

ORNAMENTAL CROPS

Many manufacturers' labels list tolerant herbaceous and woody ornamentals species by common name. This listing may apply to one species or all species within a genus. This information is believed to be correct according to the manufacturer's label at the time this publication was prepared. However, species may be added to or deleted from labels at any time. ALWAYS CHECK

THE LABEL AT THE TIME OF USE to make sure the herbicide is labeled for the species on which you intend to use it.

Always check label for specific precautions and application directions. Proceed cautiously and limit acreage treated until you have gained firsthand experience in the use of herbicides.

Crop, weed, or situation and herbicide	Herbicide rate formulation per 100 sq ft	Active ingredient lb/A	Time of application	Weeds controlled	Special instructions and remarks
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SOIL STERILANTS (*Landscape beds for flowers, shrubs, liners, and potting medium*)

metham	1 qt 4 lb/gal formulation	200-400	21-28 days before planting or transplanting.	Dormant weed seed, vegetative structures of perennial weeds, and certain soil disease organisms.	Mix with water and apply uniformly to freshly prepared moist soil when temperature is above 60 °F. Soil should be moist enough to form a crumbly ball. Sprinkle immediately with sufficient water to seal soil, approximately 0.5-inch of water. The addition of an airtight cover greatly increases effectiveness. Cover should not be disturbed for at least 14 days. Work soil to depth of 2 inches at least 4 days before planting or transplanting. Spread potting soil out in 4-inch layer and treat (sprinkler can) with 1 pt per 100 square feet. Add another 4-inch layer and repeat treatment. Sprinkle top layer with sufficient water to seal or cover with gas proof cover. CAUTION: Do not get metham in your eyes or on your skin, clothing, or shoes. If application requires walking over the area, wear rubber boots.
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Consult labels for approved adjuvants.

Weed resistance to recommended use-rates of certain herbicides has been documented in Mississippi — SEE PAGE 9.

Ornamental Crops, Continued

Crop, weed, or situation and herbicide	Herbicide rate formulation per 100 sq ft	Active ingredient lb/A	Time of application	Weeds controlled	Special instructions and remarks
methyl bromide	1-3 lb	435-1,305	4 days before planting or transplanting.	Dormant weed seed, vegetative structures of perennial weeds, nematodes, and fungi.	Soil temperature should be above 60 °F and should be moist but not saturated with water. Spade, rotary till, or plow soil about 8-10 inches deep. Release chemical under gas-proof cover. Cover should be sealed tightly around edges and suspended above soil by inverted pots, U-shaped tubes, inflation (seal three sides and pump up cover by up and down motion of loose end and then seal) or other suitable support. Inject into pan, not directly onto soil. CAUTION: METHYL BROMIDE IS EXTREMELY POISONOUS. Do not breathe vapor or let it get on your skin. Allow cover to remain in place for 48 hours. Remove cover and allow 2 days before planting or transplanting.
steam			1-2 days before planting or transplanting.	Annual and perennial weeds.	Spade or rotary till soil to a depth of 10-12 inches. Apply steam under a suitable cover until soil reaches 140-150 °F in the coldest part of the bed. Maintain at 140 °F for 2 hours (30 minutes for potting media). Allow soil to cool before planting. Leach soil thoroughly immediately after planting.

BULBS, CORMS, TUBERS

bensulide	0.48-0.8 lb Betasan 3.6G or 0.55-0.92 oz 4E	7.5-12.6	Apply and irrigate before weed germination.	Annual grasses and some small-seeded broadleaf weeds.	Consult label for complete listing of tolerant crop species. Do not apply peat moss before treating with Betasan. For use on tulips and narcissus only.
fluzifop	0.04 to 0.06 oz Fusilade II + 1/2 pt nonionic surfactant	0.25-0.375	Apply to actively growing grasses before they exceed recommended application growth stages shown on the label.	Grassy weeds.	Consult recent label for complete listing of tolerant crop species. Use only nonionic surfactant with Fusilade on ornamentals. Applications of Fusilade may be made over the top of some ornamentals and only as a directed spray to prevent contact of spray with foliage on other ornamentals.

