



U.S. ENVIRONMENTAL PROTECTION AGENCY  
 Office of Pesticide Programs  
 Registration Division (7505C)  
 401 "M" St., S.W.  
 Washington, D.C. 20460

EPA Reg. Number:

100-927

Date of Issuance:

DEC 14 1998

**NOTICE OF PESTICIDE:**

- Registration
- Reregistration

(under FIFRA, as amended)

Term of Issuance:

Conditional

Name of Pesticide Product:

Rave Herbicide

Name and Address of Registrant (include ZIP Code):

Novartis crop Protection, Inc.  
 P.O. Box 18300  
 Greensboro, NC 27419

**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 sec. 3(c)(7)(A) provided that you:

1. Submit and/or cite all data required for registration of your product under FIFRA sec. 3(c)(5) when the Agency requires all registrants of similar products to submit such data; and submit acceptable responses required for reregistration of your product under FIFRA section 4.

2. Make the following label changes before you release the product for shipment:

- a. Revise the EPA Registration Number to read "EPA Reg. No. 100-927".
- b. Revise the paragraph under "Hazards To Humans And Domestic Animals" to read as follows:

"Caution. Harmful if swallowed or absorbed through skin. Causes eye irritation. Avoid contact with skin, eyes or clothing."

Signature of Applicant:

Date:

DEC 14 1998

- c. Delete the phrase "if irritation persists" from the dermal statement of practical treatment and add an oral statement of practical treatment as follows:

"If swallowed: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. If person is unconscious, do not give anything by mouth and do not induce vomiting."

[Note: An inhalation statement is not required, based on the product's TOX IV classification; therefore, at your discretion, you may delete the inhalation statement of practical treatment on the submitted labeling.]

- d. Move the following statements which are currently located under the heading "Prohibitions" in the Storage and Disposal section to the "Precautions and Restrictions for Rave Herbicide". They should be placed under the heading "Ground Water Protection" on page 5.

"This product may not be mixed, loaded, or used within 50 feet of all wells, including abandoned wells, drainage wells, and sinkholes."

- e. Revise the "Maximum Application Rate" restrictions at the bottom of page 5 and top of page 6 to read as follows:

"The maximum amount of Rave that can be applied in a calendar year is 4 oz./A on wheat and barley and 5 oz./A on pasture, range, and conservation Reserve Program acres. Do not make more than one application per calendar year."

- f. Add the following statement to the Grazing restrictions on page 15:

"Animals cannot be removed from treated area for slaughter less than 30 days after application."

3. Submit one copy of the revised final printed label for the record before you release the product for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

page 3  
EPA Reg. No. 100-927

A stamped copy of the label is enclosed for your records.  
Copies of EPA's product chemistry and acute toxicity reviews for  
this product are also enclosed.

Joanne I. Miller  
Product Manager (23)  
Herbicide Branch  
Registration Division (7505C)

Enclosures

RD:STANTON:PM Team 23:Rm. 237:CM-2:305-5218:Disk #9:100-OET.REG

CONCURRENCES

SYMBOL *	7505C							
SURNAME *	S. Stanton							
DATE *	Dec 14, 1998							

Rave™

HERBICIDE

For weed control in wheat, barley, pasture, rangeland, and Conservation Reserve Program acres

Made in Switzerland

Active Ingredients:

triasulfuron (CAS No. 82097-50-5) .....	8.8%
sodium salt of dicamba (CAS No. 1982-69-0)* .....	55.0%
Other Ingredients:	36.2%
Total:	100.0%

\*This product contains 50.0% 3,6-dichloro-*o*-anisic acid (dicamba).

Rave is a water-dispersible granule.

**KEEP OUT OF REACH OF CHILDREN.**

**CAUTION**

See additional precautionary statements and directions for use inside booklet.

EPA Reg. No. 100-

NCP (DRAFT)

5 POUNDS  
Net Weight

ACCEPTED  
with COMMENTS  
In EPA Letter Dated

DEC 14 1998

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.

100-927

**DIRECTIONS FOR USE AND CONDITIONS OF SALE AND WARRANTY**

**IMPORTANT:** Read the entire **Directions for Use** and the **Conditions of Sale and Warranty** before using this product. If terms are not acceptable, return the unopened container at once.

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**CONDITIONS OF SALE AND WARRANTY**

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The **Directions for Use** of this product reflect the opinion based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application all of which are beyond the control of Novartis Crop Protection, Inc. or the Seller. All such risks shall be assumed by the Buyer.

