

**QUALI-PRO**<sup>®</sup>

# Oryzalin 4 Pro

**ACTIVE INGREDIENT:**

Oryzalin: 3,5-dinitro-N<sup>4</sup>-dipropylsulfanilamide .....41.0%

**INERT INGREDIENTS:** .....59.0%

**TOTAL:** .....100.0%

Contains 4 pounds of active ingredient per gallon.

EPA Reg. No. 73220-5

EPA Est. No. 37429-GA-001<sup>BT</sup>; 37429-GA-002<sup>BO</sup>

Letter(s) in lot number correspond(s) to superscript in EPA Est. No.

## KEEP OUT OF REACH OF CHILDREN CAUTION

PRECAUTIONARY STATEMENTS  
Hazards to Humans and Domestic Animals  
CAUTION

For additional precautionary, handling, and use statements, see inside of this booklet.

Manufactured for FarmSaver.com LLC  
4515 Falls of Neuse Road, Suite 300  
Raleigh, NC 27609

**Net Contents: 2.5 Gallons (9.48 liters)**

**Quali-Pro  
Oryzalin 4 Pro**

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

**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, 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 sub-surface; 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.

**GENERAL INFORMATION**

Oryzalin 4 Pro 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 non-cropland and industrial sites.

Oryzalin 4 Pro 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. Oryzalin 4 Pro may also be applied with mulch colorants, such as Mulch Magic or Nu-Mulch.

**Treatment of Plant Species Not Listed on the Label for Oryzalin 4 Pro**  
Users who wish to use Oryzalin 4 Pro 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 Oryzalin 4 Pro 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 Oryzalin 4 Pro. 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**

Oryzalin 4 Pro controls weeds growing from seed. Oryzalin 4 Pro will not control emerged weeds. Oryzalin 4 Pro 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 Oryzalin 4 Pro 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 Oryzalin 4 Pro as outlined in **APPROVED USES** section of this label. In all cases, use sufficient water volume to obtain uniform coverage and deliver the desired rate of Oryzalin 4 Pro to the treated area. The volume of water used is not critical as long as the desired rate of Oryzalin 4 Pro 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 Oryzalin 4 Pro 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 Oryzalin 4 Pro 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 water and Oryzalin 4 Pro 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 Oryzalin 4 Pro from the **APPROVED USES** section of this label.
5. To each volume of water used, as measured in step 3, add the amount of Oryzalin 4 Pro 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 Oryzalin 4 Pro is 3 fluid oz/1,000 square feet, then you would add 3 fluid ounces of Oryzalin 4 Pro 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.

**Oryzalin 4 Pro-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 Oryzalin 4 Pro. Continue agitation and finish filling the spray tank. Maintain continuous agitation until application is completed.

**Oryzalin 4 Pro-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 Oryzalin 4 Pro. 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); Oryzalin 4 Pro 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

Oryzalin 4 Pro 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 Oryzalin 4 Pro. A minimum of one-half (1/2) inch of rain or its equivalent in sprinkler irrigation is necessary to activate Oryzalin 4 Pro. 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 Oryzalin 4 Pro 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 ORYZALIN 4 PRO

##### Annual Grasses

<u>Common Name</u>	<u>Scientific Name</u>
Barley, little	Hordeum pusillum
Barnyardgrass (watergrass)	Echinochloa crus-galli
Bluegrass, annual	Poa annua
Crabgrass, large	Digitaria sanguinalis
Crabgrass, smooth	Digitaria ischaemum
Crowfootgrass	Dactyloctenium aegyptium
Cupgrass, southwestern	Eriochloa gracilis
Foxtail, bristlegrass	Setaria magna
Foxtail, giant	Setaria faberi
Foxtail, green (pigeongrass)	Setaria viridis
Foxtail, robust	Setaria robusta
Foxtail, yellow	Setaria glauca
Goosegrass (silver crabgrass)	Eleusine indica
Johnsongrass (seeding only)	Sorghum halepense
Junglerice	Echinochloa colonum
Lovegrass, Mexican	Eragrostis mexicana
Lovegrass, orcutt	Eragrostis orcuttiana
Oat, wild	Avena fatua
Panicum, browntop	Panicum fasciculatum
Panicum, fall (spreading panicgrass)	Panicum dichotomiflorum
Panicum, Texas (buffalograss)	Panicum texanum
(Coloradograss)	
Ryegrass, Italian	Cenchrus incertus
Signalgrass (Brachiaria)	Brachiaria spp.
Sprangletop, red	Leptochloa filiformis
Witchgrass	Panicum capillare

