

228-366

6-13-2008

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

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

JUN 13 2008

Mr. Matthew Granahan  
Product Registration  
Nufarm Americas, Inc.,  
150 Harvester Drive, Suite 200  
Burr Ridge, IL 60527

SUBJECT: Application for Pesticide Notification (PRN 98-10)  
Request Additional Marketing Statement & Warranty Statement Changes  
EPA Reg. No. 228-366  
Application Dated April 22, 2008

Dear Registrant:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 dated 04/22/08 for the above product. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action(s) requested fall within the scope of PRN 98-10. The label submitted with the application has been stamped "Notification" and will be placed in our records.

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

Sincerely,

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

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

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Mr. Matthew Granahan  
Product Registration  
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*done,  
Please let to make  
sure warranty statement  
is correct. OK*

SUBJECT: Application for Pesticide Notification (PRN 98-10)  
Request Additional /Marketing Statement Changes  
EPA Reg. No. 228-366  
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*+ warranty statement*

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

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**Nufarm Americas Inc.**  
150 Harvester Drive, Suite 200  
Burr Ridge, IL 60527  
Telephone: (630) 455.2000 Facsimile: (630) 455.2001  
www.us.nufarm.com

May 21, 2008

Via Overnight Courier

U. S. Environmental Protection Agency (7504P)  
Document Processing Desk (NOTIF)  
Room S4900, One Potomac Yard  
2777 S. Crystal Drive  
Arlington, VA 22202

**Subject:** Riverdale Razor Herbicide  
EPA REG. No. 228-366  
Label Notification per PR 98-10

Dear Ms. Hobgood:

Nufarm Americas, Inc would like to add optional language to subject product's label and updated our Warranty and Liability Statement. The proposed language is consistent with PR Notice 98-10, Section II (labeling notifications) Subsection N (Other Revisions). In addition to updating our Warranty and Liability Statement we have added the following sentence under the Additional/Alternate Marketing Statements Section of the referenced label: "For use around residential, industrial, institutional and their immediate vicinity."

To process this request please find enclosed the following:

- Application for Pesticide Registration EPA form 8570-1
- Revised labeling with areas of change clearly identified (1 copy)
- Revised labeling – clean (1 copy)

If you should have any questions regarding this matter, please feel free to contact me at 630) 455-2048 or [matthew.granahan@us.nufarm.com](mailto:matthew.granahan@us.nufarm.com).

Sincerely,

Matthew Granahan  
Nufarm Americas, Inc.



Please read instructions on reverse before completing form.

Form Approved. OMB No. 2070-0060

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

<b>1. Company/Product Number</b> 228-366	<b>2. EPA Product Manager</b> J. Miller	<b>3. Proposed Classification</b> <input type="checkbox"/> None <input type="checkbox"/> Restricted
<b>4. Company/Product (Name)</b> Riverdale Razor Herbicide	<b>PM#</b> 23	
<b>5. Name and Address of Applicant (Include ZIP Code)</b> Nufarm Americas, Inc. 150 Harvester Drive, Suite 200 Burr Ridge, IL 60527  <input type="checkbox"/> Check if this is a new address		<b>6. Expedited Review.</b> In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: <b>EPA Reg. No.</b> _____ <b>Product Name</b> _____

**NOTIFICATION**

**JUN 13 2008**

**Section - II**

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

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

Label Notification per PR Notice 98-10, Section II. Amended labeling with label claims as highlighted. This notification is consistent with the provisions of PR notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. sec 1001 to willfully make any false statement to the EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under section 12 and 14 of FIFRA.

**Section - III**

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

**Section - IV**

<b>1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)</b>		
<b>Name</b> George Meindl george.meindl@us.nufarm.com	<b>Title</b> Registration Manager	<b>Telephone No. (Include Area Code)</b> 630.455.2017
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		<b>6. Date Application Received (Stamped)</b>
<b>2. Signature</b> 	<b>3. Title</b> Registration Manager	
<b>4. Typed Name</b> George Meindl	<b>5. Date</b> 05/21/08	



Please read instructions on reverse before completing form.

Form Approved. OMB No. 2070-0060

5/71

<p>United States <b>Environmental Protection Agency</b> Washington, DC 20480</p>	<input type="checkbox"/> Registration <input type="checkbox"/> Amendment <input checked="" type="checkbox"/> Other	OPP Identifier Number _____
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**Application for Pesticide - Section I**

<b>1. Company/Product Number</b> 228-366	<b>2. EPA Product Manager</b> J. Miller	<b>3. Proposed Classification</b> <input type="checkbox"/> None <input type="checkbox"/> Restricted
<b>4. Company/Product (Name)</b> Riverdale Razor Herbicide	<b>PM#</b> 23	
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<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
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**Section - III**

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

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<b>1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)</b>			
<b>Name</b> George Meindl george.meindl@us.nufarm.com	<b>Title</b> Registration Manager	<b>Telephone No. (Include Area Code)</b> 630.455.2017	
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			<b>6. Date Application Received (Stamped)</b>  <div style="border: 1px dashed black; width: 100px; height: 100px; margin: 0 auto;"></div>
<b>2. Signature</b> 	<b>3. Title</b> Registration Manager		
<b>4. Typed Name</b> George Meindl	<b>5. Date</b> 04/22/08		



6/71  
Nufarm Americas Inc.  
150 Harvester Drive, Suite 200  
Burr Ridge, IL 60527  
Telephone: (630) 455.2000 Facsimile: (630) 455.2001  
www.us.nufarm.com

April 22, 2008

Via Overnight Courier

U. S. Environmental Protection Agency (7504P)  
Document Processing Desk (NOTIF)  
Room S4900, One Potomac Yard  
2777 S. Crystal Drive  
Arlington, VA 22202

Subject: Riverdale Razor Herbicide  
EPA REG. No. 228-366  
Label Notification per PR 98-10

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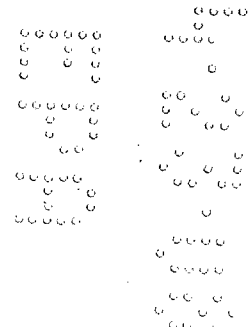
To process this request please find enclosed the following:

- Application for Pesticide Registration EPA form 8570-1
- Revised labeling with areas of change clearly identified (1 copy)
- Revised labeling – clean (1 copy)

If you should have any questions regarding this matter, please feel free to contact me at 630) 455-2048 or [matthew.granahan@us.nufarm.com](mailto:matthew.granahan@us.nufarm.com).

Sincerely,

Matthew Granahan  
Nufarm Americas, Inc.



7/71

(MASTER LABEL)

# RIVERDALE<sup>®</sup> RAZOR<sup>®</sup> HERBICIDE

NOTIFICATION

~~NOTIFICATION~~

JUN 10 2008

NOTIFICATION  
JUN 13 2008

THE COMPLETE BROAD SPECTRUM POSTEMERGENCE  
PROFESSIONAL HERBICIDE FOR INDUSTRIAL, FORESTRY, TURF,  
VEGETATION MANAGEMENT AND ORNAMENTAL WEED CONTROL.

Contains 8% Surfactant

**ACTIVE INGREDIENT:**

Glyphosate, N-(phosphonomethyl) glycine, in the form of its isopropylamine salt\* ..... 41.0%

**OTHER INGREDIENTS:** ..... 59.0%

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

\*Contains 480 grams per litre or 4 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its isopropylamine salt. Equivalent to 356 grams per litre or 3 pounds per U.S. gallon of the acid, glyphosate.

**KEEP OUT OF REACH OF CHILDREN  
CAUTION - CAUCION**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.  
(If you do not understand the label, find someone to explain it to you in detail.)

**SEE INSIDE BOOKLET FOR FIRST AID AND ADDITIONAL PRECAUTIONARY STATEMENTS**

(Optional) For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300.  
For Medical Emergencies Only, Call (877) 325-1840.

EPA REG. NO. 228-366

EPA EST. NO. 228-IL-1

MANUFACTURED BY NUFARM AMERICAS, INC., 150 HARVESTER DRIVE, BURR RIDGE, ILLINOIS 60527

NET CONTENTS      GALLONS

Note: Spanish Language is Optional



**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS AND DOMESTIC ANIMALS  
KEEP OUT OF REACH OF CHILDREN  
CAUTION - CAUCION**

Causes moderate eye irritation. Harmful if swallowed or inhaled. Do not get in eyes or on clothing. Avoid breathing vapor or spray mist.

**FIRST AID**

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

<b>IF IN EYES</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF SWALLOWED</b>	<ul style="list-style-type: none"> <li>• Call poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>IF INHALED</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

For uses covered under the Worker Protection Standard (WPS), 40 CFR Part 170 - in general, only agricultural plant uses are covered by the WPS: applicators and other handlers must wear long-sleeved shirt and long pants, shoes plus socks, and protective eyewear. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**ENGINEERING CONTROL STATEMENTS**

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**USER SAFETY RECOMMENDATIONS**

**Users should:**

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**ENVIRONMENTAL HAZARDS**

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

**PHYSICAL OR CHEMICAL HAZARDS**

Spray solutions of this product should be mixed, stored and applied using only stainless steel, aluminum, fiberglass, plastic or plastic-lined steel containers.

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

**DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. READ ENTIRE LABEL BEFORE USING THIS PRODUCT. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.



**AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about Personal Protective Equipment (PPE) and restricted-entry interval. The 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 4 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, chemical-resistant gloves made of any waterproof material such as barrier laminate or vitron >13, shoes plus socks, and protective eyewear.

