinkle	F	-	-	-	-	C,F	-	-	C,F	-	C,F	-	-	-	-
Petunia	F	-	F	C	C,F	C,F	-	-	C,F	F	C,F	-	-	-	F
Phlox	F	-	-	-	C,F	-	-	-	-	F	-	-	-	-	F
Salvia	-	-	-	-	C,F	C,F	-	-	C,F	-	C,F	-	-	-	F
Shasta daisy	F	-	-	C	-	-	-	C,F	C,F	-	C,F	-	-	-	F
Snapdragon	F	-	-	-	C,F	-	-	-	C,F	F	C,F	-	-	-	F
Sunflower	-	-	F	-	-	-	-	-	-	-	-	-	-	-	F
Sweetpea	-	-	F	-	-	-	-	-	-	-	-	-	-	-	F
Sweet William	F	-	-	-	-	-	-	C,F	C,F	F	C,F	-	-	-	F
Tulip	-	C,F	-	-	-	-	-	-	C,F	F	-	-	-	F	F
Zinnia	F	-	F	C	C,F	-	-	C,F	-	F	C,F	-	-	F	F
<b>Vines And Groundcovers</b>															
Ajuga	F	-	-	F	C,F	-	-	-	C,F	C,F	-	F	-	-	-
Bamboo	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Clematis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
English ivy	F	C,F	-	F	C,F	-	C,F	C,F	C,F	C,F	C,F	F	C,F	F	F
Euonymus	-	C,F	F	-	-	-	-	C,F	C,F	C,F	-	F	C,F	C,F	-
Honeysuckle	-	C,F	F	-	C,F	-	-	-	-	F	-	F	F	-	-
Jasmine	-	C,F	-	-	C,F	-	-	-	C,F	-	-	-	-	-	-
Liriope	F	C,F	-	F	C,F	-	C,F	C,F	C,F	C, F	C,F	-	C,F	C,F	F
Pachysandra	-	-	F	F	C,F	-	C,F	C,F	C,F	C,F	C,F	F	C,F	-	F
Pampasgrass	-	C,F	-	-	-	-	C,F	-	C,F	F	-	-	C,F	-	-
Santolina	-	C,F	-	-	-	-	-	-	-	-	-	-	-	-	-
Sedum	-	C,F	-	F	C,F	-	-	-	C,F	F	-	F	C,F	-	F
Vinca (Periwinkle)	F	C,F	-	F	C,F	-	-	C,F	C,F	F	C,F	F	F	F	F
Yucca	-	C,F	-	-	-	-	-	C,F	C,F	C,F	-	-	-	C,F	-

<sup>1</sup>This table should be used only as a guide. A 'C' indicates the herbicide is registered for use on that species when container-grown. An 'F' indicates the herbicide is registered for use on that species when field-grown or planted in landscapes. Check the herbicide label for special considerations such as variety, plant growth stage, rate adjustment, or application precautions prior to application.

**Table 4.8 - Guide for Herbicide Selection - Narrowleaf and Broadleaf Evergreens**

Tolerant Species	Acclaim	Barricade	BroadStar	Casoron	Dacthal	Devrinol	Envoy	Pennant	Ornamec	Gallery	Goal	Kerb	Lontrel
<b>Narrowleaf Evergreens</b>													
Arborvitae	-	C,F	C,F	F	F	C	C,F	C,F	C,F	C,F	C,F	F	F
Cedar ( <i>Cedrus</i> )	-	-	C,F	-	-	C,F	C,F	-	-	F	-	F	-
Chamaecyparis	-	F	C,F	-	-	-	-	-	-	C,F	-	-	-
Cryptomeria	-	-	-	-	-	-	-	-	-	C,F	-	-	-
Fir	-	F	C,F	-	F	C,F	C,F	F	C,F	C,F	C,F	F	F
Hemlock	-	C,F	C,F	-	-	F	C,F	F	C,F	-	C,F	F	-
Juniper	F	C,F	C,F	F	F	C,F	C,F	C,F	C,F	C,F	C,F	F	F
Leyland cypress	-	-	-	-	-	C,F	-	-	C,F	-	-	-	-
Pine	F	C,F	C,F	F	F	C,F	C,F	C,F	C,F	F	C,F	F	F
Spruce	-	F	C,F	-	F	F	C,F	F	C,F	C,F	C,F	F	F
Yew	F	C,F	C,F	F	F	F	C,F	C,F	C,F	C,F	C,F	F	F
<b>Broadleaf Evergreens</b>													
Aucuba	-	C,F	-	-	-	F	C,F	C,F	C,F	-	-	-	-
Azalea	F	C,F	C,F	F	F	C,F	C,F	C,F	C,F	F	-	F	F
Barberry	F	C,F	C,F	F	F	-	C,F	F	C,F	C,F	-	F	-
Bayberry	-	-	C,F	-	-	-	C,F	F	-	-	-	-	-
Boxwood	F	C,F	C,F	F	F	C,F	C,F	C,F	C,F	F	-	F	F
Camellia	-	-	C,F	F	-	C,F	C,F	F	C,F	-	-	-	-
Euonymus	F	C,F	C,F	F	F	C,F	-	F	C,F	-	-	F	-
Holly	F	C,F	C,F	-	F	C,F	C,F	C,F	C,F	C,F	-	F	-
Leucothoe	-	-	-	F	-	C,F	-	C,F	-	-	-	-	-
Magnolia (Southern)	F	F	C,F	F	F	-	-	F	C,F	-	-	F	-
Mahonia	-	-	C,F	-	-	-	-	-	C,F	-	-	-	-
Mountain laurel	-	-	-	-	F	-	-	C,F	-	C,F	-	F	-
Osmanthus	-	C,F	-	F	-	F	-	F	-	-	-	-	-
Pittosporum	-	C,F	C,F	F	F	C,F	C,F	C,F	-	C,F	-	-	-
Pyracantha	F	C,F	C,F	F	-	C,F	C,F	F	C,F	C,F	-	F	-
Rhododendron	F	C,F	C,F	F	F	C,F	C,F	C,F	C,F	-	-	F	F

