

73220-5

11/20/2008

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

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Ms. Christie Hitchcock
Product Registration
Makhteshim-Agen of North America, Inc.
4515 Falls of Neuse Rd. Suite 300
Raleigh, NC 27609

NOV 20 2008

Subject: Notification(s) for Label Revisions under PRN 98-10, and PRN 2007-4
Storage & Disposal and Other Changes (Warranty Statement and Primary Brand
Name Change to "Quali-Pro Oryzalin 4 Pro")

Dear Registrant:

The Agency is in receipt of your Application(s) for Pesticide Notification under Pesticide Registration Notices (PRN) 98-10, and 2007-4 Storage & Disposal and Other Changes dated September 16, 2008 for:

EPA Registration 73220-5

"Quali-Pro Oryzalin 4 Pro"

The Registration Division (RD) has conducted a review of the request(s) for applicability under PRN 98-10, and PRN 2007-4 and finds that the label changes requested fall within the scope of PRN-98-10 and PRN-2007-4. The label has been date-stamped "Notification" and will be placed in our records.

Please be reminded that 40 CFR Part 156.140(a)(4) requires that a batch code, lot number, or other code identifying the batch of the pesticide distributed and sold be placed on non-refillable containers. The code may appear either on the label (and can be added by non-notification/PR Notice 98-10) or durably marked on the container itself.

If you have any questions, please contact me directly at 703-305-6249 or Owen F. Beeder of my staff at 703-308-8899.

Sincerely,

A handwritten signature in black ink, appearing to read "Linda Arrington".

Linda Arrington
Notifications & Minor Formulations Team Leader
Registration Division (7505P)
Office of Pesticide Programs

	United States Environmental Protection Agency Washington, DC 20460	<input type="checkbox"/> Registration <input type="checkbox"/> Amendment <input checked="" type="checkbox"/> Other	OPP Identifier Number
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Application for Pesticide - Section I

1. Company/Product Number 73220-5	2. EPA Product Manager Linda Arrington	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Nations Ag II Oryzalin 4 Pro	PM# <u>23</u> Registration Support Branch	
5. Name and Address of Applicant (Include ZIP Code) Makhteshim Agan of North America, Inc. 4515 Falls of Neuse Rd., Suite 300 Raleigh, NC 27609 <input type="checkbox"/> Check if this is a new address		6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. NOTIFICATION Product Name NOV 20 2008

Section - II

<input type="checkbox"/> Amendment - Explain below. <input type="checkbox"/> Resubmission in response to Agency letter dated _____ <input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____ <input type="checkbox"/> "Me Too" Application. <input type="checkbox"/> Other - Explain below.
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NOTIFICATION
NOV 20 2008

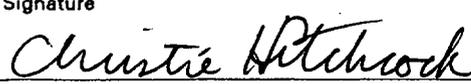
Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Notification per PRN 98-10 including Primary Brand Name change from Nations Ag II Oryzalin 4 Pro to Quali-Pro® Oryzalin 4 Pro: This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make false statements to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA. Explanation for Notification per PRN 2007-4 on attached Page Two.

Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input checked="" type="checkbox"/> Metal <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____	
* Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt No. per container		
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container 5 gals or less; more than 5 gals		5. Location of Label Directions <input checked="" type="checkbox"/> on label	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input checked="" type="checkbox"/> Other Self-adhesive <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled					

Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Christie Hitchcock	Title Regulatory Specialist	Telephone No. (Include Area Code) 919-256-9342
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)
2. Signature 	3. Title Regulatory Specialist	
4. Typed Name Christie Hitchcock	5. Date 09-16-08	

QUALI-PRO

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NOTIFICATION

NOV 20 2008

September 16, 2008

Document Processing Desk (NOTIF)
Registration Division (7504P)
OPP, USEPA
Ariel Rios Building
1200 Pennsylvania Ave, NW
Washington DC 20460

Re: Nations Ag II Oryzalin 4 Pro, EPA Reg. No. 73220-5
Notification per PRN 98-10 and 2007-4

To Whom It May Concern:

We are notifying the Agency of several label updates as allowed in PR Notices 98-10 and 2007-4. The changes are summarized below:

- Updated the Warranty Statement that is now consistent with EPA's guidance document dated 10-17-06) (allowed per PRN 98-10 §II(J))
- Added Emergency Responder phone numbers in First Aid and/or Storage & Disposal sections (allowed per PRN 2006-01 §II(E))
- Primary Brand Name Change from Nations Ag II Oryzalin 4 Pro to Quali-Pro® Oryzalin 4 Pro (as allowed per PRN 98-10 §II(A))
- Updated container disposal instructions per PRN 2007-4

In support of this submission, the following documents are attached:

- Application for Pesticide Registration (EPA Form 8570-1)
- One copy of final printed labeling

Please contact me at 919-256-9342 or by email at chitchcock@manainc.com if you have any questions regarding this submission or would like a copy of the annotated label showing the changes for your files.

Sincerely,



Christie Hitchcock
Regulatory Specialist

Enclosures

QUALI-PRO

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September 16, 2008

Re: Nations Ag II Oryzalin 4 Pro, EPA Reg. No. 73220-5
Page Two

Notification of label change per PR Notice 2007-4. This notification is consistent with the guidance of PR Notice 2007-4 and requirements of EPA's regulations at 40 CFR §§156.10, 156.140, 156.144, 156.146, and 156.156. No other changes have been made to the labeling or the Confidential Statement of Formula for this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statements to EPA. I further understand that if the amended label is not consistent with the requirements of 40 CFR §§156.10, 156.140, 156.144, 156.146, and 156.156, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

Christie Hitchcock

Christie Hitchcock
Regulatory Specialist

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Quali-Pro[®] Oryzalin 4 Pro

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

Contains 4 pounds of active ingredient per gallon.

NOTIFICATION
NOV 20 2008

KEEP OUT OF REACH OF CHILDREN
CAUTION

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

EPA Reg. No. 73220-5

EPA Est. No. [REDACTED]

NET CONTENTS: _____ GALLONS

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

NOTIFICATION
NOV 20 2008

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

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 noncropland 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

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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 tilth 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.

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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 fl. oz./1,000 square feet, then you would add 3 fl. oz. 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

Common Name

- Barley, little
- Barnyardgrass (watergrass)
- Bluegrass, annual
- Crabgrass, large
- Crabgrass, smooth
- Crowfootgrass
- Cupgrass, southwestern

Scientific Name

- Hordeum pusillum*
- Echinochloa crusgalli*
- Poa annua*
- Digitaria sanguinalis*
- Digitaria ischaemum*
- Dactyloctenium aegyptium*
- Eriochloa gracilis*

Common Name

Foxtail, bristleglass
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

Scientific Name

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

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

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

Sisymbrium irio
Calandrinia ciliata
Capsella bursapastoris
Euphorbia humistrata
Oxalis stricta

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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:

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

Coryza canadensis
Polygonum persicaria
Lactuca serriola
Malva neglecta
Sarcostemma cynanchoides
Ipomoea spp.
Brassica nigra
Brassica kaber
Solanum nigrum
Ambrosia artemisifolia
Polygonum pennsylvanicum
Sonchus oleraceus
Euphorbia maculata
Sida spinosa
Abutilon theophrasti
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/1,000 sq ft)	Minimum Time Between Applications (Months)	Total Amount Allowed Per Year (qt/acre)
Landscape Ornamentals	2-4 months	2	1.5	2	8
	3-6 months	3	2.2	4	12
	4-8 months	4	3	4	12
Field-grown and container-grown ornamentals	2-4 months	2	1.5	3	8
	3-6 months	3	2.2	3	9
	4-8 months	4	3	3	12

Tank Mix Combinations

Tank mix combinations of 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.

