

70506-44

12/10/2019

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

December 10, 2014

Rebecca A. Clemmer
Regulatory Manager
United Phosphorus, Inc.
630 Freedom Business Center, Suite 402
King of Prussia, PA 19406

Subject: Label Notification per PRN 98-10 –Minor label change to add optional wording to the subject product and add Surflan AS Specialty Herbicide as the Primary Brand Name
Product Name: Surflan AS Specialty Herbicide
EPA Registration Number: 70506-44
Application Date: October 31, 2014
Decision Number: 497402

Dear Ms. Clemmer:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 for the above referenced product. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10.

The label submitted with the application has been stamped "Notification" and will be placed in our records. In addition, the primary brand name Surflan AS Specialty Herbicide has been added to the product record.

If you have any questions, you may contact Karen Samek at (703) 347-8825 or via email at samek.karen@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Kathryn V. Montague".

Kathryn Montague, Product Manager 23
Herbicide Branch
Registration Division (7505P)
Office of Pesticide Programs

GROUP	3	HERBICIDE
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Surflan® AS Specialty Herbicide
 [Contains Surflan®] *optional wording*

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A selective preemergence surface-applied herbicide for control of annual grasses and many broadleaf weeds in:

- Landscape Ornamentals
- Container Grown Ornamentals
- Field Grown Ornamentals
- Drainage Areas Under Shadehouse Benches
- Ornamental Bulbs
- Ground Covers/Perennials
- Christmas-Tree Plantations
- Non-bearing fruit and nut trees and non-bearing vineyards
- Noncropland and Industrial Sites
- Established Warm Season Turf (including Bahiagrass, Bermudagrass, Buffalograss, Centipedegrass, St. Augustinegrass and Zoysiagrass)
- Tall Fescue (warm season areas)

Active Ingredient:	
oryzalin: 3,5-dinitro-N,N'-dipropylsulfanilamide	40.4%
Inert Ingredients	59.6%
Total	100.0%

NOTIFICATION

DEC 10 2014

Contains 4.0 pounds of active ingredient per gallon.

Keep Out of Reach of Children

CAUTION PRECAUCION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)


Notice: Read the entire label. Use only according to label directions. **Before using this product, read Conditions of Sale and Limitation of Warranty and Liability at end of label booklet. If terms are unacceptable, return at once unopened.**

For emergency medical assistance, call the Rocky Mountain Poison Control Center at 1-866-673-6671. For chemical emergency: spill, leak, fire, exposure, or accident, call CHEMTREC 1-800-424-9300.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

Shake Well Before Using.

EPA Reg. No. 70506-44
 EPA Est. No.

 **UPI** United Phosphorus, Inc.
 630 Freedom Business Center
 King of Prussia, PA 19064
 1-800-438-6071 • www.upi-usa.com

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Precautionary Statements

Hazards to Humans and Domestic Animals

CAUTION **PRECAUCION**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

Causes Eye Irritation • Prolonged or Frequently Repeated Contact May Cause Allergic Reactions in Some Individuals

Avoid contact with eyes or clothing.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves
- Shoes plus socks

Mixers and loaders must wear a chemical-resistant apron in addition to other PPE.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Controls Statements

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

First Aid

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact the National Pesticide Information Center at 1-800-858-7378 for emergency medical treatment information.

Environmental Hazards

This pesticide is toxic to fish. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. Cover or incorporate spills.

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all Directions for Use carefully before applying.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours. **Exception:** If the product is soil-injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

Workers may enter treated areas without required PPE during the reentry interval following 1/2 to 1 inch of rainfall or irrigation, if they are performing tasks that do not involve contact with the soil subsurface; otherwise, PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Chemical-resistant gloves
- Shoes plus socks

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for Agricultural Pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Entry Restrictions for Non-WPS Uses: Keep all persons, children and pets out of treated area until sprays have dried.

Storage and Disposal

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage: Store in original container only. In case of leak or spill, use absorbent materials to contain liquids and dispose of as waste.

Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal: Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying.

[for containers less than or equal to 5 gallons] Triple rinse as follows: empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

[for containers greater than 5 gallons] Triple rinse or pressure rinse as follows:

Triple rinse: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Turn the container over on its end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Pressure Rinse: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the

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container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after flow begins to drip.
[all sizes] Offer for recycling if available, or puncture and dispose of in a sanitary landfill or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

General Product Information

Surflan-ASSurflan AS Specialty Herbicide is a preemergence surface-applied product for the control of many annual grasses and broadleaf weeds in ornamental plantings, bulbs, ground covers/perennials, established warm-season turfgrass, Christmas tree plantations, non-bearing trees and vines, and noncropland and industrial sites.

Surflan-ASSurflan AS Specialty Herbicide is orange in color and may cause temporary discoloration of sprayed surfaces. If this discoloration is undesirable, it may be altered by using a commercially available colorant such as Blazon or removed by spraying surface with water or washing with an industrial cleaner immediately after application. Surflan-ASSurflan AS Specialty Herbicide may also be applied with mulch colorants such as Mulch Magic or Nu-Mulch.

Treatment of Plant Species Not Listed on the Label for Surflan-ASSurflan AS Specialty Herbicide
Users who wish to use Surflan-ASSurflan AS Specialty Herbicide on plant species not recommended on this label may determine the suitability for use by treating a small number of such plants at a recommended rate. Prior to treatment of larger areas, the treated plants should be observed for any sign of herbicidal injury during 30-60 days of normal growing conditions to determine if the treatment is non-injurious to the target plant species. The user assumes responsibility for any plant damage or other liability resulting from use of Surflan-ASSurflan AS Specialty Herbicide on plant species not recommended on this label.

Aerial Application: Do not aerially apply this product.

Chemigation: Do not apply this product through any type of irrigation system.

For orchard crops, including citrus, pome fruits, stone fruits, and tree nuts, apply product only as a strip treatment in the tree rows; do not apply to row middles or drive rows.

Do not graze or feed forage from treated areas to livestock.

Precaution: Avoid spray drift to non-target areas when applying Surflan-ASSurflan AS Specialty Herbicide. Spray drift may result in reduced emergence of non-target plants adjacent to the treated area. Poor weed control may result if directions are not followed. Over-application may result in crop injury or excessive soil residue.

Application

Soil Preparation

Surflan-ASSurflan AS Specialty Herbicide controls weeds growing from seed. Surflan-ASSurflan AS Specialty Herbicide will not control emerged weeds. Surflan-ASSurflan AS Specialty Herbicide does not control established weeds, weeds growing from stolons, rhizomes, or root pieces. Therefore, areas to be treated should be free of emerged weeds. Weed residues, prunings, and trash should be thoroughly mixed into the soil or removed prior to treatment. In field applications, the soil should be in good till and free of clods at the time of application.

Ground Application: Apply Surflan-ASSurflan AS Specialty Herbicide as a directed spray to the soil surface or over the top of plants. Use only a properly calibrated, low-pressure, herbicide sprayer that will apply the spray uniformly. Use screens no finer than 50 mesh in nozzles and in-line strainers. Apply the

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appropriate rate of Surflan-ASSurflan AS Specialty Herbicide as outlined in "Crop Specific Use Directions" section of this label. In all cases, use sufficient water volume to obtain uniform coverage and deliver the desired rate of Surflan-ASSurflan AS Specialty Herbicide to the treated area. The volume of water used is not critical, as long as the desired rate of Surflan-ASSurflan AS Specialty Herbicide is delivered uniformly across the area treated. When calibrating, determine the volume of water delivered by the sprayer to a given area (1,000 sq ft, 1 acre, etc.). Then mix the desired rate of Surflan-ASSurflan AS Specialty Herbicide in the amount of water required to cover the entire area to be treated. As the amount of water used (spray volume) decreases, the importance of accurate calibration and uniform application increases. Check the sprayer daily to ensure proper calibration and uniform application. Maintain continuous agitation from mixing through application. Avoid spray pattern skips and overlaps that may result in incomplete coverage or over-application.

Hand Held or Backpack Sprayer Application: The amount of water used to apply Surflan-ASSurflan AS Specialty Herbicide is not critical, but should be sufficient for uniform coverage of the target area. Calibrate by determining the volume of water required to treat 1000 square feet. Use this calibration volume to determine the amount of water and Surflan-ASSurflan AS Specialty Herbicide needed to treat the target area (see the following calibration example). **Note:** Sprayer calibration (volume of spray needed to treat 1,000 square feet) will vary with each individual operator.

Steps in Calibration:

1. Mark an area of 1,000 square feet (i.e. 20 by 50 feet, or 25 by 40 feet).
2. Place the sprayer on a level surface and add water noting the final level of water in the spray tank.
3. Spray the marked area with a sufficient volume of water to provide uniform coverage. Refill the sprayer to the same level as before measuring the amount of water added. The measured water added to the sprayer is the volume needed to cover 1,000 square feet.
4. Determine the application rate (fl oz/1000 sq ft) for Surflan-ASSurflan AS Specialty Herbicide from the "Crop Specific Use Directions" section of this label.
5. To each volume of water used, as measured in step 3, add the amount of Surflan-ASSurflan AS Specialty Herbicide as determined in step 4.

Example: If the sprayer used 2 gallons of water to cover 1,000 square feet and the desired application rate of Surflan-ASSurflan AS Specialty Herbicide is 3 fluid oz/1,000 square feet, then you would add 3 fluid ounces of Surflan-ASSurflan AS Specialty Herbicide to every 2 gallons of water to be used.

Mixing Directions

Shake Well Before Using

Precaution: Do not allow the spray mixture to siphon back into water source.

Surflan-ASSurflan AS Specialty Herbicide - Alone

Make sure spray tank is clean and use only clean water. Fill spray tank 1/2 - 3/4 full. Start agitation and add the required amount of Surflan-ASSurflan AS Specialty Herbicide. Continue agitation and finish filling the spray tank. Maintain continuous agitation until application is completed.

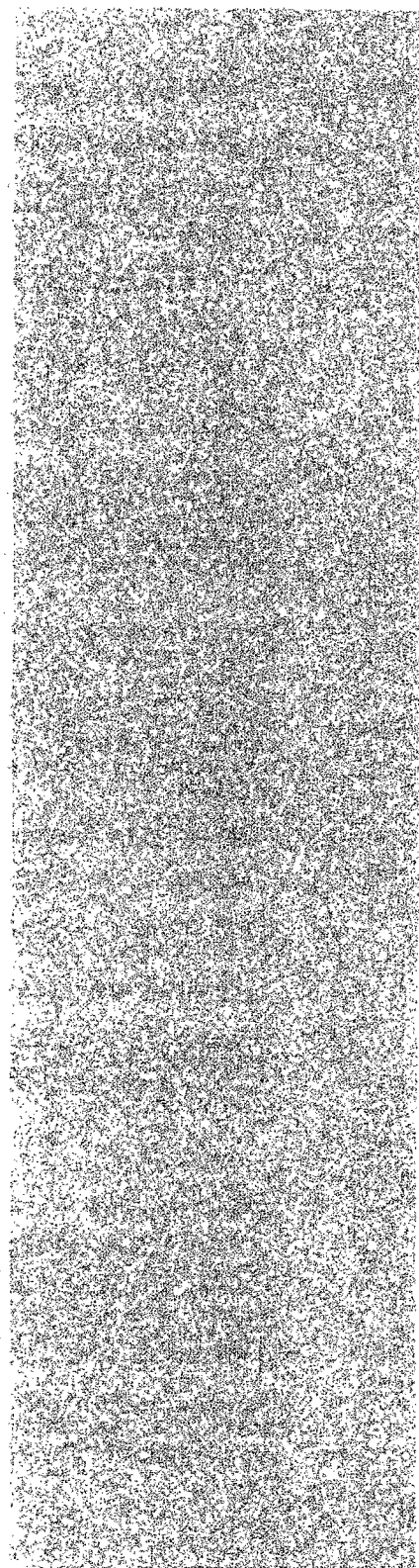
Surflan-ASSurflan AS Specialty Herbicide - Tank Mix Combinations

Prior to mixing, read and carefully follow all label instructions and precautions for each product added to the tank mixture. Vigorous, continuous agitation is required for all tank mixes of Surflan-ASSurflan AS Specialty Herbicide. Sparger pipe agitators generally provide the best agitation in spray tanks.

