UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

May 1, 2020

Robert Avalos
Manager of Registrations
Loveland Products Inc.
PO Box 1286
Greeley, CO 80632-1286

Subject: Registration Review Label Mitigation for Oryzalin
Product Name: Oryzalin Coated Granules
EPA Registration Number: 34704-823
Application Dates: 9/6/19
Decision Numbers: 555053

Dear Mr. Avalos:

The Agency, in accordance with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, has completed reviewing all the information submitted with your application to support the Registration Review of the above referenced product in connection with the Oryzalin Interim Decision, and has concluded that your submission is acceptable. The label referred to above, submitted in connection with registration under FIFRA, as amended, is acceptable.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

A copy of your label stamped "Accepted" is enclosed. Products shipped after 12 months from the date of this amendment must bear the new revised label. Your release for shipment of the product bearing the amended label constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6.

If you have any questions about this letter, please contact Darius Stanton by phone at 703-347-0433, or via email at Stanton.darius@epa.gov.

Sincerely,

Linda Arrington, Branch Chief
Risk Management and Implementation Branch 4
Pesticide Re-Evaluation Division
Office of Pesticide Programs

Enclosure

| ORYZALIN | GROUP | 3 | HERBICIDE |
|---|---|---|---|

Loveland PRODUCTS

# Oryzalin Coated Granules

**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**
- **Noncropland Areas (such as Industrial Sites, Utility Substations, Highway Guardrails, Sign Posts, and Delineators)**
- **Non-bearing Fruit and Nut Trees, Non-bearing Vineyards and Non-bearing Berries**
- **Established Warm Season Turf (including Bahiagrass, Bermudagrass, Buffalograss, Centipedegrass, St. Augustinegrass and Zoysiagrass) Tall Fescue (warm season areas)**

| **ACTIVE INGREDIENT** | |
|---|---|
| Oryzalin: 3,5 dinitro-$N^4N^4$-dipropylsulfanilamide): | 1.67% |
| **OTHER INGREDIENTS*:** | 98.33% |
| **TOTAL** | **100.00%** |

## 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).

(If you do not understand the label, find someone to explain it to you in detail.)

EPA Reg. No. 34704-823
EPA Est. No.
Net Contents: 5.0 LBS (2.26 KG)
[Print Code to be placed here]

FORMULATED FOR:
LOVELAND PRODUCTS, INC.
P.O. BOX 1286
GREELEY, COLORADO 80632-1286

**ACCEPTED**
May 01, 2020
Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 34704-823

| FIRST AID | |
|---|---|
| **If in eyes:** | • Hold eye open and rinse slowly and gently with water for 15 – 20 minutes.<br>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.<br>• Call a poison control center or doctor for treatment advice. |
| **If on skin or clothing:** | • Take off contaminated clothing.<br>• Rinse skin immediately with plenty of water for 15-20 minutes.<br>• Call a poison control center or doctor for treatment advice. |
| **If swallowed**: | • Call a poison control center or doctor immediately for treatment advice.<br>• Have a person sip a glass of water if able to swallow.<br>• Do not induce vomiting unless told to do so by the poison control center or doctor.<br>• Do not give anything by mouth to an unconscious person. |
| **If Inhaled:** | • Move person to fresh air.<br>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.<br>• Call a poison control center or doctor for further treatment advice. |
| **FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-866-944-8565.** | |
| Have the product container or label with you when calling a poison control center or doctor, or going for treatment. | |

## PRECAUTIONARY STATEMENTS
## HAZARDS TO HUMANS AND DOMESTIC ANIMALS
## CAUTION

Causes moderate eye irritation. Avoid contact with eyes, skin or clothing. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals.

**Personal Protective Equipment (PPE)**
**Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants,
- Chemical-resistant gloves
- Shoes plus socks, and
- Protective eyewear.

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.

## USER SAFETY RECOMMENDATIONS

**Users Should:**

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing 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 pesticide is toxic to fish. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. 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 or rinsate. Cover or incorporate spills.

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

**Groundwater Advisory**
Oryzalin is known to leach through soil into groundwater under certain conditions as a result of label use. This chemical may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.

NON-TARGET ORGANISM ADVISORY STATEMENT: This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated site. Protect the forage and habitat of non-target organisms by following label directions intended to minimize spray drift.

**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.**

PPE required for early entry to treated areas that is permitted under the Worker Protections 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, and
- Protective eyewear.

**NON-AGRICULTURAL USE REQUIREMENTS**

These requirements 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 in greenhouses.

**Do not enter or allow other people to enter the treated area until dusts have settled. Do not allow children or pets on treated areas until granules are washed to the soil surface and the grass is dry.**

**WEED RESISTANCE MANAGEMENT**

The active ingredient in this product is oryzalin. Oryzalin mechanism of action (MOA) is mitotic inhibition by interfering with the microtubule assembly process of cell division belonging to MOA Group 3. A given weed population may contain or develop resistance to an herbicide after repeated use. Appropriate resistance-management strategies should be followed to mitigate or delay resistance. If levels of control provided by applications of this product is reduced and cannot be accounted for by factors such as misapplication, abnormal levels of target species or extremes of weather, it may be the case that target species have developed a strain resistant to applications of this product. Contact your local extension agent, crop advisor, or sales representative to find out if suspected resistant weeds have been found in your region.

Suspected herbicide-resistant weeds may be identified by these indicators:

- Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;
- A spreading patch of non-controlled plants of a particular weed species; and
- Surviving plants mixed with controlled individuals of the same species.

