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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

Craig D Kleppe BASF Corporation 26 Davis Drive PO Box 13528 Research Triangle Park, NC 27709

FEB 9 2011

Dear Mr. Kleppe:

Subject:

Labeling Amendment; General Revisions

FreeHand 1.75G Herbicide EPA Registration No. 7969-273

Submission Date: February 8, 2011 (originally submitted on July 30, 2010 as part of

a conditional data submission)

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable. A stamped copy is enclosed for your records. Please submit one (1) final printed copy for the above mentioned label before releasing the product for shipment. If you have any questions regarding this label, please contact me at (703) 306-0415 or davis.kable@epa.gov.

Sincerely yours,

Kable Bo Davis Product Manager 25 Herbicide Branch

Registration Division (7505P)

Enclosed-Stamped Label

Group 3 15 Herbicide



For use as a preemergence weed control herbicide in ornamental production, landscape and grounds maintenance, and other specified noncrop areas

Active Ingredients:

dimethenamid-P: (S)-2-chloro-N-(1-methyl-2-methoxy)ethyl]-N-(2,4-dimethyl-thien-3-yl)-acetamide pendimethalin: N-(1-ethylpropyl)-3,4-dimethyl-2, 6-dinitrobenzenamine 1. Other Ingredients:

Total: -50 lbs contains 0.375/lb of dimethenamig∜P and 0.5 lb of pendimethalin.

EPA Reg. No. 7969-273

EPA Est. No.

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 this label, find someone to explain it to you in detail.)

See inside for complete First Aid, Precautionary Statements, Directions For Use, and Conditions of Sale and Warranty.

In case of emergency endangering life or property involving this product, call day or night 1-800-832-HELP (43\$7/)

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Under the Federal Insecticide, Funcicide, and Rodenticide Ach as amended, for the posticide rogistered under EPA Reg. Wo

Net Contents

BASF Corporation 26 Davis Drive Research Triangle Park, NC 27709 BASF
The Chemical Company

FIRST AID		
If swallowed	 Call a poison control center or doctor immediately for treatment advice. DO NOT induce vomiting unless told to do so by a poison control center or doctor. DO NOT give any liquid to the person. DO NOT give anything by mouth to an unconscious person. 	
If in eyes	 Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes; then continue rinsing eyes. Call a poison control center for treatment advice. 	
If on skin or clothing	 Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice. 	
If inhaled	 Move person to fresh air. If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably by mouth to mouth, if possible. Call a poison control center or doctor for further treatment advice. 	
	HOTLINE NUMBER	

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact BASF Corporation for emergency medical treatment information: 1-800-832-HELP (4357).

Precautionary Statements

Hazards to Humans and Domestic Animals

CAUTION. Harmful if swallowed. Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Avoid breathing dust.

Personal Protective Equipment (PPE)

Some materials that are chemically resistant to this product are listed below. For more options, refer to **Category A** on an EPA chemical-resistance category-selection chart.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof materials, such as barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, polyvinyl chloride ≥ 14 mils, or viton ≥ 14.mils
- Shoes plus socks
- Protective eyewear

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

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.

Environmental Hazards

This product 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. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent aquatic sites. **DO NOT** contaminate water when disposing of equipment washwaters or rinsate.

Dimethenamid-P has properties that may result in ground-water contamination. Application in areas where soils are permeable or coarse and groundwater is near the surface could result in groundwater contamination. Dimethenamid-P has properties that may result in surface water contamination via dissolved runoff and runoff erosion. Practices should be followed to minimize the potential for dissolved runoff and/or runoff erosion.

Endangered Species Protection

This product may have effects on federally listed threatened or endangered plant species or their critical habitat. When using this product, you must follow the measures contained in the Endangered Species Protection Bulletin for the county or parish in which you are applying the pesticide. To determine whether your county or parish has a Bulletin, and to obtain that Bulletin, consult http://www.epa.gov/espp/, or call 1-800-447-3813 no more than 6 months before using this product. Applicators must use Bulletins that are in effect in the month in which the pesticide will be applied. New Bulletins will generally be available from the above sources 6 months prior to their effective dates.

To avoid adverse effects on endangered plant species, applicators in ornamentals production must comply with the following mitigation measures where and when endangered plant species are known to occur in proximity of the application site:

If applied by ground, leave untreated buffer zone of 200 feet between treatment area and known endangered plant populations.

Directions For Use

It is a violation of federal law to use this product in a manner inconsistent with its labeling. This labeling must be in the possession of the user at the time of pesticide application. The use of **FreeHand® 1.75G herbicide** not consistent with this label can result in injury to crops, animals, or persons.

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.

BASF Corporation does not recommend or authorize the use of this product in manufacturing, processing or preparing custom blends with other products for application to ornamentals.

DO NOT contaminate irrigation ditches or water used for domestic purposes.

FreeHand 1.75G is intended for use only by certified applicators or persons under their direct supervision.

FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN POOR WEED CONTROL OR CROP INJURY.

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 **12 hours**.

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 made of any waterproof materials, such as barrier laminate, butyl rubber
 ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber
 ≥ 14 mils, polyvinyl chloride ≥ 14 mils, or viton
 ≥ 14 mils
- Shoes plus socks
- · Protective eyewear

NONAGRICULTURAL 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.

DO NOT enter or allow others to enter the treated area until dusts have settled. Only protected applicator shall be in the treatment area during application.

STORAGE AND DISPOSAL

DO NOT contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

Pesticide Storage

DO NOT store above 120° F. Store in original containers and keep closed. Store in a cool, dry place.

Pesticide Disposal

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

STORAGE AND DISPOSAL (continued)

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Container Handling

(for plastic containers)

Nonrefillable Container. DO NOT reuse or refill this container. After completely emptying container into application equipment, offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

(for paper or plastic bags)

Nonrefillable Container. DO NOT reuse or refill this container. After completely emptying container into application equipment, dispose of empty bag in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

In Case Of Emergency

In case of large-scale spillage regarding this product, call:

• CHEMTREC

1-800-424-9300

BASF Corporation

1-800-832-HELP (4357)

In case of medical emergency regarding this product, call:

- · Your local doctor for immediate treatment
- Your local poison control center (hospital)
- BASF Corporation 1-800-832-HELP (4357)

Use Information

Mode of Action

FreeHand® 1.75G herbicide combines two active ingredients: dimethenamid-P, a chloroacetamide, and pendimethalin, a dinitroaniline. Combined, they inhibit both plant cell microtubule assembly (cells do not divide and multiply) and cell growth, inhibiting the germinating shoot portion of the susceptible weed seedlings. A small amount of uptake may also occur through the emerging root system of the weed seedling. FreeHand 1.75G is Chemical Group 3 and Chemical Group 15 mode-of-action classifications for broader weed control spectrum.

Use Sites

FreeHand 1.75G is a selective preemergence herbicide for the control of certain annual grasses, annual broadleaf weeds and sedges as they germinate in:

- Commercial ornamental production
- Landscape and grounds maintenance
- Tree plantations including Christmas trees

FreeHand 1.75G may be applied as a soft-residual bareground treatment in the use sites listed above.

FreeHand 1.75G controls weeds as they germinate but will not control emerged and established weeds. Therefore, areas to be treated should be free of established weeds. If weeds develop prior to activation of the

herbicide, shallow cultivate to destroy existing weeds or, where practical, remove by hand.

For the control of established weeds, FreeHand 1.75G may be used in conjunction with herbicides registered for postemergence use. FreeHand 1.75G may be used before or after applications of herbicides registered for postemergence use (i.e. Basagran® T/O herbicide, Finale® herbicide, Roundup® herbicide, Segment™ herbicide) for the control of established weeds. DO NOT apply sprays containing Finale or Roundup over the top of desirable plants. Consult the labels of those herbicides for use rates, timings, and precautions or restrictions.

A **FreeHand 1.75G** treatment may be followed by any registered herbicide to control weeds not listed on the **FreeHand 1.75G** label.

Application Information

FreeHand 1.75G will provide the most effective weed control when applied by ground spreader equipment and subsequently incorporated into soil by 1/2 inch of rainfall in sprinkler irrigation, or by mechanical methods prior to weed seedling emergence.

Ground Application

Apply **FreeHand 1.75G** with properly calibrated spreader equipment to provide uniform distribution. Check application routinely to determine proper calibration. Avoid overlaps that will increase use rates above those stated on this label. Avoid application when winds may cause drift. Avoid unintentional contact of granules with driveways, stone, wood or other porous surfaces. **FreeHand 1.75G** may cause temporary discoloration of treated surfaces. Sweep surfaces clean immediately to avoid staining. If granules are crushed into surface, rinse thoroughly.

