

87290-3

5/6/2010

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U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs
Registration Division (7505P)
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460

EPA Reg. Number:

87290-3

Date of Issuance:

May 6, 2010

NOTICE OF PESTICIDE:

X Registration
Reregistration
(under FIFRA, as amended)

Term of Issuance:

Unconditional

Name of Pesticide Product:

Willowood Pronamide 50 WSP

Name and Address of Registrant (include ZIP Code):

Willowood, LLC
8690 Lookingglass Road
Roseburg, OR 97471

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA section 3(c)(7) provided that you agree in writing to:

- 1. Submit and/or cite all data required for registration review of your product under FIFRA section 3(c)(5) when the Agency requires all registrants of similar products to submit such data.
2. Make the following changes to the label:
a. Change the product registration number to "EPA Reg. No. 87290-3"
b. Add the batch number to all non-refillable containers before shipment.
c. On page 4 of label, under the paragraph "Sensitive Areas:", change "...not-target crops)" to "...non-target crops)". In the first sentence under "WEED SPECTRUM", change "...for both pre-emergence and early pre-emergence control of ..." to "...for both pre-emergence and early post-emergence control of ..."
d. On page 7 of proposed label, remove the rotational crop columns labeled "Legume Vegetables and Cotton" and "Brassica Leafy Vegetables, Cucurbits, Fruiting Vegetables and Bulb Vegetables". These rotational crops are not supported by the appropriate rotational crop studies.

Change the identity of the last column from "Cereal Grains" to "Barley, Buckwheat, Field

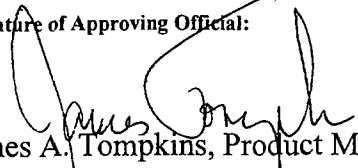
Corn, Millet, Oats, Popcorn, Rice, Rye, Sorghum (milo), Teosinte, Triticale, Wheat, and Wild Rice", efficacy considerations permitting. These are the only cereal grains that are supported in this group. These cereal grains have established tolerances for inadvertent residues, and the inadvertent tolerances will support a rotational crop interval of 180 days. Therefore, efficacy considerations permitting, change 365 days to 180 days.

- 3. On page 11, change "1.5 2" in the middle column, second row from the bottom of use rate table, to "1.5 - 2".
- 4. On page 12 and 13, move the heading and paragraphs under "SPRING USE DIRECTIONS FOR ESTABLISHED ALFALFA DODDER CONTROL IN ALFALFA SEED CROPS" to a position above the paragraph for "Rotation Crops" on page 12.
- 5. On page 18, change "WINTER PEAS" to "FIELD PEAS/WINTER PEAS". The residue chemistry review dated April 26, 1993 of the pronamide Reregistration Standard states that the only data supporting this use is Craven data, and additional data on the seed, forage and hay are required to establish tolerances on the the forage, hay, and maintain the tolerance on the seed, so this use on the pronamide labels can be continued. HED also questioned whether the Registrant wants to support the use, because no field residue is forth coming. The 2/7/2002 Residue Chemistry Chapter of the RED reiterated the outstanding data, and noted the existing restriction against feeding treated forage and hay is not practical. Until this issue is resolved, the field pea/winter pea use is not approved for this label.
- 6. Change the table heading everywhere it appears on the label from "Lb Willowood Pronamide 50 WSP Per Broadcast Acre" to "Lbs. Of Willowood Pronamide 50 WSP Per Broadcast Acre".
- 7. "Due to the importance of resistance management to a long-term pest-management strategy, it is suggested that resistance management grouping symbols and statements be included on the labeling as described in PR Notice 2001-5."
- 8. Provide Storage Stability and Corrosion Charcteristics studies by May 1, 2011 for your product with observations reported at intervals of 0 (initial time), 3 months, 6 months, 9 months, and 12 months

Submit one copy of the corrected label with the above changes before shipment of product. This label Accepted with comments is the only label approved for shipment with this product.

Please contact Phil Errico at 703-305-6663/ [errico.philip@epa.gov](mailto:errico.philip@epa.gov) for further assistance in this matter.

Signature of Approving Official:



James A. Tompkins, Product Manager (25)  
Herbicide Branch, Registration Division (7505P)

Date:

5/6/2010



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

Causes moderate eye irritation. Avoid contact with eyes or clothing.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

**Applicators and other handlers must wear:**

- Coveralls over short-sleeved shirt and short pants
- Waterproof gloves
- Chemical-resistant footwear plus socks
- Chemical-resistant headgear for overhead exposure
- Chemical-resistant apron when cleaning equipment, mixing or loading

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

**ENGINEERING CONTROLS STATEMENT**

When handlers use closed systems, enclosed cabs, or aircraft 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/PPE 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**

Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate.

**DIRECTIONS FOR USE**

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

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

**AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls over short-sleeved shirt and short pants

- Waterproof gloves
- Chemical-resistant footwear plus socks
- Chemical-resistant headgear for overhead exposure

**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.

Keep unprotected persons out of treated area until sprays have dried.

**PRODUCT INFORMATION**

Willowood Pronamide 50 WSP is formulated as a wettable powder containing 50% active ingredient packaged in a 1 lb. water-soluble pouch. Willowood Pronamide 50 WSP is effective for the control of a wide range of grasses and certain broadleaf weeds. The product is a soil active herbicide with uptake by sensitive weeds occurring through the roots. Before using this herbicide for a specific crop use, study the following product use information that provides important instructions for the safe and effective application of the product.

**Use Restrictions:** Hand-spray applications of Willowood Pronamide 50 WSP may be made only to ornamentals and nursery stock of ornamentals.

**Chemigation:** Do not apply this product through any type of irrigation system except as may be specified in Willowood, LLC supplemental labeling.

**SPRAY DRIFT MANAGEMENT (AERIAL APPLICATION)**

Avoiding spray drift at the application site is the responsibility of the applicator. The potential for spray drift is determined by the interaction of many equipment-and-weather-related factors. The applicator and the grower are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

Where certain states have more stringent regulations, they must be observed.

The applicator must be familiar with and take into account the information covered in the following **Aerial Drift Reduction Advisory Information** section.

**Aerial Spray Drift Advisory Information**

This section is advisory in nature and does not supersede mandatory label requirements.

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity and Temperature Inversion section of this label).

**Controlling Droplet Size:**

- **Volume** – Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.

- **Pressure** – Do not exceed the nozzle manufacturer’s specified pressures. Use the lower spray pressures specified for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles** – Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation** – Orienting nozzles so that the spray is released backwards, parallel to the airstream will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type** – Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce larger droplets and lower drift than other nozzle types.