Mixing Order: Fill the tank 3/4 full with clean water. Start agitation and add different formulation types in the order indicated below, allowing time for complete mixing and dispersion after addition of each product. Allow extra mixing and dispersion time for dry flowable products.

Add different formulation types in the following order: dry flowables (DF); wettable powders (WP); Surflan-ASSurflan AS Specialty Herbicide and other aqueous suspensions (AS), flowables (F), and liquids (L); solutions (S); and emulsifiable concentrates (EC).

Continue agitation and finish filling the spray tank with clean water. Maintain agitation until application is completed. If spraying and agitation must be stopped before the spray tank is empty, the materials may



settle to the bottom. Settled materials must be completely resuspended before spraying is continued. A sparger agitator is particularly useful for this purpose.

Premixing: When tank mixing, initial mixing and dispersion of certain dry flowable or wettable powder products may be improved by premixing with water (slurrying). Adding the slurried material to the spray tank through a wetting screen of 20 or 35 mesh will help assure good initial dispersion.

Equipment Cleaning

If a buildup of material occurs on the walls of the spray tank, it should be removed between fillings by washing with soap and water and rinsing thoroughly. Tanks, lines, screens, and nozzles should be cleaned thoroughly after each use.

Activation and Cultivation

Surflan-ASSurflan AS Specialty Herbicide will remain stable on the soil surface up to 21 days following application. In the absence of timely rainfall, irrigation can be used to activate Surflan-ASSurflan AS Specialty Herbicide. A minimum of one-half (1/2) inch of rain or its equivalent in sprinkler irrigation is necessary to activate Surflan-ASSurflan AS Specialty Herbicide. If weeds begin to emerge due to lack of rainfall or irrigation, shallow cultivate 1-2 inches deep to destroy existing weeds, or remove them by hand. Shallow cultivation to a depth of 1-2 inches will enhance herbicidal effectiveness. Erratic weed control may result if Surflan-ASSurflan AS Specialty Herbicide is not activated by rainfall, irrigation, or cultivation within 21 days of application, or existing weeds have not been removed.

Weeds Controlled by Surflan-ASSurflan AS Specialty Herbicide

Annual Grasses:

Common Name	Scientific Name
barley, little	<i>Hordeum pusillum</i>
barnyardgrass (watergrass)	<i>Echinochloa crus-galli</i>
bluegrass, annual	<i>Poa annua</i>
crabgrass, large	<i>Digitaria sanguinalis</i>
crabgrass, smooth	<i>Digitaria ischaemum</i>
crowfootgrass	<i>Dactyloctenium aegyptium</i>
cupgrass, southwestern	<i>Eriochloa gracilis</i>
foxtail, bristlegrass	<i>Setaria magna</i>
foxtail, giant	<i>Setaria faberi</i>
foxtail, green (pigeongrass)	<i>Setaria viridis</i>
foxtail, robust	<i>Setaria robusta</i>
foxtail, yellow	<i>Setaria glauca</i>
goosegrass (silver crabgrass)	<i>Eleusine indica</i>
Johnsongrass (seedling only)	<i>Sorghum halepense</i>
jungerice	<i>Echinochloa colonum</i>
lovegrass, Mexican	<i>Eragrostis mexicana</i>
lovegrass, orcutt	<i>Eragrostis orcuttiana</i>
oat, wild	<i>Avena fatua</i>
panicum, browntop	<i>Panicum fasciculatum</i>
panicum, fall (spreading panicgrass)	<i>Panicum dichotomiflorum</i>
panicum, Texas (buffalograss) (Coloradograss)	<i>Panicum texanum</i>
ryegrass, Italian	<i>Cenchrus incertus</i>
signalgrass (Brachiaria)	<i>Brachiaria spp.</i>
sprangletop, red	<i>Leptochloa filiformis</i>

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witchgrass *Panicum capillare*

Broadleaf Weeds:

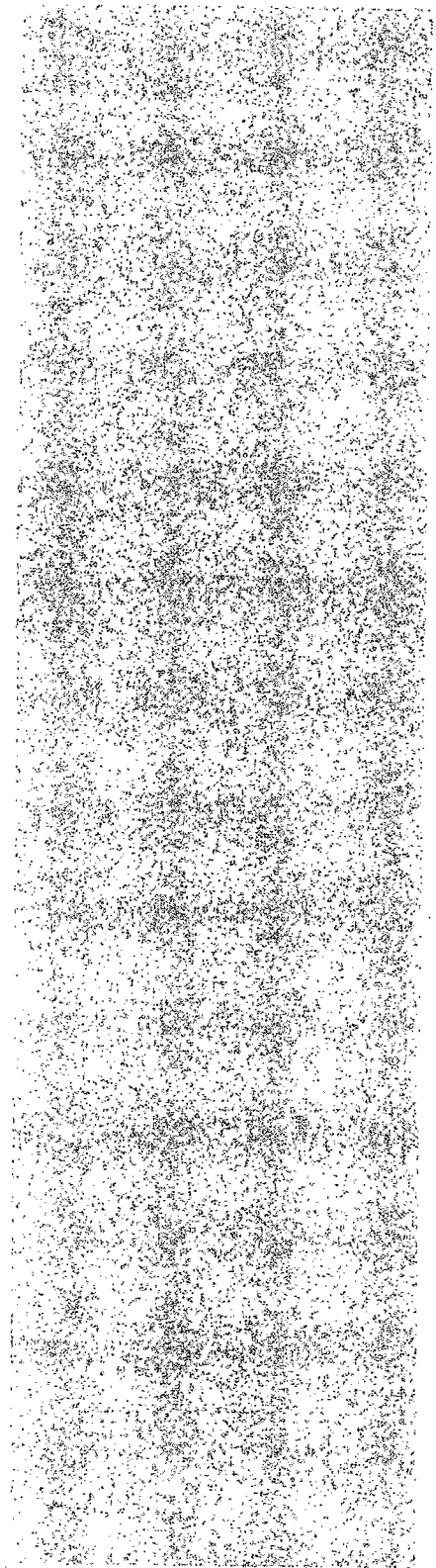
Common Name	Scientific Name
bittercress	<i>Cardamine oligosperma</i>
carpetweed	<i>Mollugo verticillata</i>
chickweed, common	<i>Stellaria media</i>
fiddleneck, coast	<i>Amsinckia intermedia</i>
filaree, redstem	<i>Erodium cicutarium</i>
filaree, whitestem	<i>Erodium moschatum</i>
groundsel, common	<i>Senecio vulgaris</i>
henbit	<i>Lamium amplexicaule</i>
knotweed, prostrate	<i>Polygonum aviculare</i>
lambsquarters	<i>Chenopodium album</i>
pigweed, prostrate	<i>Amaranthus blitoides</i>
pigweed, redroot	<i>Amaranthus retroflexus</i>
pigweed, spring	<i>Amaranthus hybridus</i>
pigweed, tumble	<i>Amaranthus albus</i>
puncturevine	<i>Tribulus terrestris</i>
purslane, common	<i>Portulaca oleracea</i>
pusley, Florida (Florida purslane)	<i>Richardia scabra</i>
(Mexican clover) (pusley)	
rocket, London	<i>Sisymbrium irio</i>
rockpurslane, desert	<i>Calandrinia ciliata</i>
shepherdspurse	<i>Capsella bursa-pastoris</i>
spurge, prostrate	<i>Euphorbia humistrata</i>
woodsorrel, yellow	<i>Oxalis stricta</i>

Weeds Suppressed by Surflan-ASSurflan AS Specialty Herbicide

Control of the following weeds may be erratic, ranging from poor to excellent, depending upon soil temperature, time of germination, depth of seed in the soil, and amount and timing of soil moisture:

Common Name	Scientific Name
horseweed	<i>Conyza canadensis</i>
ladythumb	<i>Polygonum persicaria</i>
lettuce, prickly	<i>Lactuca serriola</i>
mallow, common	<i>Malva neglecta</i>
milkweed, climbing	<i>Sarcostemma cynanchoides</i>
morningglory	<i>Ipomoea spp.</i>
mustard, black	<i>Brassica nigra</i>
mustard, wild	<i>Brassica kaber</i>
nightshade, black	<i>Solanum nigrum</i>
ragweed, common	<i>Ambrosia artemisiifolia</i>
smartweed	<i>Polygonum pensylvanicum</i>
sowthistle, annual	<i>Sonchus oleraceus</i>
spurge, spotted	<i>Euphorbia maculata</i>
teaweed (prickly sida)	<i>Sida spinosa</i>
velvetleaf	<i>Abutilon theophrasti</i>
wheat, volunteer	<i>Triticum spp.</i>

Crop Specific Use Directions



Ornamental Plantings

Surflan-ASSurflan AS Specialty Herbicide is recommended for use on certain landscape container- and field-grown established ornamental plants including: trees, shrubs, ground covers/perennials, flowers, non-bearing fruit and nut trees, non-bearing vineyards, and in the production of ornamental bulbs (See "Ornamental Bulbs" section for special use directions).

Broadcast Application Rates

Labeled Use Site	Length of Control	Surflan-ASSurflan AS Specialty Herbicide		Minimum Time Between Applications (months)	Total Amount Allowed Per Year (qt/acre)
		(qt/acre)	(fl. oz./1000 sq ft)		
Landscape Ornamentals	2 - 4 months	2	1.5	2	8
	3 - 6 months	3	2.2	4	12
	4 - 8 months	4	3	4	12
Field-grown and container-grown ornamentals	2 - 4 months	2	1.5	3	9
	3 - 6 months	3	2.2	3	12
	4 - 8 months	4	3	3	12

Tank Mix Combinations

Tank mix combinations of Surflan-ASSurflan AS Specialty Herbicide plus glyphosate, and many other labeled herbicides may be used to control undesirable vegetation in ornamental areas. Surflan-ASSurflan AS Specialty Herbicide may also be tank mixed with Gallery herbicide and applied preemergence to broaden the spectrum of broadleaf weed control in ornamental areas. Applied as directed, these tank mixes of Surflan-ASSurflan AS Specialty Herbicide will provide control of susceptible weed species listed on the respective labels. Refer to tank mix product labels for specific use directions, precautions, and limitations before use.

Surflan-ASSurflan AS Specialty Herbicide Plus glyphosate: Tank mix combinations of Surflan-ASSurflan AS Specialty Herbicide plus glyphosate are recommended to control existing undesirable vegetation. Applied as directed, Surflan-ASSurflan AS Specialty Herbicide plus glyphosate will provide postemergence control of susceptible weed species listed on the label for glyphosate and residual preemergence control of susceptible weed species listed on the label for Surflan-ASSurflan AS Specialty Herbicide. Refer to the label for glyphosate for specific use directions, precautions, and limitations before use.