Ornamental Crops, Continued

Crop, weed, or situation and herbicide	Herbicide rate formulation per 100 sq ft	Active ingredient lb/A	Time of application	Weeds controlled	Special instructions and remarks
napropamide	2.88-1.48 oz Devrinol 5G	4-6	After transplanting.	Grassy weeds.	Consult list of plant species on which Devrinol 5-G Ornamental can be used. Apply Devrinol 5-G Ornamental as a broadcast application over containers only. Normal irrigation or rainfall should provide sufficient water for satisfactory control.
oryzalin	0.05 - 0.1 oz Surflan AS	0.75 - 1.5	2 to 4 weeks after planting but prior to weed emergence.	Annual grasses and small-seeded broadleaf weeds.	Consult label for listing of tolerant species. Do not apply to gladiolus bulbs larger than 1 inch in diameter.
oryzalin + benefin	0.175-0.35 lb XL 2G	0.75 + 0.75	2 to 4 weeks after planting and final hilling, but prior to emergence of annual weeds.	Annual grasses and certain broadleaf weeds.	Consult label for listing of tolerant species. In the spring, do not apply to tulip plants that have emerged to a height greater than 0.75 inch. Deep plow prior to planting any crop after this use.
trifluralin	1.8 lb Treflan 5G	4.0	After plants become established.	Grassy weeds.	Consult label for list of tolerant crops for Treflan 5G. Gladioli corms less than 1 inch in diameter may be injured by preplant applications of Treflan G.

HERBACEOUS ANNUAL FLOWERING PLANTS

bensulide	0.48-0.8 lb Betasan 3.6G or 0.55-0.92 oz 4E	7.5-12.6	Apply and irrigate before weed germination.	Annual grasses and some small-seeded broadleaf weeds.	Consult label for complete listing of tolerant crop species. Do not apply peat moss before treating with Betasan.
DCPA	1/2 lb 5G	10-15	After establishment.	Germinating grass and certain broadleaf weeds.	Consult recent labels for complete listing of tolerant crop species. Apply to clean soil after transplanting or following establishment. Do not incorporate more than 2 inches. Do not use on button pink, carnation, pansy, phlox, sweet william, or alternanthera.
EPTC	1/2 lb 2.3G	5	Post plant after growth of crop plants is 3-5 inches high or 2 weeks after transplanting.	Certain annual weeds and nutsedge.	Consult recent label for complete listing of tolerant crop species. Crop species tolerance varies with formulation. Incorporate thoroughly in top 2 inches of soil if plant is 3-5 inches tall or 2 weeks after transplanting. Beds must be clean at time of treatment.

Ornamental Crops, Continued

Crop, weed, or situation and herbicide	Herbicide rate formulation per 100 sq ft	Active ingredient lb/A	Time of application	Weeds controlled	Special instructions and remarks
fluazifop	0.04 to 0.06 oz Fusilade II + 1/2 pt nonionic surfactant		Apply to actively growing grasses before they exceed recommended application growth stages shown on the label.	Grassy weeds.	Consult recent label for complete listing of tolerant crop species. Use only nonionic surfactant with Fusilade on ornamentals. Applications of Fusilade may be made over the top of some ornamentals and only as a directed spray to prevent contact of spray with foliage on other ornamentals.
isoxaben	0.02-0.05 oz Gallery 75 DF	0.5-1.0	Late fall or early summer prior to weed emergence.	Broadleaf weeds.	Consult label for listing of tolerant species. Do not apply until after soil around plant roots has settled. Apply to weed-free soil. Needs 0.5-inch of water to activate within 21 days.
napropamide	2.88-1.48 oz Devrinol 5G	4-6	After transplanting.	Grassy weeds.	Consult list of plant species on which Devrinol 5-G Ornamental can be used. Apply Devrinol 5-G Ornamental as a broadcast application over the containers. Normal irrigation or rainfall should provide sufficient water for satisfactory control. Do not use on soils containing more than 10% organic matter.
oryzalin	0.15 - 0.3 oz Surflan AS	0.75 - 1.5	2 to 4 weeks after planting but prior to weed emergence.	Annual grasses and small-seeded broadleaf weeds.	Consult label for listing of tolerant species. A 0.5 - inch rain or equivalent is necessary to activate or may be shallowly cultivated to 1-2 inches. Do not use on soils containing more than 3% organic matter.
oryzalin + benefin	0.175-0.35 lb XL 2G	0.75 + 0.75	2 to 4 weeks after planting and final hilling, but prior to emergence of annual weeds.	Annual grasses and certain broadleaf weeds.	Consult label for listing of tolerant species. Deep plow prior to planting any crop after this use.
sethoxydim	0.08 fl oz Vantage	0.28	Apply to actively growing grasses before they exceed the recommended growth stages shown on the label.	Grassy weeds.	Consult recent label for complete listing of tolerant crop species. Not intended for domestic use, except by professional applicators. Slight leaf speckling has been observed on a few species with no reduction in vigor or growth.