**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 people and pets off treated areas until spray solution has dried.

**GENERAL INFORMATION**

Do not apply this product using aerial spray equipment except under conditions as specified within this label.

This product, a water-soluble liquid, mixes readily with water to be applied as a foliar spray for the control or elimination of most herbaceous plants. It may be applied through most standard industrial or field-type sprayers after dilution and thorough mixing with water in accordance with label instructions.

This product moves through the plant from the point of foliage contact to and into the root system. Visible effects on most annual weeds occur within 2 to 4 days, but on most perennial weeds may not occur for 7 days or more. Extremely cool or cloudy weather following treatment may slow activity of this product and delay visual effects of control. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of above-ground growth and deterioration of underground plant parts.

Unless otherwise specified on this label, delay application until vegetation has emerged and reached the stages described for control of such vegetation under the "WEEDS CONTROLLED" section of this label.

Always use the higher rate of this product per acre within the recommended range when (1) weed growth is heavy or dense, or (2) weeds are growing in an undisturbed (non-cultivated) area.

Do not treat weeds under poor growing conditions such as drought stress, disease or insect damage, as reduced weed control may result. Reduced results may also occur when treating weeds heavily covered with dust.

Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed, or cut, and have not been allowed to regrow to the recommended stage for treatment.

Rainfall or irrigation occurring within 6 hours after application may reduce effectiveness. Heavy rainfall or irrigation within 2 hours after application may wash the spray mixture off the foliage and a repeat treatment may be required.

This product does not provide residual weed control. For subsequent residual weed control, follow a label-approved herbicide program. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

For best results, spray coverage should be uniform and complete. Do not spray weed foliage to the point of runoff.

DOMESTIC ANIMALS: This product is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

If application rates for grass seed, sod production, general noncrop areas, industrial sites, pasture grass and rangeland total 3 quarts per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 3 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

**ATTENTION**

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction. The likelihood of injury occurring from the use of this product is greatest when winds are gusty or in excess of 5 miles per hour or when other conditions, including lesser wind velocities, will allow spray drift to occur. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) which are likely to drift. AVOID SPRAYING AT EXCESSIVE SPEED OR PRESSURE.

NOTE: Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or other

unintended consequences. Keep container closed to prevent spills and contamination.

For questions or additional rate information contact your Nufarm representative.

### MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES. DO NOT APPLY WHEN WIND OR OTHER CONDITIONS FAVOR DRIFT. HAND-GUN APPLICATIONS SHOULD BE PROPERLY DIRECTED TO AVOID SPRAYING DESIRABLE PLANTS.

**NOTE:** REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED, SUCH AS WATER FROM PONDS AND UNLINED DITCHES.

#### OPTION 1

#### MIXING

This product mixes readily with water. Mix spray solutions of this product as follows: Fill the mixing or spray tank with the required amount of water. Add the recommended amount of this product (see the "DIRECTIONS FOR USE" and "WEEDS CONTROLLED" sections of this label) near the end of the filling process and mix well. Use caution to avoid siphoning back into the carrier source. Use approved anti-back-siphoning devices where required by state or local regulations. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitators, terminate by-pass and return lines at the bottom of the tank and, if needed, use an approved anti-foam or defoaming agent.

#### TANK MIXTURES

Always predetermine the compatibility of labeled tank mixtures of this product with water carrier by mixing small proportional quantities in advance.

Mix labeled tank mixtures of this product with water as follows:

1. Place a 20 to 35 mesh screen or wetting basket over filling port.
2. Through the screen, fill the spray tank one-half full with water and start agitation.
3. If a wettable power is used, make a slurry with the water carrier, and add it SLOWLY through the screen into the tank. Continue agitation.
4. If a flowable formulation is used, premix one part flowable with one part water. Add diluted mixture SLOWLY through the screen into the tank. Continue agitation.
5. If an emulsifiable concentrate formulation is used, premix one part emulsifiable concentrate with two parts water. Add diluted mixture slowly through the screen into the tank. Continue agitation.
6. Continue filling the spray tank with water and add the required amount of this product near the end of the filling process.
7. Where nonionic surfactant is recommended, add this to the spray tank before completing the filling process.
8. Add individual formulations to the spray tank as follows: wettable powder, flowable, emulsifiable concentrate, drift control additive, water soluble liquid followed by surfactant.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to resuspend the mixture before spraying is resumed.

Keep by-pass line on or near bottom of tank to minimize foaming. Screen size is nozzle or line nozzle or line strainers should be no finer than 50 mesh. Carefully select proper nozzle to avoid spraying a fine mist. For best results with conventional ground application equipment, use flat fan nozzles.

Clean sprayer and parts immediately after using this product by thoroughly flushing with water.

#### OPTION 2

#### MIXING

Use caution to avoid siphoning back into the carrier source. Use approved anti-back-siphoning devices where required by state or local regulations. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitators, terminate by-pass and return lines at the bottom of the tank and, if needed, use an approved anti-foam or defoaming agent.

#### TANK MIXTURES

Always predetermine the compatibility of labeled tank mixtures of this product with water carrier by mixing small proportional quantities in advance.

Mix labeled tank mixtures of this product with water as follows:

Add individual formulations to the spray tank as follows: wettable powder, flowable, emulsifiable concentrate, drift control additive, water soluble liquid followed by surfactant.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to resuspend the mixture before spraying is resumed.

Carefully select proper nozzle to avoid spraying a fine mist. For best results with conventional ground application equipment, use flat

fan nozzles.

Clean sprayer and parts immediately after using this product by thoroughly flushing with water.

### MIXING FOR HAND-HELD SPRAYERS

Prepare the desired volume of spray solution by mixing the amount of this product in water as shown in the following table:

#### SPRAY SOLUTION

DESIRED VOLUME	AMOUNT OF RIVERDALE RAZOR HERBICIDE					
	1/2%	1%	1-1/2%	2%	5%	10%
1 Gal.	2/3 fluid ounce	1-1/3 fluid ounces	2 fluid ounces	2-2/3 fluid ounces	6-1/2 fluid ounces	13 fluid ounces
25 Gal.	1 pint	1 quart	1-1/2 quart	2 quarts	5 quarts	10 quarts
100 Gal.	2 quarts	1 gallon	1-1/2 gallons	2 gallons	5 gallons	10 gallons

2 tablespoons = 1 fluid ounce

For use in knapsack sprayers, it is suggested that the recommended amount of this product be mixed with water in a larger container. Fill sprayer with the mixed solution.

### ADDITIVES

#### SURFACTANTS

Nonionic surfactants which are labeled for use with herbicides may be used. Do not reduce rates of this product when adding surfactant. When adding additional surfactants follow manufacturers rates and recommendations for use of the surfactant. Read and carefully observe surfactant cautionary statements and other information appearing on the surfactant label.

#### AMMONIUM SULFATE

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product, and this product plus 2,4-D, Dicamba or residual herbicide tank mixtures on annual and perennial weeds. The improvement in performance may be apparent where environmental stress is a concern. If ammonium sulfate is added directly to the spray tank, add slowly with agitation. Adding too quickly may clog outlet line. Ensure that ammonium sulfate is completely dissolved in the spray tank before adding herbicides or surfactant. Thoroughly rinse the spray system with clean water after use to reduce corrosion.

NOTE: The use of ammonium sulfate as an additive does not preclude the need for additional surfactant. When using ammonium sulfate, apply this product at rates recommended on this label. Lower rates will result in reduced performance.

#### COLORANTS OR DYES

Agriculturally-approved colorants or marking dyes may be added to this product. Colorants or dyes used in spray solutions of this product may reduce performance, especially at lower rates or dilutions. Use colorants or dyes according to the manufacturer's recommendations.

### APPLICATION EQUIPMENT AND TECHNIQUES

Do not apply this product through any type of irrigation system.

This product may be applied with the following application equipment:

**Aerial** - Fixed Wing and Helicopter

**Broadcast Spray**

**Controlled Droplet Applicator (CDA)** - Hand-held or boom-mounted applicators which produce a spray consisting of a narrow range of droplet sizes.

**Hand-Held and High-Volume Spray Equipment** - Knapsack and backpack sprayers, pump-up pressure sprayers, handguns, handwands, mistblowers\*, lances and other hand-held and motorized spray equipment used to direct the spray onto weed foliage.

\*This product is not registered in California or Arizona for use in mistblowers.

**Selective equipment** - Recirculating sprayers, shielded sprayers, hooded sprayers and wiper applicators. See the appropriate part of this section for specific instructions and rates of application

#### AERIAL EQUIPMENT

Use the recommended rates of this herbicide in sufficient volume of water to insure thorough coverage unless otherwise specified in this label. See the "WEEDS CONTROLLED" section of this label for specific use rates. Unless otherwise specified, do not exceed 1 quart per acre. Aerial applications of this product may be made in annual cropping conventional tillage systems, fallow and reduced tillage systems, Roundup Ready® crops, and preharvest applications. Refer to the individual use area sections of this label for recommended volumes and application rates. FOR AERIAL APPLICATION IN CALIFORNIA, see below.

Avoid direct application to any body of water.

AVOID DRIFT - DO NOT APPLY DURING LOW-LEVEL INVERSION CONDITIONS, WHEN WINDS ARE GUSTY OR UNDER ANY

OTHER CONDITION WHICH FAVORS DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations which dispense spray as fine spray droplets. Do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure.

Drift control additives may be used. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

Ensure uniform application - To avoid streaked, uneven or overlapped application, use appropriate marking devices.