##### Broadleaf Weeds

<u>Common Name</u>	<u>Scientific Name</u>
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	Chenopodium album
Pigweed, prostrate	Amaranthus blitoides
Pigweed, redroot	Amaranthus retroflexus
Pigweed, spring	Amaranthus hybridus
Pigweed, tumble	Amaranthus albus
Puncturevine	Tribulus terrestris
Purslane, common	Portulaca oleracea
Pulsey, Florida (Florida purslane) (Mexican clover) (pulsey)	Richardia scabra
Rocket, London	Sisymbrium irio
Rockpurslane, desert	Calandrinia ciliata
Shepherdspurse	Capsella bursa-pastoris
Spurge, prostrate	Euphorbia humistrata
Woodsorrel, yellow	Oxalis stricta

#### WEEDS SUPPRESSED BY ORYZALIN 4 PRO

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:

<u>Common Name</u>	<u>Scientific Name</u>
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
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.

#### APPROVED USES

##### ORNAMENTAL PLANTINGS

Oryzalin 4 Pro 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	Oryzalin 4 Pro (qt/acre)	Oryzalin 4 Pro (fl oz/1000 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 Oryzalin 4 Pro plus Roundup/Glyphosate, and many other labeled herbicides may be used to control undesirable vegetation in ornamental areas. Oryzalin 4 Pro 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 Oryzalin 4 Pro 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.

**Oryzalin 4 Pro Plus Roundup/Glyphosate:** Tank mix combinations of Oryzalin 4 Pro plus Roundup are recommended to control existing undesirable vegetation. Applied as directed, Oryzalin 4 Pro 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 Oryzalin 4 Pro. Refer to the label for Roundup for specific use directions, precautions, and limitations before use.

**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 Oryzalin 4 Pro 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 Oryzalin 4 Pro for at least 90 days or crop injury may occur.

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

For soils treated with Oryzalin 4 Pro 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 Oryzalin 4 Pro or crop injury may occur.

**Note: Injury on the following plant species has been observed following applications of Oryzalin 4 Pro 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)

**Oryzalin 4 Pro 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
Abies balsamea	Fir, balsam	F
Abies concolor	Fir, white	F
Abies fraseri	Fir, fraser	F
Abies grandis	Fir, grand	F
Abies veitchi	Fir, Vietch	F
Abies lasiocarpa	Fir, alpine	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 ginnala	Flame maple	F
Acer rubrum	Red sunset maple	F
Acer saccharinum	Silver maple	F
Acer spp.	Maple	F
Alsophila australis	Australian tree fern	C, F
Areacastrum		
romanzoffianum	Queen palm	F
Betula nigra	Birch, river	F
Betula papyrifera	Paper birch	F
Betula pendula	Birch, white	F
Bucida buceras	Black olive	F
Carya spp.	Pecan, ornamental	C, F
Cedrus atlantica	Atlas cedar	C, F
Cedrus deodara	Deodar cedar	C, F
Ceratonia siliqua	Carob	F
Cercidium floridum	Palo Verde, blue	F

