

# ALLIGARE

## ORYZALIN 4

### Specimen Label

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

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

ACTIVE INGREDIENT:	% BY WT.
Oryzalin: 3,5-dinitro-N,N'-dipropylsulfanilamide	41.0%
OTHER INGREDIENTS:	59.0%
TOTAL:	100.0%

Contains 4 pounds of active ingredient per gallon.

EPA Reg. No. 81927-46 EPA Est. No. 37429-GA-001<sup>ST</sup>; 81927-AL-001<sup>PM</sup>  
Letter(s) in lot number correspond(s) to superscript in EPA Est. No.

## KEEP OUT OF REACH OF CHILDREN CAUTION

Manufactured for:  
Alligare, LLC  
13 N. 8th Street  
Opelika, AL 36801

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

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves
- Shoes plus socks
- Mixers and loaders must wear a chemical-resistant apron in addition to other PPE.

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

#### ENGINEERING CONTROLS STATEMENTS

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

#### USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing 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. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. Cover or incorporate spills.

#### DIRECTIONS FOR USE

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

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

#### 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 requirement in this box only applies to uses of this product that are covered by the Worker Protection Standard.

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

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

- Coveralls
- Chemical-resistant gloves
- Shoes plus socks

#### NON-AGRICULTURAL USE REQUIREMENTS

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

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

#### PRODUCT INFORMATION

Alligare Oryzalin 4 herbicide is a preemergence surface-applied product for the control of many annual grasses and broadleaf weeds in ornamental plantings, bulbs, ground covers/perennials, established warm-season turfgrass, Christmas tree plantations, non-bearing trees and vines, and noncropland and industrial sites.

Alligare Oryzalin 4 is orange in color and may cause temporary discoloration of sprayed surfaces. If this discoloration is undesirable, it may be altered by using a commercially available colorant such as Blazon or removed by spraying surface with water or washing with an industrial cleaner immediately after application. Alligare Oryzalin 4 may also be applied with mulch colorants, such as Mulch Magic or Nu-Mulch.

**Treatment of Plant Species Not Listed on the Label for Alligare Oryzalin 4:** Users who wish to use Alligare Oryzalin 4 on plant species not recommended on this label may determine the suitability for use by treating a small number of such plants at a recommended rate. Prior to treatment of larger areas, the treated plants should be observed for any sign of herbicidal injury during 30-60 days of normal growing conditions to determine if the treatment is non-injurious to the target plant species. The user assumes responsibility for any plant damage or other liability resulting from use of Alligare Oryzalin 4 on plant species not recommended on this label.

**Aerial Application:** Do not aerially apply this product.

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

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

**Precaution:** Avoid spray drift to non-target areas when applying Alligare Oryzalin 4. Spray drift may result in reduced emergence of non-target plants adjacent to the treated area. Poor weed control may result if directions are not followed. Over-application may result in crop injury or excessive soil residue.

#### APPLICATION

##### Soil Preparation

Alligare Oryzalin 4 controls weeds growing from seed. Alligare Oryzalin 4 will not control emerged weeds. Alligare Oryzalin 4 does not control established weeds, weeds growing from stolons, rhizomes, or root pieces. Therefore, areas to be treated should be free of emerged weeds. Weed residues, pruning, and trash should be thoroughly mixed into the soil or removed prior to treatment. In field applications, the soil should be in good till and free of clods at the time of application.

##### Ground Application

Apply Alligare Oryzalin 4 as a directed spray to the soil surface or over the top of plants. Use only a properly calibrated, low-pressure, herbicide sprayer that will apply the spray uniformly. Use screens no finer than 50 mesh in nozzles and in-line strainers. Apply the appropriate rate of Alligare Oryzalin 4 as specified on this label. In all cases, use sufficient water volume to obtain uniform coverage and deliver the desired rate of Alligare Oryzalin 4 to the treated area. The volume of water used is not critical as long as the desired rate of Alligare Oryzalin 4 is delivered uniformly across the area treated. When calibrating, determine the volume of water delivered by the sprayer to a given area (100 Sq ft, 1 acre, etc.). Then mix the desired rate of Alligare Oryzalin 4 in the amount of water required to cover the entire area to be treated. As the amount of water used (spray volume) decreases, the importance of accurate calibration and uniform application increases. Check the sprayer daily to ensure proper calibration and uniform application. Maintain continuous agitation from mixing through application. Avoid spray pattern skips and overlaps that may result in incomplete coverage or over-application.

##### Hand Held or Backpack Sprayer Application

The amount of water used to apply Alligare Oryzalin 4 herbicide is not critical, but should be sufficient for uniform coverage of the target area. Calibrate by determining the volume of water required to treat 1,000 square feet. Use this calibration volume to determine the amount of

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water and Alligare Oryzalin 4 herbicide needed to treat the target area (see the following calibration example). **Note:** Sprayer calibration (volume of spray needed to treat 1,000 square feet) will vary with each individual operator.

## Steps in Calibration

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

**Example:** If the sprayer used 2 gallons of water to cover 1,000 square feet and the desired application rate of Alligare Oryzalin 4 is 3 fl. oz./1,000 square feet, then you would add 3 fl. oz. of Alligare Oryzalin 4 to every 2 gallons of water to be used.

## MIXING DIRECTIONS

### Shake Well Before Using

### Precaution

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

### Alligare Oryzalin 4 -Alone

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

### Alligare Oryzalin 4 -Tank Mix Combinations

Prior to mixing, read and carefully follow all label instructions and precautions for each product added to the tank mixture. Vigorous, continuous agitation is required for all tank mixes of Alligare Oryzalin 4. Sparger pipe agitators generally provide the best agitation in spray tanks.

**Mixing Order:** Fill the tank 3/4 full with clean water. Start agitation and add different formulation types in the order indicated below, allowing time for complete mixing and dispersion after addition of each product. Allow extra mixing and dispersion time for dry flowable products. Add different formulation types in the following order: dry flowables (DF); wettable powders (WP); Alligare Oryzalin 4 and other aqueous suspensions (AS); flowables (F); liquids (L); solutions (S); and emulsifiable concentrates (EC).

Continue agitation and finish filling the spray tank with clean water. Maintain agitation until application is completed. If spraying and agitation must be stopped before the spray tank is empty, the materials may settle to the bottom. Settled materials must be completely resuspended before spraying is continued. A sparger agitator is particularly useful for this purpose.