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills. PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEAR ARE MOST SUSCEPTIBLE. The maintenance of an organic coating (paint), which meets aerospace specification MIL-C-38413, may be used to prevent corrosion.

This product plus Spyder® (Sulfometuron methyl), Diablo® (Dicamba) or 2,4-D tank mixtures may not be applied by air in California.

**SPRAY DRIFT MANAGEMENT**

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather-related factors determine the potential for spray drift. 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. 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 states have more stringent regulations, they should be observed.

The applicator should be familiar with and take into account the information covered in the Aerial Drift Reduction Advisory Information.

**Importance of Droplet Size**

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-Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy protection. 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 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-Applications should not be made 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. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

**Wind**

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

Applications should not occur 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. This 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 set and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a connected cloud (under low wind conditions) indicates an inversion, while smoke that moves upwards and rapidly dissipates indicates good vertical air mixing.

**Sensitive Areas**

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

**FOR AERIAL APPLICATION IN CALIFORNIA ONLY**

EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF SPRAY WITH FOLIAGE, GREEN STEMS, OR FRUIT OF DESIRABLE CROPS, PLANTS, TREES, OR OTHER DESIRABLE VEGETATION SINCE SEVERE DAMAGE OR DESTRUCTION MAY RESULT.

**Noncrop Sites**

When applied as directed and under the conditions described in the "Weeds Controlled" section of the label booklet for this product, this herbicide will control or partially control the labeled weeds growing in the following industrial, recreational and public areas, such as airports, ditch banks, dry ditches, dry canals, fencerows, golf courses, highways, industrial plant sites, lumber yards, manufacturing sites, office complexes, parking areas, parks, petroleum tank farms and pumping installations, pipelines, power and telephone rights-of-way, railroads, roadsides (guiderails, shoulders), schools, storage areas, utility substations, warehouse areas and other public areas.

AVOID DRIFT - DO NOT APPLY WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION WHICH WILL ALLOW DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

Use the following guidelines when aerial applications are made near crops or desirable perennial vegetation after bud break and before total leaf drop, and/or near other desirable vegetation or annual crops.

1. Do not apply within 100 feet of all desirable vegetation or crop(s).
2. If wind up to 5 miles per hour is blowing toward desirable vegetation or crop(s), do not apply within 500 feet of the desirable vegetation or crop(s).
3. Winds blowing from 5 to 10 miles per hour toward desirable vegetation or crop(s) may require buffer zones in excess of 500 feet.
4. Do not apply when winds are in excess of 10 miles per hour or when inversion conditions exist.

Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations which dispense spray as fine spray droplets. Do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure above the manufacturer's recommendation.

Drift control additives may be used. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

Ensure uniform application - to avoid streaked, uneven or overlapped application, use appropriate marking devices.

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills. PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEAR IS MOST SUSCEPTIBLE. The maintenance of an organic coating (paint) which meets aerospace specification MIL-C-38413 may prevent corrosion.

**FOR AERIAL APPLICATION IN FRESNO COUNTY, CALIFORNIA ONLY**

From February 15 through March 31 only. For aerial application outside of these dates, refer to the "FOR AERIAL APPLICATION IN CALIFORNIA ONLY" section printed above.

**APPLICABLE AREA**

This supplement only applies to the area contained inside the following boundaries within Fresno County, California only.

- North: Fresno County line
- South: Fresno County line
- East: State Highway 99
- West: Fresno County line

**GENERAL INFORMATION**

Always read and follow the label directions and precautionary statements for all products used in the aerial application.

Observe the following directions to minimize off-site movement during aerial application of this herbicide. Minimization of off-site movement is the responsibility of the grower, Pest Control Advisor, and aerial applicator.

**WRITTEN RECOMMENDATIONS**

A written recommendation MUST be submitted by or on behalf of the applicator to the Fresno County Agricultural Commissioner

24 hours prior to the application. This written recommendation MUST state the proximity of surrounding crops, and that conditions of each manufacturer's applicable product label(s) and this label have been satisfied.

**AERIAL APPLICATOR TRAINING AND EQUIPMENT**

Aerial application of this herbicide is limited to pilots who have successfully completed a Fresno County Agricultural Commissioner and California Department of Pesticide Regulation approved training program for aerial application of herbicides. All aircraft must be inspected, critiqued in flight, and certified at a Fresno County Agricultural Commissioner approved fly-in. Test and calibrate spray equipment at intervals sufficient to insure that proper rates of herbicides and adjuvants are being applied during commercial use. Applicator must document such calibrations and testing. Demonstration of performance at Fresno County Agricultural Commissioner approved "fly-ins" constitutes such documentation, or other written records showing calculations and measurements of flight and spray parameters acceptable to the Fresno County Agricultural Commissioner.

Application at night – Do not apply this product by air earlier than 30 minutes prior to sunrise and/or later than 30 minutes after sunset without prior permission from the Fresno County Agricultural Commissioner.

To report known or suspected misuse of this product or for additional information on the proper aerial application of this product, call 1-800-852-5234.

Read the "WARRANTY" section in this label booklet before using this product.

**BROADCAST EQUIPMENT**

For control of annual or perennial weeds listed on this label using broadcast equipment - Use the recommended rates of this product per acre as a broadcast spray unless otherwise specified on this label. See the "WEEDS CONTROLLED" section of this label for specific rates.

**CONTROLLED DROPLET APPLICATION (CDA)**

Apply these spray solutions in properly maintained and calibrated equipment capable of delivering desired volumes.

The rate of this product applied per acre by vehicle-mounted CDA equipment must not be less than the amount recommended in this label when applied by conventional broadcast equipment.

For vehicle-mounted CDA equipment apply [3 to 15 gallons of water per acre] or [in a sufficient volume of water to assure thorough coverage.]

For the control of labeled annual weeds with hand-held CDA units, apply a 20 percent solution. For the control of labeled perennial weeds, apply a 20 to 40 percent solution of this product.

Controlled droplet application equipment produces a spray pattern which is not easily visible. Extreme care must be exercised to avoid spray or drift contacting the foliage or any other green tissue of desirable vegetation, as damage or destruction may result.

**HAND-HELD and HIGH-VOLUME EQUIPMENT**

Use Course Sprays Only

Mix this product in clean water and apply to foliage of vegetation to be controlled. For applications made on a spray-to-wet basis, spray coverage should be uniform and complete. Do spray to the point of runoff.

For control of annual weeds listed on this label, apply a 0.5 percent solution of this product plus nonionic surfactant to weeds less than 6 inches in height or runner length. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds. For agricultural uses, allow 3 or more days before tillage or mowing.

For annual weeds over 6 inches tall, or when not using additional surfactant, or unless otherwise specified, use a 1 percent solution. For best results, use a 2 percent solution on harder-to-control [perennials, such as Bermudagrass, Dock, Field bindweed, Hemp dogbane, Milkweed and Canada thistle.] or [weeds.]

When using application methods which result in less than complete coverage, use a 5 percent solution for annual and perennial weeds and a 5 to 10 percent solution for woody brush.

See the "MIXING FOR HAND-HELD SPRAYERS" section of this label for specific rates.

**SELECTIVE EQUIPMENT**

This product may be applied through a recirculating spray system, shielded and hooded applicators, or wiper applicators after dilution and thorough mixing with water to listed weeds growing in any noncrop site specified on this label and only when specifically recommended in cropping systems.

**AVOID CONTACT WITH DESIRABLE VEGETATION**

Contact of the herbicide solution with the desirable vegetation may result in damage or destruction. Applicators used above desired vegetation should be adjusted so that the lowest spray stream or wiper contact point is at least 2 inches above the desirable vegetation. Droplets, mist, foam, or splatter of the herbicide solution settling on desirable vegetation may result in discoloration, stunting or destruction.

Applications made above the crops should be made when the weeds are a minimum of 6 inches above the desirable vegetation. Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide

solution will not be affected. This may occur in dense clumps, severe infestations or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatment may be necessary.

**SHIELDED AND HOODED APPLICATORS**

When applied as directed under conditions described for shielded applicators, this product will control those weeds listed in the "WEEDS CONTROLLED" section of this label. Use the following equation to convert from a broadcast rate per acre to a band rate per acre.

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Herbicide Broadcast RATE per acre} = \text{Herbicide Band RATE per acre}$$

$$\frac{\text{Band width in Inches}}{\text{Row width in inches}} \times \text{Broadcast VOLUME of solution per acre} = \text{Band VOLUME of solution per acre}$$

Use nozzles that provide uniform coverage within the treated area. Keep shields on shielded sprayers adjusted to protect desirable vegetation. EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT WITH DESIRABLE VEGETATION.

A hooded sprayer is a type of shielded applicator. The spray pattern is completely enclosed on the top and all 4 sides by a hood, thereby shielding the crop from the spray solution. This equipment must be set up and operated in a manner that avoids bouncing or raising the hoods off the ground in any way. If the hoods are raised, spray particles may escape and come into contact with the crop, causing damage or destruction of the crop. The spray hoods must be operated on the ground or skimming across the ground. Tractor speed must be adjusted to avoid bouncing of the spray hoods. Avoid operation on rough or sloping ground where the spray hoods might be raised off the ground.

For specific rates of application and instructions for control of various annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

**WIPER APPLICATORS**

Wiper applicators are devices that physically wipe appropriate amounts of this product directly onto the weed.

Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation. Operate this equipment at ground speeds no greater than 5 mph. Performance may be improved by reducing speed in areas of heavy weed infestations to ensure adequate wiper saturation. Better results may be obtained if 2 applications are made in opposite directions.

Avoid leakage or dripping onto desirable vegetation. Adjust height of applicator to ensure adequate contact with weeds. Keep wiping surfaces clean. Be aware that, on sloping ground, the herbicide solution may migrate, causing dripping on the lower end and drying of the wicks on the upper end of a wiper applicator.

Do not use wiper equipment when weeds are wet.

Mix only the amount of solution to be used during a 1-day period, as reduced activity may result from use of leftover solutions. Clean wiper parts immediately after using this product by thoroughly flushing with water.

Do not add surfactant to the herbicide solution for wiper applications.

**For Rope or Sponge Wick-Applicators** - Mix 1 gallon of this product in 2 gallons of water to prepare a 33 percent solution. Apply this solution to weeds listed in this "WIPER APPLICATORS" section.

**For Porous-Plastic Applicators** - Solutions ranging from 33 to 100 percent of this product in water may be used in porous-plastic wiper applicators.

When applied as recommended under the conditions described for "WIPER APPLICATORS", this product CONTROLS the following weeds.

<b>OPTION 1</b>			
<b>ANNUAL GRASSES</b>			
<b>Corn</b> <i>Zea mays</i>	<b>Panicum, Texas</b> <i>Panicum texanum</i>	<b>Rye, common</b> <i>Secale cereale</i>	<b>Shattercane</b> <i>Sorghum bicolor</i>
<b>ANNUAL BROADLEAVES</b>			
<b>Sicklepod</b> <i>Cassia obtusifolia</i>	<b>Spanishneedles</b> <i>Bidens bipinnata</i>	<b>Starbur, bristly</b> <i>Acanthospermum hispidum</i>	

When applied as recommended under the conditions described for "WIPER APPLICATORS", this product SUPPRESSES the following weeds:

<b>ANNUAL BROADLEAVES</b>			
<b>Beggarweed, Florida</b> <i>Desmodium tortuosum</i>	<b>Pigweed, redroot</b> <i>Amaranthus retroflexus</i>	<b>Ragweed, giant</b> <i>Ambrosia trifida</i>	<b>Thistle, musk</b> <i>Carduus nutans</i>
<b>Dogfennel</b>	<b>Ragweed, common</b>	<b>Sunflower</b>	<b>Velvetleaf</b>

*Eupatorium capilliflorum*

*Ambrosia artemisiifolia*

*Helianthus annuus*

*Abutilon theophrasti*

**PERENNIAL GRASSES**

**Bermudagrass**

*Cynodon dactylon*

**Johnsongrass**

*Sorghum halepense*

**Smutgrass**

*Sporobolus poiretii*

**Vaseygrass**

*Paspalum urvillei*

**Guineagrass**

*Panicum maximum*

**PERENNIAL BROADLEAVES**

**Dogbane, hemp**

*Apocynum cannabinum*

**Milkweed**

*Asclepias syriaca*

**Nightshade, silverleaf**

*Solanum elaeagnifolium*

**Thistle, Canada**

*Cirsium arvense*

**OPTION 2**

**ANNUAL GRASSES**

Corn, Panicum, Texas, Rye, common, Shattercane

**ANNUAL BROADLEAVES**

Sickelpod, Spanishneedles, Starbur, bristly

When applied as recommended under the conditions described for "WIPER APPLICATORS", this product SUPPRESSES the following weeds:

**ANNUAL BROADLEAVES**

Beggarweed, Florida, Dogfennel, Pigweed, redroot, Ragweed, common, Ragweed, giant, Sunflower, Thistle, musk, Velvetleaf

**PERENNIAL GRASSES**

Bermudagrass, Guineagrass, Johnsongrass, Smutgrass, Vaseygrass

**PERENNIAL BROADLEAVES**

Dogbane, hemp, Milkweed, Nightshade, silverleaf, Thistle, Canada

**WEEDS CONTROLLED**

This herbicide controls many annual and perennial grasses and broadleaf weeds.

**OPTION 1**

**ANNUAL WEEDS**

- Apply to actively growing grass and broadleaf weeds.
- Allow at least 3 days after treatment before tillage.
- For maximum agronomic benefit, apply when weeds are 6 inches or less in height.
- To prevent seed production, applications should be made prior to seedhead formation.
- This product does not provide residual control; therefore, delay application until maximum weed emergence. Repeat treatments may be necessary to control later germinating weeds.

**LOW-VOLUME BROADCAST APPLICATION (LOW-RATE TECHNOLOGY)**

When applied as directed under the conditions described, this product will control the weeds listed below when:

1. Water carrier volumes of 3 to 10 gallons per acre for ground applications and 3 to 5 gallons per acre for aerial applications are recommended. (See the "AERIAL APPLICATION" section of this label for approved sites.)
2. A nonionic surfactant is added at 0.5 to 1 percent by total spray volume. Use 0.5 percent surfactant concentration when using surfactants which contain at least 70 percent active ingredient or a 1 percent surfactant concentration for those surfactants continuing less than 70 percent active ingredient.

**NOTE**

- the addition of 2 percent dry ammonium sulfate by weight or 17 pounds per 100 gallons of water may increase the performance of this product on annual weeds. The improvement in performance may be apparent where environmental stress is a concern. Refer to the "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" section of this label.
- Do not tank-mix with soil residual herbicides when using these rates unless otherwise specified.
- For weeds that have been mowed, grazed or cut, allow regrowth to occur prior to treatment.
- Refer to the "TANK MIXTURES" portion of this section for control of additional broadleaf weeds.



WEED SPECIES	MAXIMUM HEIGHT/ LENGTH	RATE PER ACRE* (Fluid Ounces)
<b>Foxtail</b> <i>Setaria</i> spp.	12"	8
<b>Barnyardgrass</b> <i>Echinochloa crus-galli</i> <b>Bluegrass, annual</b> <i>Poa annua</i> <b>Brome, downy**</b> <i>Bromus tectorum</i> <b>Mustard, blue</b> <i>Chorispora tenella</i> <b>Mustard, tansy</b> <i>Descurainia pinnata</i> <b>Mustard, tumble</b> <i>Sisymbrium altissimum</i> <b>Mustard, wild</b> <i>Sinapis arvensis</i> <b>Spurry, umbrella</b> <i>Holosteum umbellatum</i>	6" (0 to 4" (4 to 6"	12 16' 24'
<b>Barley</b> <i>Hordeum vulgare</i> <b>Rye</b> <i>Secale cereale</i> <b>Shattercane</b> <i>Sorghum bicolor</i> <b>Stinkgrass</b> <i>Eragrostis cilianensis</i>	12"	
<b>Wheat</b> <i>Triticum aestivum</i>	18"	
<b>Morningglory</b> <i>Ipomoea</i> spp. <b>Sicklepod</b> <i>Cassia obtusifolia</i>	2"	16

WEED SPECIES	MAXIMUM HEIGHT/ LENGTH	RATE PER ACRE* (Fluid Ounces)
<p><b>Bluegrass, bulbous</b> <i>Poa bulbosa</i></p> <p><b>Cheat</b> <i>Bromus secalinus</i></p> <p><b>Chickweed, common</b> <i>Stellaria media</i></p> <p><b>Chickweed, mouseear</b> <i>Cerastium vulgatum</i></p> <p><b>Corn</b> <i>Zea mays</i></p> <p><b>Goatgrass, jointed</b> <i>Aegilops cylindrica</i></p> <p><b>Groundsel, common</b> <i>Senecio vulgaris</i></p> <p><b>Henbit</b> <i>Lamium amplexicaule</i></p> <p><b>Horseweed/Marestail</b> <i>Conyza canadensis</i></p> <p><b>Lambsquarters, common</b> <i>Chenopodium album</i></p> <p><b>Pennycress, field</b> <i>Fanweed</i> <i>Thlaspi arvense</i></p> <p><b>Rocket, London</b> <i>Sisymbrium irio</i></p> <p><b>Ryegrass, Italian</b> <i>Lolium multiflorum</i></p> <p><b>Shepherdspurse</b> <i>Capsella bursa-pastoris</i></p> <p><b>Spurge, annual</b> <i>Euphorbia</i> spp.</p>	<p>6"</p>	<p>16</p>
<p><b>Buttercup</b> <i>Ranunculus</i> spp.</p> <p><b>Cocklebur</b> <i>Xanthium strumarium</i></p> <p><b>Crabgrass</b> <i>Digitaria</i> spp.</p> <p><b>Dwarf dandelion</b> <i>Krigia cespitosa</i></p> <p><b>Falseflax, smallseed</b> <i>Camelina microcarpa</i></p> <p><b>Foxtail, Carolina</b> <i>Alopecurus carolinianus</i></p> <p><b>Johnsongrass, seedling</b> <i>Sorghum halepense</i></p> <p><b>Oats, wild</b> <i>Avena fatua</i></p> <p><b>Panicum, fall</b> <i>Panicum dichotomiflorum</i></p> <p><b>Panicum, Texas</b> <i>Panicum texanum</i></p> <p><b>Pigweed, redroot</b> <i>Amaranthus retroflexus</i></p> <p><b>Pigweed, smooth</b> <i>Amaranthus hybridus</i></p> <p><b>Witchgrass</b> <i>Panicum capillare</i></p>	<p>12"</p>	

WEED SPECIES	MAXIMUM HEIGHT/LENGTH	RATE PER ACRE* (Fluid Ounces)
<b>Sicklepod</b> <i>Cassia obtusifolia</i>	3 to 4"	24
<b>Signalgrass, broadleaf</b> <i>Brachiaria platyphylla</i>	4"	
<b>Horseweed/Marestail</b> <i>Coryza canadensis</i> <b>Lambsquarters, common</b> <i>Chenopodium album</i> <b>Spurge, annual</b> <i>Euphorbia</i> spp.	7 to 12"	
<b>Rice, red</b> <i>Oryza sativa</i> <b>Teaweed</b> <i>Sida spinosa</i>	4"	32
<b>Sprangletop</b> <i>Leptochloa</i> spp.	6"	
<b>Geranium, Carolina</b> <i>Geranium carolinianum</i> <b>Goosegrass</b> <i>Eleusine indica</i> <b>Primrose, cutleaf evening</b> <i>Oenothera laciniata</i> <b>Pusley, Florida</b> <i>Richardia scabra</i>	12"	
<b>Sicklepod</b> <i>Cassia obtusifolia</i> <b>Spanishneedles</b> <i>Bidens bipinnata</i>	5 to 12"	48
<b>Filaree</b> <i>Erodium</i> spp. <b>Sprangletop</b> <i>Leptochloa</i> spp.	12"	

\*Use these rates to control barnyardgrass in Alabama, Arkansas, Mississippi, Missouri, Louisiana and Texas for preplant treatments.