**TREES (cont.)**

<b>Scientific Name</b>	<b>Common Name</b>	<b>Recommended Treatment Method</b> F = Field Grown C = Container Grown
Cercis Canadensis	Redbud	C,F
Chamaecyparis lawsoniana	Falsecypress, Lawson	F
Chamaecyparis obtusa	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
Citrus spp.	Citrus, ornamental	C,F
Comus florida	Dogwood, flowering	F
Cryptomeria japonica	Cryptomeria, Japanese	C,F
Cupaniopsis anacardioides	Carrot Wood	F
Cupressus arizonica (glabra)	Cypress, Arizona	C,F
Cupressus glabra	Arizona cypress	C,F
Cupressocyparis leylandii	Leyland cypress	C,F
Cupressus sempervirens	Cypress, Italian	C,F
Dicksonia antarctica	Tasmanian tree fern	C,F
Elaeagnus angustifolia	Russian olive	C,F
Eucalyptus camaldulensis	Red gum eucalyptus	F
Eucalyptus cinerea	Eucalyptus, mealy	F
	Silver dollar eucalyptus	F
Eucalyptus nicholii	Eucalyptus, narrow-leaved	F
Eucalyptus sideroxyton	Eucalyptus, red ironbark	F
Ficus benjamina	Ficus	F
Fraxinus spp.	Ash	F
Ginkgo biloba	Ginkgo (Maidenhair tree)	C,F
Gleditsia triacanthos	Honey locust	F
Heteromeles arbutiflora	Toyon	F
Juniperus virginiana	Redcedar, Eastern	F
Koelreuteria paniculata	Goldenrain tree	F
Liquidambar styraciflua	Sweetgum, American	C,F
Magnolia spp.	Magnolia	F
Malus spp.	Crabapple	F
Morus alba	White mulberry	F

**TREES (cont.)**

<b>Scientific Name</b>	<b>Common Name</b>	<b>Recommended Treatment Method</b> F = Field Grown C = Container Grown
Picea abies	Pendula-weeping Norway Spruce	F
	Repens-spreading Norway Spruce	F
	Spruce, Norway	F
Picea englemanni	Spruce, Englemann	F
Picea glauca	Spruce, white	F
	Conica-dwarf Alberta spruce	F
Picea glauca conica	Dwarf Alberta spruce	F
Picea mariana	Spruce, black	F
Picea pungens	Glauca-Colorado blue spruce	F
	Hoopsii-Hoop's blue spruce	F
	Koster-Koster blue spruce	F
	Spruce, Colorado	C,F
Pinus aristata	Bristlecone pine	F
Pinus canariensis	Canary Island pine	F
Pinus contorta	Shore pine, beach pine	F
Pinus eldarica	Eldarica pine	F
Pinus halepensis	Aleppo pine	C,F
Pinus radiata	Monterey pine	F
Pinus spp.	Pine	C,F
Pinus strobus	Eastern white pine	F
Pinus sylvestris	Scotch pine	F
Pinus thunbergiana	Japanese black pine	F
Platanus occidentalis	American sycamore	F
Platanus racemosa	California sycamore	F
Podocarpus spp.	Podocarpus	F
Populus deltoides	Cottonwood	F
	Cottonwood (grown for pulp)	F
Prunus caroliniana	Laurelcherry, Carolina	F
Prunus glandulosa	Dwarf flowering almond	C,F
Prunus laurocerasus	Laurelcherry, English	F
Prunus mahaleb	Cherry, Mahaleb	F
Prunus yedoensis	Yoshino flowering cherry	F
Pyrus communis	Pear	F
Quercus palustris	Pin oak	F
Quercus phellos	Willow oak	F
Quercus rubra	Red oak	C,F
Quercus spp.	Oak	C,F
Salix babylonica	Babylon weeping willow	F
	Corkscrew willow	F
Schinus molle	California pepper tree	F
Sequoia sempervirens	Redwood, coast	F
Sequoiadendron giganteum	Giant sequoia	F
Swietenia mahogani	Mahogany	F
Tabebuia caraiba	Yellow Tab	F
Tilia cordata	Linden, little leaf	C,F
Ulmus parvifolia	Chinese elm	F
Umbellularia californica	California laurel	F
Washingtonia robusta	Mexican fan palm	F

