

QUALI-PRO



ORYZALIN 4

Herbicide

ACTIVE INGREDIENTS:	% BY WT.
Oryzalin: 3,5-dinitro-N ⁴ N ⁴ - dipropylsulfanilamide	41.0%
OTHER INGREDIENTS:	59.0%
TOTAL:	100.0%

Contains 4 pounds of active ingredient per gallon.

**KEEP OUT OF
REACH OF CHILDREN
CAUTION**

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

EPA Reg. No.: 53883-369

EPA Est. No.: 37429-GA-001^{BT}, 37429-GA-002^{BO}

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

**CONTENTS:
2.5 GALLONS**



EPA 20100308



ADAMA

Manufactured for:

**Control
Solutions Inc.**

5903 Genoa-Red Bluff, Pasadena, TX 77507

A member of Adama
Consumer and Professional Solutions

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 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.

GENERAL INFORMATION

Quali-Pro 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.

Quali-Pro 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. Quali-Pro 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 Quali-Pro Oryzalin 4

Users who wish to use Quali-Pro 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 Quali-Pro 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 Quali-Pro 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

Quali-Pro Oryzalin 4 controls weeds growing from seed. Quali-Pro Oryzalin 4 will not control emerged weeds. Quali-Pro 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 tilth and free of clods at the time of application.

Ground Application

Apply Quali-Pro 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 Quali-Pro Oryzalin 4 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 Quali-Pro Oryzalin 4 to the treated area. The volume of water used is not critical as long as the desired rate of Quali-Pro 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 Quali-Pro 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 Quali-Pro 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 1000 square feet. Use this calibration volume to determine the amount of water and Quali-Pro Oryzalin 4 herbicide needed to treat the target area (see the following calibration example). **Note:** Sprayer calibration (volume of spray needed to treat 1000 square feet) will vary with each individual operator.

Steps in Calibration

1. Mark an area of 1000 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 1000 square feet.
4. Determine the application rate (fl oz/1000 sq ft) for Quali-Pro Oryzalin 4 from the **APPROVED USES** section of this label.
5. To each volume of water used, as measured in step 3, add the amount of Quali-Pro Oryzalin 4 as determined in step 4.

Example: If the sprayer used 2 gallons of water to cover 1000 square feet and the desired application rate of Quali-Pro Oryzalin 4 is 3 fluid oz./1000 square feet, then you would add 3 fluid ounces of Quali-Pro 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.

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

Quali-Pro 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 Quali-Pro 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); Quali-Pro 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

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

Scientific Name

Hordeum pusillum
Echinochloa crus-galli
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

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
Tribulus terrestris
Portulaca oleracea
Richardia scabra

Sisymbrium irio
Calandrinia ciliata
Capsella bursapastoris
Euphorbia humistrata
Oxalis stricta

WEEDS SUPPRESSED BY QUALI-PRO 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
Ladysthumb
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

Conyza canadensis
Polygonum persicaria
Lactuca serriola
Malva neglecta
Sarcostemma cynanchoides
Ipomoea spp.
Brassica nigra
Brassica kaber
Solanum nigrum
Ambrosia artemisiifolia
Polygonum pennsylvanicum
Sonchus oleraceus
Euphorbia maculata
Sida spinosa
Abutilon theophrasti
Triticum spp.

APPROVED USES

ORNAMENTAL PLANTINGS

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

Quali-Pro Oryzalin 4 Plus Roundup/Glyphosate: Tank mix combinations of Quali-Pro Oryzalin 4 plus Roundup are recommended to control existing undesirable vegetation. Applied as directed, Quali-Pro 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 Quali-Pro Oryzalin 4. 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 Quali-Pro 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 Quali-Pro Oryzalin 4 for at least 90 days or crop injury may occur.

Application of Quali-Pro 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 Quali-Pro 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 Quali-Pro Oryzalin 4 or crop injury may occur.

Note: Injury on the following plant species has been observed following applications of Quali-Pro 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)

Quali-Pro Oryzalin 4 may be used on the following established plant species. (Note limitations on recommended treatment methods.)