If resistance develops, this product may not provide sufficient control of target species. Where you suspect target species are developing resistance, contact State/local agricultural advisors. Integrated weed management guidelines promote an economically viable, environmentally sustainable, and socially acceptable weed control program regardless of the herbicide(s) used. The highlights of successful integrated weed management include:

- Correctly identify weeds and look for trouble areas within field to identify resistance indicators.
- Rotate crops.
- Start the growing season with clean fields.
- Rotate herbicide modes of action within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds in a field.
- Apply listed rates of herbicides to actively growing weeds at the correct time with the right application techniques.
- Control any weeds that may have escaped the herbicide application.
- Thoroughly clean field equipment between fields.
- Scout before and after application.
- Contact your local extension specialist, certified crop advisors and/or manufacturer for herbicide resistance management and/or integrated weed management recommendations for specific crops and resistant weed biotypes.

Report any incidence of non-performance of this product against a particular weed species to your Loveland Products, Inc. retailer, representative or call 1-888-574-2878. If resistance is suspected, treat weed escapes with an herbicide having a different mechanism of action and/or use non-chemicals means to remove escapes, as practical, with the goal of preventing further seed production.

**SPRAY DRIFT**

**Ground Boom Applications:**

- User must only apply with the release height recommended by the manufacturer, but no more than 4 feet above the ground or crop canopy.
- Applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- Do not apply during temperature inversions.

**Boomless Ground Applications:**

- Applicators are required to use a medium or coarser droplet size (ASABE S572.1) for all applications.
- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- Do not apply during temperature inversions.

**SPRAY DRIFT ADVISORIES**

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.

BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

**IMPORTANCE OF DROPLET SIZE**

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

**Controlling Droplet Size - Ground Boom**

- Volume - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

**BOOM HEIGHT - Ground Boom**

For ground equipment, the boom should remain level with the crop and have minimal bounce.

**SHIELDED SPRAYERS**

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

**TEMPERATURE AND HUMIDITY**
When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

**TEMPERATURE INVERSIONS**
Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

**WIND**
Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.

Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

## PRODUCT INFORMATION

This product is a preemergence herbicide for control of certain annual grasses and broadleaf weeds in container and landscape ornamentals, nursery stock, groundcovers, established flowers, ornamental bulbs, non-bearing fruit and nut trees, non-bearing vineyards, non-bearing berries, Christmas tree plantations, non-cropland areas (such as industrial sites, utility substations, highway guardrails, sign posts and delineators), and established tall fescue and warm season turf (including bahiagrass, bermudagrass, buffalograss, centipedegrass, St. Augustinegrass, and zoysiagrass).

Apply this product prior to germination of target weeds or immediately after cultivation. Length of weed control will vary with rate of this product applied, weed population, potting media or soil conditions, temperature, watering regime, and other factors.

Following application, monitor and observe level of weed control over time to determine when additional applications may be needed.

## USE PRECAUTIONS

This product does not control established weeds. Control existing weeks by cultivation or with postemergence herbicides. Remove or thoroughly mix with soil any weed residues, pruning and trash prior to treatment with this product. Ensure that soil is in good condition and free of clods at the time of application. A single rainfall or sprinkler irrigation of 0.5 inches or more, or flood irrigation is required to activate this product. If rainfall or irrigation has not occurred within 21 days of application and tillage is possible, this product may be activated using cultivation equipment capable of uniformly mixing the herbicide into the upper 1-2 inches of soil. Failure to activate this product may result in erratic weed control.

Do not apply when wind conditions favor drift of this product’s granules from the target area.

Users who wish to use this product on plant species not listed on this label may determine the suitability for such uses by treating a small number of such plants at the labeled rate. Prior to treatment of larger areas, observe the treated plants for any sign of herbicidal injury during 30 to 60 days of normal growing conditions to determine if the treatment is noninjurious to the target plant species.

## APPLICATION DIRECTIONS

**Note: See the specific directions for use for Ornamental Bulbs, Christmas Tree Plantations, Non-cropland areas (such as Industrial Sites, Utility Substations, Highway Guardrails, Sign Posts and Delineators), and Warm Season Turfgrasses (including Weed Control in Florida) to determine the use rates and retreatment intervals for this product.**

Apply this product using a drop or rotary-type spreader designed to apply granular herbicides or insecticides. Calibrate application equipment prior to use according to manufacturer's directions. Check frequently to be sure equipment is working properly and distributing granules uniformly. Do not use spreaders that apply material in narrow concentrated bands. Avoid skips or overlaps as poor weed control or crop injury may occur. More uniform application may be achieved by spreading half of the required amount of product over the area and then applying the remaining half in swaths at right angles to the first.

**APPLICATION TECHNIQUES FOR APPLYING THIS PRODUCT**

- When using a drop-type spreader, a splash board mounted under the hopper will provide more even granule distribution.
- A chain fastened to the side of the spreader and allowed to drag on the soil surface can be used to mark the edge of the treated swath and help prevent skips or overlaps.
- For treating smaller areas or rows of nursery stock or ornamental beds, a handheld or push-type rotary applicator such as a whirlybird or cyclone unit is best. For hand held units, walk and turn the crank at a constant rate of speed.
- A shaker-type applicator made from a small container with holes punched in the bottom is best for small, difficult to treat areas. Carefully measure the amount of product needed to avoid over-application.

**APPROVED USES**

**†Established Container Grown Ornamentals, Established Tall Fescue and Warm Season Turfgrasses, Landscape Ornamentals, Nursery Stock, Ground Covers, Flowers, Ornamental Bulbs, Non-bearing Fruit and Nut Trees and Non-bearing Vineyards, Non-bearing Berries, Christmas Tree Plantations, and Non-cropland**

Use this product as a preemergence treatment for control of certain annual grasses and broad leaf weeds in container grown ornamentals, landscape ornamentals, nursery stock, ground covers, established tall fescue, warm season turfgrasses, established flowers, ornamental bulbs, non-bearing fruit and nut trees and non-bearing vineyards, Christmas tree plantations, and non-cropland.

Apply this product prior to germination of target weeds, or immediately after cultivation.