**Boom Length:** For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

**Application Height:** Do not make applications at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

**Swath Adjustment:** When applications are made with a cross-wind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Increase swath adjustment distance with increasing drift potential (higher wind, smaller drops, etc.).

**Wind:** Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Avoid application below 2 mph due to variable wind direction and high inversion potential. Note: Local terrain can influence wind patterns. Every applicator must be familiar with local wind patterns and how they affect spray drift.

**Temperature and Humidity:** When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

**Temperature Inversions:** Do not apply during a temperature inversion, because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. The cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. The presence of inversion conditions can be indicated by ground fog. However, if fog is not present, the movement of smoke from a ground source or an aircraft smoke generator can also identify inversion conditions. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upwards and rapidly dissipates indicates good vertical air mixing.

**Sensitive Areas:** Apply this pesticide when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, not-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

**WEED SPECTRUM**

Willowood Pronamide 50 WSP may be used for both preemergence and early preemergence control of winter annual and perennial grasses and chickweed and for preemergence control only of certain other broadleaf weeds and certain other grasses listed.

**Weeds Controlled Both Preemergence and Early Postemergence**

- |                   |                         |
|-------------------|-------------------------|
| barley, foxtail   | <i>Hordeum jubatum</i>  |
| barley, volunteer | <i>Hordeum vulgare</i>  |
| bentgrass         | <i>Agrostis species</i> |

bluegrass, annual	<i>Poa annua</i>
bluegrass, bulbous	<i>Poa bulbosa</i>
bluegrass, Kentucky	<i>Poa pratensis</i>
brome, downy (cheatgrass)	<i>Bromus tectorum</i>
chickweed, common	<i>Stellaria media</i>
chickweed, mouse-ear	<i>Cerastium vulgatum</i>
fescue, tall	<i>Festuca arundinaceae</i>
goatgrass, jointed	<i>Aegilops cylindrical</i>
oat, volunteer	<i>Avena sativa</i>
oat, wild	<i>Avena fatua</i>
orchardgrass	<i>Dactylis glomerata</i>
quackgrass	<i>Agropyron repens</i>
rye, volunteer	<i>Secale cereal</i>
ryegrass, Italian	<i>Lolium mutiflorum</i>
ryegrass, perennial	<i>Lolium perenne</i>
velvetgrass	<i>Holcus lanatus</i>
wheat, volunteer	<i>Triticum aestivum</i>

**Weeds Controlled Only Preemergence**

barnyardgrass	<i>Echinochloa crus-galli</i>
canarygrass	<i>Phalaris canariensis</i>
carpetweed	<i>Mollugo verticillata</i>
crabgrass, large	<i>Digitaria sanguinalis</i>
dodder, field	<i>Cuscuta campestris</i>
foxtail, yellow	<i>Setaria lutescens</i>
goosefoot, nettleleaf	<i>Chenopodium murale</i>
goosegrass	<i>Eleusine indica</i>
henbit	<i>Lamium amplexicaule</i>
knotweed, prostrate	<i>Polygonum aviculare</i>
lambsquarters, common	<i>Chenopodium album</i>
lovegrass	<i>Eragrostis diffusa</i>
mallow, little (cheeseweed)	<i>Malva parviflora</i>
morningglory, annual	<i>Ipomoea purpurea</i>
mustard, wild	<i>Brassica kaber</i>
nettle, burning	<i>Urtica urens</i>
nightshade, black	<i>Solanum, nigrum</i>
nightshade, hairy	<i>Solanum sarrachoides</i>
panicum, fall	<i>Panicum dichotomiflorum</i>
purslane, common	<i>Portulaca oleracea</i>
radish, wild	<i>Raphanus sativus</i>
rocket, London	<i>Sisymbrium irio</i>
shepherdspurse	<i>Capsella bursa-pastoris</i>
smartweed, pale	<i>Polygonum lapathifolium</i>
sorrel, red (from seed)	<i>Rumex acetosella</i>
tomato, volunteer	<i>Solanum esculentum</i>

**Note:** The weed species controlled by Willowood Pronamide 50 WSP are dependent on the rate used, specific crop culture involved, and the associated conditions of temperature, soil type and moisture availability. Refer to specific crop use directions for weed species controlled.

**DOSAGE**

The rate of Willowood Pronamide 50 WSP required will vary depending on the crop culture involved and weed species to be controlled. See specific crop use directions for all dosage instructions. All dosage instructions listed in this label are in terms of pounds of product or active ingredient per broadcast acre.

For banded application, reduce the amount of Willowood Pronamide 50 WSP used per square acre according to the following formula:

$$\frac{\text{Band Width (in inches)}}{\text{Row Width (in inches)}} \times \text{Rate per Acre Broadcast} = \text{Amount Needed per Acre for Band Application}$$

### TIMING AND APPLICATION

Unless specific directions are given under the crop to be treated, apply Willowood Pronamide 50 WSP in the fall or early winter, when temperatures do not exceed 55°F, **but prior to freeze-up**. Best weed control results occur when Willowood Pronamide 50 WSP is applied preemergence to the weeds and when application is followed by rainfall or irrigation to move the product into the root zone of the germinating weeds.

Mix Willowood Pronamide 50 WSP thoroughly in clean water at the required concentration and apply uniformly as a spray. For ground application, use a conventional low-pressure herbicide sprayer equipped with flat fan nozzles spaced and calibrated to uniformly deliver 20 to 50 gallons of spray per acre. For aerial applications, apply in a coarse droplet spray at 5 to 10 gallons per acre. Accurately calibrate spray equipment prior to each use.

### COMPATIBILITY WITH OTHER PESTICIDES

Willowood Pronamide 50 WSP is compatible with most commonly used agricultural pesticides, crop oil concentrate and adjuvants. When preparing tank mixes, consult spray compatibility charts or State Cooperative Extension Service Specialists prior to actual use.

Note: Willowood Pronamide 50 WSP is compatible with boron and crop oil concentrate; however, the water-soluble pouches must be completely dissolved before adding spray oils or products containing boron to spray mixtures.

### EFFECT OF SOIL TYPE, MOISTURE AND TEMPERATURE

Willowood Pronamide 50 WSP is most active in coarse to medium texture soils of low organic matter and relatively inactive in peat or muck soils or mineral soils high in organic matter content at rates specified in this label. Herbicidal activity is best in soils containing less than 4 percent organic matter. Use in soils with higher organic matter may result in inconsistent or incomplete weed control.

The herbicidal activity of Willowood Pronamide 50 WSP is mainly through root absorption in sensitive weed species. Rain, melting snow or irrigation is **essential** following treatment to move Willowood Pronamide 50 WSP into the root zone of germinating weeds.