TREES

<u>Scientific Name</u>	<u>Common Name</u>	<u>Recommended Treatment Method</u>
<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
<i>Acer ginnala</i>	Flame maple	F
<i>Acer rubrum</i>	Red sunset maple	F
<i>Acer saccharinum</i>	Silver maple	F
<i>Acer</i> spp.	Maple	F
<i>Alsophila australis</i>	Australian tree fern	C, F
<i>Areacastrum romanzoffianum</i>	Queen palm	F
<i>Betula nigra</i>	Birch, river	F
<i>Betula papyrifera</i>	Paper birch	F
<i>Betula pendula</i>	Birch, white	F
<i>Bucida buceras</i>	Black olive	F
<i>Carya</i> spp.	Pecan, ornamental	C, F
<i>Cedrus atlantica</i>	Atlas cedar	C, F
<i>Cedrus deodara</i>	Deodar cedar	C, F

(continued)

TREES (continued)

Scientific Name	Common Name	Recommended Treatment Method
		F = Field Grown
		C = Container Grown
<i>Ceratonia siliqua</i>	Carob	F
<i>Cercidium floridum</i>	Palo Verde, blue	F
<i>Cercis Canadensis</i>	Redbud	C,F
<i>Chamaecyparis lawsoniana</i>	Falsecypress, Lawson	F
<i>Chamaecyparis obtusa</i>	Filicoides-fernspray cypress	F
	Gracilis-slender Hinoki cypress	F
<i>Chamaecyparis pisifera</i>	Sawara-false cypress	F
	Squarrosa-moss cypress	F
<i>Chamaedorea cataractarum</i>	Cat Palm	F
<i>Chamaedorea costaricana</i>	Palm	F
<i>Chamaedorea elegans</i>	Parlor palm	F
<i>Citrus</i> spp.	Citrus, ornamental	C,F
<i>Cornus florida</i>	Dogwood, flowering	F
<i>Cryptomeria japonica</i>	Cryptomeria, Japanese	C,F
<i>Cupaniopsis anacardioides</i>	Carrot Wood	F
<i>Cupressus arizonica (glabra)</i>	Cypress, Arizona	C,F
<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 antarctica</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
<i>Eucalyptus nicholii</i>	Eucalyptus, narrow-leaved	F
<i>Eucalyptus sideroxylon</i>	Eucalyptus, red ironbark	F
<i>Ficus benjamina</i>	Ficus	F
<i>Fraxinus</i> spp.	Ash	F
<i>Ginkgo biloba</i>	Ginkgo (Maidenhair tree)	C,F
<i>Gleditsia triacanthos</i>	Honey locust	F
<i>Heteromeles arbutiflora</i>	Toyon	F
<i>Juniperus virginiana</i>	Redcedar, Eastern	F
<i>Koelreuteria paniculata</i>	Goldenrain tree	F
<i>Liquidambar styraciflua</i>	Sweetgum, American	C,F
<i>Magnolia</i> spp.	Magnolia	F
<i>Malus</i> spp.	Crabapple	F
<i>Morus alba</i>	White mulberry	F
<i>Picea abies</i>	Pendula-weeping Norway Spruce	F
	Repens-spreading Norway Spruce	F
	Spruce, Norway	F
<i>Picea englemanni</i>	Spruce, Englemann	F
<i>Picea glauca</i>	Spruce, white	F
	Conica-dwarf Alberta spruce	F
<i>Picea glauca conica</i>	Dwarf Alberta spruce	F
<i>Picea mariana</i>	Spruce, black	F
<i>Picea pungens</i>	Glauca-Colorado blue spruce	F
	Hoopsii-Hoop's blue spruce	F
	Koster-Koster blue spruce	F
	Spruce, Colorado	C,F
<i>Pinus aristata</i>	Bristlecone pine	F
<i>Pinus canariensis</i>	Canary Island pine	F
<i>Pinus contorta</i>	Shore pine, beach pine	F
<i>Pinus eldarica</i>	Eldarica pine	F

(continued)

SHRUBS (continued)