Application Use Rates

For preemergence control of the listed weed species (see **Table 3** in **Weed Species Controlled** section) using broadcast spreader equipment, apply **FreeHand 1.75G** at the following rates.

Applied according to label directions and under normal growing conditions, **FreeHand 1.75G** will not cause injury to desirable plants. Overapplication can result in stand loss, plant injury, or soil residues. Uneven application can decrease weed control or cause plant injury.

Table 1. Application Rates for FreeHand 1.75G

Application Rate (lbs product per acre)	Amount (lbs product per 1000 sq ft)	Amount (lb product per 100 sq ft)
100	2.3	0.23
150	3.4	0.34
200	4.6	0.46

All granular herbicide products, including **FreeHand® 1.75G herbicide**, have different prill sizes.

Therefore, to deliver the proper rate, the applicator must calibrate prior to application of product. The

FreeHand 1.75G calibration tray may be used to calibrate the correct application rate. Rate settings for a specific type of spreader device must be determined by the applicator. A guide to the use of various spreaders is provided in the table following:

Spreader Type	Spreader Operation	Setting	Swath of Throw (feet)	Rate Range (lbs product/A)
EarthWay ¹	1-sided	7 to 10	3	200
EarthWay ²	2-sided	11 to 12	3 to 5	150 to 200
John Deere- Lesco Rotary	Not applicable	D to F	Not given	100 to 150
Scott Rotaries				
R-7, R-7x, R-8, R-8A, SR-1 (cone 9)	Not applicable	D to E1/2	.8	100 to 150
Solo Spreader 421S³	1-sided	1 to 3	3 to 4	100
Solo Spreader 421S ⁴	2-sided	2 to 6	3 to 4	200
Spyker #75°	1-sided	3 to 5	3 to 5	100
Warren T7II ^b	1-sided	3 to 5	3 to 5	100
Warren T7II°	2-sided	3 to 6	3 to 6	100

Spreader Efficiency Tips

- ¹ For EarthWay 1-sided: Close right slide on spreader to throw to the right.
- ² **For EarthWay 2-sided:** Close left slide about 1/4 to achieve better left center to right distribution for 2-sided throw.
- ³ **For Solo 1-sided:** Position lever to the right (this gives a pattern all to the left and avoids depositing product into operator's hands or body).
- ⁴ For Solo 2-sided: Position lever halfway between center and right position.
- For Spyker: Rotate spreader to right so first mold pen mark is on top at 24° to give best distribution. NOT recommended for 2-sided use.
- For Warren 1-sided: Distribution place control on front all the way to the left so pattern spreads to left and not into the applicator's arms.
- ^c For Warren 2-sided: Position lever in center for best distribution.

FreeHand 1.75G may be applied in a single application or in sequential applications.

In a single application, **DO NOT** apply more than the equivalent of 200 pounds of **FreeHand 1.75G** per acre.

For extended weed control, sequential (repeat) applications of **FreeHand 1.75G** can be made at a minimum of 6 weeks between applications.

Application Restrictions and Limitations

- Maximum annual use rate DO NOT apply more than the equivalent of 400 pounds of FreeHand 1.75G per acre per crop in a single growing season.
- DO NOT apply FreeHand 1.75G as an aerial application.
- DO NOT apply FreeHand 1.75G in greenhouses, polyhouses or other fully enclosed greenhouse-type structures.
- DO NOT apply FreeHand 1.75G to any improved or unimproved maintained turfgrass or lawn(s) unless authorized by supplemental labeling.
- DO NOT treat plants grown for food or feed.
- DO NOT use treated plants for food or feed.
- **DO NOT** apply to nonbearing fruit and nut trees within one year before harvest of food crop.
- To avoid the possibility of plant damage, DO NOT apply FreeHand 1.75G to ornamental plants growing under stress because of lack of moisture, hail damage, flooding, herbicide injury, mechanical injury, or widely fluctuating temperatures. Diseases, cold weather, excessive moisture, high soil pH, high soil salt concentration, or drought can weaken plants and increase the possibility of damage from FreeHand 1.75G.
- If **FreeHand 1.75G** is not activated by rainfall or irrigation within 30 days, erratic weed control may result.
- Unusually cold, excessively wet, or hot and dry conditions that delay or extend weed seed germination can reduce weed control.

Specific Information for Use Sites

Commercial Ornamental Production

FreeHand 1.75G can be used in and around container and field nurseries.

Applications can be made, but are not limited to, ornamental plant species listed on this label, such as trees, shrubs, ground covers, herbaceous perennials, ornamental grasses, and bedding plants. Applications can also be made to nurseries such as seedling nonbearing fruit and nut trees within one year before producing food crop, conifer and hardwood seedling nurseries, and tree plantations (including Christmas trees).

NOTE: FreeHand® 1.75G herbicide can only be used on established liner beds with well-rooted plants and/or rootstocks.

Plant Tolerance

FreeHand 1.75G can be used around and over the top of the established ornamental plants listed in Table 2 of this label. However, not all varieties or strains of the ornamental plants listed have been tested. FreeHand 1.75G may be used on ornamental plant species not listed on this label when grower assumes responsibility. Determine the suitability for such uses by treating a small number of such plants at the specified rate. Evaluate treated plants for at least 2 months following treatment for possible injury. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE USER ASSUMES RESPONSIBILITY FOR ANY CROP DAMAGE OR OTHER LIABILITY ASSOCIATED WITH APPLICATIONS TO ORNAMENTAL PLANTS NOT LISTED ON THIS LABEL.

Refer to the **Application Information** section in this label before any application of **FreeHand 1.75G**. Unintentional consequences, such as ornamental injury, may result because of certain environmental or growing conditions, manner of use or application.

Refer to **Table 1** for application rates, **Table 2** for list of ornamental species, and **Table 3** for weeds controlled.

Specific Ornamentals¹ Use Site Instructions

Site	Application Instructions and Restrictions
Newly transplanted field-grown nursery plants	• DO NOT apply until transplants have been watered and soil has been thoroughly packed and settled around transplants. Care must be taken to ensure there are no cracks in the soil where FreeHand® 1.75G herbicide could come into contact with the roots.
	DO NOT apply during bud swell, bud break or at time of first flush of new growth.
Newly transplanted container-grown nursery plants	DO NOT apply until transplants have been watered and soil has been thoroughly packed and settled around transplants. Care must be taken to ensure there are no cracks in the soil where FreeHand 1.75G could come into contact with the roots.
	• For container-grown ornamentals, delay first application of the product to bareroot liners for 2 weeks after transplanting to allow for root establishment.
	DO NOT apply during bud swell, bud break or at time of first flush of new growth.
	DO NOT apply to any size plug or liner tray.
	• DO NOT apply to plugs or unrooted liners or cuttings being transplanted into pots.
Established container or field-grown nursery plants	DO NOT apply during bud swell, bud break or at time of first flush of new growth.
	Care must be taken to ensure there are no cracks in the soil where FreeHand 1.75G could come into contact with the roots.
Field-grown or container-grown production bulbs	For use in ornamental bulb-like crops such as caladium, calla lily, gladiolus, and lilies.
	• In field production, apply FreeHand 1.75G to the soil surface only after the crop has been planted and the soil has been settled by several irrigations but prior to weed seed germination.
	• In fall-planted daffodil, iris or lilies, make an initial application of FreeHand 1.75G following plant establishment; then make a sequential application of FreeHand 1.75G in late winter or early spring prior to weed seed germination.
,	• In container production, apply FreeHand 1.75G to a weed-free surface either before bulb emergence or after leaf emergence from an established plant crown.
	Apply FreeHand 1.75G before, during or after bulb emergence.
Bareground pad for container placement	Apply to bareground pad (such as soil, mulch, gravel, wood chips, or other permeable base); then water in; then replace containerized ornamentals onto the
Gravel or ground floor of open-sided lathhouses (shadehouses) or other polyhouse structures that allow polycovers to be removed on a	pad.
seasonal basis	
Greenhouses, polyhouses or other enclosed structures	DO NOT apply in greenhouses, polyhouses or other fully enclosed greenhouse-type structures.
Landscape uses	Care must be taken that soil or planting mixes have settled firmly following transplanting, and there are no cracks that would allow direct contact of FreeHand 1.75G with roots. Applications where soil and media surfaces are uniformly covered will result in best weed control and ornamental tolerance.

¹ Plant only those desirable plant species listed on this label into soil treated the previous season with **FreeHand 1.75G** or injury may occur.