Under field conditions, Willowood Pronamide 50 WSP will remain relatively stable with little loss of herbicidal activity when soil temperatures are less than 55°F. As soil temperatures increase, degradation of the active ingredient takes place. Willowood Pronamide 50 WSP may degrade rather quickly if left exposed on the soil surface in warm weather. If Willowood Pronamide 50 WSP is applied when air temperature exceeds 85°F, the treatment must be soil incorporated to a shallow depth (top two to three inches) or watered into the soil as soon as possible.

### CULTURAL CONSIDERATIONS

For best results, apply Willowood Pronamide 50 WSP to a trash-free soil surface. Clean cultivation before application is preferable, but not necessary. To obtain optimum weed control in areas not clean cultivated, the area to be treated must be free of surface litter (dead or decaying crop and weed debris, mowing clippings, etc.). Trash-free areas create ideal conditions for rapid movement of Willowood Pronamide 50 WSP into the weed root zone following rain or irrigation.

### ROTATION CROP PLANTING INFORMATION



9 of 23

Follow the directions given below when rotation crops will be planted to areas previously treated with Willowood Pronamide 50 WSP.

**Waiting Period in Days Before Planting the Crops Indicated (1):**

<b>Amount of Willowood Pronamide 50 WSP Applied per Planted Acre</b>	<b>Root and Tuber Vegetables</b>	<b>Legume Vegetables and Cotton</b>	<b>Brassica Leafy Vegetables, Cucurbits, Fruiting Vegetables and Bulb Vegetables</b>	<b>Leafy Vegetables (except Brassica Vegetables), Crop Group 4 (2)</b>	<b>Cereal Grains</b>
1.0 lb	90	90	90	30	365
2.0 lb	90	90	120	30	365
3.0 lb	90	120	180	30	365
4.0 lb	90	150	210	30	365

- (1) There are no plant back restrictions for Willowood Pronamide 50 WSP when rotating to artichokes, grapes, berry fruits, pome fruits or stone fruits.
- (2) Crop Group 4 as defined under 40CFR 180.41.

Whether Willowood Pronamide 50 WSP is bed-topped, banded, or broadcast, the beds must be knocked down and the field cross-disked before rotation crops other than artichokes, head lettuce, endive, radicchio or escarole are planted.

Where the Willowood Pronamide 50 WSP treatment is to be followed by a rotation crop within 180 days of application, bed-topped or banded applications are suggested.

**ARTICHOKE (GLOBE)**

**California (Only)**

**Use Information**

Willowood Pronamide 50 WSP is a selective herbicide for the control of susceptible weeds in either established (ratoon) or transplanted globe artichokes.

**Weeds Controlled**

Willowood Pronamide 50 WSP is effective at 4 to 8 lb. of product (2 to 4 lb active ingredient) per treated acre for the preemergence control of the following weeds:

- barley, volunteer
- bluegrass, annual
- chickweed, common
- chickweed, mouse-ear
- foxtail, yellow
- goosefoot, nettleleaf
- henbit
- knotweed, prostrate
- mallow, little (cheeseweed)
- mustard wild
- nettle, burning
- nightshade, hairy
- oat, volunteer
- oat, wild
- ryegrass, Italian
- wheat, volunteer

Willowood Pronamide 50 WSP Rate (Per Broadcast Acre) <sup>1</sup>				
Crop	Weeds	Dependable Rainfall or Overhead Irrigation	Less Dependable Rainfall or Furrow Irrigation	Comments
globe artichokes (established ratoon)	Susceptible annual grasses, volunteer grains and broadleaf weeds	4 lb	Do not apply	sandy soils, sandy loams and silt loams
		8 lb	Do not apply	silt, silty clay loams, clay loams and clay soils
globe artichokes (newly transplanted crowns)	Susceptible annual grasses, volunteer grains and broadleaf weeds	4 lb	Do not apply	all soil types except peat and muck soils

<sup>1</sup> Dosage instructions listed on this label are in terms of pounds Willowood Pronamide 50 WSP per acre broadcast application. For banded treatments down artichoke rows or between rows, reduce the amount of Willowood Pronamide 50 WSP used per acre according to the following formula:

$$\frac{\text{Band Width (in inches)}}{\text{Row Width (in inches)}} \times \text{Rate per Acre Broadcast} = \text{Amount Needed per Acre for Band Application}$$

**DOSAGE AND TIMING**

**Established Ratoon Artichokes**

Apply Willowood Pronamide 50 WSP in a single postemergence application to the crop after tillage operations are completed and shoot re-growth of the artichokes has occurred. Apply Willowood Pronamide 50 WSP preemergence to the weeds and before new artichoke leaves are greater than 14 to 16 inches long. Apply Willowood Pronamide 50 WSP in a banded treatment over the crop row at the rate of 4 to 8 lb of product per broadcast acre (see dosage rate for soil type in chart). A second application of Willowood Pronamide 50 WSP at the same rate may be applied 60 days or more prior to harvest in a banded treatment directed to the untreated soil surface between the artichoke rows after the ditching operation is completed later in the season.

**Transplanted Artichoke Crowns**

Apply Willowood Pronamide 50 WSP in a single application after transplanting the crowns but before new shoots have developed 3 to 4 new leaves. Apply Willowood Pronamide 50 WSP preemergence to the weeds and banded over the crop row at the rate of 4 lb of product per broadcast acre. Do not use higher rates of Willowood Pronamide 50 WSP than 4 lb per acre in one season. A second application of Willowood Pronamide 50 WSP at the same rate may be applied 60 days or more prior to harvest in a banded treatment directed to the untreated soil surface between the artichoke rows after the ditching operation is completed later in the season.

**Application**

Willowood Pronamide 50 WSP may be applied by aircraft or ground sprayer for preemergence control of susceptible grasses and broadleaf weeds in established ratoon artichokes or transplanted artichoke crowns.

**Aerial:** Mix the specified amount of Willowood Pronamide 50 WSP in a minimum of 10 gallons of water per acre for aerial application. Avoid drift to all other crops and non-target areas.

**Ground:** Mix the specified amount of Willowood Pronamide 50 WSP in clean water and apply uniformly with a ground sprayer in 20 to 50 gallons of water per acre. Reduce dosage and volume accordingly for banded treatments. Use a standard low pressure herbicide sprayer equipped with flat fan nozzles that give uniform spray distribution.