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

## EQUIPMENT CLEANING

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

## ACTIVATION AND CULTIVATION

Alligare Oryzalin 4 will remain stable on the soil surface up to 21 days following application. In the absence of timely rainfall, irrigation can be used to activate Alligare Oryzalin 4. A minimum of one-half (1/2) inch of rain or its equivalent in sprinkler irrigation is necessary to activate Alligare Oryzalin 4. If weeds begin to emerge due to lack of rainfall or irrigation, shallow cultivate 1-2 inches deep to destroy existing weeds, or remove them by hand. Shallow cultivation to a depth of 1-2 inches will enhance herbicidal effectiveness. If Alligare Oryzalin 4 is not activated by rainfall, irrigation, or cultivation within 21 days of application, or existing weeds have not been removed, erratic weed control may result.

## WEEDS CONTROLLED BY Alligare Oryzalin 4

### Annual Grasses

#### Common Name

Barley, little  
 Barnyardgrass (watergrass)  
 Bluegrass, annual  
 Crabgrass, large  
 Crabgrass, smooth  
 Crowfootgrass  
 Cupgrass, southwestern  
 Foxtail, bristlegrass  
 Foxtail, giant  
 Foxtail, green (pigeongrass)  
 Foxtail, robust  
 Foxtail, yellow  
 Goosegrass (silver crabgrass)  
 Johnsongrass (seeding only)  
 Junglerice  
 Lovegrass, Mexican  
 Lovegrass, orcutt  
 Oat, wild  
 Panicum, browntop  
 Panicum, fall (spreading panicgrass)  
 Panicum, Texas  
 (buffalograss)  
 (Coloradograss)

#### Scientific Name

*Hordeum pusillum*  
*Echinochloa crusgalli*  
*Poa annua*  
*Digitaria sanguinalis*  
*Digitaria ischaemum*  
*Dactyloctenium aegyptium*  
*Eriochloa gracilis*  
*Setaria magna*  
*Setaria faberi*  
*Setaria viridis*  
*Setaria robusta*  
*Setaria glauca*  
*Eleusine indica*  
*Sorghum halepense*  
*Echinochloa colonum*  
*Eragrostis mexicana*  
*Eragrostis orcuttiana*  
*Avena fatua*  
*Panicum fasciculatum*  
*Panicum dichotomiflorum*  
*Panicum texanum*

Ryegrass, Italian  
 Signalgrass (Brachiaria)  
 Sprangletop, red  
 Witchgrass

## Broadleaf Weeds

### Common Name

Bittercress  
 Carpetweed  
 Chickweed, common  
 Fiddleneck, coast  
 Filaree, redstem  
 Filaree, whitestem  
 Groundsel, common  
 Henbit  
 Knotweed, prostrate  
 Lambsquarters  
 Pigweed, prostrate  
 Pigweed, redroot  
 Pigweed, spring  
 Pigweed, tumble  
 Puncturevine  
 Purslane, common  
 Pulsey, Florida  
 (Florida purslane)  
 (Mexican clover)  
 (pulsey)  
 Rocket, London  
 Rockpurslane, desert  
 Shepherdspurse  
 Spurge, prostrate  
 Woodsorrel, yellow

*Cenchrus incertus*  
*Brachiaria* spp.  
*Leptochloa filiformis*  
*Panicum capillare*

### Scientific Name

*Cardamine oligosperma*  
*Mollugo verticillata*  
*Stellaria media*  
*Amsinckia intermedia*  
*Erodium cicutarium*  
*Erodium moschatum*  
*Senecio vulgaris*  
*Lamium amplexicaule*  
*Polygonum aviculare*  
*Chenopodium album*  
*Amaranthus blitoides*  
*Amaranthus retroflexus*  
*Amaranthus hybridus*  
*Amaranthus albus*  
*ribulus terrestris*  
*Portulaca oleracea*  
*Richardia scabra*

*Sisymbrium irio*  
*Calandrinia ciliata*  
*Capsella bursapastoris*  
*Euphorbia humistrata*  
*Oxalis stricta*

## WEEDS SUPPRESSED BY Alligare Oryzalin 4

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

### Common Name

Horseweed  
 Ladythumb  
 Lettuce, prickly  
 Mallow, common  
 Milkweed, climbing  
 Morningglory  
 Mustard, black  
 Mustard, wild  
 Nightshade, black  
 Ragweed, common  
 Smartweed  
 Sowthistle, annual  
 Spurge, spotted  
 Teaweed (prickly sida)  
 Velvetleaf  
 Wheat, volunteer

### Scientific Name

*Coryza canadensis*  
*Polygonum persicaria*  
*Lactuca serriola*  
*Malva neglecta*  
*Sarcostemma cynanchoides*

*Ipomoea* spp.  
*Brassica nigra*  
*Brassica kaber*  
*Solanum nigrum*  
*Ambrosia artemisiifolia*  
*Polygonum pensylvanicum*  
*Sonchus oleraceus*  
*Euphorbia maculata*  
*Sida spinosa*  
*Abutilon theophrasti*  
*Triticum* spp.

## ORNAMENTAL PLANTINGS

Alligare Oryzalin 4 is recommended for use on certain landscape container- and field-grown established ornamental plants including: trees, shrubs, ground covers/perennials, flowers, non-bearing fruit and nut trees, non-bearing vineyards, and in the production of ornamental bulbs (See ORNAMENTAL BULBS section for special use directions.)

## Broadcast Application Rates

Labeled Use Site	Length of Control	Alligare Oryzalin 4 (qt/acre)	Alligare Oryzalin 4 (fl oz/ 1,000 sq ft)	Minimum Time Between Applications (Months)	Total Amount Allowed Per Year (qt/acre)
Landscape Ornamentals	2-4 months	2	1.5	2	8
	3-6 months	3	2.2	4	12
	4-8 months	4	3	4	12
Field-grown and container-grown ornamentals	2-4 months	2	1.5	3	8
	3-6 months	3	2.2	3	9
	4-8 months	4	3	3	12

## Tank Mix Combinations

Tank mix combinations of Alligare Oryzalin 4 plus Roundup/Glyphosate, and many other labeled herbicides may be used to control undesirable vegetation in ornamental areas. Alligare Oryzalin 4 may also be tank mixed with Gallery herbicide and applied preemergence to broaden the spectrum of broadleaf weed control in ornamental areas. Applied as directed, these tank mixes of Alligare Oryzalin 4 will provide control of susceptible weed species listed on the respective labels. Refer to tank mix product labels for specific use directions, precautions, and limitations before use.