Novartis warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the **Directions for Use** subject to the inherent risks referred to above. **Novartis makes no other express or implied warranty of Fitness or Merchantability or any other express or implied warranty. In no case shall Novartis or the Seller be liable for consequential, special, or indirect damages resulting from the use or handling of this product.** Novartis and the Seller offer this product, and the Buyer and user accept it, subject to the foregoing **Conditions of Sale and Warranty**, which may be varied by agreement in writing signed by a duly authorized representative of Novartis.

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**DIRECTIONS FOR USE**

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It is a violation of federal law to use this product in a manner inconsistent with its labeling.

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 12 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:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks

**FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN CROP INJURY, POOR WEED CONTROL, AND/OR ILLEGAL RESIDUES.**

**GENERAL INFORMATION**

Rave is a selective herbicide for control of many broadleaf weeds in wheat, barley, pasture, rangeland, and Conservation Reserve Program (CRP) acres. This product should be applied postemergence; i.e., after emergence of the crop and weeds. Refer to Table 1 for a listing of weeds controlled. Rave is a water-dispersible granule which must be thoroughly mixed in water and applied as a spray.

Rave kills weeds using two modes of action. One active ingredient inhibits the acetolactate synthase (ALS) enzyme which is necessary for plant growth. The other active ingredient disrupts normal plant growth. Growth of susceptible weeds is inhibited soon after application of Rave. Leaves of susceptible plants turn yellow and/or red followed by death of the growing point.

Because Rave is a herbicide with two modes of action, weed resistance is less likely to be a problem than when products with a single mode of action are used. However, in fields where ALS resistant weed biotypes occur that are not controlled by dicamba products such as Banvel® or Banvel SGF®, a non-ALS inhibitor herbicide that is active on those weeds must either be tank mixed with Rave (see tank mix section) or used in place of Rave.

**Precautions and Restrictions for Rave Herbicide:**

- Use Rave in the following states only: CO (except the San Luis Valley), ID, KS, MN, MT, ND, NE, NM, NV, OK, OR, SD, TX, UT, WA, and WY.
- Do not use Rave in the San Luis Valley of CO.
- In WA, abide by all sulfonyleurea aerial application rulings in effect by the Washington Department of Agriculture.
- To avoid possible crop injury, do not apply Rave to wheat or barley that is under stress. Common stress factors include: (1) extremes in temperature or rainfall; (2) disease or insect pressure; or (3) when extremes in temperature or rainfall are expected within a few days of application.
- Application of Rave to small grains during periods of rapid growth may result in crop leaning. This condition is temporary and will not affect crop yield.
- Delay application of Rave for at least 60 days after any in-furrow application of an organophosphate insecticide.
- Do not apply Rave where wheat or barley is underseeded with legumes

or forage grasses, as injury to the undersown crop(s) may occur.

- Do not apply Rave within 4 hours of an expected rainfall or sprinkler irrigation event. Rainfall or irrigation soon after application may reduce foliar uptake by weeds, thereby reducing weed control.
- Do not apply Rave to stressed or dormant weeds, or when environmental conditions that stress weeds or cause weed dormancy are expected within one week after application.
- For optimum control, fall applications of Rave must be made before the emerged weeds are exposed to extended periods of freezing temperatures.
- Do not use Rave in a herbicide tank mixture if wild oat is the primary target weed.
- Do not apply Rave to irrigated land if the tail water will be used on non-target land. Do not contaminate irrigation ditches or water used for domestic purposes.
- Do not allow spray to drift to non-target crops, other desirable plants, recreational areas, ornamental plants, or onto land scheduled to be planted with crops other than wheat.
- Do not apply Rave where its movement through the soil or on soil particles may place it in contact with non-target plants or their roots. Do not apply Rave to snow-covered soil or to frozen soil surfaces, since runoff may occur.

**Ground Water Protection:** Do not use Rave in fields where the combination of all three of the following criteria occurs:

- Historic average annual rainfall (or the combination of historic annual rainfall plus planned irrigation of the crop) exceeds 35 inches per year; and
- The ground water table is 30 ft. or less below the soil surface; and
- The soil is classified as a coarse soil (sand or loamy sand soil texture).