Precautions: Do not apply sprays containing glyphosate over the top of ornamental plants. Extreme care must be exercised to prevent sprays containing glyphosate from coming in contact with foliage and stems of turfgrasses, trees, shrubs, or other desirable vegetation since severe damage or death may result. If spraying with glyphosate in areas adjacent to desirable plants, use a shield to prevent spray from contacting foliage and stems of desirable plants.

Special Use Precautions:

Apply only to established plants that have been transplanted into their growing location for a sufficient period of time to allow the soil to be firmly settled around the roots from packing and rainfall or irrigation.

Rooted liners should be removed from their original growing containers and placed in new containers at least two weeks prior to treatment or injury may occur.

- To avoid possible injury, do not apply Surflan-ASSurflan AS Specialty Herbicide to:
 - Nursery, forest, or Christmas tree: seedling beds, cutting beds, or transplant beds.
 - Unrooted liners or cuttings that have been planted in pots for the first time.
 - Pots less than four inches wide.
 - Ground covers until they are established and well rooted.
 - Ornamental plantings where there is likelihood of runoff onto lawn areas.
 - Areas containing dichondra or cool season turfgrass species.

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On container grown ornamentals where weed seed germination continues for extended periods of time, do not make repeat applications of Surflan ASSurflan AS Specialty Herbicide for at least 90 days or crop injury may occur.

Applications of Surflan ASSurflan AS Specialty Herbicide over the top of plants with newly forming buds may cause injury. In this situation a directed spray is recommended.

For soils treated with Surflan ASSurflan AS Specialty Herbicide during the previous season, plant only the ornamental species listed on this label or injury may occur.

Ice Plant: When establishing unrooted ice plant on coarse-textured soils in landscape plantings, do not exceed the 2 quart per acre rate of Surflan ASSurflan AS Specialty Herbicide or crop injury may occur.

Note: Injury on the following plant species has been observed following applications of Surflan ASSurflan AS Specialty Herbicide and use is not recommended:

- Deutzia gracilis* (slender deutzia)
- Pseudotsuga menziesii* (Douglas-fir)
- Thuja occidentalis* 'Techny' (Techny arborvitae)
- Tsuga canadensis* (eastern hemlock)
- Begonia* spp. (begonia)
- Coleus hybridus* (coleus)

Surflan ASSurflan AS Specialty Herbicide May be Used on the Following Established Plant Species:

(Note: Limitations on recommended treatment methods).

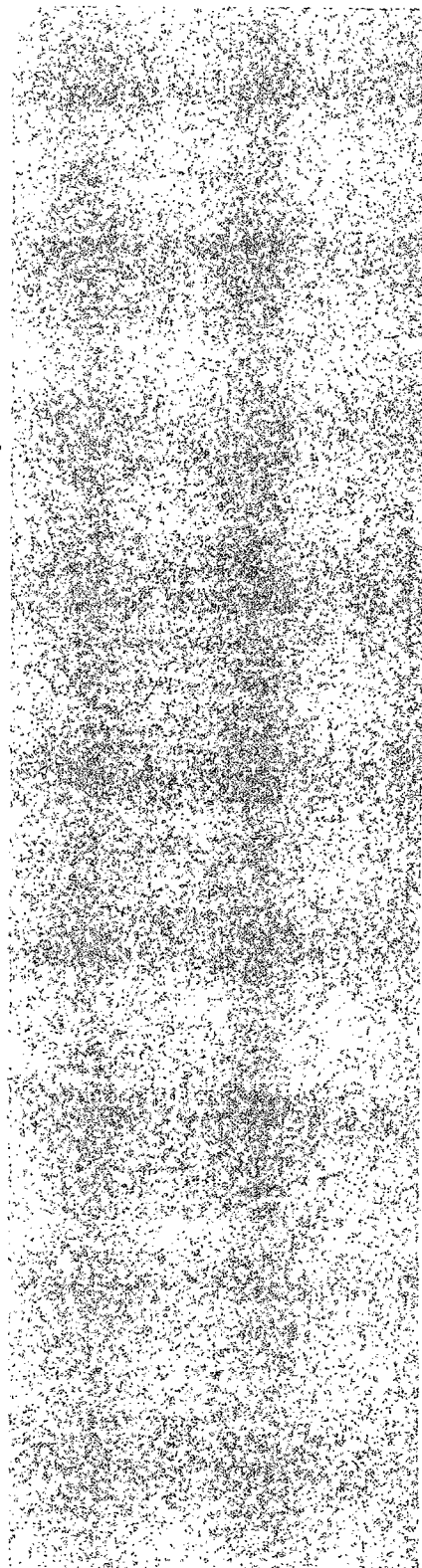
Trees

Recommended Treatment Method

F = Field Grown

C = Container Grown

Scientific Name	Common Name	
<i>Abies balsamea</i>	Fir, balsam	F
<i>Abies concolor</i>	Fir, white	F
<i>Abies fraseri</i>	Fir, fraser	F
<i>Abies grandis</i>	Fir, grand	F
<i>Abies veitchi</i>	Fir, Veitch	F
<i>Abies lasiocarpa</i>	Fir, alpine	F
<i>Abutilon hybridum</i>	Albus-flowering maple	F
	Luteus-flowering maple	F
	Roseus-flowering maple	F
	Tangerine-flowering maple	F
	Vesuvius red-flowering maple	F
<i>Acer ginnala</i>	Flame maple	F
<i>Acer rubrum</i>	Red sunset maple	F
<i>Acer saccharinum</i>	Silver maple	F
<i>Acer</i> spp.	Maple	F
<i>Aisophila australis</i>	Australian tree fern	C,F
<i>Areacastrum romanzoffianum</i>	Queen palm	F
<i>Betula nigra</i>	Birch, river	F
<i>Betula papyrifera</i>	Paper birch	F
<i>Betula pendula</i>	Birch, white	F
<i>Bucida buceras</i>	Black olive	F
<i>Carya</i> spp.	Pecan, ornamental	C,F
<i>Cedrus atlantica</i>	Atlas cedar	C,F
<i>Cedrus deodara</i>	Deodar cedar	C,F
<i>Ceratonia siliqua</i>	Carob	F
<i>Cercidium floridum</i>	Palo Verde, blue	F
<i>Cercis canadensis</i>	Redbud	C,F



12/25

Scientific Name	Common Name	
<i>Chamaecyparis lawsoniana</i>	Falsecypress, Lawson	F
<i>Chamaecyparis obtusa</i>	Filicoides-fernspray cypress	F
	Gracilis-slender Hinoki cypress	F
<i>Chamaecyparis pisifera</i>	Sawara-false cypress	F
	Squarrosa-moss cypress	F
	Cat Palm	F
<i>Chamaedorea cataractarum</i>	Palm	F
<i>Chamaedorea costaricana</i>	Parlor palm	F
<i>Chamaedorea elegans</i>	Citrus, ornamental	C,F
<i>Citrus</i> spp.	Dogwood, flowering	F
<i>Cornus florida</i>	Cryptomeria, Japanese	C,F
<i>Cryptomeria japonica</i>	Carrot wood	F
<i>Cupaniopsis anacardioides</i>	Cypress, Arizona	C,F
<i>Cupressus arizonica (glabra)</i>	Arizona cypress	C,F
<i>Cupressus glabra</i>	Leyland cypress	C,F
<i>Cupressocyparis leylandii</i>	Cypress, Italian	C,F
<i>Cupressus sempervirens</i>	Tasmanian tree fern	C,F
<i>Dicksonia antarctica</i>	Russian olive	C,F
<i>Elaeagnus angustifolia</i>	Red-gum eucalyptus	F
<i>Eucalyptus camaldulensis</i>	Eucalyptus, mealy	F
<i>Eucalyptus cinerea</i>	Silver dollar eucalyptus	F
	Eucalyptus, narrow-leaved	F
<i>Eucalyptus nicholii</i>	Eucalyptus, red ironbark	F
<i>Eucalyptus sideroxylon</i>	Ficus	F
<i>Ficus benjamina</i>	Ash	F
<i>Fraxinus</i> spp.	Ginkgo (Maidenhair tree)	C,F
<i>Ginkgo biloba</i>	Honey locust	F
<i>Gleditsia triacanthos</i>	Toyon	F
<i>Heteromeles arbutiflora</i>	Redcedar, Eastern	F
<i>Juniperus virginiana</i>	Goldenrain tree	F
<i>Koelerutena paniculata</i>	Sweetgum, American	C,F
<i>Liquidambar styraciflua</i>	Magnolia	F
<i>Magnolia</i> spp.	Crabapple	F
<i>Malus</i> spp.	White mulberry	F
<i>Morus alba</i>	Pendula-weeping Norway spruce	F
<i>Picea abies</i>	Repens-spreading Norway spruce	F
	Spruce, Norway	F
<i>Picea engelmanni</i>	Spruce, Englemann	F
<i>Picea glauca</i>	Spruce, white	F
	Conica-dwarf Alberta spruce	F
<i>Picea glauca conica</i>	Dwarf Alberta spruce	F
<i>Picea mariana</i>	Spruce, black	F
<i>Picea pungens</i>	Glaucolorado blue spruce	F
	Hoop's blue spruce	F
	Koster-Koster blue spruce	F
	Spruce, Colorado	C,F
<i>Pinus aristata</i>	Bristlecone pine	F
<i>Pinus canariensis</i>	Canary Island pine	F
<i>Pinus contorta</i>	Shore pine, beach pine	F
<i>Pinus edulis</i>	Eldon pine	F
<i>Pinus halepensis</i>	Aleppo pine	C,F
<i>Pinus radiata</i>	Monterey pine	F
<i>Pinus</i> spp.	Pine	C,F
<i>Pinus strobus</i>	Eastern white pine	F
<i>Pinus sylvestris</i>	Scotch pine	F
<i>Pinus thunbergiana</i>	Japanese black pine	F
<i>Platanus occidentalis</i>	American sycamore	F