**Alligare Oryzalin 4 Plus Roundup/Glyphosate:** Tank mix combinations of Alligare Oryzalin 4 plus Roundup are recommended to control existing undesirable vegetation. Applied as directed, Alligare Oryzalin 4 plus Roundup will provide postemergence control of susceptible weed species listed on the label for Roundup and residual preemergence control of susceptible weed species listed on the label for Alligare Oryzalin 4. Refer to the label for Roundup for specific use directions, precautions, and limitations before use.

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

### Special Use Precautions

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

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

### To avoid possible injury, do not apply Alligare Oryzalin 4 to:

- Nursery, forest or Christmas trees: seedling beds, cutting beds, or transplant beds.
- Unrooted liners or cuttings that have been planted in pots for the first time.
- Pots less than four inches wide.
- Ground covers until they are established and well rooted.
- Ornamental plantings where there is likelihood of runoff onto lawn areas.
- Areas containing dichondra or cool season turfgrass species.

On container grown ornamentals where weed seed germination continues for extended periods of time, do not make repeat applications of Alligare Oryzalin 4 for at least 90 days or crop injury may occur.

Application of Alligare Oryzalin 4 over the top of plants with newly forming buds may cause injury. In this situation, a directed spray is recommended.

For soils treated with Alligare Oryzalin 4 during the previous season, plant only the ornamental species listed on this label or injury may occur.

### ICE PLANT

When establishing unrooted ice plant on coarse-textured soils in landscaping plantings, do not exceed the 2 quart per acre rate of Alligare Oryzalin 4 or crop injury may occur.

**Note: Injury on the following plant species has been observed following applications of Alligare Oryzalin 4 and use is not recommended.**

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

**Alligare Oryzalin 4 may be used on the following established plant species. (Note limitations on recommended treatment methods.)**

### TREES

Scientific Name	Common Name	Recommended Treatment Method F = Field Grown C = Container Grown
<i>Abies balsamea</i>	Fir, balsam	F
<i>Abies concolor</i>	Fir, white	F
<i>Abies fraseri</i>	Fir, fraser	F
<i>Abies grandis</i>	Fir, grand	F
<i>Abies veitchi</i>	Fir, Vietch	F
<i>Abies lasiocarpa</i>	Fir, alpine	F
<i>Abutilon hybridum</i>	Albus-flowering Maple	F
	Luteus-flowering maple	F
	Roseus-flowering maple	F
	Tangerine-flowering maple	F
	Vesuvius red-flowering maple	F
	Flame maple	F
<i>Acer ginnmala</i>	Red sunset maple	F
<i>Acer rubrum</i>	Silver maple	F
<i>Acer saccharinum</i>	Maple	F
<i>Acer spp.</i>	Australian tree fern	C, F
<i>Alseophilha australis</i>	Queen palm	F
<i>Areacastrum romanzoffianum</i>	Birch, river	F
<i>Betula nigra</i>	Paper birch	F
<i>Betula papyrifera</i>	Birch, white	F
<i>Betula pendula</i>	Black olive	F
<i>Bucida buceras</i>	Pecan, ornamental	C, F
<i>Carya spp.</i>	Atlas cedar	C, F
<i>Cedrus atlantica</i>	Deodar cedar	C, F
<i>Cedrus deodara</i>	Carob	F
<i>Ceratonia siliqua</i>	Palo Verde, blue	F
<i>Cercidium floridum</i>	Redbud	C, F
<i>Cercis Canadensis</i>	Falsecypress, Lawson	F
<i>Chamaecyparis lawsoniana</i>	Filicoides-fernspray cypress	F
<i>Chamaecyparis obtusa</i>	Gracilis-slender Hinoki cypress	F
	Sawara-false cypress	F
	Squarrosa-moss cypress	F
<i>Chamaecyparis pisifera</i>	Cat Palm	F
<i>Chamaedorea cataractarum</i>	Palm	F
<i>Chamaedorea costaricana</i>	parlor palm	F
<i>Chamaedorea elegans</i>	Citrus, ornamental	C, F
<i>Citrus spp.</i>	Dogwood, flowering	F
<i>Comus florida</i>	Cryptomeria, Japanese	C, F
<i>Cryptomeria japonica</i>	Carrot Wood	F
<i>Cupaniopsis anacardioides</i>	Cypress, Arizona	C, F
<i>Cupressus arizonica (glabra)</i>		

<i>Cupressus glabra</i>	Arizona cypress	C, F
<i>Cupressocyparis leylandii</i>	Leyland cypress	C, F
<i>Cupressus sempervirens</i>	Cypress, Italian	C, F
<i>Dicksonia anarctica</i>	Tasmanian tree fern	C, F
<i>Elaeagnus angustifolia</i>	Russian olive	C, F
<i>Eucalyptus camaldulensis</i>	Red gum eucalyptus	F
<i>Eucalyptus cinerea</i>	Eucalyptus, mealy	F
	Silver dollar eucalyptus	F
	Eucalyptus, narrow-leaved	F
<i>Eucalyptus nicholii</i>	Eucalyptus, red ironbark	F
<i>Eucalyptus sideroxylon</i>	Ficus	F
<i>Ficus benjamina</i>	Ash	F
<i>Fraxinus spp.</i>	Ginkgo (Maidenhair tree)	C, F
<i>Ginkgo biloba</i>	Honey locust	F
<i>Gleditsia triacanthos</i>	Toyon	F
<i>Heteromeles arbutiflora</i>	Redcedar, Eastern	F
<i>Juniperus virginiana</i>	Goldenrain tree	F
<i>Koelreuteria paniculata</i>	Sweetgum, American	C, F
<i>Liquidambar styraciflua</i>	Magnolia	F
<i>Magnolia spp.</i>	Crabapple	F
<i>Malus spp.</i>	White mulberry	F
<i>Morus alba</i>	Pendula-weeping Norway Spruce	F
<i>Picea abies</i>	Repens-spreading Norway Spruce	F
	Spruce, Norway	F
	Spruce, Englemann	F
	Spruce, white	F
	Alberta spruce	F
	Dwarf Alberta spruce	F
	Spruce, black	F
	Glauca-Colorado blue spruce	F
	Hoopsii-Hoop's blue spruce	F
	Koster-Koster blue spruce	F
	Spruce, Colorado	C, F
	Bristlecone pine	F
	Canary Island pine	F
	Shore pine, beach pine	F
	Eldarica pine	F
<i>Pinus aristata</i>	Aleppo pine	C, F
<i>Pinus canariensis</i>	Monterey pine	F
<i>Pinus contorta</i>	Pine	C, F
<i>Pinus contorta</i>	Eastern white pine	F
<i>Pinus eldarica</i>	Scotch pine	F
<i>Pinus halepensis</i>	Japanese black pine	F
<i>Pinus radiata</i>	American sycamore	F
<i>Pinus spp.</i>	California sycamore	F
<i>Pinus strobus</i>	Podocarpus	F
<i>Pinus sylvestris</i>	Cottonwood	F
<i>Pinus thunbergiana</i>	Cottonwood (grown for pulp)	F
<i>Platanus occidentalis</i>	Laurelcherry, Carolina	F
<i>Platanus racemosa</i>	Dwarf flowering almond	C, F
<i>Podocarpus spp.</i>	Laurelcherry, English	F
<i>Populus deltoides</i>	Cherry, Mahaleb	F
	Yoshino flowering cherry	F
	Pear	F
	Pin oak	F
	Willow oak	F
	Red oak	C, F
	Oak	C, F
	Babylon weeping willow	F
	Corkscrew willow	F
<i>Schinus molle</i>	California pepper tree	F
<i>Sequoia sempervirens</i>	Redwood, coast	F
<i>Sequoiadendron giganteum</i>	Giant sequoia	F
<i>Swietenia mahogani</i>	Mahogany	F
<i>Tabebuia caraiba</i>	Yellow Tab	F
<i>Tilia cordata</i>	Linden, little leaf	C, F
<i>Ulmus parvifolia</i>	Chinese elm	F
<i>Umbellularia californica</i>	California laurel	F
<i>Washingtonia robusta</i>	Mexican fan palm	F