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

**Preharvest Interval:** Do not harvest hay or grain from treated fields for 37 days after treatment.

**Maximum Application Rate:** The maximum amount of Rave that can be



applied in a calendar year is 5 oz./A on wheat and barley and 7 oz./A on pasture, range, and Conservation Reserve Program acres.

- Avoid all direct and indirect contact with nontarget plants. Do not apply near desirable vegetation, and allow adequate distance between target area and desirable plants.

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## **SPRAY EQUIPMENT**

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Calibrate spray equipment before use.

### **Agitation**

Use equipment that is capable of continuous and vigorous tank agitation. When the tank is full, the agitation system should be capable of creating a rippling or rolling action on the liquid surface.

### **Screens**

Use a 16-mesh strainer at the tank outlet. At the nozzles, use the screen recommended by the nozzle supplier.

### **Ground Application**

- For ground application of 5-20 gals./A, use only conventional or low pressure flat fan nozzles to assure adequate coverage.
- For ground application of more than 20 gals./A, rain-drop or flood-jet nozzles may be used.
- In dense stands of wheat or barley, use an adequate spray volume to provide uniform coverage of the weeds.

### **Aerial Application**

- Use equipment that delivers a spray volume of 2-10 gals./A.
- Apply at a maximum height of 10 ft. above the crop with low drift-nozzles at a maximum pressure of 40 psi and wind speed not exceeding 10 mph to assure application within the target area.
- Avoid application under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur.
- Avoid application to humans or animals. Flagmen and loaders should avoid inhalation of spray mist and prolonged contact with skin.

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## MIXING AND APPLICATION PROCEDURES

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### Water as Carrier

1. Be sure the sprayer is clean.
2. Always use clean water. Fill the tank with 25% of the total water needed, and begin agitation.
3. Be certain that the agitation system is working properly and that it creates a rippling or rolling action on the liquid surface.
4. Add the appropriate amount of Rave to the tank.
5. Complete filling of the tank, maintaining sufficient agitation at all times to ensure surface action. This applies to both spray and nurse tanks.
6. Disperse Rave completely (agitate for 1-2 minutes) before adding surfactant or another chemical to the tank.
7. A nonionic surfactant with a minimum of 80% of the constituents effective as a spray adjuvant must be added at 1-2 pts./100 gals. of spray volume (0.125-0.25% volume per volume) for all applications of Rave when water is the carrier. Use 0.25% v/v surfactant when applying Rave to dense weed populations or under dry conditions. On Bermudagrass pastures, a good quality crop oil concentrate at 1 qt./100 gals. may be substituted for nonionic surfactant.
8. Maintain continuous agitation while the spray suspension is in the tank.
9. Mix only sufficient spray suspension to be used the same day; however, Rave will remain active in the spray mixture for 36 hours.

### Liquid Fertilizer as Carrier (Slurry Method)

Before mixing large quantities, a compatibility test should be conducted. The mixing steps are the same as listed for water above, except Rave must first be dispersed in water as described in the following steps prior to adding it to the spray tank (step 4 above).

1. Partially fill a container with water.
2. Add Rave to the container.
3. Mix or shake it vigorously until the product is completely dispersed.
4. When Rave is completely dispersed, add the slurry to the spray

tank. When using a surfactant with liquid fertilizer solutions, add the surfactant to this water slurry before adding the mixture to the spray tank.

5. Rinse the container with water, and add the rinsate to the spray tank.
6. Continue with steps 5-9 in the **Water as Carrier** instructions above.

## OR

### **Liquid Fertilizer as Carrier (Inductor or Cone Method)**

Rave may be mixed in an inductor cone before adding it to the liquid fertilizer on sprayers so equipped, as described in the following steps.

1. Shut off inductor cone valve and partially fill the cone with water.
2. Add Rave to the water in the cone and wait for the Rave to disperse.
3. When Rave has completely dispersed, open the inductor cone valve in order to add Rave mixture to the spray tank. When using a surfactant with liquid fertilizer solutions, add the surfactant to the water mixture in the cone before opening the inductor cone valve.
4. Rinse the inductor cone thoroughly and keep the valve open so the rinsate is added to the spray tank.
5. Continue with steps 5-9 in the **Water as Carrier** instructions above.