**Moisture and Irrigation Requirements**

Moisture is necessary to activate Willowood Pronamide 50 WSP in the soil and move it into the root zone of germinating weeds. In artichoke culture natural rainfall or supplementary overhead irrigation within 1 to 3 days after the application of Willowood Pronamide 50 WSP is essential for effective weed control. For best results use overhead sprinkler irrigation equipment to irrigate the field with 1 to 2 inches of water after application of Willowood Pronamide 50 WSP.

**Effect of Soil Type**

Do not apply Willowood Pronamide 50 WSP to highly organic or muck soils because herbicidal activity is lowered significantly in these soils. Follow dosage rates suggested in the dosage instruction chart according to the soil type for established and transplanted artichokes.

**Rotation crops**

Artichokes are generally long-term perennial crops. In the event that artichokes are discontinued and a rotational crop will be planted within one year where Willowood Pronamide 50 WSP was applied at the rate of 4 lb of product per acre, follow the rotational crop requirements specified in the Product Information section of this label under Rotational Crop Planting Information.

**Artichoke – Specific Use Restrictions**

- Do not apply more than 4 lb/acre active ingredient (8 lb/acre of Willowood Pronamide 50 WSP) to established artichokes or more than 2 lb/acre active ingredient (4 lb/acre of Willowood Pronamide 50 WSP) to newly transplanted artichokes or make more than one "in-row" application per season.
- Do not harvest artichokes within 60 days of final application.
- Do not make more than one application to the artichoke row per season. Do not make more than one application to the untreated soil between the rows per season.

**BLACKBERRY/BOSYENBERRY/RASPBERRY**

**(Oregon and Washington Only)**

**Use Information**

Willowood Pronamide 50 WSP is a selective herbicide for fall and winter applications to established blackberries, boysenberries and raspberries for both preemergence and postemergence control of certain winter annual and perennial grasses.

**Dosage**

Willowood Pronamide 50 WSP may be applied at the rate of 2 to 6 lb of product (1 to 3 lb active ingredient) per acre broadcast application. The rate will depend on the weed species present and the soil texture of the site being treated. Follow the weed control instructions listed in the chart below.

Lb of Willowood Pronamide 50 WSP Per Broadcast Acre <sup>1</sup>		
Weeds Controlled	Dependable Rainfall or Overhead Irrigation <sup>2</sup>	Comments
bluegrass, annual	2 – 4	Use low rates on light
quackgrass	4 – 6	to medium soils and high
ryegrass, perennial	4 – 6	rates on heavy soils

<sup>1</sup> Dosage rates specified are in pounds of Willowood Pronamide 50 WSP per acre broadcast application. Reduce rates accordingly for banded applications.

<sup>2</sup> For effective weed control, rainfall or overhead irrigation is essential following the application of Willowood Pronamide 50 WSP.

**Crop Tolerance**

Established cane fruit are tolerant to specified rates of Willowood Pronamide 50 WSP. Newly transplanted blackberries, boysenberries and raspberries must be well rooted and transplanted for at least 3 months prior to the application of Willowood Pronamide 50 WSP.

**Timing and Application**

Apply Willowood Pronamide 50 WSP only during the fall or winter months. For optimum results, apply Willowood Pronamide 50 WSP during November or December. Do not make applications when the ground is frozen. Mix the specified amount of Willowood Pronamide 50 WSP in clean water and apply uniformly with a low pressure ground sprayer in 20 to 50 gallons of water per acre.

**Blackberry/Boysenberry/Raspberry – Specific Use Restrictions**

- Do not apply more than 3 lb/acre active ingredient (6 lb/acre of Willowood Pronamide 50 WSP) or make more than one application of Willowood Pronamide 50 WSP per season.

**BLUEBERRY**

**Use Information**

Willowood Pronamide 50 WSP is a selective herbicide for fall and winter applications to established blueberries for both preemergence and postemergence control of winter annual and perennial grasses and chickweed and preemergence control of certain broadleaf weeds.

**Dosage Instructions**

Willowood Pronamide 50 WSP may be applied at the rate of 2 to 4 lb of product (1 to 2 lb active ingredient) per acre broadcast application. The rate will depend on the weed species present. Follow the weed control rates specified in the chart below:

<b>Weeds Controlled</b>	<b>Lb Willowood Pronamide 50 WSP Per Acre<sup>1</sup> Dependable Rainfall or Overhead Irrigation<sup>2</sup></b>
bluegrass, annual brome, downy (cheatgrass) chickweed oat, wild sorrel, red (from seed)	2
bentgrass bluegrass, Kentucky fescue, tall orchardgrass quackgrass ryegrass, perennial velvetgrass	4

<sup>1</sup> Dosage rates specified are in lb of Willowood Pronamide 50 WSP per acre broadcast application. Reduce rates accordingly for banded applications.

<sup>2</sup> For effective weed control, rainfall or overhead irrigation is essential following application of Willowood Pronamide 50 WSP.

**Crop Tolerance**

Established blueberry plants are tolerant to specified rates of Willowood Pronamide 50 WSP. Do not apply Willowood Pronamide 50 WSP to newly transplanted blueberries until roots are well established.

**Timing and Application**

Apply Willowood Pronamide 50 WSP in a single application during the fall or early winter months, but prior to soil freeze-up and snow cover. Optimum herbicidal activity occurs when applications are made under cool temperature conditions (55°F or less) and are followed by rainfall or overhead irrigation.

Mix the specified amount of Willowood Pronamide 50 WSP in clean water and apply uniformly with a low pressure ground sprayer in 20 to 50 gallons of water per acre.

**Blueberry – Specific Use Restrictions**

- Do not apply more than 2 lb/acre active ingredient (4 lb/acre Willowood Pronamide 50 WSP) or make more than one application of Willowood Pronamide 50 WSP per year.

## ALFALFA, CLOVER, BIRDSFOOT TREFOIL, CROWN VETCH AND SAINFOIN GROWN FOR FORAGE AND SEED

### Use Information

Willowood Pronamide 50 WSP is a selective herbicide for fall or winter applications to alfalfa, clover, birdsfoot trefoil, crown vetch and sainfoin for both preemergence and postemergence control of susceptible winter annual and perennial grasses and for preemergence control of certain broadleaf weeds.