Scientific Name	Common Name	Recommended Treatment Method F = Field Grown C = Container Grown
<i>Prunus caroliniana</i>	Laurelcherry, Carolina	F
<i>Prunus glandulosa</i>	Dwarf flowering almond	C, F
<i>Prunus laurocerasus</i>	Laurelcherry, English	F
<i>Prunus mahaleb</i>	Cherry, Mahaleb	F
<i>Prunus yedoensis</i>	Yoshino flowering cherry	F
<i>Pyrus communis</i>	Pear	F
<i>Quercus palustris</i>	Pin oak	F
<i>Quercus phellos</i>	Willow oak	F
<i>Quercus rubra</i>	Red oak	C, F
<i>Quercus spp.</i>	Oak	C, F
<i>Salix babylonica</i>	Babylon weeping willow	F
	Corkscrew willow	F
<i>Schinus molle</i>	California pepper tree	F
<i>Sequoia sempervirens</i>	Redwood, coast	F
<i>Sequoiadendron giganteum</i>	Giant sequoia	F
<i>Swietenia mahogani</i>	Mahogany	F
<i>Tabebuia caraiba</i>	Yellow Tab	F
<i>Tilia cordata</i>	Linden, little leaf	C, F
<i>Ulmus parvifolia</i>	Chinese elm	F
<i>Umbellularia californica</i>	California laurel	F
<i>Washingtonia robusta</i>	Mexican fan palm	F

### SHRUBS

Scientific Name	Common Name	Recommended Treatment Method F = Field Grown C = Container Grown
<i>Abelia grandiflora</i>	Glossy abelia	F
<i>Acacia reddolens</i>	Acacia, prostrate	F
<i>Agave Americana</i>	Century plant	F
<i>Agave macroculmis</i>	Agave	F
<i>Anisodonteia hypomandarum</i>	Cape mallow	C, F
<i>Arctostaphylos stanfordiana</i>	Manzanita, Stanford	F
<i>Astilbe chinensis</i>	Astilbe/false spirea	F
<i>Baccharis pilularis</i>	Coyotebush	F
<i>Berberis thunbergii</i>	Aurea-golden Japanese barberry	C, F
	Crimson pygmy barberry	C, F
	Atropurea-redleaf Japanese barberry	C, F
	Barberry, Japanese	C, F
<i>Bougainvillea spp.</i>	Barbara Karst	F
	California gold	F
	Scarlet O'Hara	F
	Texas Dawn	F
	Littleleaf boxwood	F
<i>Buxus microphylla</i>	Boxwood, Japanese	C, F
<i>Buxus microphylla japonica</i>		