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

Special Use Precautions

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

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

To avoid possible injury, do not apply 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

<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

<u>Scientific Name</u>	<u>Common Name</u>	<u>Recommended Treatment Method</u> F = Field Grown C = Container Grown
<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 spp.</i>	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 spp.</i>	Pecan, ornamental	C, F
<i>Cedrus atlantica</i>	Atlas cedar	C, F
<i>Cedrus deodara</i>	Deodar cedar	C, F
<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 spp.</i>	Citrus, ornamental	C, F
<i>Comus 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 benamina</i>	Ficus	F
<i>Fraxinus spp.</i>	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

<u>Scientific Name</u>	<u>Common Name</u>	<u>Recommended Treatment Method</u>
		F = Field Grown
		C = Container Grown
<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 engelmanni</i>	Spruce, Englemann	F
<i>Picea glauca</i>	Spruce, white	F
<i>Conica-dwarf</i>	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
<i>Pinus halepensis</i>	Aleppo pine	C,F
<i>Pinus radiata</i>	Monterey pine	F
<i>Pinus</i> spp.	Pine	C,F
<i>Pinus strobus</i>	Eastern white pine	F
<i>Pinus sylvestris</i>	Scotch pine	F
<i>Pinus thunbergiana</i>	Japanese black pine	F
<i>Platanus occidentalis</i>	American sycamore	F
<i>Platanus racemosa</i>	California sycamore	F
<i>Podocarpus</i> spp.	Podocarpus	F
<i>Populus deltoides</i>	Cottonwood	F
	Cottonwood (grown for pulp)	F
<i>Prunus caroliniana</i>	Laurelcherry, Carolina	F
<i>Prunus glandulosa</i>	Dwarf flowering almond	C,F
<i>Prunus laurocerasus</i>	Laurelcherry, English	F
<i>Prunus mahaleb</i>	Cherry, Mahaleb	F
<i>Prunus yedoensis</i>	Yoshino flowering cherry	F
<i>Pyrus communis</i>	Pear	F
<i>Quercus palustris</i>	Pin oak	F
<i>Quercus phellos</i>	Willow oak	F
<i>Quercus rubra</i>	Red oak	C,F
<i>Quercus</i> spp.	Oak	C,F
<i>Salix babylonica</i>	abylon weeping willow	F
	Corkscrew willow	F
<i>Schinus molle</i>	California pepper tree	F
<i>Sequoia sempervirens</i>	Redwood, coast	F
<i>Sequoiadendron giganteum</i>	Giant sequoia	F
<i>Swietenia mahogani</i>	Mahogany	F
<i>Tabebuia caraiba</i>	Yellow Tab	F
<i>Tilia cordata</i>	Linden, little leaf	C,F
<i>Ulmus parvifolia</i>	Chinese elm	F
<i>Umbellularia californica</i>	California laurel	F
<i>Washingtonia robusta</i>	Mexican fan palm	F

SHRUBS

<u>Scientific Name</u>	<u>Common Name</u>	<u>Recommended Treatment Method</u>
		F = Field Grown
		C = Container Grown
<i>Abelia grandiflora</i>	Glossy abelia	F
<i>Acacia redolens</i>	Acacia, prostrate	F
<i>Agave Americana</i>	Century plant	F
<i>Agave macroculmis</i>	Agave	F
<i>Anisodonteia hypomandarum</i>	Cape mallow	C,F
<i>Arctostaphylos stanfordiana</i>	Manzanita, Stanford	F
<i>Astilbe chinensis</i>	Astilbe/false spirea	C,F
<i>Baccharis pilularis</i>	Coyotebush	F
<i>Berberis thunbergii</i>	Aurea-golden Japanese barberry	C,F
	Crimson pygmy barberry	C,F
	Atropurea-redleaf Japanese barberry	C,F
	Barberry, Japanese	C,F
<i>Bougainvillea</i> spp.	Barbara Karst	F
	California gold	F
	Scarlet O'Hara	F
	Texas Dawn	F
<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>Callisternon citrinus</i>	Bottlebrush, lemon	C,F
<i>Cassia artemisioides</i>	Cassia, feathery	F
<i>Ceanothus americanus</i>	Jerseytea, redroot	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 himalayan</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>Dasyllirion 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

<u>Scientific Name</u>	<u>Common Name</u>	<u>Recommended Treatment Method</u>
		F = Field Grown
		C = Container Grown
<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
<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 spp.</i>	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