Scientific Name	Common Name	Recommended Treatment Method
		F = Field Grown C = Container Grown
<i>Buxus microphylla</i>	Littleleaf boxwood	F
<i>Buxus microphylla japonica</i>	Boxwood, Japanese	C,F
<i>Buxus sempervirens</i>	Boxwood, common	C,F
<i>Callistemon citrinus</i>	Bottlebrush, lemon	C,F
<i>Cassia artemisioides</i>	Cassia, feathery	F
<i>Ceanothus americanus</i>	Jerseytea, redbot	C,F
<i>Ceanothus</i> spp.	Wild lilac	C,F
<i>Chaenomeles japonica</i>	Flowering quince	C,F
<i>Chamaecyparis obtusa</i>	Kosteri cypress	F
	Nana-dwarf Hinoki cypress	F
	Torulosa cypress	F
<i>Chamaecyparis pisifera</i>	Squarrosa Minima cypress	F
<i>Chamaecyparis pisifera</i> spp.	Filifera-thread cypress	F
<i>Chrysalidocarpus lutescens</i>	Areca palm	F
<i>Cleyera japonica</i>	Cleyera, Japanese	C,F
<i>Coleonema pulchrum</i>	Pink breath of heaven	C,F
<i>Comus alba</i>	Sibirica-Siberian dogwood	F
<i>Comus kousa</i>	Dogwood, kousa	C,F
<i>Comus stolonifera</i>	Flaviramea-yellowtwig dogwood	F
<i>Cotoneaster adpressus</i>	Praecox-early cotoneaster	F
<i>Cotoneaster apiculatus</i>	Cotoneaster, cranberry	C,F
<i>Cotoneaster buxifolius</i>	Cotoneaster, brightbead	F
<i>Cotoneaster congestus</i>	Cotoneaster, Pyrenees	F
<i>Cotoneaster dammeri</i>	Cotoneaster, bearberry	C,F
<i>Cotoneaster himalayana</i>	Himalayan cotoneaster	F
<i>Cotoneaster horizontalis</i>	Cotoneaster, rock	C,F
<i>Cotoneaster lacteus</i>	Cotoneaster, parney	C,F
<i>Cotoneaster microphyllus</i>	Cotoneaster, rockspray	F
<i>Cotoneaster salicifolia</i>	Willowleaf cotoneaster	C,F
<i>Cytisus praecox</i>	Hollandia-warminster broom	F
<i>Cytisus scoparius</i>	Lena-Scotch broom	F
<i>Dasyliiron wheeleri</i>	Sotol, desert spoon	F
<i>Deutzia crenata</i>	Nakiana-dwarf deutzia	F
<i>Dodonaea viscosa</i>	Hopseedbush, clammy	F
	Hopseed bush	F
<i>Escallonia exoniensis</i>	Escallonia	C,F
<i>Euonymus alata</i>	Euonymus, winged	F
<i>Euonymus fortunei</i>	Canadale gold euonymus	C,F
	Emerald'n gold euonymus	C,F
	Euonymus, stringybark	C,F
	Wintercreeper	C,F
<i>Euonymus japonica</i>	Euonymus, evergreen	C,F
	Silver king euonymus	F
<i>Euonymus kiatschovica</i>	Spreading euonymus	F
<i>Euonymus vegetus</i>	Bigleaf wintercreeper	C,F
<i>Fatsyhedera lizei</i>	Fatsyhedera	C,F
<i>Fatsia japonica</i>	Japanese aralia	C,F
<i>Felicia amelloides</i>	Blue marguerite	C,F
<i>Forsythia intermedia</i>	Forsythia, border	F
<i>Gardenia jasminoides</i>	Gardenia	C,F
<i>Genista pilosa</i>	Woadwaxen	F
<i>Hibiscus rosasinesis</i>	Ross Estey-hibiscus	F
	Hibiscus, Chinese	F

(continued)

SHRUBS (continued)