# ORYZALIN 4 PRO

# Specimen Label

Scientific Name	Common Name	Recommended Treatment Method		Leucothoe axillaris	Leucothoe, coast	F			
		F = Field Grown	C = Container Grown				Leucothoe fontanesiana	Leucothoe, drooping	F
<i>Buxus sempervirens</i>	Boxwood, common	C,F		<i>Ligustrum japonicum</i>	Privet, Japanese	C,F			
<i>Callistemon citrinus</i>	Bottlebrush, lemon	C,F			Yellow tip ligustrum	C,F			
<i>Cassia artemisioides</i>	Cassia, feathery	F		<i>Ligustrum lucidum</i>	Privet, glossy	C,F			
<i>Ceanothus americanus</i>	Jerseytea, redroot	C,F		<i>Ligustrum ovalifolium</i>	California privet	F			
<i>Ceanothus</i> spp.	Wild lilac	C,F		<i>Ligustrum texanum</i>	Howardi privet	F			
<i>Chaenomeles japonica</i>	Flowering quince	C,F			Wax leaf privet	F			
<i>Chamaecyparis obtusa</i>	Kosteri cypress	F		<i>Ligustrum vicaryi</i>	Privet, golden	C,F			
	Nana-dwarf Hinoki cypress	F			Vicary golden privet	C,F			
	Torulosa cypress	F		<i>Livistona chinensis</i>	Chinese fountain palm	F			
<i>Chamaecyparis pisifera</i>	Squarrosa Minima cypress	F		<i>Lonicera fragrantissima</i>	Winter honeysuckle	F			
<i>Chamaecyparis pisifera</i> spp.	Filifera-thread cypress	F		<i>Lonicera periclymenum</i>	Flowering woodbine	F			
<i>Chrysalidocarpus lutescens</i>	Areca palm	F			Serotina woodbine	F			
<i>Cleyera japonica</i>	Cleyera, Japanese	C,F		<i>Lonicera sempervirens</i>	Trumpet honeysuckle	F			
<i>Coleonema pulchrum</i>	Pink breath of heaven	C,F		<i>Lorpetalum chinense</i>	(No common name)	C,F			
<i>Comus alba</i>	Sibirica-Siberian dogwood	F		<i>Mahonia aquifolium</i>	Oregon grape	F			
<i>Comus kousa</i>	Dogwood, kousa	C,F		<i>Myoporum parvifolium</i>	Myoporum, prostrate	F			
<i>Comus stolonifera</i>	Flaviramea-yellowtwig dogwood	F		<i>Myrtus communis</i>	Myrtle, true	C,F			
<i>Cotoneaster adpressus</i>	Praeco-early cotoneaster	F		<i>Nandina domestica</i>	Compacta-dwarf heavenly bamboo	C,F			
<i>Cotoneaster apiculatus</i>	Cotoneaster, cranberry	C,F			Harbour dwarf heavenly bamboo	C,F			
<i>Cotoneaster buxifolius</i>	Cotoneaster, brightbead	F			Heavenly bamboo (Nandina)	C,F			
<i>Cotoneaster congestus</i>	Cotoneaster, Pyrenees	F			Nana compacta heavenly bamboo	C,F			
<i>Cotoneaster dammeri</i>	Cotoneaster, bearberry	C,F			Nana purpurea-heavenly bamboo	C,F			
<i>Cotoneaster himalayan</i>	Himalayan cotoneaster	F			Woods dwarf-heavenly bamboo	C,F			
<i>Cotoneaster horizontalis</i>	Cotoneaster, rock	C,F		<i>Nerium oleander</i>	Hardy red oleander	C,F			
<i>Cotoneaster lacteus</i>	Cotoneaster, parney	C,F			Oleander	C,F			
<i>Cotoneaster microphyllus</i>	Cotoneaster, rockspray	F			Ruby lace oleander	C,F			
<i>Cotoneaster salicifolia</i>	Willowleaf cotoneaster	C,F		<i>Osmanthus heterophyllus</i>	Osmanthus, holly-leaf	F			
<i>Cytisus praecox</i>	Hollandia-warminster broom	F		<i>Pachysandra terminalis</i>	Japanese spurge	C,F			
<i>Cytisus scoparius</i>	Lena-Scotch broom	F		<i>Philadelphus</i> spp.	Mockorange	C,F			
<i>Dasylirion wheeleri</i>	Sotol, desert spoon	F		<i>Phoenix roeloenii</i>	Pigmy date palm	F			
<i>Deutzia crenata</i>	Nakiana-dwarf deutzia	F		<i>Photinia fraseri</i>	Fraser's photinia	C,F			
<i>Dodonaea viscosa</i>	Hopseedbush, clammy	F			Photinia	C,F			
	Hopseed bush	F		<i>Pieris japonica</i>	Lily-of-the-valley	F			
<i>Escallonia exoniensis</i>	Escallonia	C,F			Snowdrift lily-of-the-valley	F			
<i>Euonymus alata</i>	Euonymus, winged	F			Temple bells lily-of-the-valley	F			
<i>Euonymus fortunei</i>	Canadale gold euonymus	C,F			Valley rose lily-of-the-valley	F			
	Emerald'n gold euonymus	C,F		<i>Pittosporum</i> spp.	Andromeda	C,F			
	Euonymus, stringybark	C,F		<i>Pittosporum tobira</i>	Pittosporum	C,F			
	Wintercreeper	C,F			Green pittosporum	F			
<i>Euonymus japonica</i>	Euonymus, evergreen	C,F			Japanese pittosporum	F			
	Silver king euonymus	F		<i>Platycladus orientalis</i>	Tibira	F			
	Spreading euonymus	F			Wheeler's dwarf pittosporum	F			
<i>Euonymus kiatschovica</i>	Bigleaf wintercreeper	C,F		<i>Plumbago articulata</i>	Arborvitae, Oriental	C,F			
<i>Euonymus vegetus</i>	Fatsyhedera	C,F		<i>Podocarpus macrophyllum</i>	Blue cape plumbago	F			
<i>Fatsyhedera lizei</i>	Japanese aralia	C,F		<i>Potentilla fragiformis</i>	Yewpine	C,F			
<i>Fatsia japonica</i>	Blue marguerite	C,F		<i>Potentilla fruticosa</i>	Cinquefoil	F			
<i>Felicia amelloides</i>	Forsythia, border	F		<i>Protea neriifolia</i>	Cinquefoil	C,F			
<i>Forsythia intermedia</i>	Gardenia	C,F			Protea	F			
<i>Gardenia jasminoides</i>	Woodwaxen	F		<i>Pyracantha coccinea</i>	Firethorn, scarlet	C,F			
<i>Genista pilosa</i>	Ross Estey-hibiscus	F		<i>Pyracantha fortuneana</i>	Lolendei Monrovia pyracantha	C,F			
<i>Hibiscus rosasinesis</i>	Hibiscus, Chinese	F		<i>Pyracantha fortuneana</i>	Monon pyracantha	C,F			
	Rose of Sharon, Red Bird	F			Red elf hybrid pyracantha	C,F			
<i>Hibiscus syriacus</i>	Rose of Sharon, Red Heart	F		<i>Pyracantha skoidzumi</i>	Rutgers hybrid pyracantha	C,F			
	Rose of Sharon, Woodbridge	F		<i>Pyracantha fortuneana</i>	Santa Cruz pyracantha	C,F			
	Rose of Sharon (Shrubalthea)	F		<i>Rhaphiolepis indica</i>	Victory pyracantha	C,F			
<i>Ilex aquifolium</i>	Balkans holly	F			Firethorn, formosa	C,F			
	Gold coast holly	F		<i>Rhaphiolepis ovata</i>	Firethorn	C,F			
	Holly, English	F		<i>Rhaphiolepis ovata</i>	Enchantress-Moness raphiolepis	F			
<i>Ilex aquipernyi</i>	San Jose holly	C,F		<i>Rhipsalidopsis gaertneri</i>	Rhaphiolepis (India hawthorn)	C,F			
<i>Ilex cornuta</i>	Dwarf Burford holly	C,F		<i>Rhododendron calendulaceum</i>	Springtime-Monme raphiolepis	F			
	Holly, Chinese	C,F		<i>Rhododendron campylocarpum</i>	Roundleaf raphiolepis	F			
<i>Ilex crenata</i>	Compacta-dwarf Japanese holly	C,F		<i>Rhododendron carolinianum</i>	Eastercactus	C,F			
	Convexa holly	C,F		<i>x daurium</i>	Flame azalea	F			
	Helleri-Heller's Japanese holly	C,F		<i>Rhododendron catawbiense</i>	Butterfly rhododendron	F			
	Holly, Japanese	C,F			PJM rhododendron	F			
<i>Ilex glabra</i>	Nordica-inkberry holly	F			Catawba album rhododendron	C,F			
<i>Ilex meserveae</i>	Blue boy holly	F		<i>Rhododendron forrestii x griersonianum</i>	Catawba rhododendron	C,F			
	Blue girl holly	F		<i>Rhododendron hybrid</i> spp.	Lord Roberts rhododendron	C,F			
	Ebony magic holly	F			Rocket rhododendron	C,F			
<i>Ilex vomitoria</i>	Nana-dwarf yaupon holly	C,F			Elizabeth rhododendron	F			
	Pendula-weeping yaupon holly	C,F			America rhododendron	F			
	Yaupon holly	C,F		<i>Rhododendron impeditum</i>	English Roseum rhododendron	F			
<i>Juniperus chinensis</i>	Media-old gold juniper	C,F		<i>Rhododendron indica</i>	Nova Zembla rhododendron	F			
<i>Juniperus conferta</i>	Emerald sea shore juniper	F			Scintillation rhododendron	F			
<i>Juniperus horizontalis</i>	Huntington blue juniper	C,F		<i>Rhododendron kerume</i>	Rhododendron	F			
	Wiltonii-blue carpet juniper	C,F			Formosa azalea	C,F			
<i>Juniperus procumbens</i>	Nana-dwarf Japanese garden juniper	C,F			Waucubusa azalea	C,F			
<i>Juniperus prostrata</i>	Prostrata juniper	C,F			Coral bells azalea	C,F			
<i>Juniperus sabina</i>	Broadmoor juniper	F			Hino crimson azalea	C,F			
	Foemina-Hicks juniper	F		<i>Rhododendron maximum</i>	Hino pink azalea	C,F			
	Tamariscifolia-Tam juniper	F		<i>Rhododendron mucronulatum</i>	Snow azalea	C,F			
<i>Juniperus scopulorum</i>	Emerald green juniper	F		<i>Rhododendron indicum</i>	Rhodie max (rosebay)	C,F			
<i>Juniperus</i> spp.	Juniper	C,F			Rhododendron	F			
<i>Juniperus squamata</i>	Blue juniper	F		<i>Rhododendron satsumi</i>	Gumpo pink azalea	F			
	Blue star juniper	F			Higasa azalea	F			
	Parsonii juniper	F		<i>Rhododendron</i> spp.	Azalea	C,F			
	Shrimp plant	C,F			Rhododendron	C,F			
<i>Justicia brandegeana</i>	Honeysuckle, Mexican	F							
<i>Jusiticia spicigera</i>	Laurel, mountain	F							
<i>Kalmia latifolia</i>	Crape myrtle	C,F							
<i>Lagerstroemia indica</i>	English lavender	C,F							