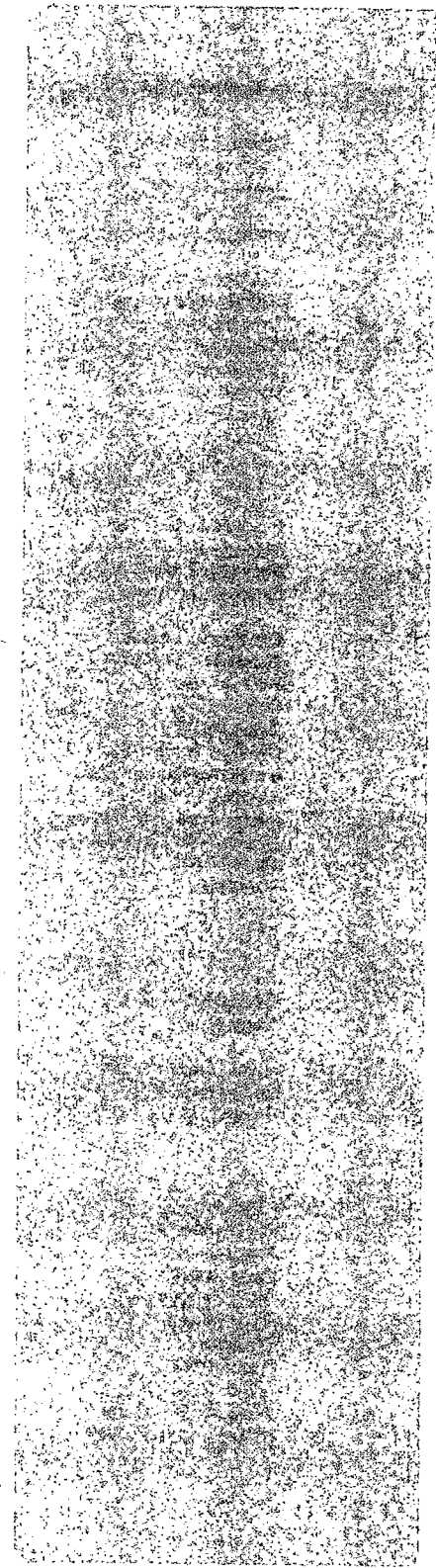
13/25

Scientific Name	Common Name	
<i>Platanus racemosa</i>	Californina sycamore	F
<i>Podocarpus spp.</i>	Podocarpus	F
<i>Populus deltoides</i>	Cottonwood	F
	Cottonwood (grown for pulp)	F
<i>Prunus caroliniana</i>	Laurelcherry, Carolina	F
<i>Prunus glandulosa</i>	Dwarf flowering almond	C,F
<i>Prunus laurocerasus</i>	Laurelcherry, English	F
<i>Prunus mahaleb</i>	Cherry, Mahaleb	F
<i>Prunus yedoensis</i>	Yoshino flowering cherry	F
<i>Pyrus communis</i>	Pear	F
<i>Quercus palustris</i>	Pin oak	F
<i>Quercus phellos</i>	Willow oak	F
<i>Quercus rubra</i>	Red oak	C,F
<i>Quercus spp.</i>	Oak	C,F
<i>Salix babylonica</i>	Babylon weeping willow	F
	Corkscrew willow	F
<i>Schinus molle</i>	California pepper tree	F
<i>Sequoia sempervirens</i>	Redwood, coast	F
<i>Sequoiadendron giganteum</i>	Giant sequoia	F
<i>Swietenia mahogani</i>	Mahogany	F
<i>Tabebuia caraiba</i>	Yellow tab	F
<i>Tilia cordata</i>	Linden, little leaf	C,F
<i>Ulmus parvifolia</i>	Chinese elm	F
<i>Umbellularia californica</i>	California laurel	F
<i>Washingtonia robusta</i>	Mexican fan palm	F

Shrubs

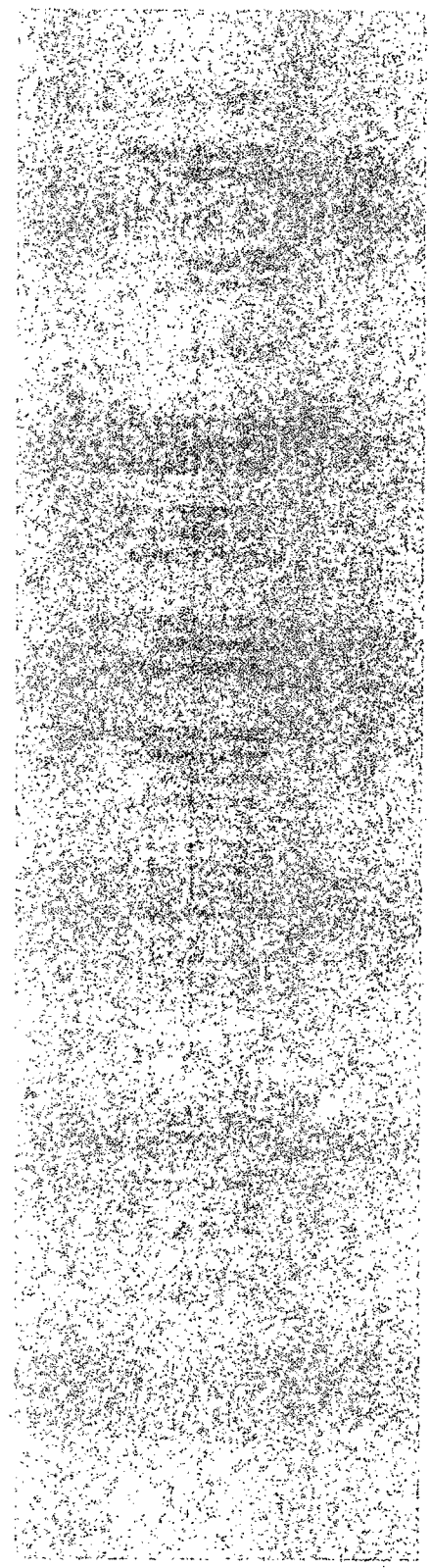
Recommended Treatment Method
F = Field Grown
C = Container Grown

Scientific Name	Common Name	
<i>Abelia grandiflora</i>	Glossy abelia	F
<i>Acacia redolens</i>	Acacia, prostrate	F
<i>Agave americana</i>	Century plant	F
<i>Agave macraculmis</i>	Agave	F
<i>Anisodonteia hypomandarum</i>	Cape mallow	C,F
<i>Arctostaphylos stanfordiana</i>	Manzanita, Stanford	F
<i>Astilbe chinensis</i>	Astilbe/false spirea	C,F
<i>Baccharis pilularis</i>	Coyotebush	F
<i>Berberis thunbergii</i>	Aurea-golden Japanese barberry	C,F
	Crimson pygmy barberry	C,F
	Atropurea-redleaf Japanese barberry	C,F
	Barberry, Japanese	C,F
<i>Bougainvillea spp.</i>	Barbara Karst	F
	California gold	F
	Scarlet O'Hara	F
	Texas dawn	F
<i>Buddleia davidii</i>	Butterfly bush	C,F
<i>Buxus microphylla</i>	Littleleaf boxwood	F
<i>Buxus microphylla japonica</i>	Boxwood, Japanese	C,F
<i>Buxus sempervirens</i>	Boxwood, common	C,F
<i>Callistemon citrinus</i>	Bottlebrush, lemon	C,F
<i>Cassia artemisioides</i>	Cassia, feathery	F
<i>Ceanothus americanus</i>	Jerseytea, redroot	C,F
<i>Ceanothus spp.</i>	Wild lilac	C,F
<i>Chaenomeles japonica</i>	Flowering quince	C,F
<i>Chamaecyparis obtusa</i>	Kosteri cypress	F



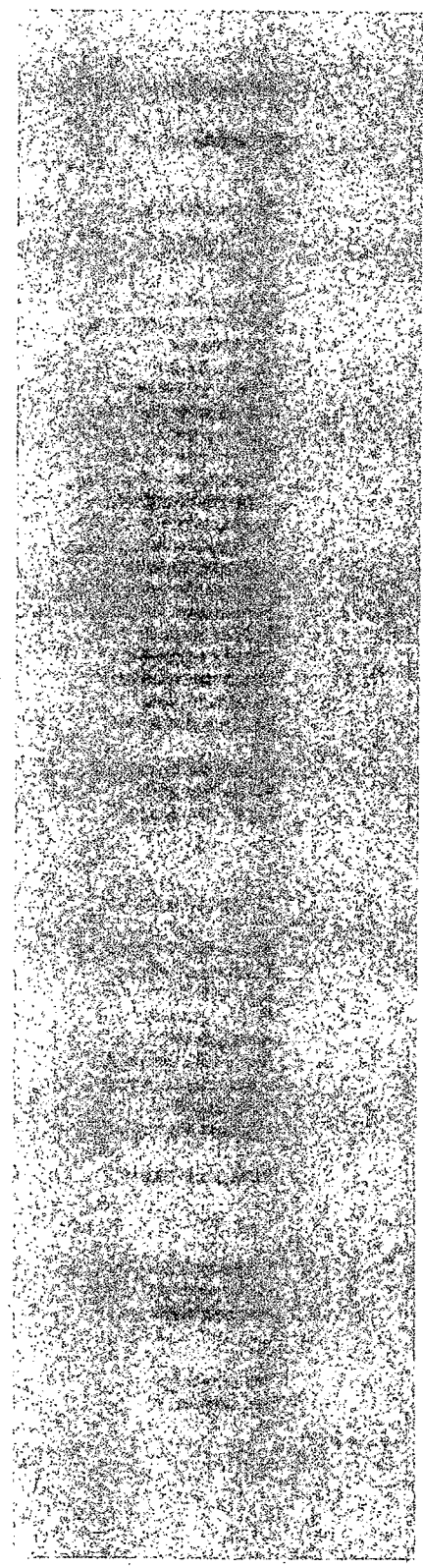
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Scientific Name	Common Name	
	Nana-dwarf Hinoki cypress	F
	Torulosa cypress	F
<i>Chamaecyparis pisifera</i>	Squarrosa Minima cypress	F
<i>Chamaecyparis pisifera</i> spp.	Filifera-thread cypress	F
<i>Chrysalidocarpus lutescens</i>	Areca palm	F
<i>Clethra</i>	Summersweet	C,F
<i>Cleyera japonica</i>	Cleyera, Japanese	C,F
<i>Coleonema pulchrum</i>	Pink breath of heaven	C,F
<i>Cornus alba</i>	Sibirica-Siberian dogwood	F
<i>Cornus kousa</i>	Dogwood, kousa	C,F
<i>Cornus stolonifera</i>	Flaviramea-yellowtwig dogwood	F
<i>Cotoneaster adpressus</i>	Praecox-early cotoneaster	F
<i>Cotoneaster apiculatus</i>	Cotoneaster, cranberry	C,F
<i>Cotoneaster buxifolius</i>	Cotoneaster, brightbead	F
<i>Cotoneaster congestus</i>	Cotoneaster, Pyrenees	F
<i>Cotoneaster dammen</i>	Cotoneaster, bearberry	C,F
<i>Cotoneaster himalayan</i>	Himalayan cotoneaster	F
<i>Cotoneaster horizontalis</i>	Cotoneaster, rock	C,F
<i>Cotoneaster lacteus</i>	Cotoneaster, parney	C,F
<i>Cotoneaster microphyllus</i>	Cotoneaster, rockspray	F
<i>Cotoneaster salicifolia</i>	Willowleaf cotoneaster	C,F
<i>Cytisus praecox</i>	Hollandia-warminster broom	F
<i>Cytisus scoparius</i>	Lena-Scotch broom	F
<i>Dasyliroton wheeleri</i>	Sotol, desert spoon	F
<i>Deutzia crenata</i>	Nakiana-dwarf deutzia	F
<i>Dodonaea viscosa</i>	Hopseedbush, clammy	F
	Hopseed bush	F
<i>Escallonia exoniensis</i>	Escallonia	C,F
<i>Euonymus alata</i>	Euonymus, winged	F
<i>Euonymus fortunei</i>	Canadale gold euonymus	C,F
	Emerald'n gold euonymus	C,F
	Euonymus, stringybark	C,F
	Wintercreeper	C,F
<i>Euonymus japonica</i>	Euonymus, evergreen	C,F
	Silver king euonymus	F
<i>Euonymus kiatschovica</i>	Spreading euonymus	F
<i>Euonymus vegetus</i>	Bigleaf wintercreeper	C,F
<i>Fatsihedera lizei</i>	Fatsihedera	C,F
<i>Fatsia japonica</i>	Japanese aralia	C,F
<i>Felicia amelloides</i>	Blue marguerite	C,F
<i>Forsythia intermedia</i>	Forsythia, border	F
<i>Gardenia jasminoides</i>	Gardenia	C,F
<i>Genista pilosa</i>	Woadwaxen	F
<i>Hibiscus rosa-sinensis</i>	Rosa Estey-hibiscus	F
	Hibiscus, Chinese	F
<i>Hibiscus syriacus</i>	Rose of Sharon, Red Bird	F
	Rose of Sharon, Red Heart	F
	Rose of Sharon, Woodbridge	F
	Rose-of-Sharon (Shrubalthea)	F
<i>Hydrangea macrophylla</i>	Hydrangea, French	C,F
<i>Hydrangea quercifolia</i>	Hydrangea, Oakleaf	C,F
<i>Ilex aquifolium</i>	Balkans holly	F
	Gold coast holly	F
	Holly, English	F
<i>Ilex aquipernyi</i>	San Jose holly	C,F
<i>Ilex cornuta</i>	Dwarf Burford holly	C,F
	Holly, Chinese	C,F