**SHRUBS**

<b>Scientific Name</b>	<b>Common Name</b>	<b>Recommended Treatment Method</b>
		<b>F = Field Grown C = Container Grown</b>
Abelia grandiflora	Glossy abelia	F
Acacia redolens	Acacia, prostrate	F
Agave Americana	Century plant	F
Agave macroculmis	Agave	F
Anisodontea hypomandarum	Cape mallow	C,F
Arctostaphylos stanfordiana	Manzanita, Stanford	F
Astilbe chinensis	Astilbe/false spirea	C,F
Baccharis pilularis	Coyotebush	F
Berberis thunbergii	Aurea-golden Japanese barberry	C,F
	Crimson pygmy barberry	C,F
	Atropurea-redleaf Japanese barberry	C,F
	Barberry, Japanese	C,F
Bougainvillea spp.	Barbara Karst	F
	California gold	F
	Scarlet O'Hara	F
	Texas Dawn	F
Buxus microphylla	Littleleaf boxwood	F
Buxus microphylla japonica	Boxwood, Japanese	C,F
Buxus sempervirens	Boxwood, common	C,F
Callisternon citrinus	Bottlebrush, lemon	C,F
Cassia artemisioides	Cassia, feathery	F
Ceanothus americanus	Jerseytea, reedroot	C,F
Ceanothus spp.	Wild lilac	C,F
Chaenomeles japonica	Flowering quince	C,F
Chamaecyparis obtusa	Kosteri cypress	F
	Nana-dwarf Hinoki cypress	F
	Torulosa cypress	F
Chamaecyparis pisifera	Squarrosa Minima cypress	F
Chamaecyparis pisifera spp.	Filifera-thread cypress	F
Chrysalidocarpus lutescens	Areca palm	F
Cleyera japonica	Cleyera, Japanese	C,F
Coleonema pulchrum	Pink breath of heaven	C,F
Comus alba	Sibirica-Siberian dogwood	F
Comus kousa	Dogwood, kousa	C,F
Comus stolonifera	Flaviramea-yellowtwig dogwood	F
Cotoneaster adpressus	Praecox-early cotoneaster	F
Cotoneaster apiculatus	Cotoneaster, cranberry	C,F
Cotoneaster buxifolius	Cotoneaster, brightbead	F

**SHRUBS (cont.)**

<b>Scientific Name</b>	<b>Common Name</b>	<b>Recommended Treatment Method</b>
		<b>F = Field Grown C = Container Grown</b>
Cotoneaster congestus	Cotoneaster, Pyrenees	F
Cotoneaster dammeri	Cotoneaster, bearberry	C,F
Cotoneaster himalayan	Himalayan cotoneaster	F
Cotoneaster horizontalis	Cotoneaster, rock	C,F
Cotoneaster lacteus	Cotoneaster, parney	C,F
Cotoneaster microphyllus	Cotoneaster, rockspray	F
Cotoneaster salicifolia	Willowleaf cotoneaster	C,F
Cytisus praecox	Hollandia-warminster broom	F
Cytisus scoparius	Lena-Scotch broom	F
Dasyllirion wheeleri	Sotol, desert spoon	F
Deutzia crenata	Nakiana-dwarf deutzia	F
Dodonaea viscosa	Hopseedbush, clammy	F
	Hopseed bush	F
Escallonia exoniensis	Escallonia	C,F
Euonymus alata	Euonymus, winged	F
Euonymus fortunei	Canadale gold euonymus	C,F
	Emerald'n gold euonymus	C,F
	Euonymus, stringybark	C,F
	Wintercreeper	C,F
Euonymus japonica	Euonymus, evergreen	C,F
	Silver king euonymus	F
Euonymus kiatschovica	Spreading euonymus	F
Euonymus vegetus	Bigleaf wintercreeper	C,F
Fatsyhedera lizei	Fatsyhedera	C,F
Fatsia japonica	Japanese aralia	C,F
Felicia amelloides	Blue marguerite	C,F
Forsythia intermedia	Forsythia, border	F
Gardenia jasminoides	Gardenia	C,F
Genista pilosa	Woadwaxen	F
Hibiscus rosa-sinensis	Ross Estey-hibiscus	F
	Hibiscus, Chinese	F
Hibiscus syriacus	Rose of Sharon, Red Bird	F
	Rose of Sharon, Red Heart	F
	Rose of Sharon, Woodbridge	F
	Rose of Sharon (Shrubalthea)	F
Ilex aquifolium	Balkans holly	F
	Gold coast holly	F
	Holly, English	F
Ilex aquipemyi	San Jose holly	C,F
Ilex cornuta	Dwarf Burford holly	C,F
	Holly, Chinese	C,F
Ilex crenata	Compacta-dwarf Japanese holly	C,F
	Convexa holly	C,F
	Helleri-Heller's Japanese holly	C,F
	Holly, Japanese	C,F