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

## GROUNDCOVERS/PERENNIALS

Scientific Name	Common Name	Recommended Treatment Method	
		F = Field Grown	C = Container Grown
<i>Agapanthus africanus</i>	Lily-of-the-Nile	C,F	
<i>Ajuga</i> spp.	Carpet bugle	F	
<i>Arctotheca calendula</i>	Cape weed	F	
<i>Asparagus retrofractus</i>	(No common name)	C,F	
<i>Asparagus varieegata</i>	Tree fern	C,F	
<i>Aster novae-angliae</i>	New England aster	C,F	
<i>Aster novi-belgii</i>	New York aster	C,F	
<i>Athyrium nipponicum</i>	Japanese painter fern	C,F	
<i>Brassica oleracea</i>	Wild cabbage	C,F	
<i>Callistepheus chinensis</i>	China Aster	C,F	
<i>Campanula elatines</i>	Bellflower	C,F	
<i>Carpobrotus edulis</i>	Ice plant, largeleaf (see label)	F	
<i>Clytostoma callistegiodes</i>	Trumpet vine, violet	C,F	
<i>Cortaderia selloana</i>	Pampas grass	F	
<i>Cuphea hyssopifolia</i>	False Mexican heather	C,F	
<i>Delosperma alba</i>	White iceplant	F	
<i>Dietes vegeta</i>	Fortnight lily	C,F	
<i>Digitalis mertonensis</i>	Foxglove	C,F	
<i>Doronicum cordatum</i>	Leopard's bane	C,F	
<i>Drosanthemum floribundum</i>	Trailing rosea iceplant	F	
<i>Erianthus ravennae</i>	Hardy pampus grass	C,F	
<i>Festuca ovina glauca</i>	Blue fescue	F	
<i>Gaillardia grandiflora</i>	Blanket flower	C,F	
<i>Gazania rigens leucolaena</i>	Gazania, trailing	C,F	
<i>Gazania</i> spp.	Gazania	F	
<i>Hedera canariensis</i>	Ivy, Algerian	F	
<i>Hedera helix</i>	Ivy, English	F	
<i>Heliotropium fragrans</i>	Common heliotrope	C,F	
<i>Hemerocallis</i> spp.	Daylily	C,F	
<i>Hosta lancifolia</i>	Albo-marginata hosta	C,F	
<i>Hosta</i> spp.	Lily, plantain	C,F	
<i>Heuchera micrantha</i>	Coral bells	C,F	
<i>Hypericum</i> spp.	St. Johnswort	C,F	
<i>Iberis sempervirens</i>	Evergreen candytuft	C,F	
<i>Lampranthus spectabilis</i>	Trailing iceplant	F	
<i>Leptospermum scaparium</i>	New Zealand teatree/Manuka	C,F	
<i>Limonium perezii</i>	Statice/Sea lavender	C,F	
<i>Liriope gigantean</i>	White lily turf	F	
<i>Liriope muscari</i>	Lilac beauty lily turf	C,F	
	Majestic lily turf	C,F	

	Monroe white lily turf	C,F
	Silvery sunproof lily turf	C,F
	Variegated liriope lily turf	C,F
	Big blue lily turf	C,F
	Edging lobelia	C,F
	Honeysuckle, Japanese	F
	Ice plant (see label)	F
	Mondo grass	F
	Daisy, trailing African	F
	Japanese spurge	F
	Fountaingrass	C,F
	Tassel fern	C,F
	Stonecrop	C,F
	Stonecrop	C,F
	Stonecrop, two row	C,F
	Society garlic	C,F
	Veined verbena	C,F
	Speedwell	C,F
	Periwinkle, bigleaf	F
	Periwinkle, dwarf	F

## FLOWERS

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

## NON-BEARING\* TREES AND VINES

Common Name	Recommended Treatment Method	
	F = Field Grown	C = Container Grown
Almond	F	
Apple	F	
Apricot	F	
Avocado	F	
Blackberry	F	
Blueberry	F	
Boysenberry	F	
Cherry, sour	F	
Cherry, sweet	F	
Currant	F	
Dewberry	F	
Elderberry	F	
Fig	F	
Filbert	F	
Gooseberry	F	
Grape, American	F	
Grape, European	F	
Grapefruit	F	
Kiwi	F	
Kumquat	C,F	
Lemon	F	
Loganberry	F	
Macadamia nut	F	
Nectarine	F	
Olive	F	
Orange	C,F	
Peach	F	
Pear	F	
Pecan	C,F	
Pistachio	F	