<sup>1</sup>This table should be used only as a guide. A 'C' indicates the herbicide is registered for use on that species when container-grown. An 'F' indicates the herbicide is registered for use on that species when field-grown or planted in landscapes. Check the herbicide label for special considerations such as variety, plant growth stage, rate adjustment, or application precautions prior to application.

**Table 4.8 - Guide for Herbicide Selection - Narrowleaf and Broadleaf Evergreens (cont.)**

	OH 2	Segment	Pendulum WDG	Princep	Ronstar G	Rout	Showcase	Snapshot	SureGuard	Surflan	Treflan	Tower	FreeHand
<b>Narrowleaf Evergreens</b>													
Arborvitae	-	C,F	C,F	F	-	C,F	-	-	C,F	F	F	F	C,F
Cedar ( <i>Cedrus</i> )	-	-	-	-	C,F	-	-	-	-	-	-	-	-
Cryptomeria	-	-	C,F	-	-	-	-	-	-	C,F	-	-	-
Chamaecyparis	C,F	-	C,F	-	C,F	C,F	F	F	-	-	-	-	-
Fir	-	C,F	C,F	-	-	-	-	F	C,F	F	F	F	C,F
Hemlock	-	C,F	C,F	F	F	-	-	-	C,F	-	F	-	-
Juniper	C,F	C,F	C,F	F	C,F	C,F	C,F	C,F	C,F	C,F	F	F	C,F
Leyland cypress	-	C,F	C,F	-	-	-	-	-	-	-	-	-	-
Pine	C,F	C,F	C,F	F	C,F	C,F	C,F	F	C,F	F	F	-	-
Spruce	C,F	C,F	C,F	F	F	C,F	C,F	F	C,F	F	F	-	-
Yew	C,F	C,F	C,F	F	F	-	F	F	C,F	F	F	F	-
<b>Broadleaf Evergreens</b>													
Aucuba	-	-	C,F	-	-	-	-	-	-	-	-	-	-
Azalea	C,F	C,F	C,F	-	C,F	C,F	C,F	C,F	-	F	F	F	C,F
Barberry	C,F	C,F	C,F	F	C,F	C,F	C,F	C,F	-	C,F	F	-	-
Bayberry	-	-	-	-	-	-	-	-	-	-	-	-	-
Boxwood	C,F	C,F	C,F	-	C	C,F	C,F	C,F	-	C,F	F	F	C,F
Camellia	C,F	C,F	C,F	-	C,F	-	C,F	C,F	-	-	F	-	-
Euonymus	C,F	C,F	C,F	-	C,F	C,F	C,F	C,F	-	C,F	F	-	-
Holly	C,F	C,F	C,F	F	C,F	C,F	C,F	C,F	-	C,F	F	F	C,F
Leucothoe	-	-	C,F	F	C	-	-	-	-	F	-	-	-
Magnolia (Southern)	-	C,F	C,F	-	C	-	C,F	C,F	-	F	-	-	-
Mahonia	C,F	-	-	F	C,F	C,F	C,F	C,F	-	F	-	-	-
Mountain laurel	-	-	C,F	-	-	-	-	-	-	F	F	-	-
Osmanthus	-	C,F	C,F	F	C	C,F	-	-	-	F	-	-	-
Pittosporum	C,F	C,F	-	-	C,F	C,F	C,F	C,F	-	-	F	-	-
Pyracantha	C,F	C,F	C,F	-	C,F	C,F	C,F	C,F	-	C,F	F	-	-
Rhododendron	C,F	C,F	C,F	-	C,F	C,F	C,F	C,F	-	C,F	F	-	-

<sup>1</sup>This table should be used only as a guide. A 'C' indicates the herbicide is registered for use on that species when container-grown. An 'F' indicates the herbicide is registered for use on that species when field-grown or planted in landscapes. Check the herbicide label for special considerations such as variety, plant growth stage, rate adjustment, or application precautions prior to application.