**SPECIAL USE PRECAUTIONS**

To avoid possible plant injury, do not apply this product to:

- Plants or areas in greenhouses or other enclosed structures.
- Nursery seedbeds or forest or Christmas tree seedling 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 the likelihood of runoff onto lawn areas containing dichondra or cool season turfgrass species exists.
- Do not apply this product to the following plant species or injury may occur:
  *Begonia* spp. (begonia)
  *Coleus hybridus* (coleus)
  *Deutzia gracilis* (slender deutzia)
  *Pseudotsuga menziesii* (Douglas-fir)
  *Thuja occidentalis* Techny (Techny arborvitae)
  *Tsuga canadensis* (Eastern hemlock)
- **Ice Plant:** When establishing unrooted ice plant (*Mesembryanthemum crystallinum* and *Carpobrutus edulis*) on coarse soils, do not exceed the 200 lb/acre rate of this product or crop injury may occur. After the ice plant is well established, a second application may be made.

**† Definition of established plantings**: Apply only to established plantings. Established plants are defined as those 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. Do not apply to seedbeds or seedling transplant beds.

**USE RESTRICTIONS**

- Do not graze or feed forage from treated areas to livestock.
- Do not aerially apply this product. Aerial application is prohibited.

| USE RATES AND RESTRICTIONS FOR LANDSCAPE ORNAMENTALS AND ORNAMENTALS (FIELD-GROWN AND CONTAINER-GROWN) | | | |
|---|---|---|---|
| **Use** | **Single Application Rate - Pounds of product/A (lb AI/A)** | **Minimum Time Between Applications (months)** | **Total Amount Allowed - Pounds AI per Acre per Year (lb AI/A/year)** |
| Landscape ornamentals | 90 to 120 (1.5 to 2.0) | 2 | 480 (8.0) |
| | 180 to 240 (3.0 to 4.0) | 4 | 720 (12.0) |
| Field-grown and container-grown ornamentals | 120 (2.0) | 3 | 480 (8.0) |
| | 180 (3.0) | 3 | 540 (9.0) |
| | 240 (4.0) | 3 | 720 (12.0) |

**WEEDS CONTROLLED OR SUPPRESSED BY THIS PRODUCT**

**Weeds controlled when this product is applied at a rate of 120 to 180 pounds per acre (2.75 to 4.13 pounds per 1000 square feet).**

**Annual Grasses**

| **Common Name** | **Scientific Name** |
|---|---|
| barley, little | *Hordeum pusillum* |
| barnyardgrass | *Echinochloa crus-galli* |
| bluegrass, annual | *Poa annua* |
| crabgrass | *Digitaria* spp. |
| crowfootgrass | *Dactyloctenium aegyptium* |
| cupgrass, southwestern | *Eriochloa gracilis* |
| foxtail | *Setaria* spp. |
| goosegrass | *Eleusine indica* |
| johnsongrass (seedling only) | *Sorghum halepense* |
| junglerice | *Echinochloa colonum* |
| Eragrostis mexicana | *lovegrass, Mexican* |

| **Common Name** | **Scientific Name** |
|---|---|
| lovegrass, orcutt | *Eragrostis orcuttiana* |
| oat, wild | *Avena fatua* |
| panicum, browntop | *Panicum fasciculatum* |
| panicum, fall | *Panicum dichotomiflorum* |
| panicum, Texas | *Panicum texanum* |
| ryegrass, Italian | *Lolium multiflorum* |
| sandbur, field | *Cenchrus incertus* |
| signalgrass | *Brachiaria* spp. |
| sprangletop, red | *Leptochloa filiformis* |
| witchgrass | *Panicum capillare* |

**Broadleaf Weeds**

| **Common Name** | **Scientific Name** |
|---|---|
| bittercress | *Cardamine oligosperma* |
| carpetweed | *Mollugo verticillata* |
| chickweed, common | *Stellaria media* |
| fiddleneck, coast | *Amsinckia intermedia* |
| filaree, redstem | *Erodium cicutarium* |
| filaree, whitestem | *Erodium moschatum* |
| groundsel, common | *Senecio vulgaris* |
| henbit | *Lamium amplexicaule* |
| knotweed, prostrate | *Polygonum aviculare* |
| lambsquarters, common | *Chenopodium album* |

| **Common Name** | **Scientific Name** |
|---|---|
| pigweed | *Amaranthus* spp. |
| puncturevine | *Tribulus terrestris* |
| purslane, common | *Portulaca oleracea* |
| pusley, Florida | *Richardia scabra* |
| rocket, London | *Sisymbrium irio* |
| rockpurslane, desert | *Calandrinia ciliata* |
| shepherdspurse | *Capsella bursa-pastoris* |
| spurge, prostrate | *Euphorbia humistrata* |
| woodsorrel, yellow | *Oxalis stricta* |

**In addition to the weeds controlled, the following weeds will be partially controlled or suppressed at 120 to 180 pounds per acre (2.75 to 4.13 pounds per 1000 square feet).**

| Common Name | Scientific Name |
|---|---|
| horseweed | *Conyza canadensis* |
| ladysthumb | *Polygonum persicaria* |
| lettuce, prickly | *Lactuca serriola* |
| mallow, common | *Malva neglecta* |
| milkweed, climbing | *Sarcostemma cynanchoides* |
| morningglory | *Ipomoea* spp. |
| mustard, black | *Brassica nigra* |
| mustard, wild | *Brassica kaber* |

| Common Name | Scientific Name |
|---|---|
| nightshade, black | *Solanum nigrum* |
| ragweed, common | *Ambrosia artemisiifolia* |
| smartweed | *Polygonum pensylvanicum* |
| sowthistle, annual | *Sonchus oleraceus* |
| spurge, spotted | *Euphorbia maculata* |
| teaweed (prickly sida) | *Sida spinosa* |
| velvetleaf | *Abutilon theophrasti* |
| wheat, volunteer | *Triticum* spp. |