Scientific Name	Common Name	Recommended Treatment Method
		F = Field Grown C = Container Grown
<i>Hibiscus syriacus</i>	Rose of Sharon, Red Bird	F
	Rose of Sharon, Red Heart	F
	Rose of Sharon, Woodbridge	F
	Rose of Sharon (Shrubalthea)	F
<i>Ilex aquifolium</i>	Balkans holly	F
	Gold coast holly	F
	Holly, English	F
<i>Ilex aquipemyi</i>	San Jose holly	C,F
<i>Ilex cornuta</i>	Dwarf Burford holly	C,F
	Holly, Chinese	C,F
<i>Ilex crenata</i>	Compacta-dwarf Japanese holly	C,F
	Convexa holly	C,F
	Helleri-Heller's Japanese holly	C,F
	Holly, Japanese	C,F
<i>Ilex glabra</i>	Nordica-inkberry holly	F
<i>Ilex meserveae</i>	Blue boy holly	F
	Blue girl holly	F
	Ebony magic holly	F
<i>Ilex vomitoria</i>	Nana-dwarf yaupon holly	C,F
	Pendula-weeping yaupon holly	C,F
	Yaupon holly	C,F
<i>Juniperus chinensis</i>	Media-old gold juniper	C,F
<i>Juniperus conferta</i>	Emerald sea shore juniper	F
<i>Juniperus horizontalis</i>	Huntington blue juniper	C,F
	Wiltonii-blue carpet juniper	C,F
<i>Juniperus procumbens</i>	Nana-dwarf Japanese garden juniper	C,F
<i>Juniperus prostrata</i>	Prostrata juniper	C,F
<i>Juniperus sabina</i>	Broadmoor juniper	F
	Foemina-Hicks juniper	F
	Tamariscifolia-Tam juniper	F
<i>Juniperus scopulorum</i>	Emerald green juniper	F
<i>Juniperus</i> spp.	Juniper	C,F
<i>Juniperus squamata</i>	Blue juniper	F
	Blue star juniper	F
	Parsonii juniper	F
<i>Justicia brandegeana</i>	Shrimp plant	C,F
<i>Jusiticia spicigera</i>	Honeysuckle, Mexican	F
<i>Kalmia latifolia</i>	Laurel, mountain	F
<i>Lagerstroemia indica</i>	Crape myrtle	C,F
<i>Lavandula angustifolia</i>	English lavender	C,F
<i>Leucothoe axillaris</i>	Leucothoe, coast	F
<i>Leucothoe fontanesiana</i>	Leucothoe, drooping	F
<i>Ligustrum amurense</i>	Privet, amur	C,F
<i>Ligustrum japonicum</i>	Privet, Japanese	C,F
	Yellow tip ligustrum	C,F
<i>Ligustrum lucidum</i>	Privet, glossy	C,F
<i>Ligustrum ovalifolium</i>	California privet	F
<i>Ligustrum texanum</i>	Howardi privet	F
	Wax leaf privet	F
<i>Ligustrum vicaryi</i>	Privet, golden	C,F
	Vicary golden privet	C,F
<i>Livistona chinensis</i>	Chinese fountain palm	F

(continued)

SHRUBS (continued)

		Recommended Treatment Method
		F = Field Grown
		C = Container
<u>Scientific Name</u>	<u>Common Name</u>	<u>Grown</u>
<i>Lonicera fragrantissima</i>	Winter honeysuckle	F
<i>Lonicera periclymenum</i>	Flowering woodbine	F
	Serotina woodbine	F
<i>Lonicera sempervirens</i>	Trumpet honeysuckle	F
<i>Lorpetalum chinense</i>	(No common name)	C,F
<i>Mahonia aquifolium</i>	Oregon grape	F
<i>Myoporum parvifolium</i>	Myoporum, prostrate	F
<i>Myrtus communis</i>	Myrtle, true	C,F
<i>Nandina domestica</i>	Compacta-dwarf heavenly bamboo	C,F
	Harbour dwarf heavenly bamboo	C,F
	Heavenly bamboo (Nandina)	C,F
	Nana compacta heavenly bamboo	C,F
	Nana purpurea-heavenly bamboo	C,F
	Woods dwarf-heavenly bamboo	C,F
<i>Nerium oleander</i>	Hardy red oleander	C,F
	Oleander	C,F
	Ruby lace oleander	C,F
<i>Osmanthus heterophyllus</i>	Osmanthus, holly-leaf	F
<i>Pachysandra terminalis</i>	Japanese spurge	C,F
<i>Philadelphus</i> spp.	Mockorange	C,F
<i>Phoenix roeloenii</i>	Pigmy date palm	F
<i>Photinia fraseri</i>	Fraser's photinia	C,F
	Photinia	C,F
<i>Pieris japonica</i>	Lily-of-the-valley	F
	Snowdrift lily-of-the-valley	F
	Temple bells lily-of-the-valley	F
	Valley rose lily-of-the-valley	F
	Andromeda	C,F
<i>Pittosporum</i> spp.	Pittosporum	C,F
<i>Pittosporum tobira</i>	Green pittosporum	F
	Japanese pittosporum	F
	Tibira	F
	Wheeler's dwarf pittosporum	F
<i>Platyclusus orientalis</i>	Arborvitae, Oriental	C,F
<i>Plumbago ariculata</i>	Blue cape plumbago	F
<i>Podocarpus macrophyllus</i>	Yewpine	C,F
<i>Potentilla fragiformis</i>	Cinquefoil	F
<i>Potentilla fruticosa</i>	Cinquefoil	C,F
<i>Protea neriifolia</i>	Protea	F
<i>Pyracantha coccinea</i>	Firethorn, scarlet	C,F
<i>Pyracantha fortuneana</i>	Lolendi Monrovia pyracantha	C,F
<i>Pyracantha fortuneana</i>	Monon pyracantha	C,F
	Red elf hybrid pyracantha	C,F
	Rutgers hybrid pyracantha	C,F
	Santa Cruz pyracantha	C,F
	Victory pyracantha	C,F
<i>Pyracantha skoidzumi</i>	Firethorn, formosa	C,F
<i>Pyracantha fortuneana</i>	Firethorn	C,F
<i>Rhaphiolepis indica</i>	Enchantress-Moness rhaphiolepis	F
	Rhaphiolepis (India hawthorn)	C,F
	Springtime-Monme rhaphiolepis	F
<i>Rhaphiolepis ovata</i>	Roundleaf rhaphiolepis	F
<i>Rhipsalidopsis gaertneri</i>	Eastercactus	C,F