\*For those rates less than 32 fluid ounces per are, this product at rates up to 32 fluid ounces per acre may be used where heavy weed densities exist.

\*\*For control in no-till systems, use 16 fluid ounces per acre.

**TANK MIXTURES**

Razor Herbicide plus DICAMBA plus NONIONIC SURFACTANT

Razor Herbicide plus 2,4-D plus NONIONIC SURFACTANT

DO NOT APPLY DICAMBA OR 2,4-D TANK MIXTURES BY AIR IN CALIFORNIA.

These tank mixtures are recommended for use in fallow and reduced tillage areas only. Follow use directions as given in the "LOW-VOLUME BROADCAST APPLICATION" section.

This product plus DICAMBA or 2,4-D will control the annual grasses and broadleaf weeds listed for this product alone at the indicated heights (except 8 fluid ounces per acre applications), plus the following broadleaf weeds. For those weeds previously listed at 8 fluid ounces of this product alone per acre, use 12 fluid ounces in these tank mixtures.

**NOTE:** Refer to the specific product labels for crop rotation restrictions and precautionary statements of all products used in tank mixtures. Some crop injury may occur if Banvel or dicamba is applied within 45 days of planting. The addition of Dicamba in a mixture with this product may provide short-term residual control of selected weed species.

Apply 12 to 16 fluid ounces of this product plus 0.25 pound a.i. of dicamba or 0.5 pound a.i. of 2,4-D, plus 0.5 to 1 percent nonionic surfactant by total spray volume per acre to control dense populations of the following annual broadleaf weeds when less than the height indicated:

**Cocklebur (12")**  
*Xanthium strumarium*

**Lettuce, prickly (6")**  
*Lactuca serriola*

**Morningglory (6")**  
*Ipomoea* spp.

**Pigweed, smooth (12")**  
*Amaranthus hybridus*

**Kochia\* (6")**  
*Kochia scoparia*

**Marestail/Horseweed (6")**  
*Conyza canadensis*

**Pigweed, redroot (12")**  
*Amaranthus retroflexus*

**Thistle, Russian (12")**  
*Salsola kali*

**Lambsquarters (12")**  
*Chenopodium album*

\*Controlled with Dicamba tank mixture only.

Apply 16 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D, plus 0.5 to 1 percent nonionic surfactant by total spray volume per acre to control the following annual broadleaf weeds when less than 6 inches in height.

**Ragweed, common**  
*Ambrosia artemisiifolia*

**Ragweed, giant**  
*Ambrosia trifida*

**Smartweed, Pennsylvania**  
*Polygonum pennsylvanicum*

**Velvetleaf**  
*Abutilon theophrasti*

**OPTION 2**

**APPLICATIONS RATE TABLE**

For annual and perennial weeds and woody brush

METHOD OF APPLICATION	APPLICATION RATE	RECOMMENDED SPRAY VOLUME (Gallons/Acre)
<b>Broadcast</b> Aerial Ground	4 fluid ounces to 10 quarts per acre	5 to 30 3 to 100
<b>Spray-to-Wet</b> Handgun, Backpack, Mistblower	1 to 2 percent by volume	spray-to-wet
<b>Low Volume Directed Spray*</b> Handgun Backpack	5 to 10 percent by volume	partial coverage

\*For low volume directed spray applications, coverage should be uniform with at least 50 percent of the foliage contacted. For best results, coverage of the top one-half of the plant is important.

**NON-AGRICULTURAL USES**

When applied as recommended under the conditions described, this product will control the following annual weeds. See "APPLICATION RATES TABLE" for recommended spray volumes.

Barley, Barnyardgrass, Bluegrass (Annual, Bulbous), Brome, downy, Buttercup, Cheatgrass, Chickenweed (Common, Mouseear), Cocklebur, Corn, Crabgrass, Dwarfcelandion, Falseflax, smallseed, Filaree, Foxtail, Foxtail, Carolina, Geranium, Carolina, Goatgrass, jointed, Goosegrass, Groundsel, common, Henbit, Horseweed/Marestail, Johnsongrass, seedling, Lambsquarters, common, Morningglory, Mustard (Blue, Tansy, Tumble, Wild), Oats, wild, Panicum (tall, Texas), Pennycress, field, Pigweed (Redroot, Smooth), Primrose, cutleaf evening, Pusley, Florida, Rice, red, Rocket, London, Rye, Ryegrass, Italian, Sandbur, field, Shattercane, Sheperdspurse, Sicklepod, Signalgrass, broadleaf, Spanishneedles, Sprangeltop, Spurge, annual, Spurry, umbrella, Stinkgrass, Teaweed, Wheat, Witchgrass.

**AGRICULTURAL USES**

Apply to actively growing grass and broadleaf weeds. To prevent seed production, applications should be made prior to seedhead formation. This product does not provide residual control; therefore, delay application until maximum weed emergence. Repeat treatments may be necessary to control later germinating weeds. For maximum agronomic benefit, apply when weeds are 6 inches or less in height. Allow at least 3 days after treatment before tillage.

**LOW-VOLUME BROADCAST APPLICATION (LOW-RATE TECHNOLOGY)**

When applied as directed under the conditions described, this product will control the annual weeds listed below in the "ANNUAL WEEDS RATE TABLE" when:

1. Apply in sufficient volume of water to ensure thorough coverage.

**NOTE**

- Do not tank-mix with soil residual herbicides when using these rates unless otherwise specified.
- For weeds that have been mowed, grazed or cut, allow regrowth to occur prior to treatment.
- Refer to the "TANK MIXTURES" portion of this section for control of additional broadleaf weeds.

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ANNUAL WEEDS RATE TABLE

WEED SPECIES	MAXIMUM HEIGHT/LENGTH (Inches)	USE RATE (Fluid Ounces/Acre)
Barley	12	12
Barnyardgrass	6 [0 to 4 4 to 6]	12 16 <sup>1</sup> 24 <sup>1</sup>
Bluegrass, bulbous	6	16
Bluegrass, annual	6	12
Brome, downy**	6	12
Buttercup	12	16
Cheat	6	16
Chickweed, common	6	16
Chickweed, mouseear	6	16
Cocklebur	12	16
Corn	6	16
Crabgrass	12	16
Dwarfdandelion	12	16
Falseflax, smallseed	12	16
Filaree	12	48
Foxtail	12	8
Foxtail, Carolina	12	16
Geranium, Carolina	12	32
Goatgrass, jointed	6	16
Goosegrass	12	32
Groundsel, common	6	16
Henbit	6	16
Horseweed/Marestail	6 7 to 12	16 24
Johnsongrass, seedling	12	16
Lambsquarters, common	6 7 to 12	12 24
Morningglory	2	16
Mustard, blue	6	12
Mustard, tansy	6	12

WEED SPECIES	MAXIMUM HEIGHT/LENGTH (Inches)	USE RATE (Fluid Ounces/Acre)
Mustard, tumble	6	12
Mustard, wild	6	12
Oats, wild	12	16
Panicum, fall	12	16
Panicum, Texas	12	16
Pennycress, field	6	16
Pigweed, redroot	12	16
Pigweed, smooth	12	16
Primrose, cutleaf evening	12	32
Pusley, Florida	12	32
Rice, red	4	32
Rocket, London	6	16
Rye	12	12
Ryegrass, Italian	6	16
Shattercane	12	12
Shepherdspurse	6	16
Sicklepod	2 3 to 4 5 to 12	16 24 32
Signalgrass, broadleaf	4	24
Spanishneedles	5 to 12	32
Sprangletop	6 12	32 48
Spurge, annual	6 7 to 12	16 24
Spurry, umbrella	6	12
Stinkgrass	12	12
Teaweed	4	32
Wheat	18	12
Witchgrass	12	16

\*Use these rates to control barnyardgrass in Alabama, Arkansas, Mississippi, Missouri, Louisiana and Texas for preplant treatments.  
 \*For those rates less than 32 fluid ounces per are, this product at rates up to 32 fluid ounces per acre may be used where heavy weed densities exist.  
 \*\*For control in no-till systems, use 16 fluid ounces per acre.

