

Supplemental Label



GROUP	14	HERBICIDE
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BroadStar®

H E R B I C I D E

EPA Reg. No. 59639-128
(EXCEPT CALIFORNIA AND NEW YORK)

PROVIDES PREEMERGENCE WEED CONTROL IN CONTAINER AND FIELD GROWN WOODY SHRUBS, TREES AND GROUND COVERS

VERY EFFECTIVE AGAINST BITTERCRESS, SPURGE, LIVERWORT AND MANY OTHER ANNUAL BROADLEAF AND GRASSY WEEDS

PROVIDES AT LEAST 8-12 WEEKS OF PREEMERGENT CONTROL UNDER NORMAL GROWING CONDITIONS

FOR APPLICATION TO ESTABLISHED PLANTS WITH DRY FOLIAGE

NOT FOR APPLICATION TO RECENTLY TRANSPLANTED LINERS

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

READ ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH PRECAUTIONARY STATEMENTS AND DIRECTIONS AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.

GENERAL INFORMATION

BroadStar® Herbicide is a selective preemergence herbicide that provides extended residual control of a wide variety of annual broadleaf and grassy weeds. *BroadStar* is labeled for use in containerized and field grown (in-ground) woody ornamental shrubs and trees, ground covers and non-bearing fruit and nut trees that are grown in nurseries. *BroadStar* should not be applied in residential or commercial landscapes.

BroadStar controls weeds by inhibiting protoporphyrinogen oxidase, an essential enzyme required by plants for chlorophyll biosynthesis. Seedling weeds are controlled preemergence when exposed to sunlight following contact with the soil applied herbicide. *BroadStar* has only limited post-emergent activity against certain weed species. Therefore, in order to optimize weed control, *BroadStar* should be applied before weeds germinate or immediately after cultivation.

Most hardy woody ornamental shrubs and trees are tolerant to *BroadStar* so long as the product is applied in accordance with the label. *BroadStar* may cause leaf spotting on some tolerant species if granules are allowed to remain in contact with leaf surfaces, especially on new flush or on foliage that is wet at the time of application. However, subsequent plant growth is generally unaffected. *BroadStar* may injure some otherwise tolerant species if not applied in accordance with the label, and may also injure ornamental species that are not listed on the label. Therefore, read all label precautions and restrictions before applying *BroadStar* to ornamental plants.

General Restrictions and Limitations

- Do not apply by air.
- Do not apply to moist or wet foliage.
- Do not apply when winds are gusty or above 8 mph.
- Use caution when applying to plants that are producing a new flush of growth because herbicide may injure tender, newly formed leaves if granules remain in contact with leaf surfaces.
- Do not apply to plants whose leaves channel the herbicide granules to the leaf base.
- Do not apply to bedding plants or areas where bedding plants will be planted or transplanted within one year following application.
- Do not apply to plants while in propagation.
- Do not apply to liners that are in pots less than 4 inches in diameter.
- Do not apply to recently transplanted liners until liners have been actively growing for at least 6 weeks after transplanting.
- Non-bearing fruit trees such as citrus, apples, pears, peaches, etc. are defined as plants that will not bear fruit for at least one year after application.
- Do not incorporate product into soil or potting media.
- Do not apply to flowers, vegetables, turf or ornamentals growing in residential or commercial landscapes.

Preemergence Application

BroadStar provides effective preemergence control of weeds listed in Table 4. For optimal preemergence control, apply *BroadStar* to clean, weed free soil before weed seeds germinate. Disturbing soil surfaces after application may reduce herbicide efficacy. Remove existing weeds, weed residues and trash before application of *BroadStar*. Soil should be in good condition and free of clods at the time of application. Approximately 1/2 to 3/4 inch of rainfall, overhead sprinkler irrigation or hand irrigation is required to activate *BroadStar*. Inadequate irrigation or rainfall following application may reduce effectiveness of *BroadStar*. If adequate soil moisture is maintained following application, *BroadStar* should provide at least 8 to 12 weeks of preemergent control of labeled weeds, except under unusual environmental conditions (excessive rainfall, irrigation or temperature). Control is generally most persistent under cooler temperatures.

Application Instructions

Apply *BroadStar* with clean, well maintained drop or rotary type granular application equipment. Calibrate application equipment prior to use according to manufacturer's directions. Refer to Table 1 for calibration of hand cranked rotary spreaders. Check frequently to be sure equipment is working properly and distributing granules uniformly. Avoid skips and overlaps, as poor weed control or crop injury may occur. Clean equipment before adding *BroadStar* to ensure that no residue from the previous operation remains. Some pesticides are active at very trace quantities and can cause injury when applied to susceptible plants.