**ORNAMENTALS**

**(Field Grown, Container Grown, Landscape)**

This product may be used on the following established plant species.
(Note limitations on recommended treatment methods.)

| **TREES** | | |
|---|---|---|
| **Scientific Name** | **Common Name** | **Treatment Method: Field Grown (F) or Container Grown (C)** |
| *Abies balsamea* | Balsam fir | F |
| *Abies concolor* | White fir | F |
| *Abies fraseri* | Fraser fir | F |
| *Abies grandis* | Grand fir | F |
| *Abies lasiocarpa* | Alpine fir | F |
| *Abies veitchii* | Veitch fir | F |
| *Abutilon hybridum* | Albus flowering maple | F |
| | Luteus flowering maple | F |
| | Roseus flowering maple | F |
| | Tangerine flowering maple | F |
| | Vesuvius red flowering maple | F |
| *Acer* spp. | maple | F |
| *Arecastrum romanzoffianum* | Queen palm | F |
| *Betula papyrifera* | Paper birch | F |
| *Betula nigra* | River birch | F |
| *Betula pendula* | White birch | F |
| *Bucida buceras* | Black olive | F |
| *Ceratonia siliqua* | Carob | F |
| *Cercidium floridum* | Blue palo verde | F |
| *Cercis canadensis* | Redbud | C, F |
| *Chamaecyparis lawsoniana* | Lawson falsecypress | F |
| *Chamaecyparis obtusa* spp. | Filicoides-fernspray cypress | F |
| | Gracilis-slender Hinoki cypress | F |

| | | |
|---|---|---|
| *Chamaecyparis pisifera* | Sawara-false cypress | F |
| | Squarrosa-moss cypress | F |
| *Chamaedorea cataractarum* | Cat palm | F |
| *Chamaedorea costaricana* | Palm | F |
| *Chamaedorea elegans* | Parlor palm | F |
| *Cornus florida* | Flowering dogwood | F |
| *Crupaniopsis anacardioides* | Carrot wood | F |
| *Cryptomeria japonica* | Japanese cryptomeria | C, F |
| *Cupressus glabra* | Arizona cypress | C, F |
| *Cupressus sempervirens* | Italian cypress | C, F |
| *Elaeagnus angustifolia* | Russian olive | C, F |
| *Eucalyptus cinerea* | Mealy eucalyptus | F |
| | Silver dollar eucalyptus | F |
| *Eucalyptus camaldulensis* | Red gum eucalyptus | F |
| *Eucalyptus nicholii* | Narrow-leaved eucalyptus | F |
| *Eucalyptus sideroxylon* | Red ironbark eucalyptus | F |
| *Ficus benjamina* | Ficus | F |
| *Fraxinus* spp. | Ash | F |
| *Ginko biloba* | Maidenhair tree | C, F |
| *Gleditsia triacanthos* | Honey locust | F |
| *Heteromeles arbutiflora* | Toyon | F |
| *Juniperus virginiana* | Eastern redcedar | F |
| *Kalmia latifolia* | Mountain laurel | F |
| *Koelreuteria paniculata* | goldenrain tree | F |
| *Liquidambar styraciflua* | American sweet gum | C, F |
| *Magnolia grandiflora* | Southern magnolia | F |
| *Malus* spp. | Crabapple | F |
| *Morus alba* | White mulberry | F |
| *Olea euripaea* | Olive | F |
| *Picea abies* | Norway spruce | F |
| *Picea englemanni* | Englemann spruce | F |
| *Picea glauca* | Conica-dwarf Alberta spruce | F |
| | White spruce | F |
| *Picea mariana* | Black spruce | F |
| *Picea pungens* spp. | Glauca-Colorado blue spruce | F |
| | Hoopsii-Hoop's blue spruce | F |
| | Koster-Koster blue spruce | F |
| *Pinus* spp. | Pine | C, F |
| *Platanus occidentalis* | American sycamore | F |

| | | |
|---|---|---|
| *Platanus racemosa* | California sycamore | F |
| *Podocarpus* spp. | Podocarpus | F |
| *Populus deltoides* | Cottonwood | F |
| *Prunus caroliniana* | Carolina laurelcherry | F |
| *Prunus laurocerasus* | English laurelcherry | F |
| *Prunus mahaleb* | Mahaleb cherry | F |
| *Prunus yedoensis* | Yoshino flowering cherry | F |
| *Quercus* spp. | Oak | C, F |
| *Salix babylonica* | Babylon weeping willow | F |
| | Corkscrew willow | F |
| *Schinus molle* | California pepper tree | F |
| *Sequoiadendron giganteum* | Giant sequoia | F |
| *Sequoia sempervirens* | Coast redwood | F |
| *Swietenia mahogani* | Mahogany | F |
| *Tabebuia caraiba* | Yellow tab | F |
| *Tilia cordata* | Littleleaf linden | C, F |
| *Thuja plicata* | Western redcedar | F |
| *Ulmus parvifolia* | Chinese Elm | F |
| *Umbellularia californica* | California laurel | F |
| *Washingtonia robusta* | Mexican fan palm | F |