**HIGH-VOLUME BROADCAST APPLICATIONS**

When applied as directed under the conditions described, this product will control the weeds listed below when water carrier volumes are 10 gallons or more for sufficient coverage

Apply 1 to 1.5 quarts of this product per acre plus additional surfactant according to the manufacturers rates and recommendations for of the surfactant. Use 1 quart per acre if weeds are less than 6 inches tall and 1.5 quarts per acre if weeds are over 6 inches tall. If weeds have been mowed, grazed or cut, allow adequate time for new growth to reach recommended stages prior to treatment. These rates will also provide control of weeds listed in the "LOW-VOLUME BROADCAST APPLICATION" section.

**OPTION 1**

<b>Balsamapple*</b> <i>Momordica charantia</i>	<b>Fleabane, hairy</b> <i>Conyza bonariensis</i>	<b>Panicum</b> <i>Panicum spp.</i>	<b>Sowthistle, annual</b> <i>Sonchus oleraceus</i>
<b>Bassia, fivehook</b> <i>Bassia hyssopifolia</i>	<b>Fleabane</b> <i>Erigeron spp.</i>	<b>Ragweed, common</b> <i>Ambrosia artemisiifolia.</i>	<b>Sunflower</b> <i>Helianthus annuus</i>
<b>Brome</b> <i>Bromus spp.</i>	<b>Kochia</b> <i>Kochia scoparia</i>	<b>Ragweed, giant</b> <i>Ambrosia trifida</i>	<b>Thistle, Russian</b> <i>Salsola kali</i>
<b>Fiddleneck</b> <i>Amsinckia spp.</i>	<b>Lettuce, prickly</b> <i>Lactuca serriola</i>	<b>Smartweed, Pennsylvania</b> <i>Polygonum pennsylvanicum</i>	<b>Velvetleaf</b> <i>Abitilon theophrasti</i>

\*Apply with hand-held equipment only.

**OPTION 2**

Balsamapple\*, Bassia, fivehook, Brome, Fiddleneck, Fleabane, hairy, Fleabane, Kochia, Lettuce, prickly, Panicum, Ragweed, common, Ragweed, giant, Smartweed, Pennsylvania, Sowthistle, annual, Sunflower, Thistle, Russian, Velvetleaf.

\*Apply with hand-held equipment only.

**PERENNIAL WEEDS**

Apply this product as follows to control or destroy most perennial weeds:

**OPTION 1**

When applied as recommended under the conditions described, this product WILL CONTROL the following PERENNIAL WEEDS:

<b>Alfalfa</b> <i>Medicago sativa</i>	<b>Dock, curly</b> <i>Rumex crispus</i>	<b>Paragrass</b> <i>Brachiaria mutica</i>
<b>Alligatorweed*</b> <i>Alternanthera philoxeroides</i>	<b>Dogbane, hemp</b> <i>Apocynum cannabinum</i>	<b>Phragmites*</b> <i>Phragmites spp.</i>
<b>Anise (fennel)</b> <i>Foeniculum vulgare</i>	<b>Fescues</b> <i>Festuca spp.</i>	<b>Poison hemlock</b> <i>Conium maculatum</i>
<b>Artichoke, Jerusalem</b> <i>Helianthus tuberosus</i>	<b>Fescue, tall</b> <i>Festuca arundinacea</i>	<b>Quackgrass</b> <i>Agropyron repens.</i>
<b>Bahiagrass</b> <i>Paspalum notatum</i>	<b>Guineagrass</b> <i>Panicum maximum</i>	<b>Redvine*</b> <i>Brunnichia ovata</i>
<b>Bentgrass</b> <i>Agrostis spp.</i>	<b>Horsenettle</b> <i>Solanum carolinense</i>	<b>Reed, giant</b> <i>Arundo donax</i>
<b>Bermudagrass</b> <i>Cynodon dactylon</i>	<b>Horseradish</b> <i>Armoracia rusticana</i>	<b>Ryegrass, perennial</b> <i>Lolium perenne</i>
<b>Bermudagrass, water (knotgrass)</b> <i>Paspalum distichum</i>	<b>Ice plant</b> <i>Mesembryanthemum crystallinum</i>	<b>Smartweed, swamp</b> <i>Polygonum coccineum</i>
<b>Bindweed, field</b> <i>Convolvulus arvensis</i>	<b>Johnsongrass</b> <i>Sorghum halepense</i>	<b>Spurge, leafy*</b> <i>Euphorbia esula</i>
<b>Bluegrass, Kentucky</b> <i>Poa spp.</i>	<b>Kikuyugrass</b> <i>Pennisetum clandestinum</i>	<b>Starthistle, yellow</b> <i>Centaurea solstitialis</i>
<b>Blueweed, Texas</b> <i>Helianthus ciliaris</i>	<b>Knapweed</b> <i>Centaurea repens</i>	<b>Sweet potato, wild*</b> <i>Ipomoea pandurata</i>
<b>Brackenfern</b> <i>Pteridium aquilinum</i>	<b>Lantana</b> <i>Lantana camara</i>	<b>Thistle, Canada</b> <i>Cirsium arvense*</i>
<b>Bromegrass, smooth</b> <i>Bromus inermis</i>	<b>Lespedeza</b> <i>Lespedeza spp.</i>	<b>Thistle, artichoke</b> <i>Cynara cardunculus</i>
<b>Bursage, woollyleaf</b> <i>Franseria tomentosa</i>	<b>Milkweed</b> <i>Asclepias spp.</i>	<b>Timothy</b> <i>Phleum pratense</i>
<b>Canarygrass, reed</b> <i>Phalaris arundinacea</i>	<b>Muhly, wirestem</b> <i>Muhlenbergia frondosa</i>	<b>Torpedograss*</b> <i>Panicum repens</i>
<b>Cattail</b> <i>Typha spp.</i>	<b>Mullein, common</b> <i>Verbascum thapsus</i>	<b>Trumpet creeper*</b> <i>Campsis radicans</i>
<b>Clover, red</b> <i>Trifolium pratense</i>	<b>Napiergrass</b> <i>Pennisetum purpureum</i>	<b>Vaseygrass</b> <i>Paspalum urvillei</i>

**Clover, white**  
*Trifolium repens*  
**Cogongrass**  
*Imperata cylindrica*  
**Dallisgrass**  
*Paspalum dilatatum*  
**Dandelion**  
*Taraxacum officinale*

**Nightshade, silverleaf**  
*Solanum elaeagnifolium*  
**Nutsedge; purple, yellow**  
*Cyperus rotundus*  
*Cyperus esculentus*  
**Orchardgrass**  
*Dactylis glomerata*  
**Pampasgrass**  
*Cortaderia spp.*

**Velvetgrass**  
*Holcus spp.*  
**Wheatgrass, western**  
*Agropyron smithii*

\*Partial Control

This product is not registered in California for use on water Bermudagrass. See "DIRECTIONS FOR USE" and "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" sections of this label for labeled uses and specific application instructions.

**Alfalfa** - Apply 1 quart of this product per acre plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Make application after the last hay cutting in the fall. Allow alfalfa to regrow to a height of 6 to 8 inches or more prior to treatment. Applications should be followed with deep tillage at least 7 days after treatment, but before soil freeze-up.

**Alligatorweed** - Apply 4 quarts of this product per acre or apply a 1.5 percent solution with hand-held equipment to provide partial control. Apply when most of the plants are in bloom. Repeat applications will be required to maintain such control.

**Anise (fennel)/Poison hemlock** - Apply a 1 to 2 percent solution of this product as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth. Repeat applications may be needed in succeeding years to control plants arising from seeds.

**Bentgrass** - For suppression in grass seed production areas. For ground applications only, apply 1.5 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 10 to 20 gallons of water per acre. Ensure entire crown area has resumed growth prior to a fall application. Bentgrass should be actively growing and have at least 3 inches of growth. Tillage prior to treatment should be avoided. Tillage 7 to 10 days after application is recommended for best results. Failure to use tillage after treatment may result in unacceptable control.

**Bermudagrass** - For control, apply 5 quarts of this product per acre. For partial control, apply 3 quarts per acre. Treat when Bermudagrass is actively growing and seedheads are present. Retreatment may be necessary to maintain control. Allow 7 or more days after application before tillage.

**Bermudagrass, water (knotgrass)** - Apply 1.5 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 5 to 10 gallons of water per acre. Apply when water Bermudagrass is actively growing and 12 to 18 inches in length. Allow 7 or more days before tilling, flushing or flooding the field.

**Fall applications only** - Apply 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 5 to 10 gallons of water per acre. Fallow fields should be tilled prior to application. Apply prior to frost on water Bermudagrass that is actively growing and 12 to 18 inches in length. Allow 7 or more days before tillage.

**Bindweed, field** - For control, apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts east of the Mississippi River. Apply when the weeds are actively growing and are at or beyond full bloom. Do not treat when weed is under drought stress as good soil moisture is necessary for active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost. Allow 7 or more days after application before tillage.

Also for control, apply 2 quarts of this product plus 0.5 pound a.i. of Dicamba in 10 to 20 gallons of water per acre. At these rates, apply using ground application only.

The following tank mixtures with 2,4-D may be applied using aerial application equipment (except in California) in fallow and reduced tillage systems only.

For suppression on irrigated agricultural land, apply 1 to 2 quarts of this product plus 1 pound a.i. of 2,4-D in 10 to 20 gallons of water per acre with ground equipment only. Applications should be made following harvest or in fall fallow ground when the bindweed is actively growing and the majority of runners are 12 inches or more in length. The use of at least one irrigation will promote active bindweed growth.