Application Recommendations

- **Apply to dry foliage only.** To test for moisture, rub hands over plant foliage.
- Remove any existing weeds before applying *BroadStar*.
- Irrigate plants within 1 hour after application with 1/2 to 3/4 inch of water to wash the particles off plant foliage and to activate the herbicide. If herbicide granules are allowed to remain on plant foliage for an extended period, herbicide residues may be released and cause leaf spotting on some sensitive ornamental species.

Application Techniques

Apply *BroadStar* with a properly calibrated drop or rotary type spreader that will ensure accurate, even particle distribution.

- When using a drop type spreader, a splashboard mounted under the hopper will provide more even granule distribution.
- When using a hand held or push type rotary applicator, such as a whirlybird or cyclone unit, walk and turn the crank at a constant rate of speed.
- Use a hand shaker to treat small numbers of plants, or areas that are difficult to reach with a whirlybird or cyclone spreader. Construct hand shakers by punching holes in the lid of a small plastic container. Calculate amount of *BroadStar* needed to treat area, place this amount in shaker and apply evenly over plants. Refer to Table 3 for amounts needed to treat individual containers.

Spray Drift Management

Do not apply under circumstances where possible drift to unprotected persons or to food, forage or other plantings that might be damaged or crops thereof rendered unfit for sale, use or consumption can occur.

- Make applications when the wind velocity favors on-target product deposition. Apply only when the wind speed is less than or equal to 10 mph. For all applications, wind speed must be measured adjacent to the application site on the upwind side, immediately prior to application.
- Do not make applications into areas of temperature inversions. Inversions are characterized by stable air and increasing temperatures with increasing distance above the ground. Mist or fog may indicate the presence of an inversion in humid areas. Where permissible by local regulations, the applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.
- All application equipment must be properly maintained and calibrated using appropriate carriers.

Resistance Management

Any weed population may contain or develop plants naturally resistant to herbicides in various mode of action classes. Resistant biotypes may eventually dominate the weed population if the same class of chemistry/mode of action herbicides are used repeatedly in the same field or in successive years. These resistant biotypes may not be adequately controlled by herbicides in a mode of action class for which resistance has developed. A gradual or total loss of weed control may occur over time. Other resistance mechanisms that are not linked to site of action, such as enhanced metabolism, may also exist. Appropriate resistance management strategies should be followed.

To Delay Herbicide Resistance

- Avoid the use of herbicides that have a similar target site mode of action in consecutive years.
- Herbicide use should be based on an Integrated Pest Management (IPM) program that includes scouting, record keeping, and consideration of cultivation practices, water management, weed free crop seed, crop rotation, and other chemical or cultural control practices.
- Monitor treated weed population for resistance development and report suspected resistance.
- Contact your local extension or crop expert (advisor) for any additional pesticide resistance management and/or IPM recommendations for specific crops and weed biotypes.
- For further information contact Valent U.S.A. Corporation at the following toll free number: 800-682-5368.

CALIBRATION OF HERBICIDE APPLICATION EQUIPMENT

BroadStar is a very active herbicide and can injure some otherwise tolerant plants if applied at excessive rates. The user is responsible for accurately calibrating herbicide application equipment so that *BroadStar* is applied at the labeled rate of 150 lbs. per acre. The user assumes responsibility for any plant damage or other liability resulting from application of *BroadStar* at excessive rates.

Hand Cranked Spreaders

The application rate (lbs./acre) of *BroadStar* with hand cranked spreaders will depend on the width of the plant bed to be treated, the operator's walking speed, the speed at which the operator turns the crank and the spreader setting (opening). The walking and cranking speed will vary among individual operators. Therefore, hand cranked spreaders must be calibrated for individual operators in order to apply *BroadStar* at the labeled rate of 150 lbs. per acre.

Use the spreader settings in Table 1 as a starting point when calibrating hand cranked spreaders for application of *BroadStar*. These settings assume a walking speed of 3 mph, a cranking speed of 60 revolutions per minute (rpm) and that the operator makes one pass down each aisle between each plant bed.