**Table 4.9 - Guide for Herbicide Selection - Deciduous Trees and Shrubs<sup>1</sup>**

Tolerant Species	Acclaim	Barricade	BroadStar	Casoron	Dacthal	Devrinol	Envoy	Pennant	Ornamec	Gallery	Goal	Kerb	Lontrel
<b>Deciduous Trees</b>													
Amelanchier	-	-	-	-	-	-	-	-	-	-	-	-	-
Ash	-	-	C,F	F	F	F	C,F	F	C,F	F	F	F	-
Beech	-	-	-	-	-	-	-	F	-	-	-	F	-
Birch	-	-	C,F	F	F	F	C,F	C,F	C,F	F	F	F	-
Cherry	-	-	-	-	-	F	-	F	-	F	F	F	-
Crabapple	-	C,F	C,F	F	F	F	C,F	F	-	F	F	F	-
Dawn redwood	-	-	-	-	-	-	-	-	-	-	-	-	-
Dogwood	-	C,F	C,F	F	F	C,F	C,F	C,F	C,F	-	F	F	F
Elm	-	-	C,F	F	F	-	-	-	-	F	-	F	-
Ginkgo	-	-	C,F	-	-	-	-	F	-	-	-	F	-
Goldenchain tree	-	-	-	F	-	F	C,F	-	-	-	-	-	-
Goldenrain tree	-	-	-	-	-	-	-	-	-	-	-	-	-
Hawthorn	F	C,F	-	F	F	F	-	-	-	-	-	F	-
Honeylocust	-	-	-	F	-	F	-	F	C,F	-	-	F	-
Linden	-	-	-	F	-	-	-	-	-	F	-	F	-
Magnolia	F	F	C,F	F	F	-	-	F	C,F	-	-	F	-
Maple	F	C,F	C,F	F	F	F	C,F	C,F	C,F	F	F	F	F
Oak	-	C,F	C,F	F	F	F	C,F	C,F	C,F	F	F	F	F
Pear	-	C,F	-	F	-	F	-	F	-	F	F	-	-
Poplar	-	-	C,F	F	F	-	-	F	-	-	F	F	-
Redbud	-	-	C,F	-	F	-	C,F	-	C,F	-	F	-	-
Russian Olive	-	-	-	F	-	-	C,F	F	C,F	-	F	-	-
Sourgum ( <i>Nyssa</i> )	-	-	-	-	-	-	-	-	-	-	-	-	-
Sourwood ( <i>Oxydendron</i> )	-	C,F	-	-	-	-	-	-	-	-	-	-	-
Sweetgum	-	-	C,F	-	-	-	C,F	F	C,F	F	F	F	-
Sycamore	-	-	C,F	-	F	-	-	-	-	F	F	F	F
Tulip tree	-	-	-	-	F	-	-	F	-	-	F	-	-
Walnut	F	-	C,F	-	F	F	-	-	-	-	F	F	-
Willow	F	-	-	F	F	-	-	F	C,F	F	-	F	-
Zelkova	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Deciduous Shrubs</b>													
Abelia	-	C,F	C,F	-	F	C,F	C,F	C,F	-	-	-	-	-
Cotoneaster	-	C,F	C,F	F	F	C,F	-	C,F	C,F	C,F	-	F	-
Crape myrtle	-	C,F	C,F	-	-	C,F	-	F	C,F	-	F	-	-
Deutzia	-	-	-	F	-	-	-	-	-	-	-	-	-

<sup>1</sup>This table should be used only as a guide. A 'C' indicates the herbicide is registered for use on that species when container-grown. An 'F' indicates the herbicide is registered for use on that species when field-grown or planted in landscapes. Check the herbicide label for special considerations such as variety, plant growth stage, rate adjustment, or application precautions prior to application.