| ORNAMENTAL SHRUBS | | |
|---|---|---|
| **Scientific Name** | **Common Name** | **Treatment Method: Field Grown (F) or Container Grown (C)** |
| *Acacia redolens* | Prostrate acacia | F |
| *Agave americana* | Century plant | F |
| *Agave macroculmis* | Agave | F |
| *Arctostaphylos stanfordiana* | Stanford manzanita | F |
| *Astilbe chinensis* | False spirea | C, F |
| *Baccharis pilularis* | Coyotebush | F |
| *Berberis thunbergii* | Atropurea-Redleaf Japanese barberry | C, F |
| | Aurea golden Japanese barberry | C, F |
| | Crimson pygmy barberry | C, F |
| *Bougainvillea* spp. | Barbara Karst | F |
| | California Gold | F |
| | Scarlet O'Hara | F |
| | Texas Dawn | F |
| *Buxus microphylla* | Japonica-Japanese boxwood | C, F |
| | Littleleaf boxwood | F |
| *Buxus sempervirens* | Common boxwood | C, F |
| *Callistemon citrinus* | Lemon bottlebrush | C, F |
| *Ceanothus* spp. | Wild lilac | C, F |
| *Chamaecyparis obtusa* spp. | Kosteri cypress | F |
| | Nana-dwarf Hinoki cypress | F |
| | Torulosa cypress | F |
| | Filifera-thread cypress | F |
| | Squarrosa minima-dwarf moss cypress | F |
| *Chrysalidocarpus lutescens* | Areca palm | F |
| *Cleyera japonica* | Japanese cleyera | C, F |
| *Cotoneaster adpressus* | Praecox-early cotoneaster | F |
| *Cotoneaster apiculatus* | Cranberry cotoneaster | C, F |
| *Cotoneaster buxifolius* | Brightbead cotoneaster | F |
| *Cotoneaster congestus* | Pyrenees cotoneaster | F |
| *Cotoneaster dammeri* | Bearberry cotoneaster | C, F |
| *Cotoneaster himalayan* | Himalayan cotoneaster | F |
| *Cotoneaster horizontalis* | Rock cotoneaster | C, F |
| *Cotoneaster lacteus* | Parney cotoneaster | C, F |
| *Cotoneaster microphyllus* | Rockspray cotoneaster | F |
| *Cornus alba* | Sibirica-Siberian dogwood | F |
| *Cornus florida* | Flowering dogwood | F |
| *Cornus kousa* | Kousa dogwood | C, F |

| | | |
|---|---|---|
| *Cornus stolonifera* | Flaviramea-yellowtwig dogwood | F |
| *Cryptomeria japonica* | Japanese cryptomeria | C, F |
| *Cytisus praecox* | Holandia-warminster broom | F |
| *Cytisus scoparius* | Lena-Scotch broom | F |
| *Dasylirion wheeleri* | Desert spoon sotol | F |
| *Deutzia crenata* | Nakiana dwarf deutzia | F |
| *Dodonea viscosa* | Hopseed bush | F |
| *Escallonia exoniensis* | Escallonia | C, F |
| *Euonymus alata* | Winged euonymus | F |
| *Euonymus fortunei* | Canadale gold euonymus | C, F |
| | Emerald'n gold euonymus | C, F |
| | Stringybark euonymus | C, F |
| | Wintercreeper | C, F |
| *Euonymus japonica* | Evergreen euonymus | C, F |
| | Silver king euonymus | F |
| *Euonymus kiautschovica* | Spreading euonymus | F |
| *Fatshedera lizei* | Fatshedera | C, F |
| *Forsythia intermedia* | Forsythia | F |
| *Gardenia jasminoides* | Gardenia | C, F |
| *Genista pilosa* | Woadwaxen | F |
| *Hibiscus rosa-sinensis* | Chinese hibiscus | F |
| *Hibiscus syriacus* | Rose of Sharon, Red Bird | F |
| | Rose of Sharon, Red Heart | F |
| | Rose of Sharon, Woodbridge | F |
| *Hypericum* spp. | St. Johnswort | F |
| *Ilex aquifolium* | Balkans holly | F |
| | English holly | F |
| | Gold coast holly | F |
| *Ilex aquipernyi* | San Jose holly | C, F |
| *Ilex cornuta* | Chinese holly | C, F |
| | Dwarf burford holly | C, F |
| *Ilex crenata* | Convexa holly | C, F |
| | Compacta-dwarf Japanese holly | C, F |
| | Helleri-Heller's Japanese holly | C, F |
| | Japanese holly | C, F |
| *Ilex glabra* | Nordica-inkberry holly | F |
| *Ilex meserveae* | Blue girl holly | F |
| | Blue boy holly | F |
| | Ebony magic holly | F |

| | | |
|---|---|---|
| *Ilex vomitoria* | Nana-dwarf yaupon holly | C, F |
| | Pendula-weeping yaupon holly | C, F |
| | Yaupon holly | C, F |
| *Juniperus* spp. | Juniper | C, F |
| *Justicia brandegeana* | Shrimp plant | C, F |
| *Justicia spicigera* | Mexican honeysuckle | F |
| *Lagerstroemia indica* | Crape myrtle | C, F |
| *Leucothoe axillaris* | Coast leucothoe | F |
| *Leucothoe fontanesiana* | Drooping leucothoe | F |
| *Ligustrum amurense* | Amur privet | C, F |
| *Ligustrum japonicum* | Japanese privet | C, F |
| | Yellow tip ligustrum | C, F |
| *Ligustrum texanum* | Wax leaf privet | F |
| | Howardi privet | F |
| *Ligustrum lucidum* | Glossy privet | C, F |
| *Ligustrum ovalifolium* | California privet | F |
| *Ligustrum vicaryi* | Vicary golden privet | C, F |
| *Livistona chinensis* | Chinese fountain palm | F |
| *Lonicera fragrantissima* | Winter honeysuckle | F |
| *Lonicera periclymenum* | Flowering woodbine | F |
| | Serotina woodbine | F |
| *Lonicera sempervirens* | Trumpet honeysuckle | F |
| *Mahonia aquifolium* | Oregon grape | F |
| *Myoporum parvifolium* | Prostrate myoporum | F |
| *Myrtus communis* | True myrtle | C, F |
| *Nandina domestica* | Compacta-dwarf heavenly bamboo | C, F |
| | Harbour-dwarf heavenly bamboo | C, F |
| | Heavenly bamboo | C, F |
| | Nana compacta-heavenly bamboo | C, F |
| | Nana purpurea-heavenly bamboo | C, F |
| | Woods-dwarf heavenly bamboo | C, F |
| *Nerium oleander* | Hardy red oleander | C, F |
| | Oleander | C, F |
| | Ruby lace oleander | C, F |
| *Osmanthus heterophyllus* | Holly-leaf osmanthus | F |
| *Pachysandra terminalis* | Japanese spurge | F |
| *Philadelphus* spp. | Mockorange | C, F |
| *Phoenix roebelenii* | Pygmy date palm | F |
| *Photinia fraseri* | Fraser's photinia | C, F |