To more precisely calibrate hand cranked spreaders for application of *BroadStar* by individual operators, first select a test area that does not have plants present. Calculate the number of square feet in the test area by multiplying the length by the width (in feet) of the area to be treated. Include aisle space between beds when determining length and width of the test area. Then calculate the amount of *BroadStar* needed to treat the test area by multiplying the number of square feet in the test area by 150, and dividing this result by 43,560. If the hand cranked spreader is listed in Table 1, set the spreader opening to the position indicated for the appropriate bed width. Place *BroadStar* calibration trays in test area. Weigh out calculated amount of *BroadStar*, place in the spreader, and apply to the test area at applicator's standard walking and cranking speed. Adjust spreader opening if measured amount of *BroadStar* does not evenly cover the test area and/or if calibration trays indicate that too much or too little *BroadStar* has been applied.

Example: there is room for six plant beds in the test area that will be treated with *BroadStar*. Beds are 60 feet in length, six feet wide, and are separated by two-foot aisles. Therefore, the width of test area (i.e. distance between outside of Bed 1 and outside of Bed 6) is 46 ft., and the number of square feet in the test area = 60 ft x 46 ft = 2,760 square feet. Amount of *BroadStar* needed to treat the test area = 2,760 x 150/43,560 = 9.5 pounds.

Table 1. Settings (Port Opening) for Hand Cranked Rotary Spreaders

Spreader	One Sided Operation		Two Sided Operation	
	Bed Width (ft.)	Spreader Setting	Bed Width (ft.)	Spreader Setting
Spyker 75	4	2.5	4	3.0
	6	3.0	6	3.5 - 4.0
	8	3.5	8	4.5
	10	3.5 - 4.0	10	4.5 - 5.0
	12	4.0	12	5.0 - 6.0
Warren T-7 11	4	--	4	4.0
	6	3.5 - 4.0	6	4.5
	8	4.0 - 4.5	8	5.0 - 5.5
	10	4.5	10	6.0
	12	5.0	12	--
Earthway 3100	4	8	4	8 - 10
	6	10 - 12	6	10
	8	10 - 12	8	10 - 12
	10	12	10	12
	12	12	12	12 - 14
Solo 421S	4	1	4	2
	6	1 - 2	6	3
	8	1 - 2	8	4
	10	2	10	5 - 6
	12	3 - 4	12	--

Table 2. Weight To Volume Conversion Table

Rate	Amount/1000 sq. ft.		Amount/100 sq. ft.	
Lbs./Acre	Lbs.	Qts.	Lbs.	Cups
150	3.4	2.4	0.34	1.0

One pound of *BroadStar* = 0.7 quarts = 2.8 cups

Application to Individual Containers

BroadStar may be applied to the soil surface of individual containers, but only at a rate that is equivalent to the amount of product that would land on the media surface of an individual container if broadcast at 150 lbs. per acre. Use the conversions in Table 3 to determine how much *BroadStar* to apply to an individual container, and then use a hand shaker to evenly distribute over the media surface.

Table 3. Application Amounts for Individual Containers (equivalent to 150 lbs./A)

Pot Diameter (inches)	Gram(s) <i>BroadStar</i> /Pot	Teaspoon(s) <i>BroadStar</i> /Pot	Pot Diameter (inches)	Grams <i>BroadStar</i> /Pot	Teaspoon(s) <i>BroadStar</i> /Pot
4	0.14	1/28	24	4.91	1-1/4
5	0.21	1/18	25	5.33	1-1/2
6	0.31	1/12	26	5.76	1-1/2
7	0.42	1/9	27	6.21	1-3/4
8	0.55	1/7	28	6.68	1-3/4
9	0.69	1/6	29	7.17	2
10	0.85	1/5	30	7.67	2
11	1.03	1/4	31	8.19	2
12	1.23	1/3	32	8.73	2-1/4
13	1.44	1/3	33	9.28	2-1/2
14	1.67	1/2	34	9.85	2-1/2
15	1.92	1/2	35	10.44	2-3/4
16	2.18	5/8	36	11.05	3
17	2.46	5/8	37	11.67	3
18	2.79	3/4	38	12.31	3-1/4
19	3.08	3/4	39	12.96	3-1/2
20	3.41	7/8	40	13.64	3-1/2
21	3.76	1	41	14.33	3-3/4
22	4.12	1	42	15.03	4
23	4.51	1-1/4			

One level teaspoon of *BroadStar* weighs approximately 3.8 grams

One heaping teaspoon of *BroadStar* weighs approximately 5.9 grams

One level tablespoon of *BroadStar* weighs approximately 11.2 grams

ORNAMENTAL PLANT TOLERANCE INFORMATION

IMPORTANT: *BroadStar* can be safely applied to most hardy woody ornamental shrubs and trees, so long as the product is applied in accordance with the label. However, *BroadStar* is a very active herbicide and should not be applied on a commercial scale until the user has first confirmed its safety on a small number of test plants grown under his or her standard production practices. Test plants should be actively growing at the time of application, and examined for 4 to 8 weeks for symptoms of plant injury. If test plants are dormant at the time of application, or enter dormancy within 8 weeks after application, continue the injury evaluation until after plants break dormancy in the spring.