**Note:** The addition of surfactant to spray mixtures which are more than 50% fertilizer can cause increased temporary leaf burn on the crop. The surfactant may be omitted from the spray solution if the carrier contains more than 50% fertilizer. If the surfactant is omitted, control of some of the more difficult to control weeds may be reduced under unfavorable conditions (i.e., larger weeds, drought-stressed weeds, etc.). For optimum control of those species, a 50% fertilizer solution as a carrier should be used with an appropriate surfactant.

### **Recommendations to Avoid Spray Drift**

Do not allow spray from either ground or aerial equipment to drift onto adjacent land or crops. When drift may be a problem, do everything possible to reduce spray drift, including:

- Do not spray if wind speeds are or become excessive. Do not spray if wind speed is 10 mph or greater. If sensitive crops or plants are down-wind, extreme caution must be used under all conditions. Do not spray if winds are gusty.

- Use extreme caution when conditions are favorable for drift (high temperatures, drought, low relative humidity), especially when sensitive plants are nearby.
- Drift from aerial applications of the herbicide is likely to result in damage to sensitive plants adjacent to the treatment site. This damage may occur at levels below concentrations that can be detected with chemical analysis.
- Do not apply when a temperature inversion exists. If inversion conditions are suspected, consult with local weather services before making an application.
- Further reductions in drift can be obtained by:
  1. Using large droplet size sprays. Do not use nozzles that produce small droplets. Orient nozzles downward and slightly backward as needed to reduce drift for ground applications.
  2. Orienting nozzles straight back with the windstream, using straight stream orifices for aerial applications. Use the lowest number of nozzles practical with the largest possible orifice size to obtain a 2-10 gals./A aerial spray volume. Application height and boom length should be selected according to manufacturer's instructions to minimize drift.
  3. Increasing the volume of spray mixture (for example, a minimum of 20 gals./A for ground applications) by using higher flow rate nozzles. Using lower pressure with the appropriate nozzles to obtain larger droplets will also reduce drift.
  4. Applying as close to target plants as practical, while maintaining a good spray pattern for adequate coverage.

### **Cleaning Equipment after Rave Application**

Many crops are extremely sensitive to low rates of Rave. Special attention must be given to cleaning spray equipment before spraying a crop other than wheat or barley.

Mix only as much spray suspension as needed. Immediately after spraying, remove all traces of Rave from spraying equipment using this procedure:

1. Flush tank and hoses with clean water for 10 minutes.
2. Refill spray tank with water, and add 1 gal. household ammonia (containing 3% active) per 100 gals. of water. Flush solution through hoses, boom, and nozzles; and let stand in tank for 15 minutes with agitation before disposing, according to state and local regulations.

**Note:** A commercial tank cleaner may be used in place of the ammonia solution if it has been proven effective for use with Rave. Contact your Novartis Crop Protection representative or dealer for information about the suitability of specific tank cleaning products before using them according to manufacturer's directions.

3. Repeat step 2.
4. Repeat step 1.
5. Clean nozzles and screens separately. To remove traces of cleaning solution, flush the nozzles and screens with clean water.
6. Flush boom and hoses with clean water for 5 minutes, just before using the sprayer for the first time after application of Rave.

**WEED CONTROL**

**Table 1. Weeds Controlled or Suppressed by Rave at 2-3.5 and 4 oz./A Applied Postemergence to Crop and Weeds**

Weeds Controlled or Suppressed by Rave Applied Postemergence	Weed Size Range for Optimum Control (inches)	
	Rave rate -	
	2-3.5 oz./A	4 oz./A
Bindweed, Field		1-4*
Broomweed, Common		1-4
Buckwheat, Tartary		1-3
Buckwheat, Wild**	1-3*	1-4
Buttercup, Bur		2-6
Buttercup, Creeping		2-6
Buttercup, Tall		2-6
Chamomile, Corn	1-4*	1-4
Chickweed, Common	1-3*	1-3
Chickweed, Jagged (Umbrella Spurry)		1-4
Cockle, Corn	1-4*	1-4
Cockle, Cow		1-4*
Cocklebur, Common	1-6*	1-6
Coreopsis, Plains		1-4
Cornflower		1-4
Croton, Woolly		1-4
Dock, Curly		1-6*
Eveningprimrose, Cutleaf	1-4*	1-4
Fiddleneck, Coast (Tarweed)	1-4	1-6
Fleabane, Annual	1-3*	1-4
Fleabane, Rough	1-3*	1-4
Flixweed	1-6	1-12
Forget-me-not		1-3
Garlic, Wild	2-8*	2-14*
Goldenrod		1-6*
Gromwell, Corn	1-4*	1-4
Groundsel, Common	1-4*	1-4
Henbit	0-2*	0-2
Horseweed (Marestail)	2-6*	2-8
Houndstonque		1-6*
Knotweed, Prostrate		1-4*
Kochia	1-4	2-8
Ladysthumb		1-6
Lambsquarters, Common	1-4*	1-4
Lettuce, Prickly (China Lettuce)	2-6*	2-6
Mallow, Common	1-4*	1-4
Marshelder		1-4