Ornamental Crops, Continued

Crop, weed, or situation and herbicide	Herbicide rate formulation per 100 sq ft	Active ingredient lb/A	Time of application	Weeds controlled	Special instructions and remarks
trifluralin	1.8 lb Treflan 5G	4.0	After plants become established.	Grassy weeds.	Consult label for list of tolerant crops for Treflan 5G. Use lower rates on light soils and heavier rates on heavy soils. Use lower rates if physically incorporated and higher rates if applied to the surface and watered in.

HERBACEOUS PERENNIAL FLOWERING PLANTS AND PERENNIAL GROUNDCOVERS

bensulide	0.48-0.8 lb Betasan 3.6G or 0.55-0.92 oz 4E	7.5-12.6	Apply and irrigate before weed germination.	Annual grasses and some small-seeded broadleaf weeds.	Consult label for complete listing of tolerant crop species. Do not apply peat moss before treating with Betasan.
EPTC	1/2 lb 2.3G	5	Post plant after growth of crop plants is 3-5 inches high or 2 weeks after transplanting.	Certain annual weeds and nutsedge.	Consult recent label for complete listing of tolerant crop species. Crop species tolerance varies with formulation. Incorporate thoroughly in top 2 inches of soil if plant is 3-5 inches tall or 2 weeks after transplanting. Beds must be clean at time of treatment.
fluazifop	0.04 to 0.06 oz Fusilade II + 1/2 pt nonionic surfactant		Apply to actively growing grasses before they exceed recommended application growth stages shown on the label.	Grassy weeds.	Consult recent label for complete listing of tolerant crop species. Use only non-ionic surfactant with Fusilade on ornamentals. Applications of Fusilade may be made over the top of some ornamentals and only as a directed spray to prevent contact of spray with foliage on other ornamentals.
isoxaben	0.02-0.05 oz Gallery 75 DF	0.5-1.0	Late fall or early summer prior to weed emergence.	Broadleaf weeds.	Consult label for listing of tolerant species. Apply after soil around plant roots has settled.

Ornamental Crops, Continued

Crop, weed, or situation and herbicide	Herbicide rate formulation per 100 sq ft	Active ingredient lb/A	Time of application	Weeds controlled	Special instructions and remarks
isoxaben + trifluralin	0.23-0.46 lb Snapshot 2.5 TG	0.5-1 + 2-4	Late summer to early fall or in early spring prior to germination of target weeds or post cultivation.	Certain broadleaf weeds and annual grasses.	Consult label for listing of tolerant groundcover species. Optimum weed control when activated within 3 days of application with irrigation or rainfall. May also be activated with cultivation equipment capable of uniformly mixing the herbicide into the upper 1-2 inches of soil. Failure to activate within 3 days of application may result in erratic control of annual grasses.
metolachlor	2 tbsp Pennant 7.8E/gal water. Spray to wet planting area.	2-4	Apply before weeds emerge or after removal of existing weeds.	Grassy weeds and some broadleaf weeds.	See label for complete listing of tolerant species. Direct spray towards the base of established ornamentals transplanted a minimum of 10 days. Do not use on ornamental perennial monocots.
napropamide	2.88-1.48 oz Devrinol 5G	4-6	After transplanting.	Grassy weeds.	Consult list of plant species on which Devrinol 5-G Ornamental can be used. Apply Devrinol 5-G Ornamental as a broadcast application over the containers. Incorporate immediately by tillage, irrigation, or rainfall. Normal irrigation or rainfall should provide sufficient water for satisfactory control. Do not use on soils containing more than 10% organic matter.
oxyfluorfen + oryzalin	3.7 oz Rout Ornamental Herbicide	2 + 1	After transplants become established and before weeds emerge.	Annual grasses and broadleaf weeds.	Consult label for listing tolerant species. Do not apply to wet foliage or whorl-leaved plants. Do not use in greenhouses. Do not incorporate physically. Water is necessary to activate this product. Do not use on bedding plants.
oxyfluorfen + pendimethalin	3.7 oz Ornamental Herbicide II	2 + 1	After transplants become established and before weeds emerge.	Annual grasses and broadleaf weeds.	Consult label for listing of tolerant species. Do not apply to wet foliage or whorl-leaved plants. Do not use in greenhouses. Do not incorporate physically. Water is necessary to activate this product. Do not use on bedding plants, Do not apply when extreme cold (< 35 °F) is expected.