**SHRUBS (cont.)**

<b>Scientific Name</b>	<b>Common Name</b>	<b>Recommended Treatment Method</b> F = Field Grown C = Container Grown
Ilex glabra	Nordica-inkberry holly	F
Ilex meserveae	Blue boy holly	F
	Blue girl 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 chinensis	Media-old gold juniper	C,F
Juniperus conferta	Emerald sea shore juniper	F
Juniperus horizontalis	Huntington blue juniper	C,F
	Wiltonii-blue carpet juniper	C,F
Juniperus procumbens	Nana-dwarf Japanese garden juniper	C,F
Juniperus prostrata	Prostrata juniper	C,F
Juniperus sabina	Broadmoor juniper	F
	Foemina-Hicks juniper	F
	Tamariscifolia-Tam juniper	F
Juniperus scopulorum	Emerald green juniper	F
Juniperus spp.	Juniper	C,F
Juniperus squamata	Blue juniper	F
	Blue star juniper	F
	Parsonii juniper	F
Justicia brandegeana	Shrimp plant	C,F
Justicia spicigera	Honeysuckle, Mexican	F
Kalmia latifolia	Laurel, mountain	F
Lagerstroemia indica	Crape myrtle	C,F
Lavandula angustifolia	English lavender	C,F
Leucothoe axillaris	Leucothoe, coast	F
Leucothoe fontanesiana	Leucothoe, drooping	F
Ligustrum amurense	Privet, amur	C,F
Ligustrum japonicum	Privet, Japanese	C,F
	Yellow tip ligustrum	C,F
Ligustrum lucidum	Privet, glossy	C,F
Ligustrum ovalifolium	California privet	F
Ligustrum texanum	Howardi privet	F
	Wax leaf privet	F
Ligustrum vicaryi	Privet, golden	C,F
	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

**SHRUBS (cont.)**

<b>Scientific Name</b>	<b>Common Name</b>	<b>Recommended Treatment Method</b> F = Field Grown C = Container Grown
Lorpetalum chinense	(No common name)	C,F
Mahonia aquifolium	Oregon grape	F
Myoporum parvifolium	Myoporum, prostrate	F
Myrtus communis	Myrtle, true	C,F
Nandina domestica	Compacta-dwarf heavenly bamboo	C,F
	Harbour dwarf-heavenly bamboo	C,F
	Heavenly bamboo (Nandina)	C,F
	Nana compacta-heavenly bamboo	C,F
	Nana purpurea-heavenly bamboo	C,F
	Woods dwarf-heavenly bamboo	C,F
Nerium oleander	Hardy red oleander	C,F
	Oleander	C,F
	Ruby lace oleander	C,F
Osmanthus heterophyllus	Osmanthus, holly-leaf	F
Pachysandra terminalis	Japanese spurge	C,F
Philadelphus spp.	Mockorange	C,F
Phoenix roeloenii	Pigmy date palm	F
Photinia fraseri	Fraser's photinia	C,F
	Photinia	C,F
Pieris japonica	Lily-of-the-valley	F
	Snowdrift lily-of-the-valley	F
	Temple bells lily-of-the-valley	F
	Valley rose lily-of-the-valley	F
	Andromeda	C,F
Pittosporum spp.	Pittosporum	C,F
Pittosporum tobira	Green pittosporum	F
	Japanese pittosporum	F
	Tibira	F
	Wheeler's dwarf pittosporum	F
Platycladus orientalis	Arborvitae, Oriental	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	Firethorn, scarlet	C,F
Pyracantha fortuneana	Lolendei Monrovia pyracantha	C,F
Pyracantha fortuneana	Monon pyracantha	C,F
	Red elf hybrid pyracantha	C,F
	Rutgers hybrid pyracantha	C,F
	Santa Cruz pyracantha	C,F
	Victory pyracantha	C,F