For suppression, apply 16 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Applications should be delayed until maximum emergence has occurred and when vines are between 6 to 18 inches in length.

**In California only**, apply 1 to 5 quarts of this product per acre. Actual rate needed for suppression or control will vary within this range depending on local conditions. For suppression on irrigated land where annual tillage is performed, apply 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Apply to actively growing bindweed that has reached a length of 12 inches or greater. Allow maximum weed emergence and runner growth. Do not treat when weeds are under drought stress as good soil moisture is necessary for active growth. Allow 3 or more days after application before tillage.

**Bluegrass, Kentucky/Bromegrass, smooth/Orchardgrass** - Apply 2 quarts of this product in 10 to 40 gallons of water per acre when the grasses are actively growing and most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume



in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height. Allow 7 or more days after application before tillage.

**Orchardgrass (sods going to no-till corn)** - Apply 1 to 1.5 quarts of this product per acre plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Apply to orchardgrass that is a minimum of 12 inches tall for spring applications and 6 inches tall for fall applications. Allow at least 3 days following application before planting. A sequential application of atrazine will be necessary for optimum results.

**Blueweed, Texas** - Apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts per acre east of the Mississippi River. Apply when weed is actively growing and is at or beyond full bloom. Do not treat when weed is under drought stress as good soil moisture is necessary for active growth. New leaf development indicates active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost. Allow 7 or more days after application before tillage.

**Brackenfern** - Apply 3 to 4 quarts of this product per acre as a broadcast spray or as a 1 to 1.5 percent solution with hand-held equipment. Apply to fully expanded fronds which are at least 18 inches long.

**Bursage, woollyleaf** - For control, apply 2 quarts of this product plus 1 pint of Dicamba per acre. For partial control, apply 1 quart of this product plus 1 pint of Dicamba per acre. Add 0.5 to 1 percent nonionic surfactant by total spray volume and apply in 3 to 20 gallons of water per acre. Apply when plants are producing new active growth which has been initiated by moisture for at least 2 weeks and when plants are at or beyond flowering.

**Canarygrass, reed/Timothy / Wheatgrass, western** - Apply 2 to 3 quarts of this product per acre. For best results, apply to actively growing plants when most have reached the boot-to-head stage of growth. Allow 7 or more days after application before tillage.

**Cogongrass** - Apply 3 to 5 quarts of this product plus 0.5 to 1 percent nonionic surfactant in 10 to 40 gallons of water per acre. Apply when Cogongrass is at least 18 inches tall and actively growing in late summer or fall. Allow 7 or more days after application before tillage or mowing. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to maintain control.

**Dandelion/Dock, curly** - Apply 3 to 5 quarts of this product per acre when plants are actively growing and most have reached the early bud stage of growth. Allow 7 or more days after application before tillage.

Also for control, apply 16 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre.

**Dogbane, hemp** - Apply 4 quarts of this product per acre. Apply when actively growing and when most weeds have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall. Allow 7 or more days after application before tillage.

For suppression, apply 16 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Delay applications until maximum emergence of dogbane has occurred.

**Fescue, tall** - Apply 3 quarts of this product in 10 to 40 gallons of water per acre to actively growing plants when most have reached boot-to-early seedhead stage of development.

Fall applications only - Apply 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Apply to fescue in the fall when actively growing and plants have 6 to 12 inches of new growth. Allow 7 or more days after application before tillage. A sequential application of 1 pint per acre of this product plus nonionic surfactant will improve long-term control and control seedlings germinating after fall treatments or the following spring.

**Guineagrass** - Apply 3 quarts of this product per acre or use a 1 percent solution with hand-held equipment. Apply to actively growing guineagrass when most has reached at least the 7-leaf stage of growth. Ensure thorough coverage when using hand-held equipment. Allow 7 or more days after application before tillage.

**Johnsongrass/Ryegrass, perennial** - Apply 1 to 3 quarts of this product per acre. In annual cropping systems apply 1 to 2 quarts of this product per acre. Apply 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre. In noncrop, or areas where annual tillage (no-till) is not performed, apply 2 to 3 quarts of this product in 10 to 40 gallons of water per acre. For best results, apply to actively growing plants when most have reached the boot-to-head stage of growth or in the fall prior to frost. Allow 7 or more days after application before tillage. Do not tank-mix with residual herbicides when using the 1 quart per acre rate.

For burndown of Johnsongrass, apply 1 pint per acre plus 0.5 to 1 percent nonionic surfactant in 3 to 10 gallons of water per acre before the plants reach a height of 12 inches. For this use, allow at least 3 days after treatment before tillage.

Spot treatment (partial control or suppression) - Apply a 1 percent solution of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume when Johnsongrass is 12 to 18 inches in height. Coverage should be uniform and complete.

**Kikuyugrass** - Apply 2 to 3 quarts of this product per acre. Spray when most kikuyugrass is at least 8 inches in height (3 or 4-leaf stage of growth) and actively growing. Allow 3 or more days after application before tillage.

**Knapweed/Horseradish** - Apply 4 quarts of this product per acre. Apply when actively growing and when most weeds have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall. Allow 7 or more days after application before tillage.

**Lantana** - Apply this product as a 1 to 1.25 percent solution using hand-held equipment only. Apply to actively growing lantana at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth. Allow 7 or more days after application before tillage.

**Milkweed, common** - Apply 3 quarts of this product per acre. Apply when actively growing and most of the milk-weed has reached the late bud to flower stage of growth. Following small grain harvest or mowing, allow milkweed to regrow to a mature stage prior to treatment. Allow 7 or more days after application before tillage.

**Muhly, wirestem** - Apply 1 to 2 quarts of this product per acre. Use 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre or in pasture, sod, or noncrop areas. Spray when the wirestem muhly is 8 inches or more in height and actively growing. Do not till between harvest and fall applications or in the fall or spring prior to spring applications. Allow 3 or more days after application before tillage. This product will not provide residual control of wirestem muhly from seeds which germinate after application of this product. Do not tank mix with residual herbicides when using the 1 quart per acre rate.

**Nightshade, silverleaf** - For control, apply 2 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Applications should be made when at least 60 percent of the plants have berries. Fall treatments must be applied before a killing frost. Allow 7 or more days after application before tillage. Do not treat when weed is under drought stress as good soil moisture is necessary for active growth.

**Nutsedge; purple, yellow** - Apply 3 quarts of this product per acre as a broadcast spray, or apply a 1 to 2 percent solution from hand-held equipment to control existing nutsedge plants and immature nutlets attached to treated plants. Treat when plants are in flower or when new nutlets can be found at rhizome tips. Nutlets which have not germinated will not be controlled and may germinate following treatment. Repeat treatments will be required for long-term control of ungerminated tubers.

Sequential applications of 1 to 2 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre will provide control. Make applications when a majority of the plants are in the 3 to 5-leaf stage (less than 6 inches tall). Repeat this application, as necessary, when newly emerging plants reach the 3 to 5-leaf stage. Subsequent applications will be necessary for long-term control.

For suppression to partial control of existing plants, apply 1 pint to 2 quarts of this product per acre, plus 0.5 to 1 percent nonionic surfactant in 3 to 40 gallons of water per acre. Treat when plants have 3 to 5 leaves and most are less than 6 inches tall. Repeat treatments will be required to control subsequent emerging plants or regrowth of existing plants. Wait 7 days after treatment before tillage or mowing.

**Pampasgrass/ice plant** - Apply this product as a 1.5 to 2 percent solution using hand-held equipment. Apply to plants that are actively growing. Pampasgrass should be at or beyond the boot stage of growth. Thorough coverage is necessary for best control.

**Phragmites** - For partial control of phragmites in Florida and the counties of other states bordering the Gulf of Mexico, apply 5 quarts per acre as a broadcast spray or apply a 2 percent solution from hand-held equipment. In other areas of the U.S., apply 3 quarts per acre as a broadcast spray or apply a 1 percent solution from hand-held equipment for partial control. For best results, treat during late summer or fall months or when plants are actively growing and in full bloom. Treatment before or after this stage may lead to reduced control. Due to the dense nature of the vegetation, which may prevent good spray coverage or uneven stages of growth, repeat treatments may be necessary to maintain control. Visual control symptoms will be slow to develop.

**Quackgrass - In Annual Cropping Systems, or in Pastures and Sods Followed by Deep Tillage:** Apply 1 to 2 quarts of this product per acre. For the 1 quart rate, apply 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. For the 2 quart rate, apply in 10 to 40 gallons of water per acre. Do not tank mix with residual herbicides when using the 1 quart rate. Spray when quackgrass is 6 to 8 inches in height and actively growing. Do not till between harvest and fall applications or in fall or spring prior to spring application. Allow 3 or more days after application before tillage. In pastures or sods, for best results use a moldboard plow.

**Quackgrass - Pasture or Sod or Other Noncrop Areas Where Deep Tillage is Not Planned Following Application:** Apply 2 to 3 quarts in 10 to 40 gallons of water per acre. Spray when the quackgrass is greater than 8 inches tall and actively growing. Do not till between harvest and fall application or in fall or spring prior to spring application. Allow 3 or more days after application before tillage.

**Redvine** - For suppression, apply 24 fluid ounces of this product per acre at each of two applications 7 to 14 days apart or a single application of 2 quarts per acre. Apply recommended rates in 5 to 10 gallons of water per acre plus 0.5 to 1 percent nonionic surfactant by total volume. Apply in late September or early October to actively growing plants, which are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.