Mild leaf spotting is the most common symptom of *BroadStar* injury on tolerant ornamental plants, and usually appears within 1 to 2 days after application. Leaf spotting is most likely to occur when *BroadStar* is applied to wet foliage. In order to minimize the risk of leaf spotting, only apply *BroadStar* to dry foliage and apply 1/2 to 3/4 inch of overhead irrigation within 1 hour after application. Irrigation should be sufficient to wash herbicide granules off of plants. If there is a significant delay between application of *BroadStar* and irrigation, herbicide residues may be released from granules remaining on leaf surfaces, and cause leaf spotting on some plant species. In most cases, new growth will be unaffected, and will rapidly cover up any leaf spotting on older foliage.

If NOT applied in accordance with the label, *BroadStar* may cause unacceptable injury to some otherwise tolerant ornamental plant species. Injury to tolerant species is most likely if *BroadStar* is applied to wet foliage, recently transplanted liners, and/or at rates in excess of the labeled use rate of 150 lbs. per acre.

Treatment of Ornamental Plant Species Labeled as Sensitive

BroadStar can cause significant injury to woody ornamental plants listed in Table 5. In some cases, only specific cultivars are listed for a particular species because injury has not been observed on other cultivars or growth stages. It is recommended that *BroadStar* NOT be applied to the plants listed in Table 5. **The user assumes responsibility for any plant damage that results from the application of *BroadStar* to plants listed as sensitive.**

Treatment of Ornamental Plant Species NOT Listed on Label

BroadStar can be applied to woody ornamental shrubs and trees not specifically listed on this label. However, the user should NOT begin commercial scale application of *BroadStar* on non-listed species until after first confirming the product's safety on a small number of plants grown under standard production practices. **The user assumes responsibility for any plant damage that results from the application of *BroadStar* to non-listed plant species.**

Treatment of Wet Foliage

When *BroadStar* is applied to dry plants, most *BroadStar* granules will bounce or roll off foliage before releasing herbicide residues. However, if *BroadStar* is applied to plants that are wet from dew, irrigation water or rainfall, some granules may stick to foliage and release herbicide residues. Herbicide release **onto** wet foliage can injure some plant species, including those that are tolerant when *BroadStar* is applied to dry foliage. Therefore, *BroadStar* should NOT be applied to wet plants, especially those with pubescent foliage or a leaf structure that tends to trap granules at growing points.

Treatment of Recently Transplanted Liners

Under certain conditions, *BroadStar* can cause significant injury to recently transplanted liners of some plant species that are tolerant when more established (i.e. have formed a well developed root system). Injury to recently transplanted liners is most likely when *BroadStar* is applied to smaller liners (less than one gallon container size), is applied at above labeled rates, and is applied before potting media has been settled by irrigation or rainfall. Therefore, ***BroadStar* should NOT be applied to recently transplanted liners until plants have been actively growing for at least 6 weeks after transplanting and have established a vigorous root system.**

Treatment of Herbaceous Plants, Tropical Shrubs and Foliage Plants

BroadStar will severely injure many annual bedding plants (e.g. Petunia), and some herbaceous perennials (e.g. Hosta), tropical shrubs and foliage plants. Therefore, *BroadStar* should NOT be applied to herbaceous annual plants, and should NOT be applied to herbaceous perennials, tropical shrubs or foliage plants until after the user has confirmed the product's safety on a small number of plants grown under standard production practices.

Treatment of Seedling Trees and Shrubs

BroadStar may injure seedlings of some trees and shrubs if applied before seedlings have established a vigorous root system. Therefore, *BroadStar* should NOT be applied to tree and shrub seedlings within one year after germination, unless the user has first confirmed the product's safety on a small number of plants grown under standard production practices.