**SHRUBS (cont.)**

<b>Scientific Name</b>	<b>Common Name</b>	<b>Recommended Treatment Method</b> F = Field Grown C = Container Grown
Pyracantha skoidzumi	Firethorn, formosa	C,F
Pyracantha fortuneana	Firethorn	C,F
Rhaphiolepis indica	Enchantress-Moness raphiolepis	F
	Rhaphiolepis (India hawthorn)	C,F
	Springtime-Monme raphiolepis	F
Rhaphiolepis ovata	Roundleaf raphiolepis	F
Rhipsalidopsis gaertneri	Eastercactus	C,F
Rhododendron calendulaceum	Flame azalea	F
Rhododendron campylocarpum	Butterfly rhododendron	F
Rhododendron carolinianum x daurium	PJM rhododendron	F
Rhododendron catawbiense	Catawba album rhododendron	C,F
	Catawba rhododendron	C,F
	Lord Roberts rhododendron	C,F
	Rocket rhododendron	C,F
Rhododendron forrestii x griersonianum	Elizabeth rhododendron	F
Rhododendron hybrid spp.	America rhododendron	F
	English Roseum rhododendron	F
	Nova Zembla rhododendron	F
	Scintillation rhododendron	F
Rhododendron impeditum	Rhododendron	F
Rhododendron indica	Formosa azalea	C,F
	Waucabusa azalea	C,F
Rhododendron kerume	Coral bells azalea	C,F
	Hino crimson azalea	C,F
	Hino pink azalea	C,F
	Snow azalea	C,F
Rhododendron maximum	Rhodie max (rosebay)	C,F
Rhododendron mucronulatum	Rhododendron	F
Rhododendron satuski	Gumpo pink azalea	F
	Higasa azalea	F
Rhododendron spp.	Azalea	C,F
	Rhododendron	C,F
Rhododendron spp. hybrids	Carror azalea	C,F
	Girard Roberta azalea	F
	Golden flare exbury azalea	F

**SHRUBS (cont.)**

<b>Scientific Name</b>	<b>Common Name</b>	<b>Recommended Treatment Method</b> F = Field Grown C = Container Grown
Rhus lancea	Sumac, African	C,F
Rosa rugosa	Ramanas rose	F
Rosmarinus officinalis	Rosemary	F
Senecio cineraria	Dusty miller	C,F
Spiraea vanhouttei	Bridal wreath	F
Syringa vulgaris	Lilac, common	C,F
Syzygium paniculata	Brush cherry	C,F
Taxus cuspidate	Yew, Japanese	F
Taxus media	Yew	F
Thuja occidentalis	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
Thuja orientalis	Aureus nana-dwarf golden arborvitae	F
	Minima glauca-dwarf arborvitae	F
	Red Cedar, Western	F
Thuja plicata	Red Cedar, Western	F
Trachelospermum jasminoides	Star jasmine, Chinese	F
Veitchia merrilli	Christmas palm	F
Viburnum carlesii	Koreanspice viburnum	C,F
Viburnum davidii	David viburnum	F
Viburnum japonicum	Viburnum	F
Viburnum judd (V x judii)	Viburnum	C,F
Viburnum opulus sterile	Common snowball viburnum	F
Viburnum plicatum tomentosum	Doublefile viburnum	F
Viburnum setigerum	Tea viburnum	F
Viburnum suspensum	Viburnum Sandankwa	F
Viburnum tinus	Viburnum Laurustinus	C,F
	Compactum-spring bouquet viburnum	F
Viburnum tinus compactum	Spring bouquet viburnum	F
Viburnum trilobum	Compactum	F
	Dwarf cranberry bush	F
Viburnum x pragense	Viburnum	F
Weigela florida	Bristol ruby weigela	F
	Java red weigela	F
	Minuet weigela	F
	Weigela, oldfashioned	F
Xylosma congestum	Xylosma	F
Yucca elata	Yucca soaptree	C,F
Yucca recurvifolia	Yucca pendulous	F