**Table 4.9 - Guide for Herbicide Selection - Deciduous Trees and Shrubs<sup>1</sup> (cont.)**

Tolerant Species	Acclaim	Barricade	BroadStar	Casoron	Dacthal	Devrinol	Envoy	Pennant	Ornamec	Gallery	Goal	Kerb	Lontrel
<b>Deciduous Shrubs (cont.)</b>													
Euonymus	-	C,F	C,F	F	F	C,F	-	C,F	-	-	-	F	-
Flowering quince	-	-	-	F	-	-	-	-	C,F	-	-	F	-
Forsythia	-	C,F	C,F	F	F	C,F	-	C,F	-	-	-	F	-
Hibiscus	-	C,F	-	-	-	C,F	-	F	-	C,F	-	-	-
Honeysuckle		C,F	C,F	F	F	F	C,F	F	-	-	-	-	-
Hydrangea	F	C,F	-	-	F	-	-	F	-	-	-	-	-
Hypericum	-	-	-	-	-	F	-	F	-	-	-	-	-
Lilac	-	-	C,F	F	-	-	-	F	C,F	F	F	F	-
Nandina	F	C,F	-	F	-	C,F	C,F	F	-	C,F	-	-	-
Photinia	F	C,F	C,F	F	-	C,F	C,F	F	C,F	C,F	-	-	-
Privet	F	C,F	-	F	F	C,F	C,F	C,F	C,F	-	-	F	-
Rose	F	C,F	C,F	F	F	C,F	C,F	F	C,F	F	-	F	-
Spirea	-	C,F	-	F	F	-	C,F	F	C,F	-	-	-	F
Viburnum	F	C,F	C,F	-	F	F	C,F	C,F	F	-	-	-	-
Vitex	-	-	-	-	-	-	-	-	-	-	-	-	-
Weigela	F	C,F	C,F	F	F	-	-	F	C,F	-	-	-	-
Witchhazel ( <i>Hamamelis</i> )	-	-	-	-	-	-	-	-	-	-	-	-	-
	OH 2	Segment	Pendulum WDG	Princep	Ronstar G	Rout	Showcase	Snapshot	SureGuard	Surflan	Treflan	Tower	Freehand
<b>Deciduous Trees</b>													
Amelanchier (serviceberry)	-	-	-	-	-	-	-	-	-	-	-	-	-
Ash	-	C,F	C,F	-	F	-	-	-	F	-	F	F	-
Beech	-	-	-	-	-	-	-	-	-	-	-	-	-
Birch	C,F	C,F	C,F	-	F	-	C,F	C,F	F	-	F	-	-
Cherry	-	C,F	C,F	-	-	-	F	F	F	F	F	-	-
Crabapple	-	C,F	C,F	F	F	-	-	-	F	-	F	-	-
Dawn redwood	-	C,F	-	-	-	-	-	-	-	-	-	-	-
Dogwood	C,F	C,F	C,F	F	C,F	C,F	C,F	C,F	F	-	F	-	-
Elm	-	C,F	-	F	-	-	-	F	-	-	-	-	-
Ginkgo	-	C,F	-	-	C	-	-	F	F	C,F	-	-	-
Goldenchain tree	-	-	-	-	-	-	-	-	-	-	-	-	-
Goldenrain tree	-	-	-	-	-	-	-	-	-	F	-	-	-

<sup>1</sup>This table should be used only as a guide. A 'C' indicates the herbicide is registered for use on that species when container-grown. An 'F' indicates the herbicide is registered for use on that species when field-grown or planted in landscapes. Check the herbicide label for special considerations such as variety, plant growth stage, rate adjustment, or application precautions prior to application.