DIRECTIONS FOR USE IN CONTAINER OR FIELD GROWN ORNAMENTAL SHRUBS, TREES, GROUND COVERS, NON-BEARING FRUIT AND NUT TREES AND CONIFERS

Preemergence Application

Apply 150 lbs. per acre (approximately 3.5 lbs. per 1000 sq. ft.) of *BroadStar* before weeds germinate. Apply 1/2 to 3/4 inch of irrigation by hand, overhead sprinkler or fan emitter within 1 hour after application of *BroadStar*. Irrigation after application is an important step for herbicide activation. Irrigation releases active ingredient from the granule. Effective irrigation and herbicide activation is especially important under cooler temperatures when granules may release herbicide more slowly than under warmer temperatures. Drip irrigation may not be sufficient to release *BroadStar* residues from granules.

Product Use Restrictions and Limitations

- Remove existing weeds or weed debris BEFORE application.
- Do not apply to plants grown from seed until at least one year after seed germination, unless tolerance is first confirmed on a small number of plants.
- Do not apply to plants that are under moisture stress or stress from insects, diseases, animals, winter injury, planting shock or any other stresses.
- Do not apply more than 150 lbs. per acre in a single application.
- Do not apply more than 300 lbs. per acre in a single year.
- Do not treat the same plants more than one time every 8 weeks.
- Do not treat the same plants more than two times per year.
- Do not apply to moist or wet foliage
- Do not apply in an enclosed greenhouse structure.
- Do not apply to pots less than four inches wide.
- Do not place treated plants in an enclosed structure until after applying 1 inch of irrigation to plants and for 7 days after treatment.
- Do not graze or feed livestock forage cut from treated areas.

WEEDS CONTROLLED

When applied at the recommended rate before weeds germinate, *BroadStar* will provide good to excellent preemergent control of the following annual grass and broadleaf weeds.

Table 4. WEEDS CONTROLLED

Common Name	Scientific Name
Alyssum, Hoary	<i>Berteroa incana</i>
Amaranth	
Palmer	<i>Amaranthus palmeri</i>
Spiny	<i>Amaranthus spinosus</i>
Barnyardgrass	<i>Echinochloa crus-galli</i>
Beggarweed, Florida	<i>Desmodium tortuosum</i>
Bittercress, Hairy	<i>Cardamine hirsuta</i>
Bluegrass, Annual	<i>Poa annua</i>
Burclover, California	<i>Medicago hispida</i>
Carpetweed	<i>Mollugo verticillata</i>
Chickweed	
Common	<i>Stellaria media</i>
Mouseear	<i>Cerastium vulgatum</i>

continued

Table 4. WEEDS CONTROLLED (continued)

Common Name	Scientific Name
Crabgrass	
Large	<i>Digitaria sanguinalis</i>
Smooth	<i>Digitaria ischaemum</i>
Southern	<i>Digitaria ciliaris</i>
Croton, Tropic	<i>Croton glandulosus</i> var. <i>septentrionalis</i>
Dandelion	<i>Taraxacum officinale</i>
Dogfennel	<i>Eupatorium capillifolium</i>
Doveweed	<i>Murdannia nudiflora</i>
Eclipta	<i>Eclipta prostrata</i>
Filaree, Redstem	<i>Erodium cicutarium</i>
Foxtail	
Bristly	<i>Setaria verticillata</i>
Giant	<i>Setaria faberi</i>
Green	<i>Setaria viridis</i>
Yellow	<i>Setaria glauca</i>
Galinsoga, Hairy	<i>Galinsoga ciliata</i>
Geranium, Carolina	<i>Geranium carolinianum</i>
Goosegrass	<i>Eleusine indica</i>
Groundsel, Common	<i>Senecio vulgaris</i>
Henbit	<i>Lamium amplexicaule</i>
Horseweed	<i>Conyza canadensis</i>
Indigo, Hairy	<i>Indigofera hirsuta</i>
Jimsonweed	<i>Datura stramonium</i>
Kochia	<i>Kochia scoparia</i>
Ladysthumb	<i>Polygonum persicaria</i>
Lambsquarters, Common	<i>Chenopodium album</i>
Liverwort*	<i>Marchantia polymorpha</i>
Lovegrass, California	<i>Eragrostis diffusa</i>
Mallow	
Common	<i>Malva neglecta</i>
Little	<i>Malva parviflora</i>
Venice	<i>Hibiscus trionum</i>
Mayweed	<i>Anthemis cotula</i>
Morningglory	
Entireleaf	<i>Ipomoea hederacea</i> var. <i>integriuscula</i>
Ivyleaf	<i>Ipomoea hederacea</i>
Smallflower	<i>Jacquemontia tamnifolia</i>
Tall	<i>Ipomoea purpurea</i>
Moss species	<i>Bryum</i> spp.
Mulberry Weed	<i>Fatoua villosa</i>
Nightshade	
Black	<i>Solanum nigrum</i>
Eastern Black	<i>Solanum ptycanthum</i>
Panicum	
Fall	<i>Panicum dichotomiflorum</i>
Texas	<i>Panicum texanum</i>
Parsley-Piert	<i>Alchemilla arvensis</i>
Pearlwort, Birdseye	<i>Sagina procumbens</i>
Pennycress, Field	<i>Thlaspi arvense</i>