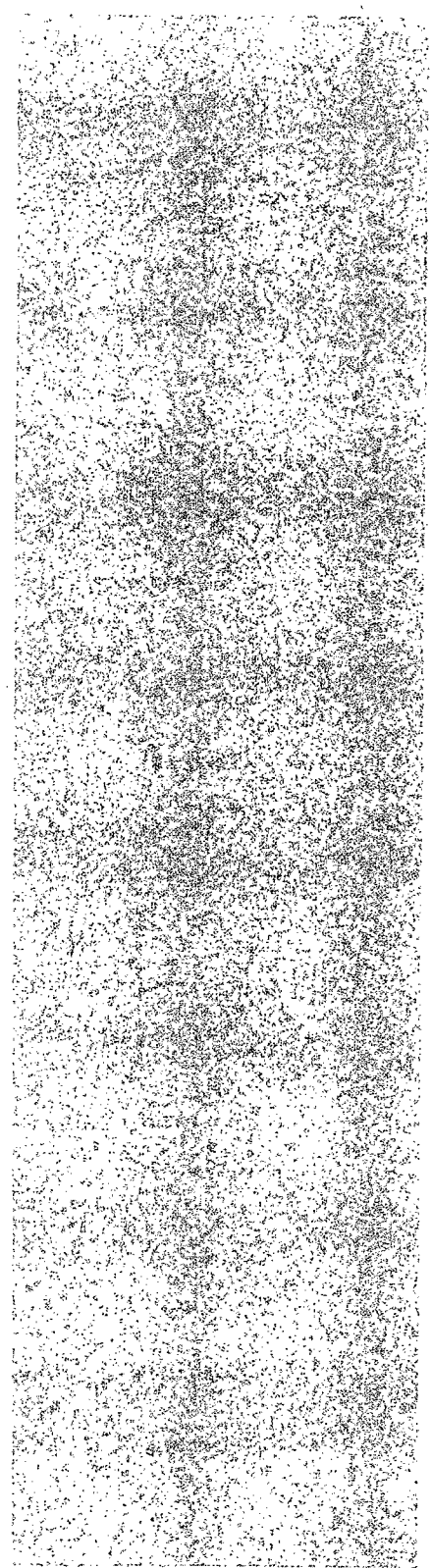
15/25

Scientific Name	Common Name	
<i>Ilex crenata</i>	Compacta-dwarf Japanese holly	C,F
	Convexa holly	C,F
	Helleri-Heller's Japanese holly	C,F
	Holly, Japanese	C,F
<i>Ilex glabra</i>	Nordica-inkberry holly	F
<i>Ilex meserveae</i>	Blue boy holly	F
	Blue girl holly	F
	Ebony magic holly	F
<i>Ilex vomitoria</i>	Nana-dwarf yaupon holly	C,F
	Pendula-weeping yaupon holly	C,F
	yaupon holly	C,F
<i>Juniperus chinensis</i>	Media-old gold juniper	C,F
<i>Juniperus conferta</i>	Emerald sea shore juniper	F
<i>Juniperus horizontalis</i>	Huntington blue juniper	C,F
	Wiltonii-blue carpet juniper	C,F
<i>Juniperus procumbens</i>	Nana-dwarf Japanese garden juniper	C,F
<i>Juniperus prostrata</i>	Prostrata juniper	C,F
<i>Juniperus sabina</i>	Broadmoor juniper	F
	Foemina-Hicks juniper	F
	Tamariscifolia-Tam juniper	F
<i>Juniperus scopulorum</i>	Emerald green juniper	F
<i>Juniperus spp.</i>	Juniper	C,F
<i>Juniperus squamata</i>	Blue juniper	F
	Blue star juniper	F
	Parsonii juniper	F
<i>Justicia brandegeana</i>	Shrimp plant	C,F
<i>Justicia spicigera</i>	Honeysuckle, Mexican	F
<i>Kalmia latifolia</i>	Laurel, mountain	F
<i>Lagerstroemia indica</i>	Crape myrtle	C,F
<i>Lavandula angustifolia</i>	English lavender	C,F
<i>Leucothoe axillaris</i>	Leucothoe, coast	F
<i>Leucothoe fontanesiana</i>	Leucothoe, drooping	F
<i>Ligustrum amurense</i>	Privet, amur	C,F
<i>Ligustrum japonicum</i>	Privet, Japanese	C,F
	yellow tip ligustrum	C,F
<i>Ligustrum lucidum</i>	Privet, glossy	C,F
<i>Ligustrum ovalifolium</i>	California privet	F
<i>Ligustrum texanum</i>	Howardi privet	F
	Wax leaf privet	F
<i>Ligustrum vicaryi</i>	Privet, golden	C,F
	Vicary golden privet	C,F
<i>Livistona chinensis</i>	Chinese fountain palm	F
<i>Lonicera fragrantissima</i>	Winter honeysuckle	F
<i>Lonicera periclymenum</i>	Flowering woodbine	F
	Serotina woodbine	F
<i>Lonicera sempervirens</i>	Trumpet honeysuckle	F
<i>Lorpetalum chinense</i>	(No common name)	C,F
<i>Mahonia aquifolium</i>	Oregon grape	F
<i>Myoporum parvifolium</i>	Myoporum, prostrate	F
<i>Myrtus communis</i>	Myrtle, true	C,F
<i>Nandina domestica</i>	Compacta-dwarf heavenly bamboo	C,F
	Harbour dwarf-heavenly bamboo	C,F
	Heavenly bamboo (Nandina)	C,F
	Nana compacta-heavenly bamboo	C,F
	Nana purpurea-heavenly bamboo	C,F
	Woods dwarf-heavenly bamboo	C,F
<i>Nerium oleander</i>	Hardy red oleander	C,F



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Scientific Name	Common Name	
	Oleander	C,F
	Ruby lace oleander	C,F
<i>Osmanthus heterophyllus</i>	Osmanthus, holy-leaf	F
<i>Pachysandra terminalis</i>	Japanese spurge	C,F
<i>Philadelphus</i> spp.	Mockorange	C,F
<i>Phoenix roebelenii</i>	Pigmy date palm	F
<i>Photinia fraseri</i>	Fraser's photinia	C,F
	Photinia	C,F
<i>Pieris japonica</i>	Lily-of-the-valley	F
	Snowdrift lily-of-the-valley	F
	Temple bells lily-of-the-valley	F
	Valley rose lily-of-the-valley	F
	Andromeda	C,F
<i>Pittosporum</i> spp.	Pittosporum	C,F
<i>Pittosporum tobira</i>	Green pittosporum	F
	Japanese pittosporum	F
	Tobira	F
	Wheeler's dwarf pittosporum	F
<i>Platycladus orientalis</i>	Arborvitae, Oriental	C,F
<i>Plumbago auriculata</i>	Blue cape plumbago	F
<i>Podocarpus macrophyllus</i>	Yewpine	C,F
<i>Potentilla fragiformis</i>	Cinquefoil	F
<i>Potentilla fruticosa</i>	Cinquefoil	C,F
<i>Protea neriifolia</i>	Protea	F
<i>Pyracantha coccinea</i>	Firethorn, scarlet	C,F
<i>Pyracantha fortuneana</i>	Lolendei Monrovia pyracantha	C,F
<i>Pyracantha fortuneana</i>	Monon pyracantha	C,F
	Red elf hybrid pyracantha	C,F
	Rutgers hybrid pyracantha	C,F
	Santa Cruz pyracantha	C,F
	Victory pyracantha	C,F
<i>Pyracantha skoidzumi</i>	Firethorn, formosa	C,F
<i>Pyracantha fortuneana</i>	Firethorn	C,F
<i>Raphiolepis indica</i>	Enchantress-Moness raphiolepis	F
	Raphiolepis (India hawthorn)	C,F
	Springtime-Monme raphiolepis	F
<i>Raphiolepis ovata</i>	Roundleaf raphiolepis	F
<i>Rhipsalidopsis gaertneri</i>	Eastercactus	C,F
<i>Rhododendron calendulaceum</i>	Flame azalea	F
<i>Rhododendron campylocarpum</i>	Butterfly rhododendron	F
<i>Rhododendron carolinianum x daurium</i>	PJM rhododendron	F
<i>Rhododendron catawbiense</i>	Catawba album rhododendron	C,F
	Catawba rhododendron	C,F
	Lord Roberts rhododendron	C,F
	Rocket rhododendron	C,F
<i>Rhododendron forrestii x griersonianum</i>	Elizabeth rhododendron	F
<i>Rhododendron hybrid: spp.</i>	America rhododendron	F
	English Roseum rhododendron	F
	Nova Zembla rhododendron	F
	Scintillation rhododendron	F
<i>Rhododendron impeditum</i>	Rhododendron	F
<i>Rhododendron indica</i>	Formosa azalea	C,F
	Waucabusa azalea	C,F
<i>Rhododendron kerume</i>	Coral bells azalea	C,F
	Hino crimson azalea	C,F
	Hino pink azalea	C,F
	Snow azalea	C,F