**Table 4.9 - Guide for Herbicide Selection - Deciduous Trees and Shrubs<sup>1</sup> (cont.)**

	OH 2	Segment	Pendulum WDG	Princep	Ronstar G	Rout	Showcase	Snapshot	SureGuard	Surflan	Treflan	Tower	FreeHand
<b>Deciduous Trees</b>													
Hawthorn	C,F	C,F	-	-	-	-	-	-	-	-	-	-	-
Honeylocust	-	C,F	C,F	F	-	-	-	F	-	-	F	-	-
Linden	-	C,F	C,F	-	-	-	-	-	-	-	-	-	-
Magnolia	C,F	C,F	C,F	-	C,F	C,F	-	-	-	F	-	F	-
Maple	C,F	C,F	C,F	-	F	C,F	C,F	F	F	F	F	F	-
Oak	C,F	C,F	C,F	F	C,F	C,F	C,F	F	F	C,F	F	-	-
Pear	-	C,F	C,F	-	-	-	-	F	F	F	-	-	-
Poplar	-	C,F	C,F	-	-	-	-	-	F	-	-	-	-
Redbud	C,F	-	-	-	-	-	-	C,F	F	-	F	-	-
Russian olive	-	-	C,F	F	F	C,F	-	F	-	-	-	-	-
Sourgum ( <i>Nyssa</i> )	-	-	-	-	-	-	-	-	-	-	-	-	-
Sourwood ( <i>Oxydendron</i> )	-	C,F	-	-	-	-	-	C,F	-	-	-	-	-
Sweetgum	-	C,F	C,F	-	-	-	-	F	F	C,F	F	-	-
Sycamore	-	C,F	C,F	-	-	-	-	F	F	-	F	-	-
Tulip tree	-	C,F	C,F	-	-	-	-	-	-	-	F	-	-
Walnut	-	C,F	C,F	-	-	-	-	F	F	-	F	-	-
Willow	-	C,F	C,F	-	-	-	-	F	-	-	F	-	-
Zelkova	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Deciduous Shrubs</b>													
Abelia	C,F	C,F	C,F	-	-	C,F	C,F	C,F	-	F	-	-	C,F
Cotoneaster	C,F	C,F	C,F	F	C,F	C,F	C,F	C,F	-	C,F	F	-	-
Crape myrtle	-	C,F	C,F	-	-	-	-	F	-	C,F	-	F	C,F
Deutzia	-	C,F	-	-	-	-	-	F	-	-	F	-	-
Euonymus	C,F	C,F	C,F	-	C,F	C,F	C,F	C,F	-	C,F	F	-	C,F
Flowering quince	-	C,F	-	-	-	-	-	-	-	-	-	-	-
Forsythia	C,F	C,F	C,F	-	C,F	C,F	C,F	C,F	-	F	F	-	-
Hibiscus	-	C,F	C,F	-	-	C,F	C,F	C,F	-	F	-	-	-
Honeysuckle	C,F	-	C,F	-	C,F	C,F	C,F	C,F	-	-	F	-	-
Hydrangea	C,F	C,F	C,F	-	-	-	-	-	-	-	-	F	C,F
Hypericum	C,F	-	-	-	-	C,F	-	-	-	-	-	-	-
Lilac	-	C,F	C,F	-	F	-	-	-	F	C,F	F	-	-
Nandina	-	C,F	C,F	-	-	C,F	-	C,F	-	C,F	-	-	C,F
Photinia	C,F	C,F	C,F	-	C	C,F	C,F	C,F	-	C,F	-	-	-
Privet	C,F	C,F	C,F	-	C,F	C,F	C,F	C,F	-	C,F	F	-	-

<sup>1</sup>This table should be used only as a guide. A 'C' indicates the herbicide is registered for use on that species when container-grown. An 'F' indicates the herbicide is registered for use on that species when field-grown or planted in landscapes. Check the herbicide label for special considerations such as variety, plant growth stage, rate adjustment, or application precautions prior to application.

**Table 4.9 - Guide for Herbicide Selection - Deciduous Trees and Shrubs<sup>1</sup> (cont.)**

	OH 2	Segment	Pendulum WDG	Princep	Ronstar G	Rout	Showcase	Snapshot	SureGuard	Surflan	Treflan	Tower	FreeHand
<b>Deciduous Shrubs (cont.)</b>													
Rose	-	C,F	-	-	C,F	-	-	F	-	F	F	F	C,F
Spirea	C,F	C,F	C,F	-	-	C,F	C,F	C,F	-	-	F	F	C,F
Viburnum	-	C,F	C,F	-	C	C,F	C,F	C,F	-	C,F	F	-	C,F
Vitex	-	C,F	-	-	-	-	-	-	-	-	-	-	-
Weigela	-	C,F	-	F	-	C,F	-	F	-	F	F	-	-
Witchhazel ( <i>Hamamelis</i> )	-	-	-	-	-	-	-	-	-	-	-	-	-

<sup>1</sup>This table should be used only as a guide. A 'C' indicates the herbicide is registered for use on that species when container-grown. An 'F' indicates the herbicide is registered for use on that species when field-grown or planted in landscapes. Check the herbicide label for special considerations such as variety, plant growth stage, rate adjustment, or application precautions prior to application.

**Table 4.10 - Guide to Weeds Which May Be Controlled by Preemergence Herbicides Approved for Use in Ornamentals**

Weed	Barricade	BroadStar, SureGuard	Casoron	Dacthal	Devrinol	FreeHand	Pendulum	Pennant	Gallery	Goal
<b>Grasses And Sedges</b>										
Annual bluegrass	G	P-F	G	F	G	G	G	F	P	F
Barnyardgrass	G	-	G	G	G	-	G	G	-	F
Bermudagrass	N	N	P	N	N	N	N	N	N	N
Cheat	-	-	-	-	-	-	-	-	-	-
Crabgrass	G	F-G	G	G	G	G	G	G	F	F
Doveweed	P	G	-	-	-	G	P	G	N	-
Fall panicum	-	-	G	G	G	G	G	G	-	-
Foxtails	G	F-G	G	G	G	G	G	G	-	F
Goosegrass	G	-	G	G	G	G	G	G	F	F
Johnsongrass (seedling)	-	F	G	-	G	-	G	G	-	-
Microstegium	G	-	-	-	-	-	G	-	-	-
Orchardgrass, fescue	N	N	G	N	N	N	N	N	N	N
Quackgrass	-	-	G	N	N	N	-	N	-	-
Small grains (volunteer)	-	-	-	-	G	-	-	-	-	-
Stinkgrass	-	-	-	-	-	-	-	-	-	-
Yellow Nutsedge	N	N	G	N	P	F-G	N	F-G	N	-

G = good control, F = fair, P = poor, N = no control, and - = no information.