continued

*Will provide some postemergent control of liverwort which will be enhanced at higher temperatures and light levels.

Table 4. WEEDS CONTROLLED (continued)

Common Name	Scientific Name
Phyllanthus, Longstalk	<i>Phyllanthus tenellus</i>
Pigweed	
Prostrate	<i>Amaranthus blitoides</i>
Redroot	<i>Amaranthus retroflexus</i>
Smooth	<i>Amaranthus hybridus</i>
Tumble	<i>Amaranthus albus</i>
Pineapple-weed	<i>Matricaria matricarioides</i>
Plantain	
Broadleaf	<i>Plantago major</i>
Buckhorn	<i>Plantago lanceolata</i>
Puncturevine	<i>Tribulus terrestris</i>
Purslane, Common	<i>Portulaca oleracea</i>
Pusley, Florida	<i>Richardia scabra</i>
Ragweed	
Common	<i>Ambrosia artemisiifolia</i>
Giant	<i>Ambrosia trifida</i>
Redmaids	<i>Calandrinia ciliata</i>
Rocket, Yellow	<i>Barbarea vulgaris</i>
Senna, Coffee	<i>Cassia occidentalis</i>
Sesbania, Hemp	<i>Sesbania exaltata</i>
Shepherd's-purse	<i>Capsella bursa-pastoris</i>
Sida, Prickly (Teaweed)	<i>Sida spinosa</i>
Signalgrass	<i>Brachiaria platyphylla</i>
Smartweed, Pennsylvania	<i>Polygonum pennsylvanicum</i>
Sowthistle, Annual	<i>Sonchus oleraceus</i>
Spurge	
Prostrate	<i>Euphorbia humistrata</i>
Spotted	<i>Euphorbia maculata</i>
Starbur, Bristly	<i>Acanthospermum hispidum</i>
Thickhead	<i>Crassocephalum crepidioides</i>
Thistle	
Canada	<i>Cirsium arvense</i>
Russian	<i>Salsola iberica</i>
Velvetleaf	<i>Abutilon theophrasti</i>
Waterhemp	
Common	<i>Amaranthus rudis</i>
Tall	<i>Amaranthus tuberculatus</i>
Woodsorrel, Common Yellow	<i>Oxalis stricta</i>

SENSITIVE ORNAMENTAL SPECIES

Injury has been reported after application of *BroadStar* to the plants listed below in Table 5, especially on recently transplanted liners. In some cases, only specific cultivars are listed because injury has not been reported on other cultivars of this species (See Tables 6-8). It is recommended that *BroadStar* not be applied to these plant species or cultivars.

Table 5. SENSITIVE SPECIES

Common Name	Scientific Name
Azalea	<i>Rhododendron</i> spp. "Delaware Valley White"
Butterfly Bush	<i>Buddleia davidii</i>
Clethra, Summersweet	<i>Clethra alnifolia</i>
Deutzia, Slender	<i>Deutzia gracilis</i> "Nikko"
Holly, Winterberry	<i>Ilex verticillata</i>
Hydrangea	<i>Hydrangea</i> spp.
Nandina	<i>Nandina domestica</i> "Firepower"
Plumbago, Cape	<i>Plumbago auriculata</i>
Spiraea, Japanese	<i>Spiraea japonica</i>
Wax Myrtle, Southern (seedling)	<i>Myrica cerifera</i>

TOLERANT ORNAMENTAL SPECIES

IMPORTANT: Injury other than temporary leaf spotting has not been observed on species listed in Tables 6-8 when *BroadStar* was applied at the labeled rate after transplanted liners had established a well developed root system. Some otherwise tolerant species may be injured if *BroadStar* is applied to recently transplanted liners. *BroadStar* has not been applied to all cultivars of listed species, or under all environmental conditions and cultural practices under which these species could be grown. Therefore, before beginning commercial scale application of *BroadStar* to plants labeled as tolerant, the user should first confirm the product's safety on a small number of plants grown under standard production practices.