### Dosage

Willowood Pronamide 50 WSP may be applied at the rate of 1 to 4 lb of product (0.5 to 2 lb active ingredient) per broadcast acre application. The required rate will depend on the weed species present as well as the type of irrigation used or the dependability of rainfall following application. The effective rate will be higher in low rainfall areas or where furrow irrigation is used than in areas of dependable rainfall or where overhead irrigation is practiced. Follow the weed control instructions given in the chart below for fall or winter applications of Willowood Pronamide 50 WSP:

Lb Willowood Pronamide 50 WSP Per Broadcast Acre		
Weeds Controlled	Dependable Rainfall Or Overhead Irrigation	Low Rainfall Of Furrow Irrigation
<b>Apply preemergence or postemergence to these weeds:</b> barley, foxtail bluegrass, annual brome, downy (cheatgrass) chickweed grain, volunteer oat, wild ryegrass, Italian	1 - 1.5	1.5 - 2
bluegrass, Kentucky orchardgrass ryegrass, perennial	1.5 - 2	2 - 3
quackgrass	2 - 3	3 - 4
<b>Apply preemergence only to these weeds:</b> sorrel, red (from seed)	1.5 - 2	2 - 3
mustard, wild radish, wild rocket, London shepherdspurse	3	4

**Note:** For control of spring germinating cheatgrass and dodder, refer to specific instructions under Spring Use Directions for Established Alfalfa.

### Timing and Application

Apply Willowood Pronamide 50 WSP during the fall or winter months. Optimum herbicidal activity occurs when applications are made under cool temperature conditions (55°F to 60°F) and are followed by rainfall or overhead irrigation. Applications must be made **before soil freeze-up**.

Applications may be made postemergence to established, actively growing or dormant forage legumes or to new plantings after the legume has reached the trifoliate leaf stage. In established forage legume stands, applications must be made after the last cutting when the weather and soil temperatures are cool. In fall seeded forage legumes, applications must be made after legumes have reached the trifoliate leaf stage. In spring-seeded forage legumes, applications of Willowood Pronamide 50 WSP must be made the following fall or early winter to control winter annual and perennial grasses. Do not use Willowood

Pronamide 50 WSP as a preplant or preemergence treatment or before the trifoliolate leaf stage of the legume has developed in new plantings as injury to the legume stand may result. Remove or disperse trash, crop residues and ashes before treatment.

Mix the specified amount of Willowood Pronamide 50 WSP in clean water and apply uniformly with a ground sprayer at 20 to 50 gallons per acre. Use a conventional herbicide sprayer equipped with flat fan nozzles at 40 to 60 psi.

**Rotation Crops**

Where rotations crops are to follow within one year of the Willowood Pronamide 50 WSP treatment to alfalfa, clover, birdsfoot trefoil, crown vetch or sainfoin, follow the directions given in the Product Information section of this label under Rotation Crop Planting Information.

**Specific Use Restrictions – Alfalfa, Clover, Birdsfoot Trefoil, Crown Vetch and Sainfoin**

- Do not use more than 2 lb/acre active ingredient (4 lb/acre Willowood Pronamide 50 WSP) per year
- Do not harvest alfalfa seed within 50 days after application.
- Do not graze or harvest for forage or dehydration within the following intervals after application:

Alfalfa – below 3 lb/acre Willowood Pronamide 50 WSP (west of Mississippi River)	25 days
Alfalfa – 3 to 4 lb/acre Willowood Pronamide 50 WSP (west of Mississippi River)	45 days
Clover, birdsfoot trefoil, crown vetch, sainfoin (entire U.S.) and alfalfa – Up to 4 lb/acre Willowood Pronamide 50 WSP (East of Mississippi River)	120 days

**SPRING USE DIRECTIONS FOR ESTABLISHED ALFALFA DODDER CONTROL IN ALFALFA SEED CROPS**

**Only in California, Idaho, Nevada, Oregon, Utah and Washington**

**Use Information**

For effective control Willowood Pronamide 50 WSP must be moved into the soil either by rainfall or irrigation before the germination of dodder. Preferably, irrigation must be made within 1 to 3 days following the Willowood Pronamide 50 WSP application, but can be delayed up to 2 weeks if necessary provided that irrigations precedes dodder germination. If irrigation of the field treated with Willowood Pronamide 50 WSP must be delayed, a light mechanical incorporation (maximum 1-inch depth) must follow the Willowood Pronamide 50 WSP application and the field irrigated within 2 weeks.

When using flood type or overhead sprinkler irrigation systems the amount of irrigation following the Willowood Pronamide 50 WSP application must not exceed one inch of water. Excess irrigation following the Willowood Pronamide 50 WSP application and prior to germination of dodder may decrease the effectiveness of Willowood Pronamide 50 WSP.

**Dosage and Timing**

For effective control, Willowood Pronamide 50 WSP must be applied before dodder germinates. Follow the directions given below depending on method of irrigation used.

**Furrow Irrigation:** Apply Willowood Pronamide 50 WSP at the rate of 3 to 4 lb of product (1.5 to 2 lb active ingredient) per acre. Incorporate lightly at time of application and irrigate within seven days.

**Flood Irrigation:** Apply Willowood Pronamide 50 WSP at the rate of 3 lb of product (1.5 lb active ingredient) per acre. Flood field with 0.5 to 1.0 inch of water within 1 to 3 days after application.

**Overhead Sprinkler Irrigation:** Use same directions as given above for flood irrigation.

Excessive amounts of irrigation water following Willowood Pronamide 50 WSP application may adversely affect the herbicidal activity.

**(SPRING APPLICATIONS)****Cheatgrass Control in Established Alfalfa (Spring Applications)****Dosage and Timing**

Spring application of Willowood Pronamide 50 WSP will control cheatgrass if application is made when cheatgrass has recently germinated or is expected to germinate. Apply Willowood Pronamide 50 WSP as a broadcast application at the rate of 1.5 to 2 lb of product (0.75 to 1 lb active ingredient) per acre.

**HEAD LETTUCE/ENDIVE/ESCAROLE/RADICCHIO GREENS****Use Information**

Willowood Pronamide 50 WSP is a selective herbicide for the control of certain annual grasses and broadleaf weeds in direct seeded or transplanted head lettuce, endive, escarole and radicchio greens.

**Weeds Controlled**

Willowood Pronamide 50 WSP is effective at 2 to 4 lb of product (1 to 2 lb active ingredient) per treated acre for the preemergence control of the following weeds:

**Grasses**

barley, foxtail  
barley, volunteer  
barnyardgrass  
bluegrass, annual  
brome, downy (cheatgrass)  
canarygrass  
crabgrass  
foxtail, yellow  
goosegrass  
lovegrass  
oats, volunteer  
panicum, fall  
ryegrass, Italian  
rye, volunteer  
wheat, volunteer

**Broadleaf Weeds**

carpetweed  
chickweed, common  
goosefoot, nettleleaf  
henbit  
knotweed  
lambquarters, common  
mornignglory, annual  
mustard, wild  
nettle, burning  
nightshade, black  
nightshade, hairy  
purslane, common  
rocket, London  
shepherdspurse  
smartweed, pale  
tomato, volunteer

**Dosage**

Willowood Pronamide 50 WSP may be applied at the rate of 2 to 4 lb of product (1 to 2 lb active ingredient) per acre broadcast application. The dosage rate required is dependent on soil texture and

method of irrigation. At rates specified on this label, Willowood Pronamide 50 WSP may not be applied for weed control on highly organic (peat and muck) soils.