**GROUNDCOVERS/PERENNIALS**

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

**GROUNDCOVERS/PERENNIALS**

<b>Scientific Name</b>	<b>Common Name</b>	<b>Recommended Treatment Method</b>
		<b>F = Field Grown</b>
		<b>C = Container Grown</b>
Liriope muscari	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
Lobelia erinus	Edging lobelia	C,F
Lonicera japonica	Honeysuckle, Japanese	F
Mesembryanthemum crystallinum	Ice plant (see label)	F
Ophiopogon japonicus	Mondo grass	F
Osteospermum fruitocum	Daisy, trailing African	F
Pachysandra terminalis	Japanese spurge	F
Pennisetum setaceum	Fountaingrass	C,F
Polystichum polyblepharum	Tassel fern	C,F
Sedum brevifolium	Stonecrop	C,F
Sedum kamtschaticum	Stonecrop	C,F
Sedum spurium	Stonecrop, two row	C,F
Tulbaghia violacea	Society garlic	C,F
Verbena rigida	Veined verbena	C,F
Veronica spp.	Speedwell	C,F
Vinca major	Periwinkle, bigleaf	F
Vinca minor	Periwinkle, dwarf	F

**FLOWERS**

<b>Scientific Name</b>	<b>Common Name</b>	<b>Recommended Treatment Method</b>
		<b>F = Field Grown</b>
		<b>C = Container Grown</b>
Achillea spp.	Yarrow	C,F
Antirrhinum majus	Snapdragon	F
Caladium bicolor	Caladium, fancy leafed	F
Chrysanthemum spp.	Chrysanthemum	C,F
Coreopsis lanceolata	Coreopsis	F
Coreopsis verticulata	Threadleaf coreopsis	C,F
Dianthus barbatus	Sweet William	F
Dianthus gratianopolitanus	Cheddar pink	C,F
Dicentra spectabilis	Bleeding heart	C,F
Dimorphotheca spp.	Marigold, cape	F
Echinacea purpurea	Coneflower, purple	C,F

**FLOWERS (cont.)**

**Scientific Name Common Name**

Evolvulus		
nuttallianus	Blue daze	C,F
Geum quellyon	Geum	F
Gladiolus hortulanus	Gladiolus	F
Gypsophila		
paniculata	Baby's breath	F
Impatiens wallerana	Impatiens (Busy lizzie)	F
Iris spp.	Iris, bearded	F
Liatris spicata	Blazing star	C,F
Pelargonium		
hortorum	Geranium	F
Petunia spp.	Petunia	C,F
Portulaca		
grandiflora	Moss, rose	F
Ranunculus		
asiaticus	Ranunculus, Persian	F
Rosa spp.	Rose	F
Rudbeckia fulgida	Blackeyed susan	C,F
Rudbeckia hirta	Daisy, gloriosa (black-eyed Susan)	F
Salvia spp.	Salvia (Sage)	F
Stokesia laevis	Aster, stokes	F
Streptocarpus	Bird of paradise	F
Tagetes spp.	Marigold	F
Viola wittrockiana	Pansy	F
Zinnia elegans	Zinnia, common	F

**NON-BEARING\* TREES AND VINES**

**Common Name**

Almond		
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

**Recommended Treatment Method**  
**F = Field Grown**  
**C = Container Grown**

Lemon	F
Loganberry	F
Macadamia nut	F
Nectarine	F
Olive	F
Orange	C,F
Peach	F
Pear	F
Pecan	C,F
Pistachio	F
Plum	F
Pomegranate	F
Prune	F
Raspberry	F
Walnut, black	F
Walnut, English	F

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

**ORNAMENTAL BULBS**

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

**Broadcast Application Rates**

Time of Application	Soil Texture	Oryzalin 4 Pro (qt/acre)	Oryzalin 4 Pro (fl oz/ 1000 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**

Oryzalin 4 Pro 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**

**Oryzalin 4 Pro-Along**

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

### Broadcast Application Rates

Length of control	Oryzalin 4 Pro (qt/acre)	Oryzalin 4 Pro (fl oz/ 1000 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 Oryzalin 4 Pro 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.

**Oryzalin 4 Pro Plus Roundup/Glyphosate:** Apply tank mix combinations of Oryzalin 4 Pro plus Roundup only as directed sprays in Christmas tree plantings. When applied according to use directions, Oryzalin 4 Pro 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 Oryzalin 4 Pro. 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 Oryzalin 4 Pro 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	Oryzalin 4 Pro (qt/acre)	Oryzalin 4 Pro (fl oz/ 1000 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 Oryzalin 4 Pro 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

Oryzalin 4 Pro 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 Oryzalin 4 Pro only as a part of a total turf management program that includes good fertilization practices.