# ORYZALIN 4 PRO

# Specimen Label

## Recommended Treatment Method

F = Field Grown

C = Container Grown

### Common Name

Plum  
Pomegranate  
Prune  
Raspberry  
Walnut, black  
Walnut, English

F  
F  
F  
F  
F  
F

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

## ORNAMENTAL BULBS

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

## Broadcast Application Rates

Time of Application	Soil Texture	Alligare Oryzalin 4 (qt/acre)	Alligare Oryzalin 4 (fl oz/ 1,000 sq ft)	Minimum Time Between Applications (Months)	Total Amount Allowed Per Year (qt/acre)
Fall	Coarse	0.75	0.5	3	1.5
Fall	Medium and Fine	1.5	1.0	3	2.25
Feb-March	All Soil Textures	0.75	0.5	3	2.25

## Special Use Precautions

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

## SHADEHOUSE AREAS

Alligare Oryzalin 4 may be applied to drainage areas under benches in open shadehouse-type structures where the natural flow of air is unimpeded. Do not apply in enclosed greenhouses or in enclosed shadehouse type structures. Do not apply within 3 weeks prior to enclosure of greenhouse or poly-type structures.

## CHRISTMAS TREE PLANTATIONS

### Alligare Oryzalin 4 -Alone

Apply Alligare Oryzalin 4 as a directed spray to the soil surface or as an overtop spray to established plantings of field grown Christmas tree species, including fir (*Abies* spp.), Pine (*Pinus* spp.), and spruce (*Picea* spp.). Follow all instructions provided in the **PRODUCT INFORMATION** section of this label.

## Broadcast Application Rates

Length of control	Alligare Oryzalin 4 (qt/acre)	Alligare Oryzalin 4 (fl oz/ 1,000 sq ft)	Minimum Time Between Applications (Months)	Total Amount Allowed Per Year (qt/acre)
2-4 months	2	1.5	2	8
4-8 months	4	3	2	8

## Tank Mix Combinations

Tank mix combinations of Alligare Oryzalin 4 plus other labeled herbicides may be used as directed sprays or overtop sprays in established Christmas tree plantings. When applied according to use directions, these tank mixes will provide control of susceptible weed species listed on the respective product labels. Refer to tank mix product labels for specific use directions, precautions, and limitations before use.

**Alligare Oryzalin 4 Plus Roundup/Glyphosate:** Apply tank mix combinations of Alligare Oryzalin 4 plus Roundup only as directed sprays in Christmas tree plantings. When applied according to use directions, Alligare Oryzalin 4 plus Roundup will provide postemergence control of susceptible weed species listed on the label for Roundup and residual preemergence control of susceptible weed species listed on the label for Alligare Oryzalin 4. Refer to the label for Roundup for specific use directions, precautions, and limitations before use.

## Special Use Precautions

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

## NON-CROPLAND AREAS AND INDUSTRIAL SITES

### Non-cropland Areas—Tank Mix Combinations

Tank mix combinations of Alligare Oryzalin 4 plus Roundup/Glyphosate and many other labeled herbicides may be used to control undesirable vegetation in non-cropland areas such as roadsides, rights-of-way, etc. When applied according to use directions, these tank mixes will provide control of susceptible weed species listed on the respective product labels. Refer to tank mix product labels for specific use directions, precautions, and limitations before use.

## Broadcast Application Rates

Length of control	Alligare Oryzalin 4 (qt/acre)	Alligare Oryzalin 4 (fl oz/ 1,000 sq ft)	Minimum Time Between Applications (Months)	Total Amount Allowed Per Year (qt/acre)
2-4 months	2	1.5	2	6
4-8 months	4	3	4	12
8-12 months	6	4.5	8	12

## Industrial Sites—Tank Mix Combinations

Tank mix combinations of Alligare Oryzalin 4 plus Roundup, Spike™ herbicide, and many other labeled herbicides may be used as overtop sprays to control existing vegetation on industrial sites such as utility substations, highway guard rails, sign posts, and delineators. When applied according to use directions, these tank mixes will provide control of susceptible weed species listed on the respective product labels. Refer to tank mix product labels for specific use directions, precautions, and limitations before use.

## Warm Season Turfgrasses

Alligare Oryzalin 4 may be applied as a preemergence treatment for control of annual grasses and certain broadleaf weeds in established warm season turf including bahiagrass, bermudagrass, buffalograss, centipedegrass, St. Augustinegrass, zoysiagrass, and established tall fescue growing in warm season areas. Established turf is defined as a dense turf having a well-anchored root system and healthy vigorous top growth. Use Alligare Oryzalin 4 only as a part of a total turf management program that includes good fertilization practices.

Alligare Oryzalin 4 may be tank mixed with Gallery herbicide and applied preemergence to broaden the spectrum of broadleaf weed control in warm season turf. Refer to the label for Gallery for specific use directions, precautions, and limitations before use.

Any cultural practices that disturb the soil, such as aerification or verticutting, should be done prior to application of Alligare Oryzalin 4.

Alligare Oryzalin 4 will not control emerged weeds. Successful preemergence control of weeds listed on this label requires that Alligare Oryzalin 4 be applied prior to weed germination and be activated by at least one-half (1/2) inch of rainfall or irrigation within 21 days of application.

Alligare Oryzalin 4 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 Alligare Oryzalin 4 only to healthy, well-established turf that has a well-anchored root system.

Do not apply Alligare Oryzalin 4 in the spring or early summer to tall fescue turfgrass reseeded the previous fall. In such cases, apply Balan™ 2.5G granular herbicide at 60-80 pounds per acre in early summer (Round 1) and Alligare Oryzalin 4 at 1.5 quarts per acre approximately eight weeks later (Round 2). Do not apply Alligare Oryzalin 4 at the single application rate (2 quarts per acre) to established tall fescue; in such cases, apply 1.5 quarts per acre of Alligare Oryzalin 4 in an initial application, followed by a second application of 1.5 quarts per acre 8-10 weeks later.

In Bermudagrass areas that have been overseeded with winter grasses, a spring application of Alligare Oryzalin 4 will thin the overseeded grasses.