**Table 4.10 - Guide to Weeds Which May Be Controlled by Preemergence Herbicides Approved for Use in Ornamentals (cont.)**

Weed	Barricade	BroadStar, SureGuard	Casoron	Dacthal	Devrinol	FreeHand	Pendulum	Pennant	Gallery	Goal	Kerb
<b>Broadleaf Weeds</b>											
Artemisia (wild chrysanthemum)	-	-	G	N	N	-	-	-	-	-	-
Bittercress	P-F	G	-	P	F	F-G	P-F	P	G	G	-
Canada thistle	-	-	-	N	N	-	-	-	-	-	-
Carpetweed	G	-	G	G	G	-	G	F	-	-	-
Chamberbitter	P	G	-	-	-	F	F	P	P-F	-	-
Chickweed	G	F-G	G	G	G	-	G	F	G	F	G
Cutleaf evening primrose	P	-	G	-	G	-	P	P	F	F	-
Dandelion	-	-	G	N	-	-	-	-	-	-	-
Dock	-	-	G	N	-	-	-	-	-	-	-
Dodder	-	-	G	F	-	-	-	-	-	-	-
Dogfennel	-	-	G	N	-	G	-	-	G	-	-
Eclipta	P	G	-	-	P	F-G	P	P	G	F	-
Filaree	-	-	-	-	F	-	-	-	-	-	-
Galinsoga (quickweed)	-	-	-	P	F	F	N	G	G	G	P
Groundsel, common	-	G	G	-	F	F	P	P	F	G	-
Henbit (deadnettle)	-	-	G	-	G	-	-	G	G	G	-
Horseweed (marestail)	-	-	G	-	N	-	-	P	F	G	-
Knotweed	-	-	-	F	G	-	-	-	-	G	-
Lambsquarters	-	E	G	G	F	-	F	P	G	G	F
Long-Stalk Phyllanthus	F	G	-	-	-	F	F	P	P-F	-	-
Morningglory	-	G	G	P	N	-	P	N	P	G	-
Mulberry weed	F-G	G	-	-	-	G	F-G	F-G	G	-	-
Mustard	-	-	-	P	N	-	-	-	-	G	-
Nightshade	-	-	-	P	N	-	P	G	-	G	-
Pigweed	-	G	G	F	F	G	F	G	G	G	F
Poison Ivy	N	-	-	N	N	-	N	N	N	N	-
Prickly lettuce	-	-	-	-	G	-	-	-	-	G	-
Prickly sida	-	E	G	-	P	-	-	P	-	-	-
Purslane	-	-	G	G	G	-	F	F	G	G	G
Pusley, Florida	-	-	-	-	-	-	-	-	-	-	-
Ragweed	P	E	G	N	P	-	N	N	G	F	P
Red sorrel	-	-	G	N	-	-	-	-	-	-	-

G = good control, F = fair, P = poor, N = no control, and - = no information.

**Table 4.10 - Guide to Weeds Which May Be Controlled by Preemergence Herbicides Approved for Use in Ornamentals (cont.)**

Weed	Barricade	BroadStar, SureGuard	Casoron	Dacthal	Devrinol	FreeHand	Pendulum	Pennant	Gallery	Goal	Kerb
<b>Broadleaf Weeds (cont.)</b>											
Shepherds' purse	-	-	-	P	P	-	N	-	G	G	-
Smartweed	-	-	G	N	P	-	-	P	G	G	F
Sowthistle	-	G	-	-	G	-	F	-	-	G	-
Spurge, prostrate (spotted)	G	G	-	F	P	G	G	P	F	F	-
Tassel flower	N	G	-	-	-	F-G	N	N	F	-	-
Velvetleaf	-	G	-	N	N	-	G	P	F	G	P
Veronica (speedwell)	-	-	-	G	-	-	-	-	-	G	-
Virginia copperleaf	-	P-F	-	-	-	-	-	-	-	-	-
Wild aster	-	-	-	N	-	-	-	-	-	-	-
Wild carrot	-	-	G	-	-	-	-	-	-	-	-
Yellow woodsorrel ( <i>Oxalis</i> ) from seed	G	G	G	G	N	G	G	P	F	G	-
Weed	OH 2	Princep	Ronstar	Rout	Showcase	Snapshot	Surflan	Tower	Treflan		
<b>Monocots</b>											
Annual bluegrass	G	G	F	G	G	G	G	-	-		
Barnyardgrass	G	G	G	G	-	G	G	G	G		
Bermudagrass	N	P	N	N	N	N	N	N	N		
Cheat	-	-	-	-	-	-	-	-	-		
Crabgrass	G	F	G	G	G	G	G	G	G		
Doveweed	P-F	-	P-F	P-F	N	N	N	G	N		
Fall panicum	G	F	-	G	-	G	G	G	G		
Foxtails	G	F	G	G	-	G	G	G	G		
Goosegrass	G	G	G	G	G	G	G	G	G		
Johnsongrass (seedling)	G	P	-	G	-	G	G	P	G		
Microstegium	-	-	G	-	-	-	G	-	-		
Orchardgrass, fescue	N	F	N	N	N	N	N	N	N		
Quackgrass	N	F	-	N	N	N	N	N	N		
Small grains (volunteer)	G	-	-	G	-	-	-	-	-		
Stinkgrass	-	-	-	-	-	-	-	-	-		
Yellow Nutsedge	N	N	N	N	N	N	N	F-G	N		