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<u>Scientific Name</u>	<u>Common Name</u>	<u>Recommended Treatment Method</u>
		F = Field Grown
		C = Container Grown
<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
<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 spp.</i>	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 spp.</i>	Pittosporum	C,F
<i>Pittosporum tobira</i>	Green pittosporum	F
	Japanese pittosporum	F
	Tibira	F
	Wheeler's dwarf pittosporum	F
<i>Platycladus 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

<u>Scientific Name</u>	<u>Common Name</u>	<u>Recommended Treatment Method</u> F = Field Grown C = Container Grown
<i>Protea neriifolia</i>	Protea	F
<i>Pyracantha coccinea</i>	Firethorn, scarlet	C,F
<i>Pyracantha fortuneana</i>	Lolendei 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 raphiolepis	F
	Rhaphiolepis (India hawthorn)	C,F
	Springtime-Monme raphiolepis	F
<i>Rhaphiolepis ovata</i>	Roundleaf raphiolepis	F
<i>Rhipsalidopsis gaertneri</i>	Eastercactus	C,F
<i>Rhododendron calendulaceum</i>	Flame azalea	F
<i>Rhododendron campylocarpum</i>	Butterfly rhododendron	F
<i>Rhododendron carolinianum</i> x <i>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</i> x <i>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 satuski</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

Scientific Name

Thuja occidentalis

Thuja orientalis

Thuja plicata

Trachelospermum jasminoides

Veitchia merrilli

Viburnum carlesii

Viburnum davidii

Viburnum japonicum

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

Arborvitae, American

Emerald arborvitae

Globosa-globe arborvitae

Little giant—dwarf arborvitae

Nigra-dark American arborvitae

Pyramidalis arborvitae

Rheingold arborvitae

Woodwardii arborvitae

Aureus nana-dwarf golden arborvitae

Minima glauca-dwarf arborvitae

Red Cedar, Western

Star jasmine, Chinese

Christmas palm

Koreanspice viburnum

David viburnum

Viburnum

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

F

F

F

F

F

F

F

F

C,F

F

F

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 nipponicum

Brassica oleracea

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

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

<u>Scientific Name</u>	<u>Common Name</u>	<u>Recommended Treatment Method</u> F = Field Grown C = Container Grown
<i>Callistepheus chinensis</i>	China Aster	C,F
<i>Campanula elatines</i>	Bellflower	C,F
<i>Carpobrotus edulis</i>	Ice plant, largeleaf (see label)	F
<i>Clytostoma callistegiodes</i>	Trumpet vine, violet	C,F
<i>Cortaderia selloana</i>	Pampas grass	F
<i>Cuphea hyssopifolia</i>	False Mexican heather	C,F
<i>Delosperma alba</i>	White iceplant	F
<i>Dietes vegeta</i>	Fortnight lily	C,F
<i>Digitalis mertonensis</i>	Foxglove	C,F
<i>Doronicum cordatum</i>	Leopard's bane	C,F
<i>Drosanthemum floribundum</i>	Trailing rosea iceplant	F
<i>Erianthus ravennae</i>	Hardy pampus grass	C,F
<i>Festuca ovina glauca</i>	Blue fescue	F
<i>Gaillardia grandiflora</i>	Blanket flower	C,F
<i>Gazania rigens leucolaena</i>	Gazania, trailing	C,F
<i>Gazania</i> spp.	Gazania	F
<i>Hedera canariensis</i>	Ivy, Algerian	F
<i>Hedera helix</i>	Ivy, English	F
<i>Heliotropium fragrans</i>	Common heliotrope	C,F
<i>Hemerocallis</i> spp.	Daylily	C,F
<i>Hosta lancifolia</i>	Albo-marginata hosta	C,F
<i>Hosta</i> spp.	Lily, plantain	C,F
<i>Heuchera micrantha</i>	Coral bells	C,F
<i>Hypericum</i> spp.	St. Johnswort	C,F
<i>Iberis sempervirens</i>	Evergreen candytuft	C,F
<i>Lampranthus spectabilis</i>	Trailing iceplant	F
<i>Leptospermum scaparium</i>	New Zealand teatree/Manuka	C,F
<i>Limonium perezii</i>	Statice/Sea lavender	C,F
<i>Liriope gigantea</i>	White lily turf	F
<i>Liriope muscari</i>	Lilac beauty lily turf	C,F
	Majestic lily turf	C,F
	Monroe white lily turf	C,F
	Silvery sunproof lily turf	C,F
	Variiegated liriope lily turf	C,F
	Big blue lily turf	C,F
	Edging lobelia	C,F
<i>Lobelia erinus</i>	Honeysuckle, Japanese	F
<i>Lonicera japonica</i>	Ice plant (see label)	F
<i>Mesembryanthemum crystallinum</i>	Mondo grass	F
<i>Ophiopogon japonicus</i>	Daisy, trailing African	F
<i>Osteospermum fruitocosum</i>	Japanese spurge	F
<i>Pachysandra terminalis</i>	Fountaingrass	C,F
<i>Pennisetum setaceum</i>	Tassel fern	C,F
<i>Polystichum polyblepharum</i>	Stonecrop	C,F
<i>Sedum brevifolium</i>	Stonecrop	C,F
<i>Sedum kamtschaticum</i>	Stonecrop, two row	C,F
<i>Sedum spurium</i>	Society garlic	C,F
<i>Tulbaghia violacea</i>	Veined verbena	C,F
<i>Verbena rigida</i>	Speedwell	C,F
<i>Veronica</i> spp.	Periwinkle, bigleaf	F
<i>Vinca major</i>	Periwinkle, dwarf	F
<i>Vinca minor</i>		