Specific Ornamentals¹ Use Site Instructions (continued)

Site		Application Instructions and Restrictions		
SENSITIVE Ornamental Species - Special Precautions				
Ornamental grasses		Unacceptable phytotoxicity may occur to the following ornamental grasses. FreeHand® 1.75G herbicide should not be applied.		
		Blue fescue Festuca ovina glauca Fountain grass Pennisetum setaceum Feather reed grass Calamagrostis spp.		
		NOTE: Test all other ornamental grasses on a small number of plants before and evaluate for 2 months after application prior to use in production.		
Herbaceous perennials		Unacceptable phytotoxicity may occur to the following herbaceous perennials. FreeHand 1.75G should not be applied.		
		Black-eyed Susan Blue star Butterfly flower Cape leadwort Columbine Dead nettle Periwinkle Pincushion flower Speedwell, spiked Rudbeckia fulgida Amsonia spp. Asclepias tuberosa Aquilegia spp. Lamium spp. Vinca minor Phlox Phlox paniculata Scabiosa spp. Veronica spicata		
Annual bed	dding plants	Applications of FreeHand 1.75G to begonia, gomphrena, and impatiens New Guinea hybrids may result in injury.		
Hydrangea Hyd Coneflower Ecl Salvia spp. Spirea Sp.	lox subulata drangea spp. hinacea spp. iraea spp. meria spp.	DO NOT apply FreeHand 1.75G sequentially to these species. During the growing season, a second application of FreeHand 1.75G can be made if a herbicide of a different mode of action is applied between FreeHand 1.75G applications. FreeHand 1.75G applications must be separated by at least 16 weeks.		
	Ferns	Applications of FreeHand 1.75G to immature ferns during periods of new growth of fronds may result in some injury.		
Hydrangea		Not all hydrangea cultivars may respond to the herbicide application with the same tolerance. Before treating an entire block of plants, apply only to a small number of plants and evaluate for 2 months for tolerance.		

¹ Plant only those desirable plant species listed on this label into soil treated the previous season with **FreeHand 1.75G** or injury may occur.

Table 2. Ornamental Species

Common Name	Scientific Name
	rees
Alder, European black	Alnus glutinosa
Almond (nonbearing)	Prunus dulcis
Apple (nonbearing)	Malus x domestica
Apricot (nonbearing)	Prunus armeniaca
Arborvitae	Thuja spp.
Arborvitae, American	Thuja occidentalis
Arborvitae, Oriental	Thuja orientalis
Arbutus	Arbutus spp.
Ash .	Fraxinus spp.
Aspen	Populus spp.
Avocado (nonbearing)	Persea americana
Basswood	Tilia spp.
Birch	Betula spp.
Blackberry (nonbearing)	Rubus ursinus
	R. arvensis
Blueberry (nonbearing)	Vaccinium spp.
Blueberry tree, Japanese	Elaeocarpus decipiens
Boxelder	Acer negundo
Boysenberry (nonbearing)	Rubus ursinus x idaeus
Buckeye, red	Aesculus pavia
Cedar, Eastern red	Juniperus virginiana
Cedar, Japanese	Cryptomeria japonica
Cedar, Western red	Thuja plicata
Cedar, white	Thuja spp.
Chamaecyparis, boulevard	Chamaecyparis pisifera
Cherry (nonbearing)	Prunus spp.
Cottonwood	Populus deltoides
Crabapple (nonbearing)	Malus spp.
Crape myrtle	Lagerstroemia indica
Cryptomeria, Japanese cedar	Cryptomeria japonica
Currant (nonbearing)	Ribes petraeum
	R. spicatum
Cypress, Italian	Cupressus sempervirens
Cypress, bald	Taxodium distichum
Cypress, Leyland	Cupressocyparis leylandii
Dewberry (nonbearing)	Rubus aboriginum
Dogwood	Cornus spp.
Dogwood, flowering	Cornus florida
Elderberry (nonbearing)	Sambucus spp.
Elm	Ulmus japonica
Fig (nonbearing)	Ficus godeffroyi
	F. prolixa
	F. tinctoria
Filbert (nonbearing)	Corylus avellana
<u>Fir</u>	Abies spp.
Fir, Douglas	Pseudotsuga menziesii
Fir, Fraser	Abies fraseri
Franklinia	Franklinia spp.

Table 2. Ornamental Species (continued)

	2 i de la company
Common Name	Scientific Name
Trees	(continued)
Ginkgo	Ginkgo biloba
Gooseberry (nonbearing)	Ribes spp.
Grape (nonbearing)	Vitis spp.
Grapefruit (nonbearing)	Citrus x paradisi
Gum, black	Nyssa sylvatica
Hawthorn	Crataegus spp.
Hemlock	Tsuga spp.
Hemlock, Western	Tsuga heterophylla
Holly	llex spp.
Kiwi (nonbearing)	Actinidia chinensis
Lemon (nonbearing)	Citrus x limon
Lilac	Syringa spp.
Linden	Tilia spp.
Locust, honey	Gleditsia triacanthos
Loganberry (nonbearing)	Rubus loganobaccus
Macadamia nut (nonbearing)	
	M. tetraphylla
Magnolia	Magnolia spp.
Magnolia, saucer	Magnolia soulangiana
Magnolia, Southern	Magnolia grandiflora
Maidenhair tree	Ginkgo biloba
Maple	Acer spp.
Maple, Japanese	Acer palmatum
Maple, red	Acer rubrum
Maple, sugar	Acer saccharum
Nannyberry, rusty	Viburnum rufidulum
Nectarine (nonbearing)	Prunus persica
Oak	Quercus spp.
Olive (nonbearing)	Olea europaea
Orange (nonbearing)	Citrus spp.
Palm, date	Phoenix spp.
Palm, fan	Washingtonia spp.
Palm, palmetto	
Palm, pindo	Sabal minor
Palm, windmill	Butia spp.
Peach (nonbearing)	Trachycarpus spp.
	Prunus persica
Pear, Bradford	Pyrus calleryana 'Bradford'
Pear (nonbearing)	Pyrus communis
Pecan (nonbearing)	Carya illinoinensis
Pine Jahlally	Pinus spp.
Pine, loblolly	Pinus taeda
Pine, white	Pinus strobus
Pistachio (nonbearing)	Pistacia mexicana
Dlum (nonhogrina)	Prunua domantina
Plum (nonbearing)	Prunus domestica
Plum, purple leaf	Prunus cerasifera
Pomegranate (nonbearing)	Punica granatum
Poplar, black	Populus nigra
Prune (nonbearing)	Carex corrugata
	(continued)

Table 2. Ornamental Species (continued)

Common Name	Scientific Name
Trees	(continued)
Raspberry (nonbearing)	Rubus idaeus
Redbud	Cercis canadensis
Red ironbark	Eucalyptus sideroxylon 'Rosea'
Redwood, dawn	Metasequoia glyptostro- boides
Seguoia, giant	Seguoiadendron giganteum
Serviceberry	Amelanchier laevis
Sourwood	Oxydendrum arboreum
Spruce	Picea spp.
Sweetgum	Liquidambar styraciflua
Sycamore	Platanus occidentalis
Tulip tree	Liriodendron tulipifera
Walnut, black (nonbearing)	Juglans nigra
Walnut, English (nonbearing)	
Willow	Salix spp.
Yellowwood	Cladrastis lutea
Zelkova, Japanese	Zelkova spp.
* * * * * * * * * * * * * * * * * * *	rubs
Abelia, glossy	Abelia grandiflora
Althaea	Hibiscus spp.
Andromeda	Pieris japonica
Aucuba, gold	
Azalea	Aucuba japonica
	Rhododendron spp.
Bamboo, heavenly	Nandina domestica
Barberry	Berberis spp. Berberis thunbergii
Blue indigo bush	Dalea gregii
Blue mist spirea	Caryopteris clandonensis
Bottlebrush, lemon	Callistemon citrinus
Boxwood, common	Buxus spp.
Boxwood, Japanese	Buxus microphylla
Brittlebush	Encelia farinosa
Butterfly bush	Buddleia davidii
Buttonbush	Cephalanthus occidentalis
Camellia	Camellia spp.
Cape jasmine	Gardenia jasminoides
Cassia, feathery Chinese fringe flower	Cassia artemisioides
Chinese witchhazel	Loropetalum chinense
Cordyline	Cordyline spp.
Correa	Correa spp.
Cotoneaster	Cotoneaster spp.
Deutzia, slender	Deutzia gracilis
Dogwood, red twig	Cornus sericea
Easter rose	Kerria japonica
Elaeagnus	Elaeagnus ebbingei
	Sambucus nigra
Elderberry Escallopia	
Escallonia	Escallonia fradesii