Ornamental Crops, Continued

Crop, weed, or situation and herbicide	Herbicide rate formulation per 100 sq ft	Active ingredient lb/A	Time of application	Weeds controlled	Special instructions and remarks
oryzalin	0.15 - 0.3 oz Surflan AS	0.75 - 1.5	2 to 4 weeks after planting but prior to weed emergence.	Annual grasses and small-seeded broadleaf weeds.	Consult label for listing of tolerant species. A 0.5-inch rain or equivalent is necessary to activate. May be shallowly cultivated (1-2 inches). Do not use on soils containing more than 3% organic matter.
oryzalin + benefin	0.175-0.35 lb XL 2G	0.75 + 0.75	2 to 4 weeks after planting and final hilling, but prior to emergence of annual weeds.	Annual grasses and certain broadleaf weeds.	Consult label for listing of tolerant species. Deep plow prior to planting any crop after this use. Do not apply to ornamental plantings where the likelihood of runoff onto lawn areas containing cool-season turf-grass species exists as severe injury or death may occur. Over-application may result in crop injury or excessive soil residue.
oxadiazon	0.45 lb of Ronstar G 4		Before weed seed germination.	Annual broadleaf and grass weeds.	Consult label for listing of tolerant species. Apply any time during year. Irrigation following treatment improves activity. Do not apply to wet foliage. Do not incorporate physically, but apply before rainfall or irrigate to activate. Do not disturb the soil surface by cultivation after treatment. Do not apply under conditions in which granules will collect on leaves or in rosettes of plants such as yucca and liriopse.
pendimethalin	0.01 to 0.02 oz Pendulum WDG or 0.17 to 0.23 lb Pendulum 2G	1.5 to 3	Fall or spring before weed emergence.	Annual grasses and broadleaf weeds.	Consult label for complete listing of tolerant crop species. Apply to established plantings only. Apply to weed-free soil and irrigate. Over-application in cool, wet soils can increase injury.
sethoxydim	0.08 fl oz Vantage	0.28	Apply to actively growing grasses before they exceed recommended growth stages shown on the label.	Grassy weeds.	Consult recent label for complete listing of tolerant crop species. Not intended for domestic use, except by professional applicators. Very slight leaf speckling has been observed on a few species with no reduction in vigor or growth.

Ornamental Crops, Continued

Crop, weed, or situation and herbicide	Herbicide rate formulation per 100 sq ft	Active ingredient lb/A	Time of application	Weeds controlled	Special instructions and remarks
simazine + metolachlor	0.05-0.07 oz + 0.07-0.11 oz Princep 4L + Pennant 7.8E or 1.4-2.8 oz Derby 5G	0.8-1 + 2-3	10 days after transplant.	Annual grasses and broadleaf weeds.	Liriope only. Apply before weeds emerge or after existing weeds are removed. Use high rates on fine-textured soils and low rate on coarse-textured soils where light infestations of broadleaf weeds are expected. Prolonged wet soil conditions after the herbicide is applied will reduce the length of weed control.
trifluralin	0.18 lb Treflan 5G	4.0	After plants become established.	Annual grasses and some broadleaf weeds.	Consult label for list of tolerant crops. Use lower rates on light soils and heavier rates on heavy soils. Use lower rates if physically incorporated and higher rates if applied to the surface and watered in.

ORNAMENTAL GRASSES

isoxaben	0.02-0.05 oz Gallery 75 DF	0.5-1.0	Late fall or early summer prior to weed emergence.	Broadleaf weeds.	Consult label for listing of tolerant species. Do not apply until after soil around plant roots has settled.
isoxaben + trifluralin	0.23-0.46 lb Snapshot 2.5 TG	0.5-1 + 2-4	Late summer to early fall or in early spring prior to germination of target weeds or post cultivation.	Certain broadleaf weeds and annual grasses.	Consult label for listing of tolerant groundcover species. Optimum weed control when activated within 3 days of application with irrigation or rainfall. May also be activated with cultivation equipment capable of uniformly mixing the herbicide into the upper 1-2 inches of soil. Failure to activate within 3 days of application may result in erratic control of annual grasses.
metolachlor	2 tbsp Dual Magnum 7.8E/gal water. Spray to wet planting area.	2-4	Apply before weeds emerge or after removal of existing weeds.	Grassy weeds and some broadleaf weeds.	See label for complete listing of tolerant species. Direct spray towards the base of established ornamentals transplanted a minimum of 10 days.
oxyfluorfen + pendimethalin	3.7 oz Ornamental Herbicide II	2 + 1	After transplants become established and before weeds emerge.	Annual grasses and broadleaf weeds.	Consult label for listing of tolerant species. Do not apply to wet foliage or whorl-leaved plants.