For head lettuce, endive, escarole and radicchiogreens, follow the dosage instructions listed in chart below:

<b>Lb Willowood Pronamide 50 WSP Per Broadcast Acre<sup>1</sup></b>			
<b>Weeds</b>	<b>Dependable Rainfall Or Overhead Irrigation</b>	<b>Less Dependable Rainfall or Furrow Irrigation</b>	<b>Soil Texture Group<sup>2</sup></b>
susceptible annual Grasses	2 - 3 (surface application)	3 - 4 (soil incorporation)	Coarse and medium Textured soils
broadleaf weeds	3 -4 (surface application)	4 (soil incorporation)	Fine textured soils

<sup>1</sup> Reduce dosage rate accordingly for banded applications.

<sup>2</sup> Soil Texture Group

**Coarse:** sand, loamy sand, sandy loam

**Medium:** loam, silt loam, silt, sandy clay loam

**Fine:** silty clay loam, clay loam, sandy clay, silty clay, clay

**Crop Tolerance**

Most varieties of head lettuce are highly tolerant of the specified rates of Willowood Pronamide 50 WSP. Do not use more than 3 lb Willowood Pronamide 50 WSP on val temp, grande verde and prima verde varieties of crisp head lettuce, or on endive, escarole and radicchio greens.

**Timing and Application**

Willowood Pronamide 50 WSP can be applied either pre-plant, post-plant or postemergence to head lettuce, endive, escarole or radicchio greens in banded, bed-topped or broadcast applications. Most applications will be made preemergence to the crop just before or after planting and preemergence to the weeds. Applications can be made before or after thinning of head lettuce but must be made prior to weed emergence. Do not apply Willowood Pronamide 50 WSP to head lettuce within 55 days of harvest and do not make more than one application to each crop of head lettuce, endive, escarole or radicchio greens.

Mix the specified amount of Willowood Pronamide 50 WSP in clean water and apply uniformly with a ground sprayer in 20 to 50 gallons of water per treated acre. Reduce dosage and volume accordingly for banded treatments. Use a standard low pressure sprayer equipped with flat fan nozzles that provide uniform spray distribution.

**Application Moisture Requirements**

Willowood Pronamide 50 WSP acts mainly through root absorption, therefore it is necessary to move Willowood Pronamide 50 WSP into the root zone of germinating weeds to provide effective control. This can be accomplished by overhead sprinkler irrigation, by rainfall or by shallow mechanical incorporation.

**Sprinkler Irrigation**

Willowood Pronamide 50 WSP can be applied to the soil surface without mechanical incorporation after planting or transplanting if overhead irrigation is used. An initial irrigation of 1 to 2 inches must promptly follow the application of Willowood Pronamide 50 WSP, especially in hot weather.

**Applications Dependent on Natural Rainfall**

In areas of dependable natural rainfall, Willowood Pronamide 50 WSP can be applied as a surface treatment preemergence to the weeds. Applications to direct seeded or transplanted head lettuce, endive, escarole or radicchio greens are most successful when followed by 1/2 to 1 inch of rainfall within two to three days after application.

**Furrow Irrigation – Mechanical Incorporation**



17 of 23

Where rainfall is not dependable or supplementary overhead irrigation is not used, shallow pre-plant incorporation is required. PTO-driven incorporators or rolling cultivators that thoroughly mix Willowood Pronamide 50 WSP into the top 2 inches of soil are suggested.

Incorporation must be simultaneous or immediately after application of Willowood Pronamide 50 WSP, especially in hot weather. Irrigation must be started as soon as possible.

Where furrow irrigation is used, spray application and mechanical incorporation must be made after beds have been formed. Willowood Pronamide 50 WSP will not be as effective if disced in prior to bed shaping. Hoeing, thinning or shallow cultivation of soil treated with Willowood Pronamide 50 WSP will not destroy its herbicidal activity.

**Temperature**

Willowood Pronamide 50 WSP is not highly volatile, but it may degrade rather quickly if left exposed on the soil surface in warm weather. If applied when air temperatures exceed 85°F it must be shallow incorporated or watered into the soil as soon as possible, preferably within 1 or 2 days.

**Rotation Crops**

Follow the directions given in the Product Information section of this label under Rotation Crop Planting Information.

**Head Lettuce/Endive/Escarole/Radicchio Greens – Specific Use Restrictions**

- Do not apply Willowood Pronamide 50 WSP to head lettuce, endive, escarole, radicchio varieties that will be harvested less than 55 days after treatment.
- Do not apply more than one application of Willowood Pronamide 50 WSP to each crop of head lettuce, endive, escarole or radicchio greens.
- Do not apply Willowood Pronamide 50 WSP to leaf lettuce.
- Do not apply more than 2 lb/acre active ingredient (4 lb/acre Willowood Pronamide 50 WSP) per acre.

**RHUBARB**

**(Oregon and Washington Only)**

**Use Information**

Willowood Pronamide 50 WSP is a selective herbicide for fall and winter applications to established rhubarb for both preemergence and postemergence control of winter annual and perennial grasses and chickweed and preemergence control of certain broadleaf weeds.

**Dosage:**

Willowood Pronamide 50 WSP may be applied at the rate of 2 to 4 lb of product (1 to 2 lb active ingredient) per acre broadcast application. The rate will depend on the weed species present. Follow the weed control instructions listed in the chart below:

<b>Weeds Controlled</b>	<b>Lb Willowood Pronamide 50 WSP Per Acre<sup>1</sup> Dependable Rainfall or Overhead Irrigation<sup>2</sup></b>
bluegrass, annual brome, downy (cheatgrass) chickweed oat, wild sorrel, red (from seed)	2
bentgrass <sup>3</sup> bluegrass, Kentucky fescue, tall <sup>3</sup> orchardgrasses <sup>3</sup> quackgrass	4

ryegrass, perennial velvetgrass <sup>3</sup>	
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- <sup>1</sup> Dosage rates specified are in pounds of Willowood Pronamide 50 WSP per acre broadcast application. Reduce rates accordingly for banded applications.
- <sup>2</sup> For effective weed control, rainfall or overhead irrigation is essential following the application of Willowood Pronamide 50 WSP.
- <sup>3</sup> Willowood Pronamide 50 WSP at the rate of 4 lb product per acre may only provide partial control to these weeds

**Crop Tolerance**

Established rhubarb plants, in a dormant growth condition, are tolerant to specified rates of Willowood Pronamide 50 WSP. Do not apply Willowood Pronamide 50 WSP to newly transplanted rhubarb or to rhubarb during the active growing stage.