Table 2. Ornamental Species (continued)

Common Name	Scientific Name
	os (continued)
Euonymus	Euonymus spp.
Firethorn	Pyracantha coccinea
Forsythia, border	
	Forsythia intermedia
Fragrant olive	Osmanthus fragrans
Fuchsia, California	Zauschineria californica
Gardenia	Gardenia jasminoides
Hawthorne, Indian	Raphiolepis indica
Hibiscus	Hibiscus spp.
Holly	llex spp.
Holly, Chinese	llex cornuta
Holly, Japanese	llex crenata
Honeysuckle, bush	Diervilla Ionicera
Hopseed bush	Dodonaea viscosa
<u>Hydrangea</u>	Hydrangea macrophylla
Juniper	Juniperus spp.
Laurel, cherry	Prunus laurocerasus
Laurel, mountain	Kalmia latifolia
Laurel, Otto Luyken	Prunus laurocerasus
Laurel, Schipka	Prunus schipkanensis
Lavender, English	Lavandula angustifolia
Leucothoe	Leucothoe spp.
Lilac	Syringa spp.
Lily of the Nile	Agapanthus africanus
Loropetalum	Loropetalum chinense
Mahonia	Mahonia spp.
Mock orange	Pittosporum tobira
Myrtle, compact	Myrtus communis
Myrtle, wax	Myrica cerifera
Nandina	Nandina domestica
Oleander	Nerium oleander
Oregon grape	Mahonia spp.
Osmanthus	Osmanthus spp.
Palm, European fan	Chamaerops humilis
Palm, Mediterranean fan	Chamaerops spp.
Phlox, prickly	Leptodactylon californicum
Photinia, Fraser	Photinia x fraseri
Pieris, Japanese	Pieris japonica
Pine, Mugo	Pinus mugo
Pittosporum	Pittosporum tobira
Plum, Natal	Carissa grandiflora
Privet	Ligustrum spp.
Privet, waxleaf	Ligustrum japonicum
Pyracantha	Pyracantha coccinea
Quince, flowering	
Ranger, Texas	Chaenomeles japonica
	Leucophyllum frutescens
Redroot	Ceanothus spp.
Red-tip Rhadadandran	Photinia x fraseri
Rhododendron	Rhododendron spp.
Rose	Rosa spp.

Table 2. Ornamental Species (continued)

Scientific Name (continued) Hibiscus spp. Hypericum spp. Illicium parviflorum Spiraea spp.
Hibiscus spp. Hypericum spp. Illicium parviflorum Spiraea spp.
Hypericum spp. Illicium parviflorum Spiraea spp.
Illicium parviflorum Spiraea spp.
Spiraea spp.
•
Spiraea x bumalda
Laurus nobilis
Tecoma stans
Aloysia triphylla
Viburnum spp.
Viburnum plicatum f. tomen- tosum
Viburnum odoratissimum
Vitex spp.
Weigela florida
Ceanothus spp.
Wisteria spp.
Xylosma congestum
Tecoma stans
Taxus spp.
Taxus baccata
Podocarpus macrophyllus
Yucca spp.
nd Covers
Ajuga reptans
Aptenia cordifolia
Fragaria chiloensis
Arctotheca calendula
Potentilla spp.
Potentilla fruticosa
Baccharis pitularis
Osteospermum fruticosum
Dymondia margaretae
Gazania splendens
Pelargonium peltatum
Chrysogonum virginianum
Carpobrotus edulis
Hedera helix
Trachelospermum asiaticum
Jasminum mesnyi
Gelsemium sempervirens
Liriope muscari
Arctostaphylos uva-ursi
Ophiopogon japonica
Convolvulus spp.
Convolvulus spp. Myoporum parviflolium
Convolvulus spp. Myoporum parviflolium Pachysandra terminalis
Convolvulus spp. Myoporum parviflolium

Table 2. Ornamental Species (continued)

Common Name	Scientific Name
Ground C	overs (continued).
Sand strawberry	Fragaria chiloensis
Sedum/Stonecrop	Sedum spp.
Verbena	Verbena spp.
Vervain	Verbena spp.
Vetch, crown	Vicia sativa
Wintercreeper	Euonymus fortunei
Herbaceo	us Perennials
Acacia	Acacia redolens
Alumroot	Heuchera sanguinea
Anemone	Anemone hupehensis
Asparagus	Asparagus spp.
Aster, New York	Aster novi-belgii
Aster, Stokes	Stokesia laevis
Astilbe (false spirea)	Astilbe spp.
Baby's breath	Gypsophila elegans
Beardtongue	Penstemon digitalis
	P. x mexicali
Bee balm	Monarda didyma
Bellflower	Campanula spp.
Bergenia	Bergenia spp.
Blanket flower	Gaillardia x grandiflora
Bleeding heart	Dicentra spectabilis
Blue false indigo	Baptisia australis
Bugbane	Cimicifuga racemosa
Butterfly weed	Asclepias tuberosa
California poppy	Eschscholzia californica
Calla lily	Zantedeschia aethiopica
Canadian ginger	Asarum canadese
Candytuft	lberis spp.
Canna, common garden	Canna generalis 'Lucifer'
Carex	Carex spp.
Cast iron plant	Aspidistra elatior
Chincherinchee	Ornithogalum thyrsoides
Christmas rose	Helleborus spp.
Cinquefoil	Potentilla spp.
Clematis	Clematis spp.
Clover, crimson	Trifolium incarnatum
Cohosh, black	Cimicifuga racemosa
Coneflower	Echinacea spp.
Coral bells	Heuchera sanguinea
Crinum lily	Crinum spp.
Crocus	Crocus spp.
Daffodil	Narcissus spp.
Daylily	Hemerocallis spp.
Fairy duster	Calliandra eriophylla
False dragonhead	Physostegia virginiana
Fern, asparagus	Asparagus officinalis
Fern, autumn	Dryopteris erythrosora
Fern, Boston	Nephrolepis exaltata
	(continued)

Table 2. Ornamental Species (continued)

Common Name	Scientific Name
Herbaceous Pe	rennials (continued)
Fern, leatherleaf	Rumohra adiantiformis
Fern, tree	Asparagus virgatus
lag	Iris spp.
Flax, blue	Linum perenne
Flax, New Zealand	Phlormium colinsoi
Foamflower	Tiarella spp.
Fortnight lily	Moraea spp.
Foxglove	Digitalis spp.
-reesia	Freesia x hybrida
-uchsia, Arizona	Zauschneria californica
Heather, Mexican/Cigar plant	Cuphea hyssopifolia
Hen and chicks	Sempervivum spp.
Hopflower oregano	Origanum libanoticum
Hosta	Hosta spp.
Hyssop	Agastache spp.
ce plant	Delosperma spp.
Indian blanket	Gaillardia pulchella
ris	Iris spp
ronweed, New York	Vernonia noveboracensis
Jacob's ladder	Polemonium boreale
Jasmine, confederate	Trachelospermum
	jasminoides
Joepye weed, spotted	Eupatorium spp.
Jupiter's beard	Centranthus ruber
Lady's mantle	Alchemilla mollis
Lantana	Lantana spp.
Lavender cotton	Santolinia chamaecyparissus
Lavender, English	Lavandula angustifolia
Lenten rose	Helleborus niger
Leopard's bane	Doronicum cordatum
Lily	Lillium spp.
Lily of the Nile	Agapanthus africanus
Lily, plantain	Hosta fortunei
Liriope	Liriope spp.
Lobelia	Lobelia hybrids
Loosestrife, garden	Lysimachia puntata
Mexican petunia	Ruellia spp.
Montbretia	Crocosmia crocosmiiflora
Mum, hardy	Dendranthema spp.
Nightshade	Solanum spp.
Orchid, peacock	Acidanthera bicolor
Oxeye daisy	Chrysanthemum leucan- themum
Oxeye, smooth	Heliopsis helianthoides
Peony, Chinese	Paeonia lactiflora
Phlox, creeping	Phlox subulata
Prickly pear, devil's tongue	Opuntia humifusa
Lineral pour down o torigat	-p-arriva riviriii u u u

Table 2. Ornamental Species (continued)