(Continued)

**Table 1. Weeds Controlled or Suppressed by Rave at 2-3.5 and 4 oz./A Applied Postemergence to Crop and Weeds (Continued)**

Weeds Controlled or Suppressed by Rave Applied Postemergence	Weed Size Range for Optimum Control (inches)	
	Rave rate -	
	2-3.5 oz./A	4 oz./A
Minerslettuce		1-4
Morningglories, Annual		1-6*
Mustard, Blue (Purple)	1-8	1-14
Mustard, Indian	1-6	1-8
Mustard, Tall Hedge	1-6	1-14
Mustard, Tumble (Jim Hill)	1-8	1-14
Mustard, Wild	1-8	1-14
Nightshade, Black	1-4*	1-4
Onion, Wild	2-8*	2-14*
Pennycress, Field (Fanweed)	1-6	1-12
Pepperweed, Greenflower		1-6*
Pepperweed, Virginia	1-6*	1-8
Pigweed, Prostrate	1-6*	1-6
Pigweed, Redroot (Carelessweed)	1-6*	1-6
Pigweed, Smooth	1-6*	1-6
Pigweed, Tumble	1-6*	1-6
Polemonium, Annual (Jacobs-ladder)	1-3	
Puncturevine		1-8
Purslane, Common	1-6*	1-6
Radish, Wild	1-6	1-8
Ragweed, Common	1-6	1-8
Ragweed, Giant	1-3*	1-4
Ragweed, Lanceleaf		1-8
Ragweed, Western		1-6*
Rocket, London		1-4
Shepherdspurse	1-6	1-12
Smartweed, Pennsylvania	1-4*	1-6
Sowthistle, Annual	1-3*	1-4
Sunflower, Common	2-4	2-8
Tansymustard	1-6	1-12
Thistle, Canada	1-3*	1-6*
Thistle, Musk	1-3*	1-6*
Thistle, Russian	1-4*	1-4
Velvetleaf	1-4*	1-4
Vetch, Hairy	1-4*	1-4
Wallflower, Bushy	1-4*	1-4
Yarrow, Common		1-4

\*Indicates "Suppression or Partial Control", which means significant activity but not always at a level considered acceptable for commercial weed control.

\*\*Apply after true leaves have emerged, not cotyledon stage.

Rave at the 5 oz./A rate will provide first year control and subsequent year suppression of hoary cress (whitetop) and poison hemlock.

Level of weed control is mostly dependent upon weed species, weed size at application, growing conditions, and the level of competition from the crop. Weed control may be reduced if weeds are stressed due to drought, unusually cold temperatures, or other factors that reduce growth. Competition of the crop with the weeds helps in providing control. Optimal control can be obtained for most weed species when they are small; i.e., near the minimum size listed for each weed in Table 1. Weeds larger than the size ranges listed may only be suppressed.

Include a nonionic surfactant in the spray mixture as described in the **Mixing and Application Procedures** section.

### **POSTEMERGENCE APPLICATIONS TO WHEAT AND BARLEY**

Apply Rave when the crop is in the growth stage listed below and the target weeds listed in Table 1 are actively growing and within the specified size ranges.

#### **Crop Growth Stage and Maximum Application Rate**

<b>Crop</b>	<b>Maximum Rate</b>	<b>Application Timing</b>
Spring Wheat	4 oz./A	after emergence, up to 6-leaf stage
Winter Wheat*	4 oz./A	after emergence, up to jointing
Spring Barley	2 oz./A	after emergence, up to 4-leaf stage
Winter Barley	4 oz./A	after emergence, up to jointing

\*Early developing wheat varieties such as TAM 107, Madison, or Wakefield must be treated between early tillering and the jointing stage.

#### **Tank Mixtures in Wheat and Barley**

Recommended tank mix partners for use in wheat and barley include Bucril®, Bronate®, MCPA, 2,4-D, or Tilt® fungicide.