Table 6. TREES

Common Name	Scientific Name
Arborvitae	
American	<i>Thuja occidentalis</i>
Giant	<i>Thuja plicata</i>
Oriental	<i>Thuja orientalis</i>
Ash	
Green	<i>Fraxinus pennsylvanica</i>
White	<i>Fraxinus americana</i>
Birch	<i>Betula</i> spp.
Cedar, Deodora	<i>Cedrus deodora</i>
Crabapple, Flowering	<i>Malus</i> spp.
Cottonwood	<i>Populus deltoids</i>
Cypress	
Italian	<i>Cupressus sempervirens</i>
Templehoff	<i>Chamaecyparis obtusa</i>
Dogwood, Florida	<i>Cornus florida</i>
Elm, Chinese	<i>Ulmus parvifolia</i>
Eucalyptus	
Mealy	<i>Eucalyptus cinerea</i>
Red Gum	<i>Eucalyptus camaldulensis</i>
Ficus	<i>Ficus benamina</i>

continued

TOLERANT ORNAMENTAL SPECIES (continued)

Table 6. TREES (continued)

Common Name	Scientific Name
Fir	
Balsam	<i>Abies balsamea</i>
Douglas	<i>Pseudotsuga menzesii</i>
Fraser	<i>Abies fraseri</i>
Grand	<i>Abies grandis</i>
Korean	<i>Abies koreana</i>
Noble	<i>Abies procera</i>
Ginkgo	<i>Ginkgo biloba</i>
Hemlock	
Eastern	<i>Tsuga canadensis</i>
Mountain	<i>Tsuga mertensiana</i>
Western	<i>Tsuga heterophylla</i>
Lilac, Hungarian	<i>Syringa josikaea</i>
Magnolia, Lily	<i>Magnolia lilliflora</i>
Maple	
Flame	<i>Acer ginnala</i>
Flowering	<i>Abutilon hybridum</i>
Japanese	<i>Acer palmatum</i>
Red	<i>Acer rubrum</i>
Striped	<i>Acer pensylvanicum</i>
Mulberry, White	<i>Morus alba</i>
Oak	
Bear	<i>Quercus ilicifolia</i>
Live	<i>Quercus virginiana</i>
Pin	<i>Quercus palustris</i>
Red	<i>Quercus rubra</i>
Willow	<i>Quercus phellos</i>
Pine	
Eastern White	<i>Pinus strobus</i>
Jack	<i>Pinus banksiana</i>
Lacebark	<i>Pinus bungeana</i>
Loblolly	<i>Pinus taeda</i>
Lodgepole	<i>Pinus contorta</i>
Longleaf	<i>Pinus palustris</i>
Mugo	<i>Pinus mugo</i>
Ponderosa	<i>Pinus ponderosa</i>
Sand	<i>Pinus clausa</i>
Scotch	<i>Pinus sylvestris</i>
Shortleaf	<i>Pinus echinata</i>
Slash	<i>Pinus elliotii</i>
Virginia	<i>Pinus virginiana</i>
Plum, Beach	<i>Prunus maritima</i>
Podocarpus	<i>Podocarpus</i> spp.
Poplar	<i>Populus</i> spp.
Red Cedar, Eastern	<i>Juniperus virginiana</i>
Redbud	<i>Cercis canadensis</i>

TOLERANT ORNAMENTAL SPECIES (continued)

Table 6. TREES (continued)

Common Name	Scientific Name
Spruce	
Blue	<i>Picea pungens</i>
Dwarf Alberta	<i>Picea glauca conica</i>
Norway	<i>Picea abies</i>
Serbian	<i>Picea omorika</i>
Sitka	<i>Picea sitchensis</i>
Sumac, Staghorn	<i>Rhus typhina</i>
Sweetgum, American	<i>Liquidambar styraciflua</i>
Sycamore	
American	<i>Platanus occidentalis</i>
California	<i>Platanus racemosa</i>
Yew, Japanese	<i>Taxus cuspidata</i>