Purple coneflower Purple loosestrife Purple loosestrife Pussytoes, small-leaf Redhot poker Rosemary Rosemarinus officinalis Ruscus, Israeli Ruscus hypophyllum Sage Salvia spp. Salvia x superba Sage (botanical) Salvia nemerosa Sage, Mexican Salvia farinacea Sage, pineapple Salvia elegans Sage, Ramona Salvia sylvestris Sage, Russian Perovskia atriplicifolia Sedge Carex spp. Shasta daisy Chrysanthemum x superbum Shellplant Alpinia zerumbet Shrub verbena Lantana spp. Sneezeweed, common Helenium autumnale Speedwell, spike Veronica spicata Spiderwort Tradescantia spp. Stokes aster Stokesia laevis Stonecrop Sedum spp. Sunflower Helianthus spp. Sunflower, false Heliopsis helianthoides Sun rose, rock rose Helianthemum spp. Sweet flag Acorus calamus Texas bluebonnet Lupinus subcarnosus Thoroughwort Eupatorium rugosa Thrift, sea pink Armeria martima Tickseed Coreopsis lanceolata Transvaal daisy Gerbera jamesonii Trumpet, golden Allamanda cathartica Tulipa Tulipa spp. Turtlehead, snakehead Chelone spp.	Common Name	Scientific Name
Purple loosestrife Pussytoes, small-leaf Redhot poker Redhot poker Rock cress Rosemary Rosemary Rosemary Rosemary Rosemary Rosemary Rosewarinus officinalis Ruscus, Israeli Ruscus, Israeli Ruscus hypophyllum Sage Salvia spp. Salvia x superba Saqe (botanical) Salvia nemerosa Sage, Mexican Sage, pineapple Salvia elegans Sage, Ramona Sage, Russian Perovskia atriplicifolia Sedge Carex spp. Shasta daisy Chrysanthemum x superbum Shellplant Alpinia zerumbet Lantana spp. Sneezeweed, common Speedwell, spike Veronica spicata Stokes aster Stokes aster Stokesia laevis Stonecrop Sedum spp. Sunflower Helianthus spp. Sunflower Helianthus spp. Sun rose, rock rose Helianthemum subcarnosus Thoroughwort Fupatorium rugosa Thrift, sea pink Armeria martima Tickseed Coreopsis lanceolata Transvaal daisy Gerbera jamesonii Trumpet, golden Allamanda cathartica Tulipa spp.	Herbaceous Pe	erennials (continued)
Pussytoes, small-leaf Redhot poker Redhot poker Rock cress Rosemary Rosemarinus officinalis Ruscus, Israeli Ruscus hypophyllum Salvia x superba Salvia x superba Salvia x superba Sage, Mexican Salvia farinacea Sage, pineapple Salvia elegans Sage, Ramona Salvia sylvestris Sage, Russian Perovskia atriplicifolia Sedge Carex spp. Shasta daisy Chrysanthemum x superbum Shellplant Alpinia zerumbet Lantana spp. Sneezeweed, common Helenium autumnale Speedwell, spike Veronica spicata Spiderwort Tradescantia spp. Stokes aster Stokesia laevis Stonecrop Sedum spp. Sunflower Helianthus spp. Sunflower, false Heliopsis helianthoides Helianthemum spp. Sweet flag Acorus calamus Texas bluebonnet Lupinus subcarnosus Thoroughwort Eupatorium rugosa Thrift, sea pink Armeria martima Tickseed Coreopsis lanceolata Transvaal daisy Gerbera jamesonii Trumpet, golden Allamanda cathartica Tulipa spp.	Purple coneflower	Echinacea spp.
Redhot poker Rock cress Rock cress Rosemary Rosmarinus officinalis Ruscus, Israeli Ruscus hypophyllum Sage Salvia spp. Salvia x superba Sage (botanical) Sage, Mexican Sage, pineapple Salvia elegans Sage, Ramona Sage, Russian Sedge Carex spp. Shasta daisy Shrub verbena Shellplant Shrub verbena Shrub verbena Shrub verbena Sheedwell, spike Veronica spicata Spiderwort Tradescantia spp. Stokes aster Stokesia laevis Stonecrop Sedum spp. Sunflower Sunflower, false Sun rose, rock rose Sweet flag Acorus calamus Texas bluebonnet Lupinus subcarnosus Thoroughwort Furpatorium rugosa Thrift, sea pink Armeria martima Tickseed Coreopsis lanceolata Transvaal daisy Gerbera jamesonii Trumpet, golden Allamanda cathartica Tulip Tulipa spp.	Purple loosestrife	Lythrum virgatum
Rock cress Rosemary Rosmarinus officinalis Ruscus, Israeli Ruscus hypophyllum Sage Salvia x superba Sage (botanical) Salvia nemerosa Sage, Mexican Sage, pineapple Salvia elegans Sage, Ramona Salvia sylvestris Sage, Russian Perovskia atriplicifolia Sedge Carex spp. Shasta daisy Chrysanthemum x superbum Shellplant Alpinia zerumbet Shrub verbena Lantana spp. Sneezeweed, common Speedwell, spike Veronica spicata Spiderwort Tradescantia spp. Stokes aster Stokesia laevis Stonecrop Sedum spp. Sunflower Helianthus spp. Sunflower, false Heliopsis helianthoides Sun rose, rock rose Helianthemum spp. Sweet flag Acorus calamus Texas bluebonnet Lupinus subcarnosus Thoroughwort Eupatorium rugosa Thrift, sea pink Armeria martima Tickseed Coreopsis lanceolata Tramsvaal daisy Gerbera jamesonii Trumpet, golden Allamanda cathartica Tulip Tulipa spp.	Pussytoes, small-leaf	Antennaria spp.
Rosemary Rosmarinus officinalis Ruscus, Israeli Ruscus hypophyllum Sage Salvia spp. Salvia x superba Sage (botanical) Salvia nemerosa Sage, Mexican Salvia farinacea Sage, pineapple Salvia elegans Sage, Ramona Salvia sylvestris Sage, Russian Perovskia atriplicifolia Sedge Carex spp. Shasta daisy Chrysanthemum x superbum Shellplant Alpinia zerumbet Shrub verbena Lantana spp. Sneezeweed, common Helenium autumnale Speedwell, spike Veronica spicata Spiderwort Tradescantia spp. Stokes aster Stokesia laevis Stonecrop Sedum spp. Sunflower Helianthus spp. Sunflower, false Heliopsis helianthoides Sun rose, rock rose Helianthemum spp. Sweet flag Acorus calamus Texas bluebonnet Lupinus subcarnosus Thoroughwort Eupatorium rugosa Thrift, sea pink Armeria martima Tickseed Coreopsis lanceolata Transvaal daisy Gerbera jamesonii Trumpet, golden Allamanda cathartica Tulip Tulipa spp.	Redhot poker	Kniphofia uvaria
Ruscus, Israeli Sage Salvia spp. Salvia x superba Sage, Mexican Sage, pineapple Salvia selegans Sage, Ramona Sage, Russian Salvia selegans Sage, Russian Sedge Salvia selegans Sage, Russian Sedge Carex spp. Shasta daisy Shellplant Shrub verbena Sneezeweed, common Speedwell, spike Spiderwort Stokes aster Stokes aster Stokes aster Stokesia laevis Stonecrop Sunflower Sun rose, rock rose Sun rose, rock rose Thoroughwort Funder, false Fundament selegans Salvia farinacea Salvia farinacea Salvia farinacea Salvia farinacea Salvia selegans Salvia elegans Salvia elegans Salvia elegans Salvia elegans Salvia selegans Salvia selegans Salvia farinacea Salvia selegans Salvia selegans Salvia elegans Salvia selegans Salvia elegans Salvia selegans Salvia elegans Salvia selegans Salvia elegans Salvia selegans Salvia supleriale Salvia selegans Salvia supleriale Salvia selegans Salvia elegans Salvia elegans Salvia elegans Salvia elegans Salvia elegans Salvia elegans Salvia selegans Salvia princifolia Salvia elegans Salvia princifolia Selegans Salvia princifolia Salvia elegans Salvia princifolia Selegans Salvia princifolia Selegans Salvia princifolia Selegans Salvia principal Salvia principal Salvia principal Allamanda cathartica Tulipa spp.	Rock cress	Aubrieta spp.
Sage (botanical) Sage (botanical) Sage, Mexican Sage, pineapple Salvia sylvestris Sage, Ramona Sage, Russian Sedge Carex spp. Shasta daisy Shrub verbena Shrub verbena Speedwell, spike Spiderwort Stokes aster Stonecrop Sunflower Sun rose, rock rose Sun rose, rock rose Sheed Salvia farinacea Salvia sylvestris Superbum X lelenium x superbum Specumbel Specum spp. Sunflower Sedum spp. Sunflower Helianthus spp. Sunflower, false Heliopsis helianthoides Sun rose, rock rose Helianthemum spp. Sweet flag Acorus calamus Texas bluebonnet Lupinus subcarnosus Thoroughwort Eupatorium rugosa Thrift, sea pink Armeria martima Tickseed Coreopsis lanceolata Transvaal daisy Gerbera jamesonii Trumpet, golden Allamanda cathartica Tulipa spp.	Rosemary	Rosmarinus officinalis
Salvia x superba Sage (botanical) Sage, Mexican Sage, pineapple Salvia elegans Sage, Ramona Sage, Russian Sedge Sage, Russian Sedge Shasta daisy Shellplant Shrub verbena Speedwell, spike Spiderwort Stokes aster Stokes aster Stonecrop Sunflower Sun rose, rock rose Sweet flag Acorus calamus Texas bluebonnet Transvaal daisy Salvia atriplicifolia Salvia sylvestris Surerovskia atriplicifolia Sedge Carex spp. Shata daisy Ferovskia atriplicifolia Sedge Carex spp. Shrysanthemum x superbum Alpinia zerumbet Veronica spicata Tradescantia spp. Stokesia laevis Alamanda cathartica Tulipa spp.	Ruscus, Israeli	Ruscus hypophyllum
Sage (botanical)Salvia nemerosaSage, MexicanSalvia farinaceaSage, pineappleSalvia elegansSage, RamonaSalvia sylvestrisSage, RussianPerovskia atriplicifoliaSedgeCarex spp.Shasta daisyChrysanthemum x superbumShellplantAlpinia zerumbetShrub verbenaLantana spp.Sneezeweed, commonHelenium autumnaleSpeedwell, spikeVeronica spicataSpiderwortTradescantia spp.Stokes asterStokesia laevisStonecropSedum spp.SunflowerHelianthus spp.Sunflower, falseHeliopsis helianthoidesSun rose, rock roseHelianthemum spp.Sweet flagAcorus calamusTexas bluebonnetLupinus subcarnosusThoroughwortEupatorium rugosaThrift, sea pinkArmeria martimaTickseedCoreopsis lanceolataTransvaal daisyGerbera jamesoniiTrumpet, goldenAllamanda catharticaTulipaTulipa spp.	Sage	Salvia spp.
Sage, MexicanSalvia farinaceaSage, pineappleSalvia elegansSage, RamonaSalvia sylvestrisSage, RussianPerovskia atriplicifoliaSedgeCarex spp.Shasta daisyChrysanthemum x superbumShellplantAlpinia zerumbetShrub verbenaLantana spp.Sneezeweed, commonHelenium autumnaleSpeedwell, spikeVeronica spicataSpiderwortTradescantia spp.Stokes asterStokesia laevisStonecropSedum spp.SunflowerHelianthus spp.Sunflower, falseHelianthemum spp.Sweet flagAcorus calamusTexas bluebonnetLupinus subcarnosusThoroughwortEupatorium rugosaThrift, sea pinkArmeria martimaTickseedCoreopsis lanceolataTransvaal daisyGerbera jamesoniiTrumpet, goldenAllamanda catharticaTulipa spp.		Salvia x superba