- Before Rave is used in a tank mixture with these or other products, the mixture should be tested for physical compatibility.
- Refer to the label of the tank mix partner for additional weeds controlled and directions for use; and observe all precautions and restrictions on the labels of products used in tank mixtures.
- For control of foot rot and other diseases in wheat in the Pacific Northwest, Tilt fungicide may be applied in tank mixture with Rave. Refer to the Tilt label for specific use directions and restrictions.
- Rave may also be applied in tank mixtures or sequentially with registered organophosphate insecticides, except malathion, but these tank mixtures or sequential applications may cause temporary crop discoloration or crop injury, especially if the crop is under environmental stress at the time of treatment.

**POSTEMERGENCE RAVE APPLICATION TO PASTURES, RANGE-LAND, AND CONSERVATION RESERVE PROGRAM (CRP) ACRES**

Rave can be applied postemergence for weed control in the following established grasses:

<b>Common Name</b>	<b>Scientific Name</b>
Bermudagrass	<i>Cynodon dactylon</i>
Bluestem, Big	<i>Andropogon gerardi</i>
Bluestem, Little	<i>Andropogon scoparius</i>
Brome, Smooth	<i>Bromus inermis</i>
Buffalograss	<i>Buchloe dactyloides</i>
Fescue, Sheep	<i>Festuca ovina</i>
Grama, Blue	<i>Bouteloua gracilis</i>
Grama, Side-oats	<i>Bouteloua curtipendula</i>
Redtop	<i>Agrostis alba</i>
Timothy	<i>Phelum pratense</i>
Wheatgrass, Bluebunch	<i>Agropyron spicatum</i>
Wheatgrass, Crested	<i>Agropyron cristatum</i>
Wheatgrass, Intermediate	<i>Agropyron intermedium</i>
Wheatgrass, Pubescent	<i>Agropyron tricophorum</i>

### **Crop Growth Stage and Maximum Application Rate**

For new seedlings of the above grasses, do not apply Rave until at least 60 days after emergence of the desirable grasses or sprigging of Bermudagrass. Even established stands of orchardgrass, red fescue, and ryegrasses will likely be injured by Rave. If desirable broadleaves, such as clovers and alfalfa, are present, they will likely be severely injured by Rave applications.

For information on weeds controlled, size limitations, and rate of Rave to use, refer to Table 1. In addition to the 2-3.5 and 4 oz./A rates, Rave may be applied at 5 oz./A in pasture, rangeland, and CRP acres when heavy infestations of the weeds listed in Table 1 exist.

Rave should be applied to actively growing weeds and a nonionic surfactant or crop oil concentrate should be included in the spray mixture as described in the **Mixing and Application Procedures** section of this label.

### **Tank Mixtures in Pasture, Rangeland, and CRP Acres**

Recommended tank mix partners for use in pasture, rangeland, and CRP acres include 2,4-D, Crossbow™, Weedmaster®, Grazon™ P+D, Stinger®, Tordon™ 22K, and Remedy™ herbicides.

- Before Rave is used in a tank mixture with these or other products, the mixture should be tested for physical compatibility.
- Refer to the label of the tank mix partner for additional weeds controlled and directions for use; and observe all precautions and restrictions on the labels of products used in tank mixtures.
- Rave may also be applied in tank mixtures or sequentially with registered organophosphate insecticides, except malathion, but these tank mixtures or sequential applications may cause temporary crop discoloration or crop injury, especially if the crop is under environmental stress at the time of treatment.

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### **GRAZING AND REPLANTING FOLLOWING APPLICATION OF RAVE**

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Except for lactating dairy animals, there are no grazing restrictions following application of Rave. Treated areas should not be grazed by lactating dairy animals before 7 days after treatment.