(continued)

SHRUBS (continued)

Scientific Name	Common Name	Recommended Treatment Method
<i>Rhododendron calendulaceum</i>	Flame azalea	F
<i>Rhododendron campylocarpum</i>	Butterfly rhododendron	F
<i>Rhododendron carolinianum x daurium</i>	PJM rhododendron	F
<i>Rhododendron catawbiense</i>	Catawba album rhododendron	C,F
	Catawba rhododendron	C,F
	Lord Roberts rhododendron	C,F
	Rocket rhododendron	C,F
<i>Rhododendron forrestii x griersonianum</i>	Elizabeth rhododendron	F
<i>Rhododendron hybrid</i> spp.	America rhododendron	F
	English Roseum rhododendron	F
	Nova Zembla rhododendron	F
	Scintillation rhododendron	F
<i>Rhododendron impeditum</i>	Rhododendron	F
<i>Rhododendron indica</i>	Formosa azalea	C,F
	Waucabusa azalea	C,F
<i>Rhododendron kerume</i>	Coral bells azalea	C,F
	Hino crimson azalea	C,F
	Hino pink azalea	C,F
	Snow azalea	C,F
<i>Rhododendron maximum</i>	Rhodie max (rosebay)	C,F
<i>Rhododendron mucronulatum</i>	Rhododendron	F
<i>Rhododendron satuksi</i>	Gumpo pink azalea	F
	Higasa azalea	F
<i>Rhododendron</i> spp.	Azalea	C,F
	Rhododendron	C,F
<i>Rhododendron</i> spp. hybrids	Carror azalea	C,F
	Girard Roberta azalea	F
	Golden flare exbury azalea	F
<i>Rhus lancea</i>	Sumac, African	C,F
<i>Rosa rugosa</i>	Ramanas rose	F
<i>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

(continued)

SHRUBS (continued)

Scientific Name

Viburnum judd (V x Judii)
Viburnum opulus sterile
Viburnum plicatum tomentosum
Viburnum setigerum
Viburnum suspensum
Viburnum tinus

Viburnum tinus compactum
Viburnum trilobum Compactum
Viburnum x pragense
Weigela florida

Xylosma congestum
Yucca elata
Yucca recurvifolia

Common Name

Viburnum
 Common snowball viburnum
 Doublefile viburnum
 Tea viburnum
 Viburnum Sandankwa
 Viburnum Laurustinus
 Compactum-spring bouquet viburnum
 Spring bouquet viburnum
 Dwarf cranberry bush
 Viburnum
 Bristol ruby weigela
 Java red weigela
 Minuet weigela
 Weigela, oldfashioned
 Xylosma
 Yucca soaptree
 Yucca pendulous