**Timing and Application**

Apply Willowood Pronamide 50 WSP in a single application during the fall or winter months as a broadcast surface application to dormant rhubarb. Optimum herbicidal activity occurs when applications are made after soil temperatures drop to 55°F or less and are followed by rainfall or overhead irrigation. Applications must be made prior to soil freeze up and snow cover.

Mix the specified amount of Willowood Pronamide 50 WSP in clean water and apply uniformly with a low-pressure ground sprayer in 20 to 50 gallons of water per acre.

**Rhubarb – Specific Use Restrictions**

- Do not apply Willowood Pronamide 50 WSP to rhubarb within 38 days of harvest.
- Use of Willowood Pronamide 50 WSP in rhubarb is restricted to Oregon and Washington only.
- Do not apply more than 2 lb/acre active ingredient (4 lb/acre Willowood Pronamide 50 WSP) or make more than one application per year.

**APPLE, APRICOT, CHERRY, NECTARINE, PEACH, PEAR, PLUM, PRUNE AND GRAPE PLANTINGS**

**Use Information**

Willowood Pronamide 50 WSP is a selective herbicide for use in directed spray applications for the control of winter annual and perennial grasses and certain broadleaf weeds in non-bearing and bearing apples, apricots, cherries, nectarines, peaches, pears, plums, prunes and grape plantings.

**Weed Control**

Willowood Pronamide 50 WSP is effective at 2 to 8 lb of product (1 to 4 lb active ingredient) per treated acre for the preemergence and postemergence control of susceptible winter annual and perennial grasses and chickweed and for preemergence control only of other broadleaf weeds listed on this label. Refer to chart in dosage rate section below for specific weeds controlled.

**Dosage and Timing**

Willowood Pronamide 50 WSP may be applied in a single, directed application to labeled fruit trees and grape plantings at dosage rates of 2 to 8 lb of product (1 to 4 lb active ingredient) per treated acre. Application of Willowood Pronamide 50 WSP must be in the fall, after the fruit is harvested, but prior to soil freeze-up.

The dosage rate required for effective weed control will depend on the weed species present and the soil texture of the area being treated. Follow the specific rate instructions given in the chart below for the use of Willowood Pronamide 50 WSP in labeled fruit trees and grapes.

	<b>Lb Willowood Pronamide 50 WSP Per Acre</b> <b>Dependable Rainfall or</b> <b>Overhead Irrigation</b> <b>Soil Texture Group<sup>1</sup></b>
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Weeds Controlled	Coarse	Medium	Fine
bluegrass, annual brome, downy (cheatgrass) chickweed grain, volunteer oat, wild ryegrass, Italian sorrel, red (from seed)	2	3	4
bluegrass, Kentucky fescue, tall orchardgrass quackgrass ryegrass, perennial	3 - 4	4 - 6	6 - 8

Soil Texture Group:

**Coarse:** sand, loamy sand, sandy loam

**Medium:** loam, silt loam, silt, sandy clay loam

**Fine:** silty clay loam, clay loam, sandy clay, silty clay, clay

**Application**

Mix the specified amount of Willowood Pronamide 50 WSP in clean water and apply uniformly in 40 to 50 gallons of water per acre. Use a low pressure ground sprayer equipped with a breakaway boom and flat fan or off-center (OC) nozzles. Direct Willowood Pronamide 50 WSP to the soil and the base of trees and vines.

**Note:** Dosage instructions listed on this label are for surface broadcast application. For banded treatments, reduce the amount of Willowood Pronamide 50 WSP used per acre according to the following formula:

$$\frac{\text{Width (in inches)}}{\text{Row Width (in inches)}} \times \text{Rate per Acre Broadcast} = \text{Amount Needed per Acre for Band Application}$$

Willowood Pronamide 50 WSP may not be soil incorporated.

**Crop Tolerance**

When used according to label directions, established non-bearing or bearing fruit trees and grapes listed on this label are very tolerant to Willowood Pronamide 50 WSP. Willowood Pronamide 50 WSP may not be applied to seedling trees or vines less than 1 year old or to fall transplanted stock transplanted less than 1 year or to spring transplanted stock transplanted less than 6 months.

**Cultural Considerations**

Willowood Pronamide 50 WSP acts mainly through root absorption in sensitive weed species. Dependable rainfall or overhead irrigation is essential following the application for effective weed control. Trash-free areas create ideal conditions for rapid movement of Willowood Pronamide 50 WSP into the weed root zone following rain or irrigation. Clean cultivation before application is preferable but not necessary.

To obtain optimum weed control in areas not clean cultivated, the area to be treated must be free of surface litter (dead or decaying weeds, leaves, mowing clippings, etc.) If area to be treated is under a mixed grass or weed sod, it must be mowed and the clippings removed.

**Apple, Apricot, Cherry, Nectarine, Peach, Pear, Plum, Prune and Grape Plantings – Specific Use Restrictions**

- Do not feed or allow livestock to graze areas treated with Willowood Pronamide 50 WSP.
- Do not apply more than 4 lb/acre active ingredient (8 lb/acre of Willowood Pronamide 50 WSP) to labeled fruit trees or grapes or make more than one application per year.

## WINTER PEAS

### Winter Annual Weed Control In Winter Peas (Idaho, Oregon and Washington Only)

#### Use Information

Willowood Pronamide 50 WSP is a selective herbicide for the control of certain winter annual grasses and broadleaf weeds in winter peas (*Pisum sativum* var. *arvense*).

#### Grasses

barley, volunteer  
brome, downy  
oat, volunteer  
oat, wild  
ryegrass, Italian  
wheat, volunteer

#### Broadleaf Weeds

chickweed, common  
chickweed, mouse-ear  
henbit<sup>1</sup>

<sup>1</sup> Preemergence control only

#### Dosage

Apply Willowood Pronamide 50 WSP in a single, broadcast application at the rate of 1.5 to 3 lb product (0.75 to 1.5 lb active ingredient) per treated acre. For grass weeds greater than three inches in height, use the higher rate.

#### Timing

Apply Willowood Pronamide 50 WSP from mid-fall to early winter (November to January) early postemergence to the peas. Peas should be in the second node stage of growth (two to three inches in size) at time of application.