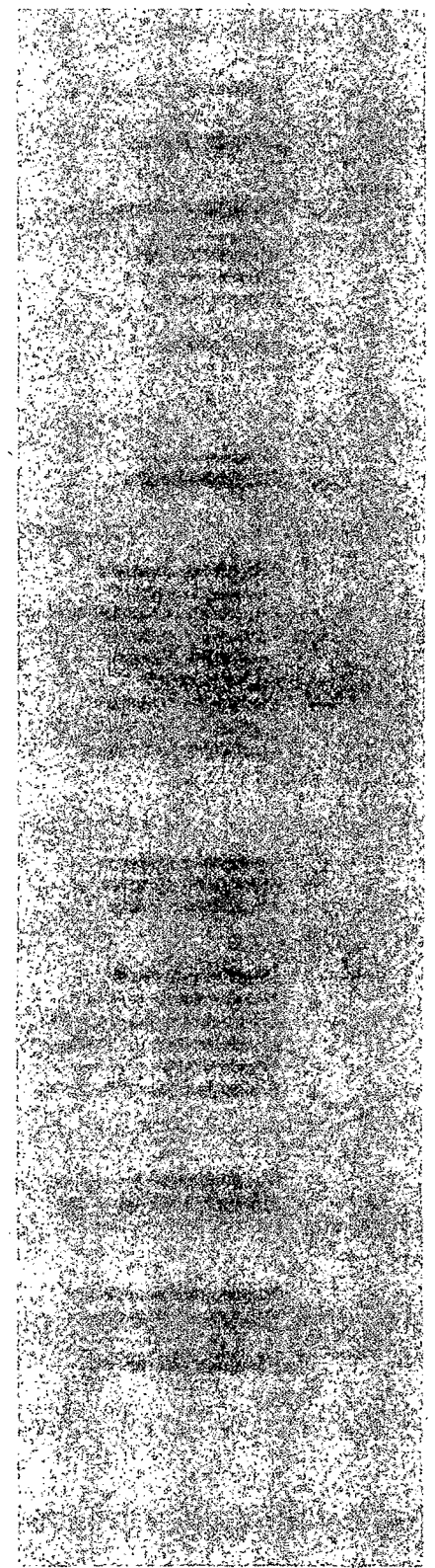
17/25

Scientific Name	Common Name	
<i>Rhododendron maximum</i>	Rhodie max (rosebay)	C,F
<i>Rhododendron mucronulatum</i>	Rhododendron	F
<i>Rhododendron satuki</i>	Gumpo pink azalea	F
	Higasa azalea	F
<i>Rhododendron</i> spp.	Azalea	C,F
	Rhododendron	C,F
<i>Rhododendron</i> spp. hybrids	Carror azalea	C,F
	Girard Roberta azalea	F
	Golden flare exbury azalea	F
<i>Rhus lancea</i>	Sumac, African	C,F
<i>Rosa rugosa</i>	Ramanas rose	F
<i>Rosmannus officinalis</i>	Rosemary	F
<i>Senecio cineraria</i>	Dusty miller	C,F
<i>Spiraea vanhouttei</i>	Bridal wreath	F
<i>Syringa vulgaris</i>	Lilac, common	C,F
<i>Syzygium paniculata</i>	Brush cherry	C,F
<i>Taxus cuspidata</i>	Yew, Japanese	F
<i>Taxus media</i>	Yew	F
<i>Thuja occidentalis</i>	Arborvitae, American	C,F
	Emerald arborvitae	F
	Globosa-globe arborvitae	F
	Little giant-dwarf arborvitae	F
	Nigra-dark American arborvitae	F
	Pyramidalis arborvitae	F
	Rheingold arborvitae	F
	Woodwardii arborvitae	F
<i>Thuja orientalis</i>	Aureus nana-dwarf golden arborvitae	F
	Minima glauca-dwarf arborvitae	F
<i>Thuja plicata</i>	Red Cedar, Western	F
<i>Trachelospermum jasminoides</i>	Star jasmine, Chinese	F
<i>Veitchia merrillii</i>	Christmas palm	F
<i>Viburnum carlesii</i>	Koreanspice viburnum	C,F
<i>Viburnum davidii</i>	David viburnum	F
<i>Viburnum japonicum</i>	Viburnum	F
<i>Viburnum judd</i> (V.X. Judii)	Viburnum	C,F
<i>Viburnum opulus sterile</i>	Common snowball viburnum	F
<i>Viburnum plicatum tomentosum</i>	Doublefile viburnum	F
<i>Viburnum setigerum</i>	Tea viburnum	F
<i>Viburnum suspensum</i>	Virburnum, Sandankwa	F
<i>Viburnum tinus</i>	Viburnum, Laurustinus	C,F
	Compactum-spring bouquet viburnum	F
<i>Viburnum tinus compactum</i>	Spring bouquet viburnum	F
<i>Viburnum trilobum compactum</i>	Dwarf cranberry bush	F
<i>Viburnum x pragense</i>	Viburnum	F
<i>Weigela florida</i>	Bristol ruby weigela	F
	Java red weigela	F
	Minuet weigela	F
	Weigela, oldfashioned	F
<i>Xylosma congestum</i>	Xylosma	F
<i>Yucca elata</i>	Yucca, soaptree	C,F
<i>Yucca recurvifolia</i>	Yucca, pendulous	F

Groundcovers/Perennials

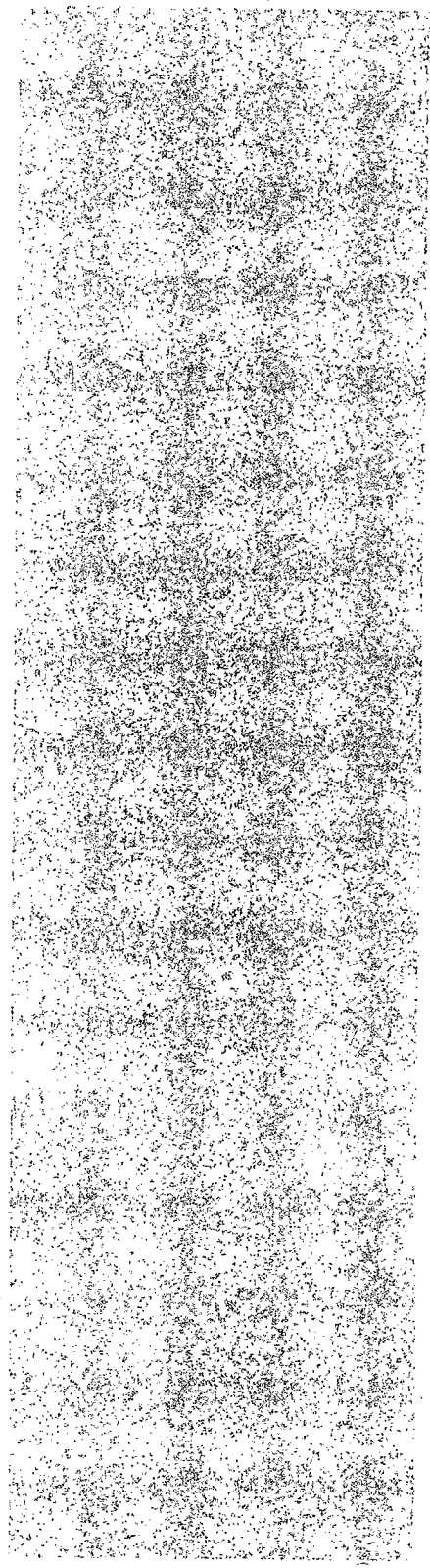
Recommended Treatment Method
F = Field Grown
C = Container Grown

Scientific Name Common Name



18/25

Scientific Name	Common Name	
<i>Agapanthus africanus</i>	Lily-of-the-Nile	C,F
<i>Ajuga</i> spp.	Carpet bugle	F
<i>Arctotheca calendula</i>	Cape weed	F
<i>Asparagus retrofractus</i>	(No common name)	C,F
<i>Asparagus variegata</i>	Tree fern	C,F
<i>Aster novae-angliae</i>	New England aster	C,F
<i>Aster novi-belgii</i>	New York aster	C,F
<i>Athyrium nipponicum</i>	Japanese painter fern	C,F
<i>Brassica oleracea</i>	Wild cabbage	C,F
<i>Callistephus chinensis</i>	China aster	C,F
<i>Campanula elatines</i>	Bellflower	C,F
<i>Carpobrotus edulis</i>	Ice plant, largeleaf (see label)	F
<i>Clytostoma callistegioides</i>	Trumpet vine, violet	C,F
<i>Cortadena selloana</i>	Pampas grass	F
<i>Cuphea hyssopifolia</i>	False Mexican heather	C,F
<i>Delosperma alba</i>	White iceplant	F
<i>Dietes vegeta</i>	Fortnight lily	C,F
<i>Digitalis mertonensis</i>	Foxglove	C,F
<i>Doronicum cordatum</i>	Leopard's bane	C,F
<i>Drosanthemum floribundum</i>	Trailing rosea iceplant	F
<i>Enanthus ravennae</i>	Hardy pampus grass	C,F
<i>Festuca ovina glauca</i>	Blue fescue	F
<i>Gaillardia grandiflora</i>	Blanket flower	C,F
<i>Gazania rigens leucolaena</i>	Gazania, trailing	C,F
<i>Gazania</i> spp.	Gazania	F
<i>Hedera canariensis</i>	Ivy, Algerian	F
<i>Hedera helix</i>	Ivy, English	F
<i>Heliotropium fragrans</i>	Common heliotrope	C,F
<i>Hemerocallis</i> spp.	Daylily	C,F
<i>Hosta lancifolia</i>	Albo-marginata hosta	C,F
<i>Hosta</i> spp.	Lily plantain	C,F
<i>Heuchera micrantha</i>	Coral bells	C,F
<i>Hypericum</i> spp.	St. Johnswort	C,F
<i>Ibens sempervirens</i>	Evergreen candytuft	C,F
<i>Lampranthus spectabilis</i>	Trailing iceplant	F
<i>Leptospermum scapanum</i>	New Zealand teatree/Manuka	C,F
<i>Limonium perezii</i>	Statice/Sea lavender	C,F
<i>Liriope gigantea</i>	White lily turf	F
<i>Liriope muscar</i>	Lilac beauty lily turf	C,F
	Majestic lily turf	C,F
	Monroe white lily turf	C,F
	Silvery sunproof lily turf	C,F
	Variegated liriope lily turf	C,F
	Big blue lily turf	C,F
	Edging lobelia	C,F
<i>Lobelia erinus</i>	Edging lobelia	C,F
<i>Lonicera japonica</i>	Honeysuckle, Japanese	F
<i>Mesembryanthemum crystallinum</i>	Ice plant (see label)	F
<i>Monarda didyma</i>	Bee Balm	C,F
<i>Ophiopogon japonicus</i>	Mondo grass	F
<i>Osteospermum fruticosum</i>	Daisy, trailing African	F
<i>Pachysandra terminalis</i>	Japanese spurge	F
<i>Pennisetum setaceum</i>	Fountaingrass	C,F
<i>Polystichum polyblepharum</i>	Tassel fern	C,F
<i>Sedum brevifolium</i>	Stonecrop	C,F
<i>Sedum kamtschaticum</i>	Stonecrop	C,F
<i>Sedum spurium</i>	Stonecrop, tworow	C,F
<i>Tulbaghia violacea</i>	Society garlic	C,F



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Scientific Name	Common Name	
<i>Verbena rigida</i>	Veined verbena	C,F
<i>Veronica</i> spp.	Speedwell	C,F
<i>Vinca major</i>	Periwinkle, bigleaf	F
<i>Vinca minor</i>	Periwinkle, dwarf	F