## Annual Grasses Controlled by Alligare Oryzalin 4

### Summer Annuals:

Common Name	Scientific Name
Barnyardgrass (watergrass)	<i>Echinochloa crusgalli</i>
Crabgrass, large	<i>Digitaria sanguinalis</i>
Crabgrass, smooth	<i>Digitaria ischaemum</i>
Crabgrass	<i>Digitaria</i> spp.
Crowfootgrass	<i>Dactyloctenium aegyptium</i>
Foxtail, bristlegrass	<i>Setaria magna</i>
Foxtail, giant	<i>Setaria faberi</i>
Foxtail, green (pigeongrass)	<i>Setaria viridis</i>
Foxtail, robust	<i>Setaria robusta</i>
Foxtail, yellow	<i>Setaria glauca</i>
Goosegrass (silver crabgrass)	<i>Eleusine indica</i>
Johnsongrass (seedling only)	<i>Sorghum halepense</i>
Ryegrass, Italian	<i>Lolium multiflorum</i>
Sandbur, field	<i>Cenchrus incertus</i>

### Winter Annuals:

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

## Annual Broadleaf Weeds Controlled by Alligare Oryzalin 4

### Summer Annuals:

Common Name	Scientific Name
Carpetweed	<i>Mollugo verticillata</i>
Knotweed, prostrate	<i>Polygonum aviculare</i>
Purslane, common	<i>Portulaca oleracea</i>

### Winter Annuals:

Common Name	Scientific Name
Chickweed, common	<i>Stellaria media</i>
Henbit	<i>Lamium amplexicaule</i>

## Broadleaf Weeds Suppressed by Alligare Oryzalin 4

Common Name	Scientific Name
Groundsel, common	<i>Senecio vulgaris</i>
Spurge, prostrate	<i>Euphorbia humistrata</i>
Woodsorrel, yellow	<i>Oxalis stricta</i>

## Application Rates, Frequency, and Timing of Application

Alligare Oryzalin 4 can be applied in the spring for summer annual grass and broadleaf weed control, and in the fall for annual bluegrass (*Poa annua*) and winter annual broadleaf weed control.

## Broadcast Application Rates (Warm Season Turfgrasses)

Use Area	Alligare Oryzalin 4 (qt/acre)	Alligare Oryzalin 4 (fl oz/ 1,000 sq ft)	Minimum Time Between Applications (Months)	Total Amount Allowed Per Year (qt/acre)
All except Florida	1.5 to 2	1 to 1.5	3	6
Florida	1.5	1	3	4.5

## 1. Summer Annual Grasses and Broadleaf Weeds

**Single Application Program:** Apply 2 quarts per acre of Alligare Oryzalin 4 in late winter or early spring, prior to the onset of conditions favorable for annual weed germination.

**Split Application Program:** As an alternative to a single application program, Alligare Oryzalin 4 may be applied in a split application. This program is desirable when the initial application is made well in advance of weed germination and where weed control is desired for a longer period of time. Apply 1.5 quarts per acre of Alligare Oryzalin 4 in an initial application, followed by a second application of 1.5 quarts per acre 8-10 weeks later.

The second treatment of the split application may follow application of a different preemergence grass herbicide in place of the initial application of Alligare Oryzalin 4.

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

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

Apply Alligare Oryzalin 4 as a preemergence treatment in late summer or early fall, prior to the expected germination period for annual bluegrass and winter annual broadleaf weeds. If annual bluegrass infestation is severe and its elimination will result in thinning of turfgrass cover, apply Alligare Oryzalin 4 at 1.5 quarts per acre. If thinning of turfgrasses cover is not a potential problem, Alligare Oryzalin 4 may be applied at 2 quarts per acre.

## Weed Control in Florida

In Florida, apply 1.5 quarts per acre of Alligare Oryzalin 4 three times per year, or every 90 – 100 days in the fall, early spring, and early summer. Do not apply more than 1.5 quarts per acre of Alligare Oryzalin 4 in any single application.

## Application Equipment

Apply Alligare Oryzalin 4 evenly over the turfgrass area. Avoid spray pattern skips and overlaps that may result in incomplete coverage or over-application. For best results, use application equipment designed to uniformly broadcast liquid herbicides. Calibrate application equipment prior to use, according to manufacturer's directions. Check equipment frequently to make sure it is working properly and distributing spray uniformly.

## Reseeding

Herbicides that control annual weeds may also affect establishment of desirable turfgrass seedlings. Reseeding should be delayed for at least 90-120 days following application of Alligare Oryzalin 4. When reseeding, it is essential that proper cultural practices such as soil cultivation and seedbed preparation, irrigation, and fertilization be followed. For satisfactory reseeding results following use of Alligare Oryzalin 4 the seeding rate should be increased and equipment designed to place seed in full contact with soil (such as the Rogers Aero Seeder) should be employed.

## Special Use Precautions

To avoid possible injury, do not apply Alligare Oryzalin 4 to:

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

## 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 use of this product may be disposed of on site or at an approved waste disposal facility.

### CONTAINER DISPOSAL:

#### [NONREFILLABLE CONTAINERS]

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying.

(Nonrefillable container ≤ 5 gallons): Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

(Nonrefillable > 5 gallons): Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

#### [REFILLABLE CONTAINERS]

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.

To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

## CONDITION OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

To the extent consistent with applicable law, upon purchase or use of this product, purchaser and user agree to the following terms:

**Warranty:** Alligare, LLC (the Company) warrants that this product conforms to the chemical description on the label in all material respects and is reasonably fit for the purpose referred to in the directions for use, subject to the exceptions noted below, which are beyond the Company's control. To the extent consistent with applicable law, the Company makes no other representation or warranty, express or implied, concerning the product, including no implied warranty of merchantability or fitness for a particular purpose. To the extent consistent with applicable law, no such warranty shall be implied by law, and no agent or representative is authorized to make any such warranty on the Company's behalf.

**Terms of Sale:** The Company's directions for use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, and the manner of use or application (including failure to adhere to label directions), all of which are beyond the Company's control. To the extent consistent with applicable law, all such risks are assumed by the user.

**Limitation of Liability:** To the extent consistent with applicable law, the exclusive remedy against the Company for any cause of action relating to the handling or use of this product is a claim for damages, and in no event shall damages or any other recovery of any kind exceed the price of the product which caused the alleged loss, damage, injury or other claim. To the extent consistent with applicable law, under no circumstances shall the Company be liable for any special, indirect, incidental or consequential damages of any kind, including loss of profits or income. Some states do not allow the exclusion or limitation of incidental or consequential damages.

The Company and the seller offer this product, and the purchaser and user accept this product, subject to the foregoing warranty, terms of sale and limitation of liability, which may be varied or modified only by an agreement in writing signed on behalf of the Company by an authorized representative.

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