Sage, pineappleSalvia elegansSage, RamonaSalvia sylvestrisSage, RussianPerovskia atriplicifoliaSedgeCarex spp.Shasta daisyChrysanthemum x superbumShellplantAlpinia zerumbetShrub verbenaLantana spp.Sneezeweed, commonHelenium autumnaleSpeedwell, spikeVeronica spicataSpiderwortTradescantia spp.Stokes asterStokesia laevisStonecropSedum spp.SunflowerHelianthus spp.Sunflower, falseHeliopsis helianthoidesSun rose, rock roseHelianthemum spp.Sweet flagAcorus calamusTexas bluebonnetLupinus subcarnosusThoroughwortEupatorium rugosaThrift, sea pinkArmeria martimaTickseedCoreopsis lanceolataTransvaal daisyGerbera jamesoniiTrumpet, goldenAllamanda catharticaTulipaTulipa spp.	Sage (botanical)	Salvia nemerosa
Sage, RamonaSalvia sylvestrisSage, RussianPerovskia atriplicifoliaSedgeCarex spp.Shasta daisyChrysanthemum x superbumShellplantAlpinia zerumbetShrub verbenaLantana spp.Sneezeweed, commonHelenium autumnaleSpeedwell, spikeVeronica spicataSpiderwortTradescantia spp.Stokes asterStokesia laevisStonecropSedum spp.SunflowerHelianthus spp.Sunflower, falseHelianthemum spp.Sweet flagAcorus calamusTexas bluebonnetLupinus subcarnosusThoroughwortEupatorium rugosaThrift, sea pinkArmeria martimaTickseedCoreopsis lanceolataTransvaal daisyGerbera jamesoniiTrumpet, goldenAllamanda catharticaTulipTulipa spp.	Sage, Mexican	Salvia farinacea
Sage, RussianPerovskia atriplicifoliaSedgeCarex spp.Shasta daisyChrysanthemum x superbumShellplantAlpinia zerumbetShrub verbenaLantana spp.Sneezeweed, commonHelenium autumnaleSpeedwell, spikeVeronica spicataSpiderwortTradescantia spp.Stokes asterStokesia laevisStonecropSedum spp.SunflowerHelianthus spp.Sunflower, falseHelianthemum spp.Sweet flagAcorus calamusTexas bluebonnetLupinus subcarnosusThoroughwortEupatorium rugosaThrift, sea pinkArmeria martimaTickseedCoreopsis lanceolataTransvaal daisyGerbera jamesoniiTrumpet, goldenAllamanda catharticaTulipTulipa spp.	Sage, pineapple	Salvia elegans
Sedge Carex spp. Shasta daisy Chrysanthemum x superbum Shellplant Alpinia zerumbet Shrub verbena Lantana spp. Sneezeweed, common Helenium autumnale Speedwell, spike Veronica spicata Spiderwort Tradescantia spp. Stokes aster Stokesia laevis Stonecrop Sedum spp. Sunflower Helianthus spp. Sunflower, false Heliopsis helianthoides Sun rose, rock rose Helianthemum spp. Sweet flag Acorus calamus Texas bluebonnet Lupinus subcarnosus Thoroughwort Eupatorium rugosa Thrift, sea pink Armeria martima Tickseed Coreopsis lanceolata Transvaal daisy Gerbera jamesonii Trumpet, golden Allamanda cathartica Tulipa spp.	Sage, Ramona	Salvia sylvestris
Shasta daisy Shellplant Shrub verbena Sneezeweed, common Speedwell, spike Spiderwort Stokes aster Stokes aster Stokes aster Stonecrop Sunflower Sunflower, false Sun rose, rock rose Sweet flag Texas bluebonnet Thoroughwort Tradescantia Speedwell, spike Veronica spicata Tradescantia spp. Stokesia laevis Stokesia laevis Stonecrop Sedum spp. Sunflower Helianthus spp. Helianthus spp. Sunflower, false Heliopsis helianthoides Sun rose, rock rose Helianthemum spp. Sweet flag Acorus calamus Texas bluebonnet Lupinus subcarnosus Thoroughwort Eupatorium rugosa Thrift, sea pink Armeria martima Tickseed Coreopsis lanceolata Transvaal daisy Gerbera jamesonii Trumpet, golden Allamanda cathartica Tulipa spp.	Sage, Russian	Perovskia atriplicifolia
Shellplant Alpinia zerumbet Shrub verbena Lantana spp. Sneezeweed, common Helenium autumnale Speedwell, spike Veronica spicata Spiderwort Tradescantia spp. Stokes aster Stokesia laevis Stonecrop Sedum spp. Sunflower Helianthus spp. Sunflower, false Heliopsis helianthoides Sun rose, rock rose Helianthemum spp. Sweet flag Acorus calamus Texas bluebonnet Lupinus subcarnosus Thoroughwort Eupatorium rugosa Thrift, sea pink Armeria martima Tickseed Coreopsis lanceolata Transvaal daisy Gerbera jamesonii Trumpet, golden Allamanda cathartica Tulipa spp.	Sedge	Carex spp.
Shrub verbena Sneezeweed, common Speedwell, spike Spiderwort Tradescantia spp. Stokes aster Stokes aster Stonecrop Sunflower Sunflower, false Sun rose, rock rose Sweet flag Texas bluebonnet Thoroughwort Tradescantia spp. Sedum spp. Sedum spp. Helianthus spp. Helianthus spp. Sunflower, false Heliopsis helianthoides Helianthemum spp. Sweet flag Acorus calamus Texas bluebonnet Lupinus subcarnosus Thoroughwort Eupatorium rugosa Thrift, sea pink Armeria martima Tickseed Coreopsis lanceolata Transvaal daisy Gerbera jamesonii Trumpet, golden Allamanda cathartica Tulipa spp.	Shasta daisy	Chrysanthemum x superbum
Sneezeweed, common Helenium autumnale Speedwell, spike Veronica spicata Spiderwort Tradescantia spp. Stokes aster Stokesia laevis Stonecrop Sedum spp. Sunflower Helianthus spp. Sunflower, false Heliopsis helianthoides Sun rose, rock rose Helianthemum spp. Sweet flag Acorus calamus Texas bluebonnet Lupinus subcarnosus Thoroughwort Eupatorium rugosa Thrift, sea pink Armeria martima Tickseed Coreopsis lanceolata Transvaal daisy Gerbera jamesonii Trumpet, golden Allamanda cathartica Tulipa spp.	Shellplant	Alpinia zerumbet
Speedwell, spike Spiderwort Tradescantia spp. Stokes aster Stokesia laevis Stonecrop Sedum spp. Sunflower Helianthus spp. Sunflower, false Heliopsis helianthoides Sun rose, rock rose Helianthemum spp. Sweet flag Acorus calamus Texas bluebonnet Lupinus subcarnosus Thoroughwort Eupatorium rugosa Thrift, sea pink Armeria martima Tickseed Coreopsis lanceolata Transvaal daisy Gerbera jamesonii Trumpet, golden Allamanda cathartica Tulipa spp.	Shrub verbena	Lantana spp.
Spiderwort Tradescantia spp. Stokes aster Stokesia laevis Stonecrop Sedum spp. Sunflower Helianthus spp. Sunflower, false Heliopsis helianthoides Sun rose, rock rose Helianthemum spp. Sweet flag Acorus calamus Texas bluebonnet Lupinus subcarnosus Thoroughwort Eupatorium rugosa Thrift, sea pink Armeria martima Tickseed Coreopsis lanceolata Transvaal daisy Gerbera jamesonii Trumpet, golden Allamanda cathartica Tulipa spp.	Sneezeweed, common	Helenium autumnale
Stokes asterStokesia laevisStonecropSedum spp.SunflowerHelianthus spp.Sunflower, falseHeliopsis helianthoidesSun rose, rock roseHelianthemum spp.Sweet flagAcorus calamusTexas bluebonnetLupinus subcarnosusThoroughwortEupatorium rugosaThrift, sea pinkArmeria martimaTickseedCoreopsis lanceolataTransvaal daisyGerbera jamesoniiTrumpet, goldenAllamanda catharticaTulipTulipa spp.	Speedwell, spike	Veronica spicata
Stonecrop Sedum spp. Sunflower Helianthus spp. Sunflower, false Heliopsis helianthoides Sun rose, rock rose Helianthemum spp. Sweet flag Acorus calamus Texas bluebonnet Lupinus subcarnosus Thoroughwort Eupatorium rugosa Thrift, sea pink Armeria martima Tickseed Coreopsis lanceolata Transvaal daisy Gerbera jamesonii Trumpet, golden Allamanda cathartica Tulipa spp.	Spiderwort	Tradescantia spp.
Sunflower Helianthus spp. Sunflower, false Heliopsis helianthoides Sun rose, rock rose Helianthemum spp. Sweet flag Acorus calamus Texas bluebonnet Lupinus subcarnosus Thoroughwort Eupatorium rugosa Thrift, sea pink Armeria martima Tickseed Coreopsis lanceolata Transvaal daisy Gerbera jamesonii Trumpet, golden Allamanda cathartica Tulipa spp.	Stokes aster	Stokesia laevis
Sunflower, false Sun rose, rock rose Sweet flag Texas bluebonnet Thoroughwort Thiff, sea pink Tickseed Transvaal daisy Trumpet, golden Sun rose, rock rose Helianthemum spp. Helianthemum spp. Helianthemum spp. Lupinus subcarnosus Eupatorium rugosa Armeria martima Coreopsis lanceolata Transvaal daisy Gerbera jamesonii Trumpet, golden Tulipa spp.	Stonecrop	Sedum spp.
Sun rose, rock rose Sweet flag Acorus calamus Texas bluebonnet Lupinus subcarnosus Thoroughwort Eupatorium rugosa Thrift, sea pink Armeria martima Tickseed Coreopsis lanceolata Transvaal daisy Gerbera jamesonii Trumpet, golden Allamanda cathartica Tulipa spp.	Sunflower	Helianthus spp.
Sweet flag Acorus calamus Texas bluebonnet Lupinus subcarnosus Thoroughwort Eupatorium rugosa Thrift, sea pink Armeria martima Tickseed Coreopsis lanceolata Transvaal daisy Gerbera jamesonii Trumpet, golden Allamanda cathartica Tulipa spp.	Sunflower, false	Heliopsis helianthoides
Texas bluebonnet Lupinus subcarnosus Thoroughwort Eupatorium rugosa Thrift, sea pink Armeria martima Tickseed Coreopsis lanceolata Transvaal daisy Gerbera jamesonii Trumpet, golden Allamanda cathartica Tulip Tulipa spp.	Sun rose, rock rose	Helianthemum spp.
Thoroughwort Eupatorium rugosa Thrift, sea pink Armeria martima Tickseed Coreopsis lanceolata Transvaal daisy Gerbera jamesonii Trumpet, golden Allamanda cathartica Tulip Tulipa spp.	Sweet flag	Acorus calamus
Thrift, sea pink Armeria martima Tickseed Coreopsis lanceolata Transvaal daisy Gerbera jamesonii Trumpet, golden Allamanda cathartica Tulipa spp.	Texas bluebonnet	Lupinus subcarnosus
TickseedCoreopsis lanceolataTransvaal daisyGerbera jamesoniiTrumpet, goldenAllamanda catharticaTulipTulipa spp.	Thoroughwort	Eupatorium rugosa
Transvaal daisyGerbera jamesoniiTrumpet, goldenAllamanda catharticaTulipTulipa spp.	Thrift, sea pink	Armeria martima
Trumpet, golden Allamanda cathartica Tulipa spp.	Tickseed	Coreopsis lanceolata
Tulipa spp.	Transvaal daisy	Gerbera jamesonii
	Trumpet, golden	Allamanda cathartica
Turtlehead, snakehead Chelone spp.	Tulip	Tulipa spp.
	Turtlehead, snakehead	Chelone spp.
Twinspur Diasciascia barbaerae	Twinspur	Diasciascia barbaerae
Verbena, rose Verbena canadensis	Verbena, rose	Verbena canadensis
Veronica, Turkish Veronica liwanensis	Veronica, Turkish	Veronica liwanensis
Wonder flower Ornithogalum thyrsoides	Wonder flower	Ornithogalum thyrsoides
Yarrow Achillea millefolium	Yarrow	Achillea millefolium
Zephyr lily Zephyranthes spp.	Zephyr lily	Zephyranthes spp.