Recommended Treatment Method

F = Field Grown

C = Container

Grown

C,F
 F
 F
 F
 F
 C,F
 F
 F
 F
 F
 F
 F
 F
 F
 F
 C,F
 F

GROUNDCOVERS/PERENNIALS

Scientific Name

Agapanthus africanus
Ajuga spp.
Arctotheca calendula
Asparagus retrofractus
Asparagus varieegata
Aster novae-angliae
Aster novi-belgii
Athyrium nipponimicum
Brassica oleracea
Callistephus chinensis
Campanula elatines
Carpobrotus edulis
Clytostoma callistegiodes
Cortaderia selloana
Cuphea hyssopifolia
Delosperma alba
Dietes vegeta
Digitalis mertonensis
Doronicum cordatum
Drosanthemum floribundum
Erianthus ravennae
Festuca ovina glauca
Gaillardia grandiflora
Gazania rigens leucolaena
Gazania spp.
Hedera canariensis
Hedera helix
Heliotropium fragrans
Hemerocallis spp.

Common Name

Lily-of-the-Nile
 Carpet bugle
 Cape weed
 (No common name)
 Tree fern
 New England aster
 New York aster
 Japanese painter fern
 Wild cabbage
 China Aster
 Bellflower
 Ice plant, largeleaf (see label)
 Trumpet vine, violet
 Pampas grass
 False Mexican heather
 White iceplant
 Fortnight lily
 Foxglove
 Leopard's bane
 Trailing rosea iceplant
 Hardy pampus grass
 Blue fescue
 Blanket flower
 Gazania, trailing
 Gazania
 Ivy, Algerian
 Ivy, English
 Common heliotrope
 Daylily

Recommended Treatment Method

F = Field Grown

C = Container

Grown

C,F
 F
 F
 C,F
 C,F
 C,F
 C,F
 C,F
 C,F
 C,F
 F
 F
 C,F
 C,F
 F
 F
 C,F
 C,F
 F
 F
 F
 F
 C,F
 C,F

(continued)

GROUNDCOVERS/PERENNIALS (continued)

Scientific Name

Hosta lancifolia
Hosta spp.
Heuchera micrantha
Hypericum spp.
Iberis sempervirens
Lampranthus spectabilis
Leptospermum scaparium
Limonium perezii
Liriope gigantea
Liriope muscari

Lobelia erinus
Lonicera japonica
Mesembryanthemum crystallinum
Ophiopogon japonicus
Osteospermum fruticosum
Pachysandra terminalis
Pennisetum setaceum
Polystichum polyblepharum
Sedum brevifolium
Sedum kamtschaticum
Sedum spurium
Tulbaghia violacea
Verbena rigida
Veronica spp.
Vinca major
Vinca minor

Common Name

Albo-marginata hosta
 Lily, plantain
 Coral bells
 St. Johnswort
 Evergreen candytuft
 Trailing iceplant
 New Zealand teatree/Manuka
 Statice/Sea lavender
 White lily turf
 Lilac beauty lily turf
 Majestic lily turf
 Monroe white lily turf
 Silvery sunproof lily turf
 Variegated liriope lily turf
 Big blue lily turf
 Edging lobelia
 Honeysuckle, Japanese
 Ice plant (see label)
 Mondo grass
 Daisy, trailing African
 Japanese spurge
 Fountaingrass
 Tassel fern
 Stonecrop
 Stonecrop
 Stonecrop, two row
 Society garlic
 Veined verbena
 Speedwell
 Periwinkle, bigleaf
 Periwinkle, dwarf

Recommended Treatment Method

F = Field Grown

C = Container

Grown

C,F
 C,F
 C,F
 C,F
 C,F
 F
 C,F
 C,F
 C,F
 C,F
 F
 C,F
 F
 F
 F
 C,F
 C,F
 C,F
 C,F
 C,F
 C,F
 C,F
 F
 F

FLOWERS

Scientific Name

Achillea spp.
Antirrhinum majus
Caladium bicolor
Chrysanthemum spp.
Coreopsis lanceolata
Coreopsis verticulata
Dianthus barbatus
Dianthus gratianopolitanus
Dicentra spectabilis
Dimorphotheca spp.
Echinacea purpurea
Evolvulus nuttallianus
Geum quellyon
Gladiolus hortulanus
Gypsophila paniculata
Impatiens wallerana
Iris spp.
Liatris spicata