| | | |
|---|---|---|
| *Picea abies* | Repens-spreading Norway spruce | F |
| | Pendula-weeping Norway spruce | F |
| *Pieris japonica* | Andromeda | C, F |
| | Lily-of-the-valley | F |
| | Snowdrift | F |
| | Temple bells lily-of-the-valley | F |
| | Valley rose lily-of-the-valley | F |
| *Pittosporum* spp. | Pittosporum | C, F |
| *Platycladus orientalis* | Oriental arborvitae | C, F |
| *Plumbago ariculata* | Blue cape plumbago | F |
| *Podocarpus macrophyllus* | Yewpine | C, F |
| *Potentilla fragiformis* | Cinquefoil | F |
| *Potentilla fruticosa* | Cinquefoil | C, F |
| *Protea neriifolia* | Protea | F |
| *Pyracantha coccinea* | Scarlet forethorn | C, F |
| *Pyracantha fortuneana* | Lalendel Monrovia pyracantha | C, F |
| | Monon pyracantha | C, F |
| | Red elf hybrid pyracantha | C, F |
| | Rutgers hybrid pyracantha | C, F |
| | Santa Cruz pyracantha | C, F |
| | Victory pyracantha | C, F |
| *Pyracantha skoidzumi* | Formosa firethorn | C, F |
| *Rhaphiolepis indica* | Enchantress-Moness rhaphiolepis | F |
| | India hawthorn | C, F |
| | Springtime-Monme rhaphiolepis | F |
| *Rhaphiolepis ovata* | Round-leaf rhaphiolepis | F |
| *Rhipsalidopsis gaetneri* | Easter cactus | C, F |
| *Rhododendron* spp. | Azalea | C, F |
| | Rhododendron | C, F |
| *Rhus lancea* | African sumac | C, F |
| *Rosa rugosa* | Ramanas rose | F |
| *Rosmarinus officinalis* | Rosemary | F |
| *Spiraea vanhouttei* | Bridal wreath | F |
| *Syringa vulgaris* | Common lilac | F |
| *Syzygium paniculata* | Brush cherry | C, F |
| *Taxus cuspidata* | Japanese yew | F |
| *Taxus media* | Yew | F |

| | | |
|---|---|---|
| *Thuja occidentalis* | American arborvitae | 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 |
| *Thuja orientalis* | Aurea nana-dwarf golden arborvitae | F |
| | Minima glauca-dwarf arborvitae | F |
| *Trachelospermum jasminoides* | Chinese star jasmine | F |
| *Veitchia merilli* | Christmas palm | F |
| *Viburnum davidii* | David viburnum | F |
| *Viburnum japonicum* | Viburnum | F |
| *Viburnum opulus sterile* | Eastern snowball viburnum | F |
| *Viburnum plicatum tomentosum* | Doublefile viburnum | F |
| *Viburnum x pragense* | Virburnum | F |
| *Viburnum setigerum* | Tea viburnum | F |
| *Viburnum suspensum* | Sandankwa viburnum | F |
| *Vibumum tinus* | Compactum-spring bouquet viburnum | F |
| | Laurastinus viburnum | C, F |
| *Viburnum trilobum* | Compactum-dwarf cranberry bush | F |
| *Weigela florida* | Java red weigela | F |
| | Bristol ruby weigela | F |
| | Minuet weigela | F |
| *Xylosma congestum* | Xylosma | F |
| *Yucca elate* | Soaptree yucca | C, F |
| *Yucca recurvifolia* | Pendulous yucca | F |

| GROUND COVERS | | |
|---|---|---|
| **Scientific Name** | **Common Name** | **Treatment Method: Field Grown (F) or Container Grown (C)** |
| *Ajuga* spp. | Carpet bugle | F |
| *Arctotheca calendula* | Cape weed | F |
| *Campanula elatines* | Bellflower | C, F |
| *Carpobrotus edulis* | Largeleaf iceplant | F |
| *Clytostoma callistegioides* | Violet trumpet vine | C, F |
| *Cortaderia selloana* | Pampas grass | F |
| *Delosperma alba* | White iceplant | F |
| *Drosanthemum floribundum* | Trailing rosea iceplant | F |
| *Festuca ovina* | Blue fescue | F |
| *Gazania* spp. | Gazania | F |
| *Hedera canariensis* | Algerian ivy | F |
| *Hedera helix* | English ivy | F |
| *Hemerocallis* spp. | Day lily | C, F |
| *Hosta* spp. | Plantain lily | C, F |
| *Hypericum* spp. | St. Johnswort | F |
| *Lampranthus spectabilis* | Red trailing iceplant | F |
| *Liriope gigantea* | White lily turf | F |
| *Liriope muscari* | Big blue lily turf | C, F |
| | 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 |
| *Lonicera japonica* | Japanese honeysuckle | F |
| *Mesembryanthemum crystallinum* | Ice plant | F |
| *Ophiopogon japonicus* | Mondo grass | F |
| *Osteospermum fruticosum* | Trailing African daisy | F |
| *Sedum brevifolium* | Stonecrop | F |
| *Trachelospermum jasminoides* | Chinese star jasmine | F |
| *Vinca major* | Bigleaf periwinkle | F |
| *Vinca minor* | Dwarf periwinkle | F |