Flowers

Recommended Treatment Method

F = Field Grown
C = Container Grown

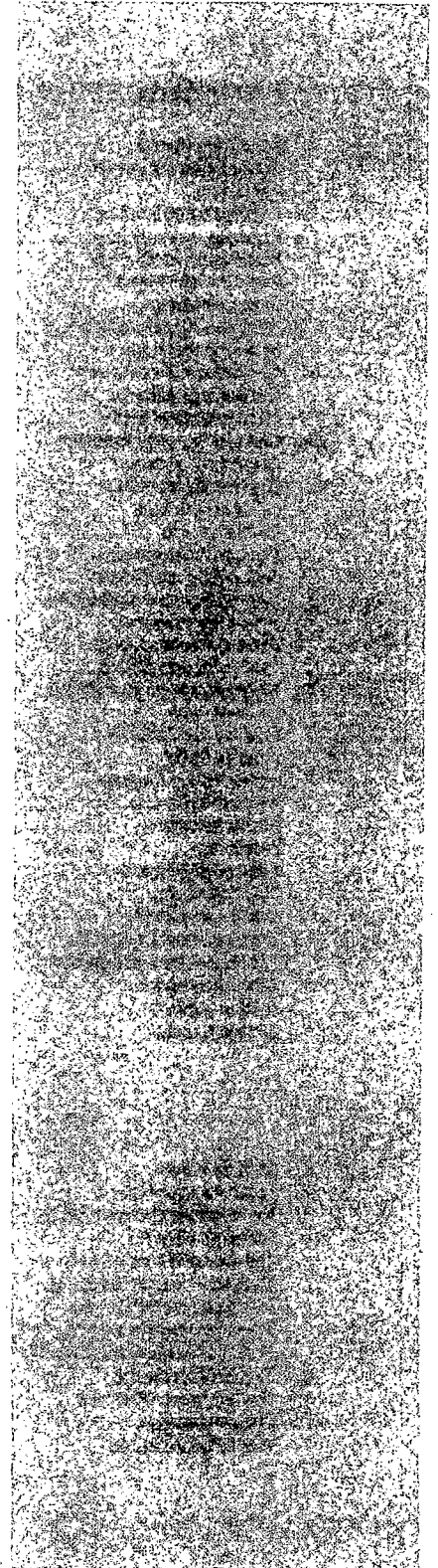
Scientific Name	Common Name	
<i>Achillea</i> spp.	Yarrow	C,F
<i>Antirrhinum majus</i>	Snapdragon	F
<i>Caladium bicolor</i>	Caladium, fancy leafed	F
<i>Chrysanthemum</i> spp.	Chrysanthemum	C,F
Mixed hybrid	Dahlia	C,F
<i>Cladium bicolor</i>	Fancy-leafed caladium	F
<i>Coreopsis lanceolata</i>	Coreopsis	F
<i>Coreopsis verticillata</i>	Threadleaf coreopsis	C,F
<i>Dianthus barbatus</i>	Sweet William	F
<i>Dianthus gratianopolitanus</i>	Cheddar pink	C,F
<i>Dicentra spectabilis</i>	Bleeding heart	C,F
<i>Dimorphotheca</i> spp.	Marigold, cape	F
<i>Echinacea purpurea</i>	Coneflower, purple	C,F
<i>Evolvulus nuttallianus</i>	Blue daze	C,F
<i>Geum quellyon</i>	Geum	F
<i>Gladiolus hortulanus</i>	Gladiolus	F
<i>Gypsophila paniculata</i>	Baby's breath	F
<i>Impatiens wallerana</i>	Impatiens (Busy lizzie)	F
<i>Iris</i> spp.	Iris, bearded	F
<i>Liatris spicata</i>	Blazing star	C,F
<i>Pelargonium hortorum</i>	Geranium	F
<i>Petunia</i> spp.	Petunia	C,F
<i>Portulaca grandiflora</i>	Moss, rose	F
<i>Ranunculus asiaticus</i>	Ranunculus, Persian	F
<i>Rosa</i> spp.	Rose	F
<i>Rudbeckia fulgida</i>	Blackeyed susan	C,F
<i>Rudbeckia hirta</i>	Daisy, gloriosa (black-eyed Susan)	F
<i>Salvia</i> spp.	Salvia (Sage)	F
<i>Stokesia laevis</i>	Aster, stokes	F
<i>Strelitzia reginae</i>	Bird of paradise	F
<i>Tagetes</i> spp.	Marigold	F
<i>Viola wittrockiana</i>	Pansy	F
<i>Zinnia elegans</i>	Zinnia, common	F

Non-bearing Trees and Vines

Recommended Treatment Method

F = Field Grown
C = Container Grown

almond	F
apple	F
apricot	F
avocado	F
blackberry	F
blueberry	F
boysenberry	F
cherry, sour	F



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cherry, sweet	F
currant	F
dewberry	F
elderberry	F
fig	F
filbert	F
gooseberry	F
grape, American	F
grape, European	F
grapefruit	F
kiwi	F
kumquat	C,F
lemon	F
loganberry	F
macadamia nut	F
nectarine	F
olive	F
orange	C,F
peach	F
pear	F
pecan	C,F
pistachio	F
plum	F
pomegranate	F
prune	F
raspberry	F
walnut, black	F
walnut, English	F

† Non-bearing plants are defined as those that will not bear fruit for at least one year after treatment.

Ornamental Bulbs

Surflan ASSurflan AS Specialty Herbicide may be applied for control of susceptible annual weeds in ornamental bulbs, e.g., bulbous iris, daffodil (narcissus), hyacinth, and tulip. Apply Surflan ASSurflan AS Specialty Herbicide to the soil surface 2-4 weeks after planting, but prior to the emergence of annual weeds. For fall planted bulbs, apply Surflan ASSurflan AS Specialty Herbicide again in late winter or early spring to weed-free soil surfaces.

Broadcast Application Rates

Time of Application	Soil Texture	Surflan ASSurflan AS Specialty Herbicide		Minimum Time Between Applications (months)	Total Amount Allowed Per Year (qt/acre)
		(qt/acre)	(fl oz/1000 sq ft)		
Fall	Coarse	0.75	0.5	3	1.5
Fall	Medium and Fine	1.5	1.0	3	2.25
Feb.-March	All Soil Textures	0.75	0.5	3	2.25

Special Use Precautions:

Do not apply to tulip plants that have emerged to a height greater than 3/4 inch.
Do not apply to gladioli corms prior to emergence or less than one (1) inch in diameter.

Shadehouse Areas

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Surflan-ASSurflan AS Specialty Herbicide may be applied to drainage areas under benches in open shadehouse-type structures where the natural flow of air is unimpeded. Do not apply in enclosed greenhouses or in enclosed shadehouse-type structures. Do not apply within 3 weeks prior to enclosure of greenhouse or poly-type structures.

Christmas Tree Plantations

Surflan-ASSurflan AS Specialty Herbicide Alone

Apply Surflan-ASSurflan AS Specialty Herbicide as a directed spray to the soil surface or as an overtop spray to established plantings of field grown Christmas tree species, including fir (*Abies* spp.), pine (*Pinus* spp.), and spruce (*Picea* spp.). Follow all instructions provided in the "General Information" section of this label.

Broadcast Application Rates

Length of Control	Surflan-ASSurflan AS Specialty Herbicide		Minimum Time Between Applications (months)	Total Amount Allowed Per Year (qt/acre)
	(qt/acre)	(fl oz/1000 sq ft)		
2 - 4 months	2	1.5	2	8
4 - 8 months	4	3	2	8

Tank Mix Combinations

Tank mix combinations of Surflan-ASSurflan AS Specialty Herbicide plus other labeled herbicides may be used as directed or overtop sprays in established Christmas tree plantings. When applied according to use directions, these tank mixes will provide control of susceptible weed species listed on the respective product labels. Refer to tank mix product labels for specific use directions, precautions, and limitations before use.

Surflan-ASSurflan AS Specialty Herbicide Plus glyphosate: Apply tank mix combinations of Surflan-ASSurflan AS Specialty Herbicide plus glyphosate only as directed sprays in Christmas tree plantings.

When applied according to use directions, Surflan-ASSurflan AS Specialty Herbicide plus glyphosate will provide postemergence control of susceptible weed species listed on the label for glyphosate and residual preemergence control of susceptible weed species listed on the label for Surflan-ASSurflan AS Specialty Herbicide. Refer to the label for glyphosate for specific use directions, precautions, and limitations before use.

Special Use Precautions:

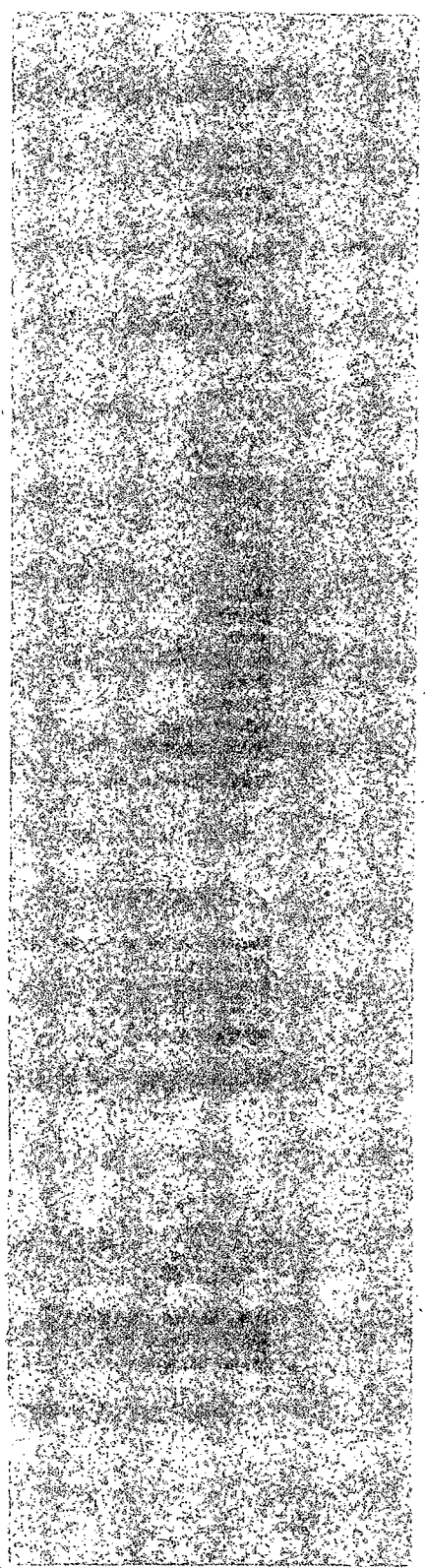
Do not apply to Douglas-fir (*Pseudotsuga menziesii*). Do not apply to seedbeds or seedling transplant beds. Apply only to established plants that have been transplanted into their final growing location for a sufficient period of time to allow the soil to be firmly settled around the roots from packing and rainfall or irrigation.

Noncropland Areas and Industrial Sites

Noncropland Areas - Tank Mix Combinations

Tank mix combinations of Surflan-ASSurflan AS Specialty Herbicide plus glyphosate and many other labeled herbicides may be used to control undesirable vegetation in noncropland areas such as roadsides, rights-of-way, etc. When applied according to use directions, these tank mixes will provide control of susceptible weed species listed on the respective product labels. Refer to tank mix product labels for specific use directions, precautions, and limitations before use.

Broadcast Application Rates



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Length of Control	Surflan ASSurflan AS Specialty Herbicide		Minimum Time Between Applications (months)	Total Amount Allowed Per Year (qt/acre)
	(qt/acre)	(fl.oz/1000 sq ft)		
2 - 4 months	2	1.5	2	6
4 - 8 months	4	3	4	12
8 - 12 months	6	4.5	8	12

Industrial Sites - Tank Mix Combinations

Tank mix combinations of Surflan ASSurflan AS Specialty Herbicide plus glyphosate, Spike herbicide, and many other labeled herbicides may be used as overtop sprays to control existing vegetation on industrial sites such as utility substations, highway guard rails, sign posts, and delineators. When applied according to use directions, these tank mixes will provide control of susceptible weed species listed on the respective product labels. Refer to tank mix product labels for specific use directions, precautions, and limitation before use.

Warm Season Turfgrasses

Surflan ASSurflan AS Specialty Herbicide may be applied as a preemergence treatment for control of annual grasses and certain broadleaf weeds in established warm season turf including bahiagrass, bermudagrass, buffalograss, centipedegrass, St. Augustinegrass, zoysiagrass, and established tall fescue growing in warm season areas. Established turf is defined as a dense turf having a well-anchored root system and healthy, vigorous top growth. Use Surflan ASSurflan AS Specialty Herbicide only as a part of a total turf management program that includes good fertilization practices.

Surflan ASSurflan AS Specialty Herbicide may be tank mixed with Gallery herbicide (California registration pending) and applied preemergence to broaden the spectrum of broadleaf weed control in warm season turf. Refer to the label for Gallery for specific use directions, precautions, and limitations before use.

Any cultural practices that disturb the soil, such as aeration or verticutting, should be done prior to application of Surflan ASSurflan AS Specialty Herbicide.

Surflan ASSurflan AS Specialty Herbicide will not control emerged weeds. Successful preemergence control of weeds listed on this label requires that Surflan ASSurflan AS Specialty Herbicide be applied prior to weed germination and be activated by at least one-half (1/2) inch of rainfall or irrigation within 21 days of application.