Table 2. Ornamental Species (continued)

Common Name	Scientific Name
Ornamen	tal Grasses
Beach grass	Ammophila breviligulata
Pampas grass	Cortaderia selloiana
Reed canary grass	Phalaris arundinacea
Reed, giant	Arundo spp.
Ribbon grass	Phalaris arundinacea
Silver grass	Miscanthus spp.
Tufted hair grass	Deschampsia caespitosa
Beddii	ng Plants
Ageratum	Ageratum houstonianum
Alyssum	Alyssum saxatile
Alyssum, sweet	Lobularia maritima
Anemone, poppy-flowered	Anemone coronaria
Artemesia	Artemesia spp.
Balloonflower	Platycodon grandiflorum
Cabbage, ornamental	Brassica oleracea
China aster	Callistephus chinensis
Crocosmia, Montebretia	Crocosmia x crocosmiiflora
Dahlia	Dahlia spp.
Dianthus	Dianthus barbatus
Dusty miller	Senecio cineraria
Elephant ear	Caladium spp.
Fanflower	Scaevola spp.
Gayfeather	Liatris spp.
Gazania	Gazania spp.
Geranium	Geranium spp.
Gloxinia	Gloxinia simningia
Impatiens	Impatiens spp.
Kale, ornamental	Brassica napus
Marigold, African	Tagetes erecta
Moss rose	Portulaca grandiflora
Mum, garden	Chrysanthemum spp.
Pansy	Viola tricolor
Periwinkle, rose	Catharanthus roseus
Petunia	Petunia spp.
Plumosa cockscomb	Celosia cristata
Portulaca	Portulaca grandiflora
Primrose, evening	Oenothera spp.
Sage, scarlet	Salvia splendens
Snapdragon	Antirrhinum majus
Statice	Limonium spp.
Sweet potato, ornamental	Ipomoea batatas
Sweet William	Dianthus barbatus
Verbena	Verbena x hybrida
Zinnia	Zinnia spp.