Oryzalin 4 Pro 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 aeration or verticillating, should be done prior to application of Oryzalin 4 Pro.

Oryzalin 4 Pro will not control emerged weeds. Successful preemergence control of weeds listed on this label requires that Oryzalin 4 Pro 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.

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

**DO NOT** apply Oryzalin 4 Pro 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 Oryzalin 4 Pro at 1.5 quarts per acre approximately eight weeks later (Round 2). **DO NOT** apply Oryzalin 4 Pro at the single application rate (2 quarts per acre) to established tall fescue; in such cases, apply 1.5 quarts per acre of Oryzalin 4 Pro 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 Oryzalin 4 Pro will thin the overseeded grasses.

### Annual Grasses Controlled by Oryzalin 4 Pro Summer Annuals:

Common Name	Scientific Name
Barryardgrass (watergrass)	Echinochloa crus-galli
Crabgrass, large	Digitaria sanguinalis
Crabgrass, smooth	Digitaria ischaemum
Crabgrass	Digitaria spp.
Crowfootgrass	Dactyloctenium aegyptium
Foxtail, bristleglass	Setaria magna
Foxtail, giant	Setaria faberi
Foxtail, green (pigeongrass)	Setaria viridis
Foxtail, robust	Setaria robusta
Foxtail, yellow	Setaria glauca
Goosegrass (silver crabgrass)	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

**Annual Broadleaf Weeds Controlled by Oryzalin 4 Pro**

**Summer Annuals:**

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

**Winter Annuals:**

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

**Broadleaf Weeds Suppressed by Oryzalin 4 Pro**

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

**Application Rates, Frequency, and Timing of Application**

Oryzalin 4 Pro 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	Oryzalin 4 Pro (qt/acre)	Oryzalin 4 Pro (fl oz/1000 sq ft)	Minimum Time Between Applications (Months)	Total Amount Allowed Per Year (qt/acre)
All except Florida	1.5 to 2	1.5 to 1	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 Oryzalin 4 Pro 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, Oryzalin 4 Pro 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 Oryzalin 4 Pro 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 Oryzalin 4 Pro.

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

In areas of heavy annual bluegrass infestation, its elimination will result in temporary thinning of turfgrass cover. Proper fertilization, irrigation,

and soil-incorporated reseeded should be employed to speed the restoration of desirable turfgrass cover in areas previously occupied by annual bluegrass (see section on reseeding).

Apply Oryzalin 4 Pro 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 Oryzalin 4 Pro at 1.5 quarts per acre. If thinning of turfgrasses cover is not a potential problem, Oryzalin 4 Pro may be applied at 2 quarts per acre.

**Weed Control in Florida**

In Florida, apply 1.5 quarts per acre of Oryzalin 4 Pro 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 Oryzalin 4 Pro in any single application.

**Application Equipment**

Apply Oryzalin 4 Pro 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 Oryzalin 4 Pro. 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 Oryzalin 4 Pro 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 Oryzalin 4 Pro 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.

**IMPORTANT INFORMATION. READ BEFORE USING PRODUCT.**

**IMPORTANT:** Read the information below before using this product. If the terms are not acceptable, you should return the unopened product container immediately for a complete refund.

#### 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 Container (five gallons or less):** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. 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 or reconditioning, 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 Container (greater than five gallons):** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. 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 or reconditioning, 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 Container:** Refillable container. Refill this container with oryzalin 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.

**FOR 24-HOUR EMERGENCY ASSISTANCE (SPILL, LEAK, OR FIRE), CALL CHEMTREC AT 1-800-424-9300; Outside US: 1-703-527-3887.**

#### LIMITATION OF WARRANTY AND LIABILITY

Read the entire directions for use, conditions of warranties and limitations of liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following **CONDITIONS, DISCLAIMER OF WARRANTIES and LIMITATIONS OF LIABILITY.**

**CONDITIONS:** The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of FarmSaver.com, LLC. All such risks shall be assumed by the user or buyer.

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**LIMITATIONS OF LIABILITY:** To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries or damages resulting from the use or handling of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid or at FarmSaver.com, LLC's election, the replacement of product.

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