Surflan ASSurflan AS Specialty Herbicide may injure turf that is not well established or is stressed or weakened due to unfavorable winter climatic conditions, drought, nematodes, or other factors which damage or weaken turf root systems. Apply Surflan ASSurflan AS Specialty Herbicide only to healthy, well-established turf that has a well-anchored root system.

Do not apply Surflan ASSurflan AS Specialty Herbicide in the spring or early summer to tall fescue turfgrass reseeded the previous fall. In such cases, apply Balan 2.5G granular herbicide at 60-80 pounds per acre in early summer (Round 1) and Surflan ASSurflan AS Specialty Herbicide at 1.5 quarts per acre approximately eight weeks later (Round 2). Do not apply Surflan ASSurflan AS Specialty Herbicide at the single application rate (2 quarts per acre) to established tall fescue; in such cases, apply 1.5 quarts per acre of Surflan ASSurflan AS Specialty Herbicide in an initial application, followed by a second application of 1.5 quarts per acre 8-10 weeks later.

In bermudagrass areas that have been overseeded with winter grasses, a spring application of Surflan ASSurflan AS Specialty Herbicide will thin the overseeded grasses.

Annual Grasses Controlled by Surflan ASSurflan AS Specialty Herbicide

Summer Annuals:

Common Name Scientific Name

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barnyardgrass (watergrass)	<i>Echinochloa crus-galli</i>
crabgrass, large	<i>Digitaria sanguinalis</i>
crabgrass, smooth	<i>Digitaria ischaemum</i>
crabgrass	<i>Digitaria</i> spp.
crowfootgrass	<i>Dactyloctenium aegyptium</i>
foxtail, bristlegrass	<i>Setaria magna</i>
foxtail, giant	<i>Setaria faberi</i>
foxtail, green (pigeongrass)	<i>Setaria viridis</i>
foxtail, robust	<i>Setaria robusta</i>
foxtail, yellow	<i>Setaria glauca</i>
goosegrass (silver crabgrass)	<i>Eleusine indica</i>
Johnsongrass (seedling only)	<i>Sorghum halepense</i>
ryegrass, Italian	<i>Lolium multiflorum</i>
sandbur, field	<i>Cenchrus incertus</i>

Winter Annuals:

Common Name	Scientific Name
bluegrass, annual	<i>Poa annua</i>

Annual Broadleaf Weeds Controlled by Surflan-ASSurflan AS Specialty Herbicide

Summer Annuals:

Common Name	Scientific Name
carpetweed	<i>Mollugo verticillata</i>
knotweed, prostrate	<i>Polygonum aviculare</i>
purslane, common	<i>Portulaca oleracea</i>

Winter Annuals:

Common Name	Scientific Name
chickweed, common	<i>Stellaria media</i>
henbit	<i>Lamium amplexicaule</i>

Broadleaf Weeds Suppressed by Surflan-ASSurflan AS Specialty Herbicide

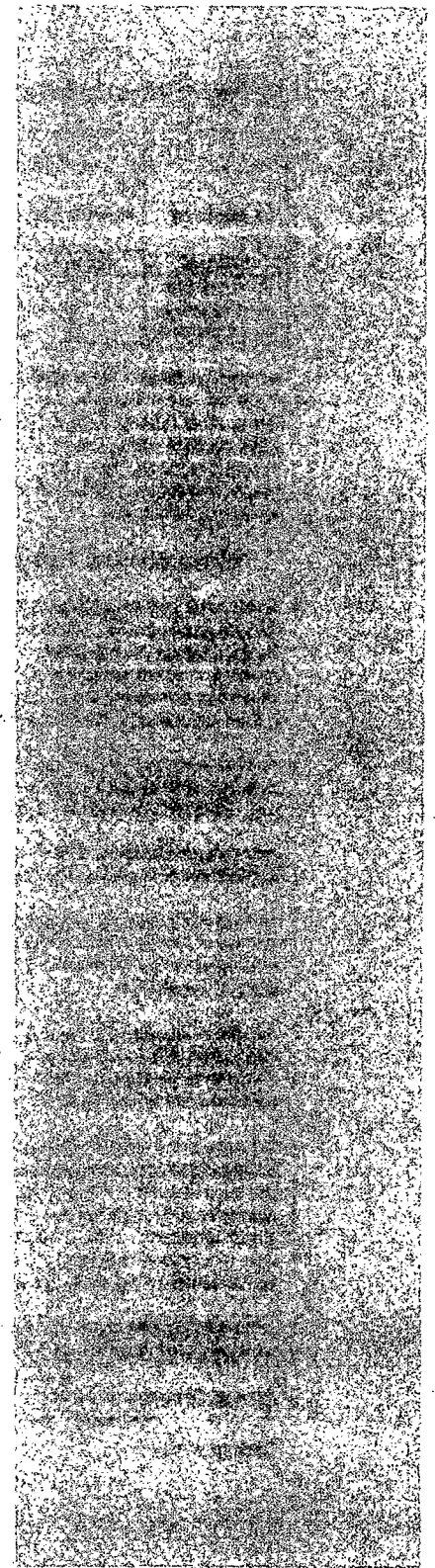
Common Name	Scientific Name
groundsel, common	<i>Senecio vulgaris</i>
spurge, prostrate	<i>Euphorbia humistrata</i>
woodsorrel, yellow	<i>Oxalis stricta</i>

Application Rates, Frequency, and Timing of Application

Surflan-ASSurflan AS Specialty Herbicide can be applied in the spring for summer annual grass and broadleaf weed control; and in the fall for annual bluegrass (*Poa annua*) and winter annual broadleaf weed control.

Broadcast Application Rates (Warm Season Turfgrasses)

Use Area	Surflan-ASSurflan AS Specialty Herbicide		Minimum Time Between Applications (months)	Total Amount Allowed Per Year (qt/acre)
	(qt/acre)	(fl oz/1000 sq ft)		



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All, except Florida	1:5	1	3	6
Florida	2	1.5	3	6
Florida	1:5	1	3	4:5

1. Summer Annual Grasses and Broadleaf Weeds

Single Application Program: Apply 2 quarts per acre of Surflan ASSurflan AS Specialty Herbicide in late winter or early spring, prior to the onset of conditions favorable for annual weed germination.

Split Application Program: As an alternative to a single application program, Surflan ASSurflan AS Specialty Herbicide may be applied in a split application. This program is desirable when the initial application is made well in advance of weed germination and where weed control is desired for a longer period of time. Apply 1.5 quarts per acre of Surflan ASSurflan AS Specialty Herbicide in an initial application, followed by a second application of 1.5 quarts per acre 8-10 weeks later.

The second treatment of the split application may follow application of a different preemergence grass herbicide in place of the initial application of Surflan ASSurflan AS Specialty Herbicide.

2. Annual Bluegrass (*Poa annua*) and Winter Annual Broadleaf Weeds

In areas of heavy annual bluegrass infestation, its elimination will result in temporary thinning of turfgrass cover. Proper fertilization, irrigation, and soil incorporated reseeded should be employed to speed the restoration of desirable turfgrass cover in areas previously occupied by annual bluegrass (see section on reseeded).

Apply Surflan ASSurflan AS Specialty Herbicide as a preemergence treatment in late summer or early fall, prior to the expected germination period for annual bluegrass and winter annual broadleaf weeds. If annual bluegrass infestation is severe and its elimination will result in thinning of turfgrass cover, apply Surflan ASSurflan AS Specialty Herbicide at 1.5 quarts per acre. If thinning of turfgrass cover is not a potential problem, Surflan ASSurflan AS Specialty Herbicide may be applied at 2 quarts per acre.

Weed Control in Florida

In Florida, apply 1.5 quarts per acre of Surflan ASSurflan AS Specialty Herbicide three times per year, or every 90-100 days, in the fall, early spring, and early summer. Do not apply more than 1.5 quarts per acre of Surflan ASSurflan AS Specialty Herbicide in any single application.

Application Equipment

Apply Surflan ASSurflan AS Specialty Herbicide evenly over the turfgrass area. Avoid spray pattern skips and overlaps that may result in incomplete coverage or over-application. For best results, use application equipment designed to uniformly broadcast liquid herbicides. Calibrate application equipment prior to use, according to manufacturer's directions. Check equipment frequently to make sure it is working properly and distributing spray uniformly.

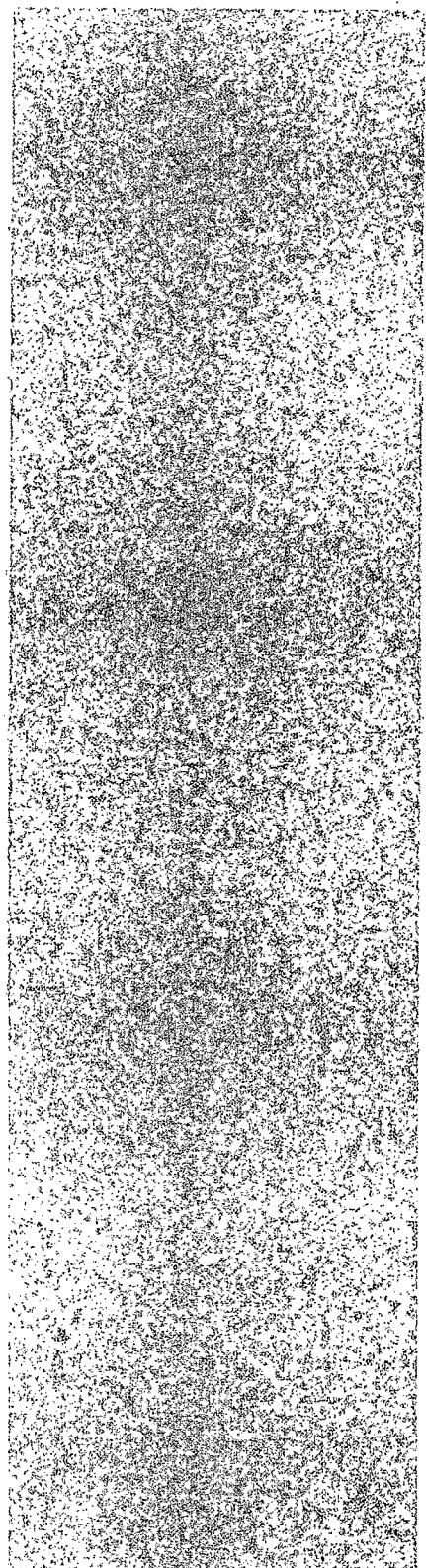
Reseeding

Herbicides that control annual weeds may also affect establishment of desirable turfgrass seedlings. Reseeding should be delayed for at least 90-120 days following application of Surflan ASSurflan AS Specialty Herbicide. When reseeding, it is essential that proper cultural practices such as soil cultivation and seedbed preparation, irrigation, and fertilization be followed. For satisfactory reseeding results following use of Surflan ASSurflan AS Specialty Herbicide, the seeding rate should be increased and equipment designed to place seed in full contact with soil (such as the Rogers Aero Seeder) should be employed.

Special Use Precautions:

To avoid possible injury, do not apply Surflan ASSurflan AS Specialty Herbicide to:

- Cool season turfgrass species.
- Golf course putting greens and tees or lawns containing dichondra or cool season turfgrass species.
- Newly sprigged or sodded areas of bermudagrass, St. Augustinegrass, centipedegrass, or zoysiagrass until these turfgrasses are well established and have well-anchored root systems.
- Newly hydromulched areas of bermudagrass until such areas are well established.
- Bermudagrass variety "Sun Turf" when tank mixed with atrazine.



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**IMPORTANT INFORMATION
READ BEFORE USING PRODUCT**

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

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