Common Name

Yarrow
 Snapdragon
 Caladium, fancy leafed
 Chrysanthemum
 Coreopsis
 Threadleaf coreopsis
 Sweet William
 Cheddar pink
 Bleeding heart
 Marigold, cape
 Coneflower, purple
 Blue daze
 Geum
 Gladiolus
 Baby's breath
 Impatiens (Busy lizzie)
 Iris, bearded
 Blazing star

Recommended Treatment Method

F = Field Grown

C = Container

Grown

C,F
 F
 F
 C,F
 F
 C,F
 C,F
 F
 C,F
 C,F
 F
 F
 F
 F
 F
 F
 C,F

(continued)

ORNAMENTAL BULBS

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

Broadcast Application Rates

Time of Application	Soil Texture	Quali-Pro Oryzalin 4 (qt/acre)	Quali-Pro Oryzalin 4 (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

Quali-Pro 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

Quali-Pro Oryzalin 4 -Alone

Apply Quali-Pro 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 **GENERAL INFORMATION** section of this label.

Broadcast Application Rates

Length of Control	Quali-Pro Oryzalin 4 (qt/acre)	Quali-Pro Oryzalin 4 (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 Quali-Pro 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.

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

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

Quali-Pro 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 Quali-Pro Oryzalin 4.

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

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

Do not apply Quali-Pro 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 Quali-Pro Oryzalin 4 at 1.5 quarts per acre approximately eight weeks later (Round 2). Do not apply Quali-Pro 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 Quali-Pro 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 Quali-Pro Oryzalin 4 will thin the overseeded grasses.

Annual Grasses Controlled by Quali-Pro 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, bristlegoass	<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 Quali-Pro Oryzalin 4
Summer Annuals:

Common Name

Carpetweed
 Knotweed, prostrate
 Purslane, common

Scientific Name

Mollugo verticillata
Polygonum aviculare
Portulaca oleracea

Winter Annuals:

Common Name

Chickweed, common
 Henbit

Scientific Name

Stellaria media
Lamium amplexicaule

Broadleaf Weeds Suppressed by Quali-Pro Oryzalin 4

Common Name

Groundsel, common
 Spurge, prostrate
 Woodsorrel, yellow

Scientific Name

Senecio vulgaris
Euphorbia humistrata
Oxalis stricta

Application Rates, Frequency, and Timing of Application

Quali-Pro 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	Quali-Pro Oryzalin 4 (qt/acre)	Quali-Pro Oryzalin 4 (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 Quali-Pro 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, Quali-Pro 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 Quali-Pro 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 Quali-Pro 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 Quali-Pro 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 Quali-Pro Oryzalin 4 at 1.5 quarts per acre. If thinning of turfgrasses cover is not a potential problem, Quali-Pro Oryzalin 4 may be applied at 2 quarts per acre.

Weed Control in Florida

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

Application Equipment

Apply Quali-Pro 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 Quali-Pro 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 Quali-Pro 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 Quali-Pro 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.

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.

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 Control Solutions, Inc. All such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: To the extent consistent with applicable law, Control Solutions, Inc. makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond the statements made on this label. No agent of Control Solutions, Inc. is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. To the extent consistent with applicable law, Control Solutions, Inc. disclaims any liability whatsoever for special, incidental or consequential damages resulting from the use or handling of this product.

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 Control Solutions, Inc.'s election, the replacement of product.

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QUALI-PRO



ORYZALIN 4

Herbicide

ACTIVE INGREDIENTS:	% BY WT.
Oryzalin: 3,5-dinitro-N ⁴ N ⁴ - dipropylsulfanilamide	41.0%
OTHER INGREDIENTS:	59.0%
TOTAL:	100.0%

Contains 4 pounds of active ingredient per gallon.

**KEEP OUT OF
REACH OF CHILDREN
CAUTION**

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

EPA Reg. No.: 53883-369

EPA Est. No.: 37429-GA-001^{BT}, 37429-GA-002^{BO}

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

**CONTENTS:
2.5 GALLONS**



0 72693 38430 9

EPA 20100308



ADAMA

Manufactured for:

**Control
Solutions Inc.**

5903 Genoa-Red Bluff, Pasadena, TX 77507

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