## Rotational Crop Restrictions

Crop	Soil pH	State/Region	Minimum Interval to Planting Following Rave Application
Wheat (except durum)	all pH levels	all areas	12 days
Durum Wheat	all pH levels	all areas	8 months
Barley, Rye, Oats, Bermudagrass	7.9 or lower	CO, KS, MT, NE, OK, SD, TX, Western ND	6 months
	6.9 or lower	all areas	6 months
	above 6.9	in areas not described above	18 months
Proso Millet	all pH levels	all areas	4 months
Field Corn - IR Hybrids	all pH levels	all areas	4 months
Field Corn - not IR	6.9 or lower	KS, NE	14 months
	7.9 or lower	all areas	22 months
	above 7.9	all areas	36 months
Grain Sorghum	7.9 or lower	KS, NE, OK, TX	14 months
	all pH levels	all areas	24 months
Soybeans - STS	all pH levels	all areas	11 months
Soybeans - not STS	7.5 or lower	Central KS; East Texas; Central & Eastern OK	14 months if 25 inches of precipitation since application
	7.9 or lower	South Central NE; Central KS	26 months if 46 inches of precipitation since application
	all pH levels	all areas	36 months or sooner with successful field bioassay
Alfalfa, Clover, Sugar Beets, Sunflowers, Onions	all pH levels	all areas	24 months and only after a successful field bioassay
All Other Crops	all pH levels	all areas	4 months and only after a successful field bioassay

### **Additional Rotational Precaution**

If both Rave and another residual ALS inhibiting herbicide have been applied during a single growing season, a field bioassay must be performed before planting any crop except wheat in the next growing season. If visible injury, stand reduction, or yield reduction occurs in the field bioassay, the crop must not be seeded.

### **Field Bioassay Instructions**

Using typical tillage, seeding practices, and timings for the particular crop, plant several strips of the desired crop variety across the field which has been previously treated with Rave. Plant the strips perpendicular to the direction Rave was applied. The strips should be located so that all the different field conditions are encountered, including differences in soil texture, pH, and drainage. If the crop does not show visible symptoms of injury, stand reduction, or yield reduction, this field can be seeded with this crop the next growing season after the bioassay. If visible injury, stand reduction, or yield reduction occurs, this crop must not be seeded, and the bioassay must be repeated the next growing season.

### **Catastrophic Crop Loss**

Where a catastrophic crop loss has occurred after a Rave application due to a natural disaster (such as late killing frost, hail, flooding, insect, or disease damage) wheat (except durum) may be planted within 12 days. Follow rotational guidelines for other options. After 4 months barley, durum wheat, sorghum, or STS soybeans may be planted with the expectation that some level of discoloration, stunting, or other crop injury will occur. Any damage and yield loss that occurs must be accepted by the grower. Growers not willing to accept this potential injury and yield loss are required to follow standard rotational guidelines.

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## **STORAGE AND DISPOSAL**

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### **Prohibitions**

This product may not be mixed, loaded, or used within 50 feet of all wells, including abandoned wells, drainage wells, and sinkholes.

### **Pesticide Storage and Disposal**

Store in original container in a cool, dry place. Do not contaminate water, food, or feed by storage or disposal. Triple rinse herbicide from bottles and use rinsates in the herbicide application. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

### Container Disposal

Do not reuse either the outer boxes or the bottles. Dispose of outer box in a sanitary landfill, or by incineration, or by open burning, if allowed by state and local authorities. If burned, keep out of smoke. Triple rinsed (or equivalent) plastic bottles should be offered for recycling or reconditioning, or puncture and dispose of in a sanitary land fill, or by other procedures approved by state and local authorities. If burned, stay out of smoke.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire, or other emergency, call 1-800-888-8372, day or night.

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### PRECAUTIONARY STATEMENTS

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#### Hazards to Humans and Domestic Animals

#### CAUTION

Harmful if inhaled or absorbed through skin. Causes eye irritation. Avoid breathing spray mist. Avoid contact with skin, eyes, or clothing.

#### Statement of Practical Treatment

**If in eyes:** Flush with plenty of water. Get medical attention if irritation persists.

**If on skin:** Wash with plenty of soap and water. Get medical attention if irritation persists.

**If inhaled:** Remove victim to fresh air.

#### Personal Protective Equipment

#### Applicators and other handlers must wear

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes and socks

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 Control Statements**

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 immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

**Environmental Hazards**

For terrestrial uses only. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Keep out of lakes, streams, or ponds. Do not contaminate water when disposing of equipment wash waters or rinsate.

**Ground Water Advisory**

Both active components of Rave have been identified in ground water sampling under vulnerable conditions. There is the possibility that the active ingredients in Rave may leach through soil to ground water, especially where soils are coarse and ground water is near the surface. Consult with the pesticide state lead agency or local agricultural agencies for information regarding soil permeability and aquifer vulnerability in your area.

**Chemigation**

Do not apply Rave through irrigation systems.

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