Ornamental Crops, Continued

Crop, weed, or situation and herbicide	Herbicide rate formulation per 100 sq ft	Active ingredient lb/A	Time of application	Weeds controlled	Special instructions and remarks
pendimethalin	0.01 to 0.02 oz Pendulum WDG or 0.17 to 0.23 lb Pendulum 2G	1.5 to 3	Fall or spring before weed emergence.	Annual grasses and certain broadleaf weeds.	Consult recent label for complete listing of tolerant crop species. Apply to established plantings only. Apply to weed-free soil and irrigate. Over-application in cool, wet soils can increase injury.

WOODY ORNAMENTAL PLANTS

bensulide	0.48-0.8 lb Betasan 3.6G or 0.55-0.92 oz 4E	7.5-12.6	Apply and irrigate before weed germination.	Annual grasses and some small-seeded broadleaf weeds.	Consult label for complete listing of tolerant crop species. Do not apply peat moss before treating with Betasan. For landscape and field use.
DCPA	1/2 lb 5G	10-15	After establishment.	Germinating grass and certain broadleaf weeds.	Consult recent labels for complete listing of tolerant crop species. Apply to clean soil after transplanting or following establishment. Do not incorporate more than 2 inches.
dichlobenil	0.23 to 1.14 lb Casoron 4G	4 to 20	4 weeks after transplanting in early spring and fall.	Annual and perennial weeds.	Consult recent label for complete listing of tolerant crop species. Apply only to a well prepared weed-free soil before seeds of annual weeds germinate or after cultivation to remove all growing weeds. Do not apply until 4 weeks after transplanting. Do not use in seed beds, transplant or cutting beds, or in greenhouses. Do not use on extremely sandy soils. Shallow incorporation or sprinkler irrigation immediately after application is recommended. This product is effective only during cool seasons in Mississippi (air temperature < 70 °F).
EPTC	1/2 lb 2.3G	5	Post plant after growth of crop plants is 3- to 5-inches high or 2 weeks after transplanting.	Certain annual weeds and nutsedge.	Consult recent label for complete listing of tolerant crop species. Crop species tolerance varies with formulation. Must be incorporated thoroughly in top 2 inches of soil growth if plant is 3-5 inches tall or 2 weeks after transplant. Beds must be clean at time of treatment.

Ornamental Crops, Continued

Crop, weed, or situation and herbicide	Herbicide rate formulation per 100 sq ft	Active ingredient lb/A	Time of application	Weeds controlled	Special instructions and remarks
fluazifop	0.04 to 0.06 oz Fusilade II + 1/2 pt nonionic surfactant	0.25-0.375	Apply to actively growing grasses before they exceed recommended application growth stages shown on the label.	Grassy weeds.	Consult recent label for complete listing of tolerant crop species. Use only non-ionic surfactant with Fusilade on ornamentals. Applications of Fusilade may be made over the top of some ornamentals and only as a directed spray to prevent contact of spray with foliage on other ornamentals.
imazaquin	0.45 to 0.6 tsp Image	0.5	Apply to established ornamentals.	Broadleaf weeds, wild garlic, onion, and sedges.	Consult label for listing of tolerant species. Add 0.25% nonionic surfactant to spray mix. Do not apply to container-grown plants.
isoxaben	0.02-0.05 oz Gallery 75 DF	0.5-1.0	Late fall or early summer prior to weed emergence.	Broadleaf weeds.	Consult label for listing of tolerant species. Do not apply until after soil around plant roots has settled. Apply to weed-free soil. Needs 0.5-inch of water to activate within 21 days. For field and container use. Some liners are also registered.
isoxaben + trifluralin	0.23-0.46 lb Snapshot 2.5 TG	0.5-1 + 2-4	Late summer to early fall or in early spring prior to germination of target weeds or post cultivation.	Certain broadleaf weeds and annual grasses.	Consult label for listing of tolerant groundcover species. Optimum weed control when activated within 3 days of application with irrigation or rainfall. May also be activated with cultivation equipment capable of uniformly mixing the herbicide into the upper 1-2 inches of soil. Failure to activate within 3 days of application may result in erratic control of annual grasses. Do not apply to nursery seedbeds or transplant beds, unrooted liners or cuttings planted in pots for the first time, pots less than 4 inches wide, or newly transplanted ornamentals. Do not apply over 600 lb per acre per year.
metolachlor	2 tbsp Dual Magnum 7.8E /gal water. Spray to wet planting area.	2-4	Apply before weeds emerge or after removal of existing weeds.	Grassy weeds and some broadleaf weeds.	See label for complete listing of tolerant species. Direct spray towards the base of established ornamentals transplanted a minimum of 10 days. For field use only.