FLOWERS

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

NON-BEARING* TREES AND VINES

<u>Common Name</u>	Recommended Treatment Method F = Field Grown C = Container <u>Grown</u>
Almond	F
Apple	F
Apricot	F
Avocado	F
Blackberry	F
Blueberry	F
Boysenberry	F
Cherry, sour	F
Cherry, sweet	F
Currant	F
Dewberry	F
Elderberry	F
Fig	F
Filbert	F

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-Alone

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/ 1,000sq 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 aerification or verticutting, 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 onehalf (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

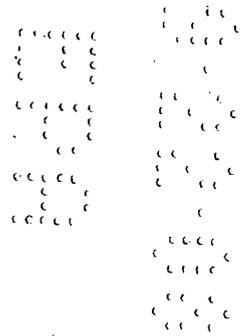
Summer Annuals:

Common Name

- Barnyardgrass (watergrass)
- Crabgrass, large
- Crabgrass, smooth
- Crabgrass
- Crowfootgrass
- Foxtail, bristlegass
- Foxtail, giant
- Foxtail, green (pigeongrass)
- Foxtail, robust
- Foxtail, yellow
- Goosegrass (silver crabgrass)
- Johnsongrass (seedling only)
- Ryegrass, Italian
- Sandbur, field

Scientific Name

- Echinochloa crusgalli*
- Digitaria sanguinalis*
- Digitaria ischaemum*
- Digitaria* spp.
- Dactyloctenium aegyptium*
- Setaria magna*
- Setaria faberi*
- Setaria viridis*
- Setaria robusta*
- Setaria glauca*
- Eleusine indica*
- Sorghum halepense*
- Lolium multiflorum*
- Cenchrus incertus*



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Common Name
Bluegrass, annual

Winter Annuals:
Scientific Name
Poa annua

Annual Broadleaf Weeds Controlled by Oryzalin 4 Pro

Common Name
Carpetweed
Knotweed, prostrate
Purslane, common

Summer Annuals:
Scientific Name
Mollugo verticillata
Polygonum aviculare
Portulaca oleracea

Common Name
Chickweed, common
Henbit

Winter Annuals:
Scientific Name
Stellaria media
Lamium amplexicaule

Broadleaf Weeds Suppressed by Oryzalin 4 Pro

Common Name
Groundsel, common
Spurge, prostrate
Woodsorrel, yellow

Scientific Name
Senecio vulgaris
Euphorbia humistrata
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/1,000sq ft)	Minimum Time Between Applications (Months)	Total Amount Allowed Per Year (qt/acre)
All except Florida	1.5 - 2	1.5 - 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 reseeding 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.

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.