Landscape and Grounds Maintenance

FreeHand® 1.75G herbicide can be used in landscape and grounds maintenance programs to provide extended preemergence weed control. Areas to be treated include those areas where gravel, pebble, stone, rock and other porous surfaces are used in landscaping instead of organic mulches. **FreeHand 1.75G** can be used in and around established ornamental plantings in nonagricultural areas defined as follows:

- Landscaped ornamental maintenance areas in and around residential and commercial establishments, multifamily dwellings, military and other institutions, university or college campuses, parks, airports, roadsides, schools, picnic grounds, athletic fields, houses of worship, cemeteries, golf courses, and prairie grass areas, common areas in residential developments, and in nonproduction areas in commercial nurseries, such as storage areas, vegetation filter strips, windbreaks, shelterbelts or cart paths.
- General grounds maintenance in the following specified noncrop areas – Parking lots, driveways and roadsides, highway rights-of-way, alleyways, bike and jogging paths, vacant lots, buildings, stone gardens and gravel yards, around statuary or monuments, utility substations, markers/borders and fence lines, and mulch beds. FreeHand 1.75G may be used under asphalt or concrete treatments as part of a site preparation program.

Refer to **Table 1** for application rates, **Table 2** for list of ornamental species, and **Table 3** for weeds controlled.

Tree Plantations

Use **FreeHand 1.75G** for preemergence weed control during site preparation, establishment and/or maintenance of tree plantations (including Christmas trees). Also use **FreeHand 1.75G** for hardwood and conifer regeneration on Conservation Reserve Program (CRP) land or similar areas.

FreeHand 1.75G may be applied at planting or to established trees. When making an application at planting, it is important that slit closure be achieved to prevent
FreeHand 1.75G from directly contacting the tree roots or being washed into the root zone via the open slit, or root stunting may occur. DO NOT apply to newly transplanted seedlings until plants have been watered and soil has been thoroughly packed and settled around roots.

Refer to **Table 1** for application rates, **Table 2** for list of ornamental (tree) species, and **Table 3** for weeds controlled.

Weed Species Controlled

Table 3. Weeds Controlled

Use FreeHand® 1.75G herbicide for preemergence control of the following weed species listed according to use rate.

100 lbs/A

Weeds controlled when FreeHand 1.75G is applied at 100 lbs/acre (2.3 lbs FreeHand 1.75G/1000 sq ft)

Common Name Scientific Name Amaranthus palmeri Amaranth, Palmer Echinochloa crus-galli Barnyardgrass Carpetweed Mollugo verticillata Setaria faberi Setaria viridis

Foxtail, giant Foxtail, green Foxtail, yellow Setaria glauca Henbit Lamium amplexicaule Lambsquarters, common Chenopodium album Amaranthus blitoides Pigweed, prostrate Amaranthus retroflexus Piaweed, redroot Amaranthus hybridus Pigweed, smooth Amaranthus albus Pigweed, tumble Pusley, Florida Richardia scabra

150 lbs/A

In addition to the weeds controlled at 100 lbs FreeHand 1.75G/acre application rate, the following weeds will be controlled when FreeHand 1.75G is applied at 150 lbs/acre

(3.4 lbs FreeHand 1.75G/1000 sq ft)

Common Name	Scientific Name
Amaranth, Powell	Amaranthus powellii
Bittercress	Cardamine spp.
Bluegrass, annual	Poa annua
Bluegrass, roughstalk	Poa trivialis
Brome, California	Bromus carinatus
Brome, downy	Bromus tectorum
Chamomile, mayweed	Anthemis cotula
Chickweed, common	Stellaria media
Chickweed, mouseear	Cerastium vulgatum
Crabgrass, large	Digitaria sanguinalis
Crabgrass, smooth	Digitaria ischaemum
<u>Cudweed</u>	Gnaphalium spp.
Cupgrass, Southwestern	Eriochloa gracilis
Doveweed	Murdannia nudiflora
Evening primrose	Oenothera biennis
Flatsedge, rice	Cyperus iria
Goosegrass	Eleusine indica
Groundsel, common	Senecio vulgaris
Johnsongrass (from seed)	Sorghum halepense
	/

150 lbs/A (continued)

In addition to the weeds controlled at 100 lbs FreeHand 1.75G/acre application rate, the following weeds will be controlled when FreeHand 1.75G is applied at 150 lbs/acre

(3.4 lbs FreeHand 1.75G/1000 sq ft)

Common Name	Scientific Name
Knotweed, prostrate	Polygonum aviculare
Nightshade, black	Solanum nigrum
Nightshade, cutleaf	Solanum triflorum
Nightshade, Eastern black	Solanum ptycanthum
Nightshade, hairy	Solanum sarrachoides
Pearlwort	Sagina procumbens or S. decumbens
Purslane, common	Portulaca oleracea
Red rice	Oryza sativa
Ryegrass, Italian	Lolium multiflorum
Sandbur, field	Cenchrus incertus
Shattercane	Sorghum bicolor
Shepherdspurse	Capsella bursa-pastoris
Signalgrass, broadleaf	Brachiaria platyphylla
Speedwell, corn	Veronica arvensis
Spurge, annual	Chamaesyce spp. Euphorbia spp.
Waterhemp, common	Amaranthus rudis
Waterhemp, tall	Amaranthus tuberculatus
Witchgrass	Panicum capillare

200 lbs/A

In addition to the weeds controlled at 100 lbs and 150 lbs FreeHand 1.75G/acre application rates, the following weeds will be controlled when FreeHand 1.75G is applied at 200 lbs/acre (4.6 lbs FreeHand 1.75G/1000 sq ft)

Common Name	Scientific Name
Beggarweed, Florida	Desmodium tortuosum
Burnweed, American	Erechtites hieraciifolia
Burweed, lawn	Soliva pterosperma
Clover, hop	Trifolium procumbens
Crowfootgrass	Dactyloctenium aegyptium
Cupgrass, woolly	Eriochloa villosa
Dogfennel	Eupatorium capillifolium
Eclipta	Eclipta alba
	E. prostrata
Fiddleneck	Amsinckia intermedia
Filaree	Erodium_spp.
Fleabane	Erigeron strigosus
Galinsoga, hairy	Galinsoga ciliata
Galinsoga, smallflower	Galinsoga parviflora
Hawksbeard, Asiatic	Youngia japonica
Horseweed	Conyza canadensis
	(continued)

In addition to the weeds controlled at 100 lbs and 150 lbs FreeHand® 1.75G

(continued)

200 lbs/A herbicide/acre application rates, the following weeds will be controlled when

FreeHand 1.75G is applied at 200 lbs/acre (4.6 lbs FreeHand 1.75G/1000 sq ft)

Common Name	Scientific Name
Itchgrass	Rottboellia exaltata
Junglerice	Echinochloa colona
Kochia	Kochia scoparia
Kyllinga species	Kyllinga spp.
Lettuce, wild	Lactuca spp.
Liverwort	Marchantia polymorpha
Lovegrass (from seed)	Eragrostis spp.
Mallow, little	Malva parviflora
Marsh parsley	Apium leptophyllum
Millet, wild proso	Panicum dichotomiflorum
Mulberry weed	Fatoua villosa
Nutsedge, yellow	Cyperus esculentus
Panicum, browntop	Panicum fasciculatum
Panicum, fall	Panicum dichotomiflorum
Panicum, Texas	Panicum texanum
Pennycress, field	Thlaspi arvense
Pepperweed	Lepidium virginicum
Phyllanthus, chamberbitter	Phyllanthus urinaria
Phyllanthus, long-stalked	Phyllanthus tenellus
Pineappleweed	Matricaria matricarioides
Puncturevine	Tribulus terrestris
Purslane, water	Ludwigia palustris
Ragweed, common	Ambrosia artemisiifolia
Rocket, London	Sisymbrium irio
Sedge, annual	Cyperus spp.
Smartweed, Pennsylvania	Polygonum pensylvanicum
Sowthistle	Sonchus arvensis
Sprangletop, Mexican	Leptochloa uninervia
Sprangletop, red	Leptochloa filiformis
Tassel-flower	Emilia spp.
Thickhead	Crassocephalum crepidioides
Velvetleaf	Abutilon theophrasti
Yellowcress, marsh	· Rorippa islandica or
	R. palustris
Yellowcress, Southern	Rorippa teres or R. walteri
Willowherb, hairy	Epilobium hirsutum
Willowherb, Northern	Epilobium ciliatum
Woodsorrel, yellow	Oxalis spp.
	O. corniculata
	O. stricta

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