Ornamental Crops, Continued

Crop, weed, or situation and herbicide	Herbicide rate formulation per 100 sq ft	Active ingredient lb/A	Time of application	Weeds controlled	Special instructions and remarks
metolachlor + simazine	0.09-0.18 lb Derby 5G	2-4	Apply prior to weed emergence.	Grasses and broadleaf weeds.	Consult label for listing of tolerant species. Do not apply until soil has settled around plant roots. If applied to wet foliage, apply overhead irrigation to remove herbicide granules.
napropamide	2.88-1.48 oz Devrinol 5G	4-6	After transplanting.	Grassy weeds.	Consult list of plant species on which Devrinol 5-G Ornamental can be used. Apply Devrinol 5-G Ornamental as a broadcast application over containers only. Normal irrigation or rainfall should provide sufficient water for satisfactory control. Do not use on soils containing more than 10% organic matter. For landscape, field, or container use according to species.
oryzalin	0.15 - 0.3 oz Surflan AS	0.75 - 1.5	2 to 4 weeks after planting but prior to weed emergence.	Annual grasses and small-seeded broadleaf weeds.	Consult label for listing of tolerant species. A 0.5-inch rain or equivalent is necessary to activate or may be shallowly cultivated to 1-2 inches. Do not use on soils containing more than 3% organic matter. Landscape use only.
oryzalin + benefin	0.175-0.35 lb XL 2G	0.75 + 0.75	2 to 4 weeks after planting and final hilling, but prior to emergence of annual weeds.	Annual grasses and certain broadleaf weeds.	Consult label for listing of tolerant species. Deep plow prior to planting any crop after this use. For field and container use. Registered on selected liners.
oxadiazon	0.45 lb of Ronstar G	4	Before weed seed germination.	Annual broadleaf and grassy weeds.	Consult label for complete listing of tolerant species. Apply anytime during year. Irrigation following treatment improves activity. Do not apply to wet foliage. Do not incorporate physically, but apply before rainfall or irrigate to activate. Do not disturb the soil surface by cultivation after treatment. Do not apply under conditions in which granules will collect on leaves or in rosettes of plants such as yucca and liriopse.

Ornamental Crops, Continued

Crop, weed, or situation and herbicide	Herbicide rate formulation per 100 sq ft	Active ingredient lb/A	Time of application	Weeds controlled	Special instructions and remarks
oxadiazon + prodiamine	0.45 lb of RegalStar G	1 lb + 0.2 lb	Before weed seed germination.	Annual broadleaf and grassy weeds.	Consult label for listing of tolerant species. No more than two applications per year are recommended.
oxyfluorfen	0.18-0.37 oz Goal 2E	1-2	Preemergence or postemergence.	Annual grasses and broadleaf weeds.	Consult label for listing of tolerant species. Use 0.25% nonionic surfactant if weeds are present.
oxyfluorfen + oryzalin	3.7 oz Rout Ornamental Herbicide	2 + 1	After transplants become established and before weeds emerge.	Annual grasses and broadleaf weeds.	Consult label for listing of tolerant species. Do not apply to wet foliage or whorl-leaved plants. Do not use in greenhouses. Do not incorporate physically. Water is necessary to activate this product. Do not use on bedding plants. For container and field use.
oxyfluorfen + oxadiazon	0.22 lb Regal O-O	2 + 1 lb	Before weed seed germination.	Annual broadleaf and grassy weeds.	Consult label for listing of tolerant crops. Excellent activity for bittercress.
oxyfluorfen + pendimethalin	3.7 oz Ornamental Herbicide II	2 + 1	After transplants become established and before weeds emerge.	Annual grasses and broadleaf weeds.	Consult label for listing of tolerant species. Do not apply to wet foliage or whorl-leaved plants.
pronamide	0.07-0.15 oz Kerb 50W	1-2	Late fall prior to weed emergence.	Annual grasses and certain broadleaf weeds.	Consult label for listing of tolerant species. Apply to established plantings only.
sethoxydim	0.08 fl oz Vantage	0.28	Apply to actively growing grasses before they exceed the recommended growth stages shown on the label.	Grassy weeds.	Consult recent label for complete listing of tolerant crop species. Not intended for domestic use, except by professional applicators. Slight leaf speckling has been seen on a few species with no reduction in vigor or growth.
simazine	0.9-3.8 oz Princep 4G	25-100	Apply early spring after first year of establishment.	Most annual broadleaf weeds and some annual grasses.	Consult label for list of tolerant crops. For use on conifers only.
trifluralin	1.8 lb Treflan 5G	4.0	After plants become established.	Grassy weeds.	Consult label for list of tolerant crops for Treflan 5G. Use lower rates on light soils and heavier rates on heavy soils. Use lower rates if physically incorporated and higher rates if applied to the surface and watered in.