G = good control, F = fair, P = poor, N = no control, and - = no information.

**Table 4.10 - Guide to Weeds Which May Be Controlled by Preemergence Herbicides Approved for Use in Ornamentals (cont.)**

Weed	OH 2	Princep	Ronstar	Rout	Showcase	Snapshot	Surflan	Tower	Treflan
<b>Broadleaf Weeds</b>									
Artemisia (wild chrysanthemum)	-	-	-	-	-	-	-	-	-
Bittercress	G	-	G	G	G	G	G	-	F
Canada thistle	N	N	N	N	-	-	N	-	N
Carpetweed	-	-	-	-	-	-	-	-	-
Chamberbitter	G	-	G	G	F	F	G	-	N
Chickweed	F	G	N	F	G	G	F	-	G
Cutleaf evening primrose	G	F	G	G	-	G	F	-	-
Dandelion	G	-	-	G	-	-	-	-	-
Dock	-	-	-	-	-	-	-	-	-
Dodder	-	-	-	-	-	-	-	-	-
Dogfennel	-	F	P	G	-	G	G	-	-
Eclipta	F	-	P	G	P	F-G	F-G	-	-
Filaree	-	-	-	-	-	-	-	-	-
Galinsoga (quickweed)	G	G	G	G	G	G	N	-	N
Groundsel, common	G	G	F	G	F	F-G	P	-	-
Henbit (deadnettle)	G	G	G	G	-	G	G	-	-
Horseweed (marestail)	G	-	G	G	-	G	-	-	-
Knotweed	G	-	-	G	-	-	-	-	-
Lambsquarters	G	G	G	G	-	G	G	P	F
Long-Stalk Phyllanthus	G	-	G	G	F	F	F	-	P
Morningglory	G	F	P	G	-	-	N	N	N
Mulberry weed	G	-	F-G	G	G	F-G	G	-	P
Mustard	G	G	-	G	-	-	-	-	-
Nightshade	G	G	-	G	-	G	P	-	P
Pigweed	G	G	G	G	-	-	F	-	F
Poison Ivy	N	N	N	N	N	N	N	N	N
Prickly lettuce	G	G	-	G	G	-	-	-	-
Prickly sida	-	G	-	-	-	-	P	P	P
Purslane	G	G	G	G	-	G	F	-	F
Pusley, Florida	-	-	-	-	-	-	-	-	-
Ragweed	-	G	P	G	-	G	N	P	N
Red sorrel	-	-	-	-	-	-	-	-	-
Shepherds'purse	G	G	G	G	-	-	N	-	N

G = good control, F = fair, P = poor, N = no control, and - = no information.

**Table 4.10 - Guide to Weeds Which May Be Controlled by Preemergence Herbicides Approved for Use in Ornamentals (cont.)**

Weed	OH 2	Princep	Ronstar	Rout	Showcase	Snapshot	Surflan	Tower	Treflan
<b>Broadleaf Weeds (cont.)</b>									
Smartweed	G	G	-	G	-	-	P	P	P
Sowthistle	G	F	-	G	G	-	-	-	-
Spurge, prostrate (spotted)	G	G	F	G	G	G	G	-	-
Tassel flower	G	-	N	G	P-F	P-F	P-F	-	N
Velvetleaf	-	P	F	G	-	G	P	N	P
Veronica (speedwell)	G	-	-	G	-	-	-	-	-
Virginia copperleaf	P	-	-	P	P-F	F	-	-	-
Wild aster	-	-	-	-	-	-	-	-	-
Wild carrot	-	-	-	-	-	-	-	-	-
Yellow woodsorrel ( <i>Oxalis</i> ) from seed	G	-	G	G	G	G	F	-	-