| ESTABLISHED FLOWERS | | |
|---|---|---|
| **Scientific Name** | **Common Name** | **Treatment Method: Field Grown (F) or Container Grown (C)** |
| *Antirrhinum majus* | Snapdragon | F |
| *Caladium bicolor* | Fancy-leaved caladium | F |
| *Chrysanthemum coccineum* | Painted daisy | F |
| *Chrysanthemum maximum* | Shasta daisy | F |
| *Chrysanthemum morifolium* | Chrysanthemum | F |
| *Coreopsis lanceolata* | Coreopsis | F |
| *Dianthus barbatus* | Sweet william | F |
| *Dicentra spectabilis* | Bleeding heart | C, F |
| *Dimorphotheca* spp. | Cape marigold | F |
| *Echinacea purpurea* | Purple coneflower | F |
| *Geum quellyon* | Geum | F |
| *Gladiolus hortulanus* | Gladiolus | F |
| *Gypsophila paniculata* | Baby's breath | F |
| *Impatiens wallerana* | Impatiens | F |
| *Iris* spp. | Bearded iris | F |
| *Liatris spicata* | Blazing star | C, F |
| *Pelargonium hortorum* | Geranium | F |
| *Petunia* spp. | Petunia | F |
| *Portulaca grandiflora* | Rose moss | F |
| *Ranunculus asiaticus* | Persian ranunculus | F |
| *Rosa* spp. | Rose | F |
| *Rudbeckia hirta* | Gloriosa daisy/black-eyed susan | F |
| *Salvia* spp. | Sage | F |
| *Stokesia laevis* | Stokes aster | F |
| *Strelitzia reginae* | Bird of paradise | F |
| *Tagetes* spp. | Marigold | F |
| *Viola wittrockiana* | Pansy | F |
| *Zinnia elegans* | Common zinnia | F |

| †NON-BEARING FRUIT AND NUT TREES, NON- BEARING VINEYARDS AND NON-BEARING BERRIES | |
|---|---|
| **Common Name** | **Treatment Method: Field Grown (F) or Container Grown (C)** |
| Almond | F |
| Apple | F |
| Apricot | F |
| Avocado | F |
| Blackberry | F |
| Blueberry | F |
| Boysenberry | F |
| Cherry, sour | F |
| Cherry, sweet | F |
| Currant | F |
| Goosberry | 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 fruit and nut trees, non-bearing vineyards and non-bearing berries are defined as plants which will not bear fruit for at least one year after treatment. | |

**ORNAMENTAL BULBS**

Apply this product for annual weed control in ornamental bulbs such as bulbous iris, daffodil (narcissus), hyacinth, and tulip. Apply this product to the soil surface two (2) to four (4) weeks after planting and final hilling but prior to the emergence of annual weeds. This product may also be applied following bulb emergence. For fall-planted bulbs, apply this product again in late winter or early spring to weed-free soil surfaces.

**Special Use Precautions**

Do not apply to tulip plants that have emerged to a height greater than ¾ inch. Deep till prior to planting any crop after this use. Do not apply to gladioli prior to emergence or to plants less than one inch in diameter.

**Broadcast Application Rates**

| Time of Application | Soil Texture | Amount of This Product to Apply | | Minimum Time Between Applications (Months) | Total Amount Allowed Per Year (Pounds per Acre) |
|---|---|---|---|---|---|
| | | Pounds Per Acre | Pounds per 1000 sq ft | | |
| Fall | Coarse | 45 | 1 | 3 | 90 |
| Fall | Medium and Fine | 90 | 2.1 | 3 | 135 |
| February - March | All | 45 | 1 | 3 | 135 |

**USE RESTRICTIONS for Ornamental Bulbs**

Maximum single application rate: 90 lbs. product (1.5 lbs. ai) per acre.
Maximum Yearly application rate: 180 lbs. product (3.0 lbs. ai) per acre.
Do not make more than 2 applications per year.
Re-treatment Interval: Allow a minimum of 90 days between applications.

**CHRISTMAS TREE PLANTATIONS**

Apply this product to established plantings of labeled field grown Christmas tree species prior to germination of target weeds. Do not apply to Douglas-fir (*Pseudotsuga enziesii*) or Eastern hemlock (*Tsuga canadensis*). Do not apply to seedbeds or seedling transplant beds. Apply only to established plantings. Established plants are defined as those 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.

**USE RESTRICTIONS for Christmas Tree Plantations**

Maximum single application rate: 240 lbs. product (4.0 lbs. ai) per acre.
Maximum yearly application rate: 480 lbs. product (8.0 lbs. ai) per acre.
Do not make more than 2 applications per year.
Re-treatment Interval: Allow a minimum of 60 days between applications.

**NON-CROPLAND AREAS SUCH AS: INDUSTRIAL SITES, UTILITY SUBSTATIONS, HIGHWAY GUARDRAILS, SIGN POSTS, AND DELINEATORS**

Apply this product as a preemergence treatment for control of certain annual grasses and broadleaf weeds on industrial sites, utility substations, highway guardrails, sign posts, and delineators. Apply this product prior to germination of target weeds. Areas to be treated should be free of established weeds or existing weeds should be controlled with postemergence herbicides.

**USE RESTRICTIONS for Non-Cropland Areas such as Industrial Sites, Utility Substations, Highway Guardrails, Sign Posts and Delineators**

Maximum single application rate: 360 lbs. product (6.0 lbs. ai) per acre.
Maximum Yearly application rate: 720 lbs. product (12.0 lbs. ai) per acre.
Do not make more than 2 applications per year.
Re-treatment Interval: Allow a minimum of 8 months between applications.

**WARM SEASON TURFGRASSES**

This product 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 and zoysiagrass or 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.