Ornamental Crops, Continued

Crop, weed, or situation and herbicide	Herbicide rate formulation per 100 sq ft	Time of application	Weeds controlled	Special instructions and remarks
CHRISTMAS TREES				
Preplanting				
trifluralin 0.5 to 1.0 lb	Treflan 4E — 1 to 2 pt	Preplant incorporated and post plant.	Most annual grasses and a few small-seeded broadleaves.	For Scotch, loblolly, white pine, and red cedar. Apply to weed-free soil and incorporate immediately. Applications may be made to establish plantings by setting incorporating tools to throw treated soil around the plants.
Preemergence				
hexazinone 1.0 to 1.7 lb	Velpar L — 4-7 pt per acre.	Do not use in 2- to 5- year-old plantations.	Pre- and post-emergence control of many annual grasses.	See label for tree varieties cleared. Velpar L can be applied over the top or as a direct spray. Do not add surfactant if applied over the top of trees. Use directed sprays if applied after bud break and add 1 quart surfactant per 100 gal spray to improve postemergence activity. If multiple applications are used for postemergence control, use 2 to 4 pints each application.
metolachlor 2.0 to 3.9 lb/A	Pennant Liquid Herbicide — 7.8 lb/gal 2 to 4 qt/A	Before weeds emerge.	Annual grasses and yellow nutsedge.	Apply in 10 or more gallons water prior to emergence of weeds but after soil has settled around the transplant. Cultivate or control emerged weeds with postemergence herbicides. A second application may be needed to provide control for an extended period. Use 2 pints for coarse textured, low organic matter soils and the 4-pint rate for high organic clay soils or where yellow nutsedge is a problem.
napropamide 4.0 to 6.0 lb/A	Devrinol 50WP — 8 to 12 lb	Postplant, established, before weed germination.	Most annual grasses and a few small-seeded broadleaves.	Apply over the top of newly planted or as a directed spray to establish plantings. Apply any time of year but make application to weed-free soil. Rainfall, irrigation, or mechanical incorporation 1 to 2 inches deep ensures control. Often provides season-long control of annual grasses and many small-seeded broadleaf weeds.
oryzalin 2 to 4 lb	Surflan 4 lb/gal WP — 4 to 6 pt in 20 to 40 gal water	Late winter or early spring before weeds germinate.	Annual grasses and a few small-seeded broadleaves.	For short-season control apply lower rates. Increase rates for longer control. May be applied over the top of trees. Use after trees are planted and soil is settled. If low rates are used, one additional treatment in the late spring or early summer will likely be needed.
oxyfluorfen 1.0 to 2.0 lb/A	Goal 2XL 1.6E — 4.0 to 8 pt	Postplant.	Pre and postemergence control of small annual grasses and broadleaves.	For many conifer species. Apply after transplanting while trees are still dormant. Add 0.25% surfactant if weeds have emerged. Generally 5 pt/acre rate provides acceptable control, but heavy weed pressure (many small weeds or larger weeds) may require the higher rates. Ground application only.
pendimethalin 2 to 4 lb/A	Stomp — 4 lb/gal 2 to 4 qt/A	Before weed seeds germinate.	Certain annual grasses and broadleaves.	Apply in 20 gallons water to established plantings. May be applied over the top of trees. It will not control emerged weeds. Rainfall or irrigation must be applied to initiate control. Use the low rate for short-term control and the high rate for long-term control.

Consult labels for approved adjuvants.

Weed resistance to recommended use-rates of certain herbicides has been documented in Mississippi — SEE PAGE 9.