#### Application

Mix the specified amount of Willowood Pronamide 50 WSP in clean water and apply uniformly with a ground sprayer in 20 to 50 gallons of water per treated acre. Use a conventional herbicide sprayer equipped with flat fan nozzles that provide uniform spray distribution. Do not feed treated vines to livestock or allow animals to graze on treated areas.

#### Winter Peas - Specific Use Restrictions

- Do not feed treated vines to livestock or allow animals to graze on treated areas.
- Do not apply more than 1.5 lb/acre active ingredient (3 lb/acre Willowood Pronamide 50 WSP) or make more than one application per year.

## WOODY ORNAMENTALS, NURSERY STOCK OF ORNAMENTALS, CHRISTMAS TREES

#### Use Information

Willowood Pronamide 50 WSP is a selective herbicide for fall applications to established woody ornamentals, nursery stock of ornamentals and Christmas trees for the control of winter annual and perennial grasses and certain broadleaf weeds.

#### Crop Tolerance

At specified rates of Willowood Pronamide 50 WSP the following trees and shrubs are tolerant to topical applications made in the fall:

arborvitae	firethorn	mountain ash
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ash	flowering cherry	mountain laurel
azalea	flowering crabapple	oak
barberry	flowering quince	Ohio buckeye
basswood	forsythia	pine
beech	ginkgo	poplar
birch	hawthorn	privet
boxwood	hemlock	rhododendron
bradford pear	holly	spirea
cedar	honey locust	spruce
cotoneaster	juniper	sweetgum
dogwood	lilac	sycamore
douglas fir	linden	tuliptree
eastern redbud	London plane	viburnum
elm	magnolia	walnut
euonymus	maple	willow
fir	mock orange	yew

Willowood Pronamide 50 WSP may be used on established trees and woody ornamentals. Willowood Pronamide 50 WSP may not be used on seedling trees or shrubs less than one year old or to fall transplanted stock transplanted less than one year or to spring transplanted stock transplanted less than six months.

**Weed Control**

Willowood Pronamide 50 WSP may be applied in fall applications at the rate of 2 to 4 lb of product (1 to 2 lb active ingredient) per broadcast acre for the preemergence and postemergence control of susceptible winter annual and perennial grasses and chickweed and for preemergence control only of other broadleaf weeds listed on this label. Refer to chart in Dosage and Timing section below for specific weeds controlled.

**Dosage and Timing**

Willowood Pronamide 50 WSP may be applied in a single, fall application, either directed or topically applied, to woody ornamentals, nursery stock or ornamentals or Christmas trees at the rate of 2 to 4 lb of product (1 to 2 lb active ingredient) per broadcast acre. Apply Willowood Pronamide 50 WSP in the fall prior to leaf drop and soil freeze-up. For control of winter annual and perennial grasses or chickweed, applications can be made either preemergence or postemergence to the weeds. For control of other labeled broadleaf weeds, preemergence applications must be used to achieve control.

The dosage rate required will depend on the weed species present in the area to be treated. Follow the weed control instructions given in the chart below:

Weeds Controlled	Lb Willowood Pronamide 50 WSP Per Acre Broadcast Application
barley, foxtail bluegrass, annual brome, downy (cheatgrass) chickweed grain, volunteer ryegrass, Italian sorrel, red (from seed)	2
mustard, wild rocket, London shepherdspurse	3
bluegrass, Kentucky orchardgrass quackgrass ryegrass, perennial	4

**Application**

Mix the specified amount of Willowood Pronamide 50 WSP in clean water and apply uniformly in 20 to 50 gallons per acre. Use a low pressure ground sprayer equipped with flat fan nozzles spaced to provide uniform distribution. Dosages listed on this label are for surface broadcast application. For banded treatments down the row reduce the amount of Willowood Pronamide 50 WSP used per acre according to the following formula:

$$\frac{\text{Band Width (in inches)}}{\text{Row Width (in inches)}} \times \text{Rate per Acre Broadcast} = \text{Amount Needed per Acre for Band Application}$$

Willowood Pronamide 50 WSP must not be soil incorporated.

**Note:** Most ornamental turf grass species and ground covers are sensitive to Willowood Pronamide 50 WSP. Avoid contact of Willowood Pronamide 50 WSP with these plants from either direct application, spray drift or from applications to areas that may drain into established ornamental turf and ground cover.

**Soil and Moisture Requirements**

Willowood Pronamide 50 WSP is most active in coarse to medium textured soils of low organic matter and is relatively inactive in peat or muck soils or mineral soils high in organic matter content at rates specified in this label. Herbicidal activity is best in soils containing less than 4 percent organic matter. Use in soils of higher organic matter content may result in inconsistent or incomplete weed control.

Willowood Pronamide 50 WSP acts mainly through root absorption in sensitive weed species. Dependable rainfall or overhead irrigation is essential following application for effective weed control.

**Woody Ornamentals, Nursery Stock of Ornamentals/Christmas Trees – Specific Use Restrictions**

- Apply Willowood Pronamide 50 WSP in the fall prior to soil freeze-up.
- Do not soil incorporate Willowood Pronamide 50 WSP.
- Do not harvest plants for food or feed for at least one year after treatment.
- Do not apply more than 2 lb/acre active ingredient (4 lb/acre Willowood Pronamide 50 WSP) or make more than one application per year.

**ATTENTION:** This product contains propyzamide (pronamide) a chemical known to the State of California to cause cancer.

**STORAGE AND DISPOSAL**

Do not contaminate water, food, or feed by storage or disposal.

**PESTICIDE STORAGE:** Store in a cool, dry place but not below 32°F (0°C). Do not remove package from container except for immediate use.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**CONTAINER DISPOSAL:** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available or, dispose of the empty outer bag in the trash as long as WSP is unbroken.

**CONDITION OF SALE AND LIMITATION OF WARRANTY AND LIABILITY**

**NOTICE:** Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Ineffectiveness or other unintended consequences

may result because of such factors as manner of use or application, weather, presence of other materials or other influencing factors in the use of the product, which are beyond the control of Willowood, LLC or Seller. To the extent consistent with applicable law, all such risks shall be assumed by Buyer and User, and Buyer and User agree to hold Willowood, LLC and Seller harmless for any claims relating to such factors.

Willowood, LLC warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or Willowood, LLC, and Buyer and User assume the risk of any such use. **TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, WILLOWOOD, LLC MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.**

To the extent consistent with applicable law, neither Willowood, LLC nor Seller shall be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF WILLOWOOD, LLC AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF WILLOWOOD, LLC OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

Willowood, LLC and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of Willowood, LLC.

[EPA approval date]