Successful preemergence control of weeds listed on this label requires that this product be applied prior to weed germination and be activated by at least one-half (½) inch rainfall or irrigation within 21 days of application.

**SPECIAL USE PRECAUTIONS**

To avoid possible injury, **DO NOT APPLY** this product to:

- Cool season turfgrass species other than tall fescue.
- Lawns containing dichondra or cool season turfgrass species.
- Golf course putting greens or tees.
- Turfgrass in the spring that was planted the previous fall.
- Newly sprigged or sodded areas of bermudagrass, St. Augustinegrass, centipedegrass, zoysiagrass or tall fescue until these turfs are well-established and have well-anchored root systems.
- Newly hydromulched areas of bermudagrass until such areas are well established.

This product will not control emerged weeds.

This product 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 this product only to healthy, well-established turf that has a well-anchored root system.

Do not apply this product in the spring or early summer to tall fescue turfgrass reseeded the previous fall. In such cases, apply Balan® 2.5G granular herbicide at 36 pounds per acre in early summer (Round 1) and this product at 60 pounds per acre approximately 90 days later (Round 2).

This product may thin established annual bluegrass (Poa annua) at rates above 60 pounds per acre. In bermudagrass areas that have been overseeded with winter grasses, a spring application of this product will thin the overseeded grasses.

**USE RESTRICTIONS for Warm Season Turf (except Florida)**

Maximum single application rate: 90 lbs. product (1.5 lbs. ai) per acre.
Maximum yearly application rate: 360 lbs. product (6.0 lbs. ai) per acre.
Do not make more than 4 applications per year.
Re-treatment Interval: Allow a minimum of 90 days between applications.

**Weeds Controlled or Suppressed**

Weeds controlled by this product when applied at 60 to 90 pounds per acre (1.4 to 2.1 pounds per 1000 square feet):

**ANNUAL GRASSES**

**Summer Annuals**

| Common Name | Scientific Name |
|---|---|
| barnyardgrass | *Echinochloa crus-galli* |
| crabgrass | *Digitaria* spp. |
| crowfoot grass | *Dactyloctenium aegyptium* |
| foxtail | *Setaria* spp. |
| goosegrass | *Eleusine indica* |
| johnsongrass (seedling only) | *Sorghum halepense* |
| ryegrass, Italian | *Lolium multiflorum* |
| sandbur, field | *Cenchrus incertus* |

**Winter Annuals**

| Common Name | Scientific Name |
|---|---|
| bluegrass, annual | *Poa annua* |

**BROADLEAF WEEDS**

**Summer Annuals**

| Common Name | Scientific Name |
|---|---|
| carpetweed | *Mollugo verticillata* |
| knotweed, prostrate | *Polygonum aviculare* |
| purslane, common | *Portulaca oleracea* |

**Winter Annuals**

| Common Name | Scientific Name |
|---|---|
| chickweed, common | *Stellaria media* |
| henbit | *Lamium amplexicaule* |

**In addition to the weeds controlled, the following weeds will be partially controlled or suppressed at 60 to 90 pounds per acre (1.4 to 2.1 pounds per 1000 square feet).**

**RATES, FREQUENCY AND TIMING FOR WARM SEASON TURF APPLICATIONS**

This product 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.

**1. SUMMER ANNUAL GRASSES AND BROADLEAF WEEDS**

**Single Application Program:** Apply 60 to 90 pounds per acre of this product in late winter or early spring, prior to the onset of conditions favorable for summer annual weed germination.

**Split Application Program:** As an alternative to a single application program, this product 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 60 pounds per acre of this product in an initial application, followed by a second application of 60 pounds per acre 90 days later.

The second treatment of the split application may follow application of a different preemergence grass herbicide in place of the initial application.

**2. ANNUAL BLUEGRASS AND WINTER ANNUAL BROADLEAF WEEDS**

Apply this product as a preemergence treatment in late summer or early fall, prior to the expected germination period for annual bluegrass and winter annual broadleaf weeds. Do not apply this product to areas where fall overseeding will occur. If annual bluegrass infestation is severe and its elimination will result in thinning of turfgrass cover, apply this product at 60 pounds per acre. If thinning of turfgrass cover is not a potential problem, this product may be applied 90 pounds per acre.

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

**TURFGRASS WEED CONTROL IN FLORIDA**

In Florida, apply 90 pounds per acre of this product three times per year, or every 90 to 100 days, in the fall, early spring, and early summer. Do not apply more than 90 pounds per acre of this product in any single application.

**BROADCAST APPLICATION RATES**

| Pounds per acre | Pounds per 1000 sq ft |
|---|---|
| 60 | 1.4 |
| 90 | 2.1 |

**APPLICATION DIRECTIONS**

Apply this product 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 granular herbicides.

**USE RESTRICTIONS for Florida Turf:**

Maximum single application rate: 90 lbs. product (1.5 lbs. AI) per acre.
Maximum Yearly application rate: 270 lbs. product (4.5 lbs. AI) per acre.
Do not make more than 3 applications per year.
Re-treatment Interval: Allow a minimum of 90 days between applications.

**RESEEDING**

Herbicides that control annual weeds may also affect establishment of desirable turfgrass seedlings. Reseeding should be delayed for at least 6 weeks following application of this product at the 60 pounds per acre rate. When using this product at the 90 pounds per acre rate, reseeding should be delayed 12 to 16 weeks after application. 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 this product's use, 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.

**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 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. Completely empty bag into application equipment by shaking and tapping sides and bottom to loosen clinging particles. Offer for recycling if available or dispose of empty bag in a sanitary landfill or by incineration. Do not burn, unless allowed by state and local ordinances.

**For help with any spill, leak, fire or exposure involving this material, call day or night CHEMTREC – 1-800-424-9300**

**CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY**

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