Ornamental Crops, Continued

Crop, weed, or situation and herbicide	Herbicide rate formulation per 100 sq ft	Time of application	Weeds controlled	Special instructions and remarks
simazine 2.0 to 4.0 lb/A	4L - 2 to 4 qt Princep 5G — 50 to 100 lb	Spring or fall before weed germination.	Annual grasses and broadleaves.	For red cedar and white pine. Remove weed growth before applying or kill using postemergence herbicide. Trees must be 3 years old.
Postemergence				
clethodim	Prism — 17 to 34 oz in 5 to 40 gal of spray solution. Use 0.25% v/v nonionic surfactant.	When grass is 1-18 in. high (follow table on label).	Most grasses.	Do not apply directly to water or to areas where runoff is likely to occur.
fluazifop-butyl 0.1-0.2 a.i. lb/A	Fusilade DX — 8 to 16 oz in 10-40 gal water. Add 1 qt nonionic surfactant or 4 qt crop oil concentrate per 100 gal spray.	When grass is between 1-6 inches tall.	Most grasses.	Do not tank mix Fusilade with other herbicides. Check label for labelled species.
glyphosate 0.75 to 3.7 lb ae	glyphosate — 1.0 to 5.0 qt 3 lb ae/gal formulation in 10 to 40 gal water.	Anytime weeds are actively growing.	Most vegetation covered.	Apply to undesirable vegetation in 20 to 40 gallons water. Use low rate for small annual weeds and high rate for perennials. For annual weeds less than 6 in tall in small areas mix 1 to 2 fl oz per gallon or for annual weeds more than 6 in tall or perennial weeds, mix 2 to 3 fl oz per gallon and spray lightly to cover. Delay plantings and cultivations for at least 5 days for best weed control. When spraying adjacent to small desirable plants, use a shield to prevent spray from contacting the green part of plants. Repeat as needed to maintain control.
hexazinone 0.90 to 1.8	See preemergence section.			
paraquat 0.5 to 1.0	1.33 to 2.5 pt of 1.5 lb/gal formulation	When weeds are 1 to 6 inches tall.	Most annuals; top kill of perennials.	Add 1 quart of nonionic surfactant to each 100 gallons spray. Apply as directed spray to prevent contact of spray with green stems or foliage. Keep pressure low. Do not spray when windy.
sulfometuron-methyl	See preemergence section.			

Ornamental Crops, Continued

Crop, weed, or situation and herbicide	Herbicide rate formulation per 100 sq ft	Active ingredient lb/A	Time of application	Weeds controlled	Special instructions and remarks
PERIPHERAL AND NONCROP AREAS					
glyphosate	1% (v/v) - 1.3 fl oz or 2.6 tbsp 3 lb ae/gal water 2% (v/v) - 2.6 fl oz or 5.2 tbsp 3 lb ae/gal water	1-3	While weeds are actively growing.	Most annual and perennial weeds less than 6 in tall. Annual weeds over 6 in tall and perennial weeds.	Avoid contact with desirable vegetation. Do not spray green bark or foliage of any desirable vegetation. For optimal control of perennial weeds apply during seed production or 2 to 4 weeks before frost.
paraquat	0.07 - 0.11 oz Gramoxone Max 2.5EC	0.56-0.94	Anytime to foliage of weeds only.	All vegetation contacted.	Apply for full coverage of weeds. Best results are obtained when weeds are young and succulent. Repeat application as needed. The addition of nonionic surfactant (0.5-1 pint per 100 gallons spray solution) is recommended. Use in NONCROP AREAS. Prevent contact with desirable vegetation. Use protective clothing when applying paraquat.
gluphosanate-ammonium	0.15-0.4 oz of Finale® (11.3%), depending on weed and stage of growth (see label)	0.21-0.37	While weeds are actively growing.	Most annual and perennial weeds.	Avoid contact with desirable vegetation. Spray to wet foliage. Do not enter or allow entry of maintenance workers into treated areas during the restricted-entry interval (rei) of 12 hours. Wear personal protective equipment (ppe) indicated on label.
diquat	4 tsp Reward® plus 1 tsp 75% nonionic surfactant per gallon	1.0	Apply to young weeds since control decreases as weeds mature.	Most above-ground grasses and broadleaf weeds.	Apply for full coverage and thorough weed contact. Retreatment may be necessary to control grasses and established weeds. Avoid spray contact with foliage of food crops or ornamental plants. Do not enter or allow entry of maintenance workers into treated areas, or allow contact with treated vegetation wet with spray, dew or rain, without appropriate protective clothing until spray has dried.