Table 7. SHRUBS AND GROUND COVERS

Common Name	Scientific Name
Abelia, Glossy	<i>Abelia x grandiflora</i>
Acacia	<i>Acacia</i> spp.
Anise, Purple	<i>Illicium floridanum</i>
Azalea ¹	<i>Rhododendron</i> spp.
Barberry	<i>Berberis</i> spp.
Japanese	<i>Berberis thunbergii</i>
William Penn	<i>Berberis x gladwynensis</i>
Bayberry	<i>Myrica pensylvanica</i>
Bottlebrush	<i>Callistemon</i> spp.
Boxwood, Littleleaf	<i>Buxus microphylla</i>
Camellia	<i>Camellia japonica</i>
Cinquefoil, Shrubby	<i>Potentilla fruticosa</i>
Cotoneaster, Bearberry	<i>Cotoneaster dammeri</i>
Crape Myrtle ²	<i>Lagerstroemia indica</i> spp.
Elaeagnus	<i>Elaeagnus</i> spp.
English Ivy	<i>Hedera helix</i>
Euonymus, Winged ³	<i>Euonymus alatus</i>
Firethorn, Scarlet	<i>Pyracantha coccinea</i>
Forsythia	
Border	<i>Forsythia x intermedia</i>
Weeping	<i>Forsythia suspensa</i>
White	<i>Abeliophyllum distichum</i>
Gardenia, Cape Jasmine	<i>Gardenia jasminoides</i>
Heath	<i>Erica cinerea</i>
Holly	
Chinese	<i>Ilex cornuta</i>
Inkberry	<i>Ilex glabra</i>
Japanese ³	<i>Ilex crenata</i>
Meserve ³	<i>Ilex x meserveae</i>
Nellie R. Stevens	<i>Il x Nellie R. Stevens</i>
Honeysuckle, Japanese	<i>Lonicera japonica</i>
Indian Hawthorn	<i>Raphiolepis indica</i>

continued

¹Injury reported on some cultivars. See Table 5.

²Temporary injury reported at bud break on some cultivars.

³Injury reported following application to newly transplanted liners.

TOLERANT ORNAMENTAL SPECIES (continued)

Table 7. SHRUBS AND GROUND COVERS (continued)

Common Name	Scientific Name
Juniper	
Creeping	<i>Juniperus horizontalis</i>
Shore	<i>Juniperus conferta</i>
Singleseed	<i>Juniperus squamata</i>
Myoporum	<i>Myoporum parvifolium</i>
Oleander	<i>Nerium</i> spp.
Oregon Grape	<i>Mahonia</i> spp.
Pachysandra	<i>Pachysandra terminalis</i>
Photinia	<i>Photinia x fraseri</i>
Pieris, Japanese	<i>Pieris japonica</i>
Pittosporum, Japanese	<i>Pittosporum tobira</i>
Privet	
Chinese ³	<i>Ligustrum sinense</i>
Japanese	<i>Ligustrum japonicum</i>
Pyracantha	<i>Pyracantha</i> spp.
Rhododendron, Catawba	<i>Rhododendroncatawbiense</i>
Rose	<i>Rosa</i> spp.
Sweet Flag	<i>Acorus calamus</i>
Sweetspire, Virginia	<i>Itea virginica</i>
Tea Olive	<i>Osmanthus fragrans</i>
Viburnum	
Arrowwood	<i>Viburnum dentatum</i>
Pink Dawn	<i>Viburnum x bodnantense</i>
Sweet ³	<i>Viburnum odoratissimum</i>
Weigela	<i>Weigela florida</i>

¹Injury reported on some cultivars. See Table 5.

²Temporary injury reported at bud break on some cultivars.

³Injury reported following application to newly transplanted liners.

Table 8. NON-BEARING FRUIT AND NUT TREES AND VINES

COMMON NAME	SCIENTIFIC NAME
Apples	<i>Malus</i> spp.
Blueberry, Huckleberry	<i>Vaccinium</i> spp.
Bramble	<i>Rubus</i> spp.
Cherry, Sweet	<i>Prunus avium</i>
Citrus Fruits	<i>Citrus</i> spp.
Grapes	<i>Vitis</i> spp.
Olives	<i>Olea</i> spp.
Peach	<i>Prunum persica</i>
Pears	<i>Pyrus communis</i>
Prunes	<i>Prunus</i> spp.
Stone Fruits	<i>Prunus</i> spp.
Tree Nuts	
Walnut	<i>Juglans</i> spp.
Chestnut	<i>Castanea</i> spp.
Pecan	<i>Carya illionoinensis</i>
Pistachio	<i>Pistacia vera</i>
Almond	<i>Prunus dulcis</i>
Filbert	<i>Corylus maxima</i>

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