**Table 4.11 - Guide to Weeds Which May Be Controlled by Postemergence Herbicides Approved by Use in Ornamentals**

Weed	Acclaim	Basagran	Envoy	Finale	Lontrel	Ornamec	Reward	Roundup	Segment
<b>Monocots</b>									
Annual bluegrass	N	N	G	G	N	P	G	G	N
Bamboo	-	-	-	P	N	-	-	F	-
Barnyardgrass	-	N	G	G	N	G	G	G	G
Bermudagrass	F	N	G	F	N	G	P	G	G
Cheat	-	N	-	-	N	-	-	G	-
Crabgrass	G	N	G	G	N	G	G	G	G
Doveweed	N	-	N	-	N	N	-	-	N
Fall panicum	-	N	G	G	N	G	G	G	G
Foxtails	G	N	G	G	N	G	G	G	G
Goosegrass	G	N	G	G	N	G	G	G	G
Johnsongrass (seedling)	-	N	G	-	N	G	-	G	G
Microstegium	G	-	G	G	N	G	-	G	G
Orchardgrass, fescue	N	N	F	P	N	F	F	G	F
Quackgrass	P	N	G	P	N	G	-	G	G
Small grains (volunteer)	-	N	-	-	N	G	-	G	G

G = good control, F = fair, P = poor, N = no control, and - = no information.

**Table 4.11 - Guide to Weeds Which May Be Controlled by Postemergence Herbicides Approved for Use in Ornamentals (cont.)**

Weed	Acclaim	Basagran	Envoy	Finale	Lontrel	Ornamec	Reward	Roundup	Segment
Stinkgrass	-	N	-	-	N	-	-	G	-
Yellow Nutsedge	N	F	N	F	N	N	F	G	N
<b>Broadleaf Weeds</b>									
Artemisia (wild chrysanthemum)	N	-	N	-	F	N	-	F	N
Bittercress	N	G	N	-	N	N	G	G	N
Canada thistle	N	-	N	-	G	N	F	G	
Carpetweed	N	-	N	-	-	N	G	G	N
Chickweed	N	-	N	G	-	N	G	G	N
Cutleaf evening primrose	N	N	N	G	-	N	-	F	N
Dandelion	N	-	N	G	F	N	-	G	N
Dock	N	-	N	-	-	N	-	G	N
Dodder	N	-	N	-	-	N	-	G	N
Dogfennel	N	N	N	-	-	N	F	G	N
Eclipta	N	G	N	G	E	N	-	G	N
Filaree	N	-	N	-	-	N	-	G	N
Galinsoga (quickweed)	N	-	N	-	-	N	G	G	N
Groundsel, common	N	F	N	G	G	N	G	G	N
Henbit (deadnettle)	N	-	N	G	-	N	G	G	N
Horseweed (marestail)	N	-	N	G	F	N	F	G	N
Knotweed	N	-	N	-	-	N	-	G	N
Lambsquarters	N	P	N	G	P	N	F	G	N
Morningglory	N	P	N	-	N	N	G	F	N
Mustard	N	-	N	G	-	N	G	G	N
Nightshade	N	-	N	-	F	N	G	G	N
Pigweed	N	P	N	G	P	N	G	G	N
Poison Ivy	N	-	N	-	-	N	P	G	N
Prickly lettuce	N	-	N	G	-	N	G	G	N
Prickly sida	N	G	N	-	-	N	F	G	N
Purslane	N	-	N	G	-	N	G	G	N
Pusley, Florida	N	-	N	-	-	N	-	G	N
Ragweed	N	G	N	G	E	N	G	G	N
Red sorrel	N	-	N	G	-	N	F	G	N
Shepherds' purse	N	-	N	G	-	N	G	G	N

G = good control, F = fair, P = poor, N = no control, and - = no information.

**Table 4.11 - Guide to Weeds Which May Be Controlled by Postemergence Herbicides Approved for Use in Ornamentals (cont.)**

Weed	Acclaim	Basagran	Envoy	Finale	Lontrel	Ornamec	Reward	Roundup	Segment
Smartweed	N	G	N	G	F	N	F	G	N
Sowthistle	N	-	N	-	F	N	-	G	N
<b>Broadleaf Weeds (cont.)</b>									
Spurge, prostrate (spotted)	N	N	N	G	-	N	G	G	N
Velvetleaf	N	G	N	G	-	N	-	G	N
Veronica (speedwell)	N	-	N	-	-	N	-	G	N
Wild aster	N	-	N	-	-	N	-	G	N
Wild carrot	N	-	N	-	-	N	-	G	N
Yellow woodsorrel ( <i>Oxalis</i> ) from seed	N	N	N	G	N	N	-	G	N

G = good control, F = fair, P = poor, N = no control, and - = no information.