**Reed, giant** - For control of giant reed, apply a 2 percent solution of this product when plants are actively growing. Best results are obtained when applications are made in late summer to fall.

**Smartweed, swamp** - Apply 3 to 5 quarts of this product per acre when plants are actively growing and most have reached the early bud stage of growth. Allow 7 or more days after application before tillage.

Also for control, apply 16 fluid ounces of this product plus 0.5 pound active ingredient of 2,4-D plus 0.5 to 1 percent nonionic surfactant by total volume in 3 to 10 gallons of water per acre in the late summer or fall. Apply when plants are actively growing and most have reached the early bud stage of growth. Allow 7 or more days after application before tillage.

**Spurge, leafy** - For suppression, apply 16 fluid ounces of this product plus 0.5 pound active ingredient 2,4-D plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre in the late summer or fall. Apply when plants are actively growing. If mowing has occurred prior to treatment, apply when most of the plants are 12 inches tall. Allow 7 or more days after application before tillage.

**Starthistle, yellow** - Best results are obtained when applications are made during periods of active growth, including the rosette, bolting and early flower stages. For spray-to-wet applications, apply this product as a 2 percent solution. For broadcast applications, apply 2 quarts per acre in 10 to 40 gallons per acre of water carrier.

**Sweet Potato, wild/Thistle, artichoke** - Apply this product as a 2 percent solution using hand-held equipment. Apply to actively growing weeds that are at or beyond the bloom stage of growth. Repeat applications may be required. Allow the plant to reach the recommended stage of growth before retreatment. Allow 7 or more days before tillage.

**Thistle, Canada** - Apply 2 to 3 quarts of this product per acre. Apply to actively growing thistles when most are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.

For suppression of Canada thistle, apply 1 quart per acre of this product, or 1 pint of this product plus 0.5 pound a.i. 2,4-D per acre, plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre in the late summer or fall after harvest, mowing or tillage. Allow rosette regrowth to a minimum of 6 inches in diameter before treating. Applications can be made as long as leaves are still green and plants are actively growing at the time of application. Allow 3 or more days after application before tillage.

**Torpedograss** - Apply 4 to 5 quarts of this product per acre to provide partial control of torpedograss. Apply to actively growing torpedograss when most plants are at or beyond the seedhead stage of growth. Repeat applications will be required to maintain control. Fall treatments must be applied before frost. Allow 7 or more days after application before tillage.

**Trumpet creeper** - For control, apply 2 quarts of this product per acre in 5 to 10 gallons of water per acre. Apply to actively growing plants in late September or October, which are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.

**Other perennials listed on this label** - Apply 3 to 5 quarts of this product per acre. Apply when actively growing and most have reached early head or early bud stage of growth. Allow 7 or more days after application before tillage.

**OPTION 2**

When applied as recommended under the conditions described, this product WILL CONTROL the following PERENNIAL WEEDS:

- Alfalfa, Alligatorweed\*, Anise (fennel), Artichoke, Jerusalem, Bahiagrass, Bentgrass, Bermudagrass, Bermudagrass, water (knotgrass), Bindweed, field, Bluegrass, Kentucky, Cattail, Clover (Red, White), Cogongrass, Dallisgrass, Dandelion, Dock, curly, Dogbane, hemp, Fescues, Fescue, tall, Guineagrass, Horsenettle, Horseradish, Ice plant, Mullein, common, Napiergrass, Nightshade, silverleaf, Nutsedge (Purple, Yellow), Orchardgrass, Pampasgrass, Paragrass, Phragmites\*, Poison hemlock, Quackgrass, Redvine\*, Reed, giant, Ryegrass, perennial, Smartweed, swamp, Spurge, leafy\*, Starthistle, yellow, Sweet potato, wild\*, Thistle, Canada, Thistle, artichoke, Timothy, Torpedograss\*, Trumpet creeper\*, Vaseygrass, Velvetgrass, Wheatgrass, western.

\*Partial control.

This product is not registered in California for use on water Bermudagrass.

**PERENNIAL WEEDS RATE TABLE**

Apply to actively growing perennial weeds. See "APPLICATION RATES TABLE" for recommended spray volumes. For other perennials listed on this label and not found in the table below, apply 3 to 5 quarts of this product per acre. Apply when actively growing and most have reached early head or early bud stage of growth. For agricultural uses, allow 7 days after application before tillage.

Additional surfactant may be used. If additional surfactant is to be used follow the manufacturers rates and recommendations for use of the surfactant.

PERENNIAL WEEDS	USE RATE Broadcast Spray (Quarts/Acre)	USE RATE Hand Held Equipment (Percent Solution)
Alfalfa	1	--
	Make application after the last hay cutting in the fall. Allow alfalfa to regrow to a height of 6 to 8 inches or more prior to treatment. For agricultural uses applications should be followed with deep tillage at least 7 days after treatment, but before soil freeze-up.	
Alligatorweed	4	1.5
	Partial control. Apply when most of the plants are in bloom. Repeat applications will be required to maintain such control.	
Anise (fennel)	--	1 to 2
	Apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth. Repeat applications may be needed in succeeding years to control plants arising from seeds.	
Artichoke, Jerusalem	3 to 5	--
	Apply when actively growing and most have reached early head or early bud stage of growth. For agricultural uses allow 7 or more days after application before tillage.	
Bahigrass	3 to 5	--
	Apply when actively growing and most have reached early head or early bud stage of growth. For agricultural uses allow 7 or more days after application before tillage.	
Bentgrass	1.5	--
	For suppression in grass seed production areas. For ground applications only. Ensure entire crown area has resumed growth prior to a fall application. Bentgrass should be actively growing and have at least 3 inches of growth. Tillage prior to treatment should be avoided. Tillage 7 to 10 days after application is recommended for best results. Failure to use tillage after treatment may result in unacceptable control.	
Bermudagrass	3 to 5	--
	For control, apply 5 quarts of this product per acre. For partial control, apply 3 quarts per acre. Treat when Bermudagrass is actively growing and seedheads are present. Retreatment may be necessary to maintain control. Allow 7 or more days after application before tillage.	
Bermudagrass, water (knotgrass)	1 to 1.5	--
	<p>Apply when water Bermudagrass is actively growing and 12 to 18 inches in length.</p> <p><b>For agricultural uses</b> apply 1.5 quarts of this product per acre. Allow 7 or more days before tilling, flushing or flooding the field.</p> <p><b>Fall applications only:</b> - Fallow field should be tilled prior to application. Apply prior to frost on water Bermudagrass that is actively growing and 12 to 18 inches in length.</p> <p>For agricultural uses apply 1 quart of this product per acre Allow 7 or more days before tillage.</p>	

PERENNIAL WEEDS	USE RATE Broadcast Spray (Quarts/Acre)	USE RATE Hand Held Equipment (Percent Solution)
Bindweed, field	1 to 5	--
<p>For control, apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts east of the Mississippi River. Apply when the weeds are actively growing and are at or beyond full bloom. Do not treat when weed is under drought stress as good soil moisture is necessary for active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost. Allow 7 or more days after application before tillage.</p> <p>Also for control, apply 2 quarts of this product plus 0.5 pound a.i. of Dicamba per acre. At these rates, apply using ground application only.</p> <p><b>Agricultural Uses:</b> The following tank mixtures with 2,4-D may be applied using aerial application equipment (except in California) in fallow and reduced tillage systems only.</p> <p>For suppression on irrigated agricultural land, apply 1 to 2 quarts of this product plus 1 pound a.i. of 2,4-D per acre with ground equipment only. Applications should be made following harvest or in fall fallow ground when the bindweed is actively growing and the majority of runners are 12 inches or more in length. The use of at least one irrigation will promote active bindweed growth.</p> <p>For suppression, apply 16 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D per acre in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications.</p> <p>Applications should be delayed until maximum emergence has occurred and when vines are between 6 to 18 inches in length.</p> <p>In California only, apply .1 to 5 quarts of this product per acre. Actual rate needed for suppression or control will vary within this range depending on local conditions. For suppression on irrigated land where annual tillage is performed, apply 1 quart of this product per acre plus surfactant. Apply to actively growing bindweed that has reached a length of 12 inches or greater. Allow maximum weed emergence and runner growth. Do not treat when weeds are under drought stress as good soil moisture is necessary for active growth. For agricultural uses allow 3 or more days after application before tillage.</p>		
Bluegrass, Kentucky	2	--
<p>Apply when the grasses are actively growing and most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height. Allow 7 or more days after application before tillage.</p>		
Bluweed, Texas	3 to 5	--
<p>Apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts per acre east of the Mississippi River. Apply when weed is actively growing and is at or beyond full bloom. Do not treat when weed is under drought stress as good soil moisture is necessary for active growth. New leaf development indicates active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost. Allow 7 or more days after application before tillage.</p>		
Brackenfern	3 to 4	1 to 1.5
<p>Apply to fully expanded fronds which are at least 18 inches long.</p>		

PERENNIAL WEEDS	USE RATE Broadcast Spray (Quarts/Acre)	USE RATE Hand Held Equipment (Percent Solution)
Bromegrass, smooth	2	--
	Apply when the grasses are actively growing and most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product per acre. For agricultural uses apply to actively growing plants when most have reached 4 to 12 inches in height. and allow 7 or more days after application before tillage.	
Bursage, woollyleaf	1 to 2 plus 1 pint Dicamba	--
	For control, apply 2 quarts of this product plus 1 pint of Dicamba per acre. For partial control, apply 1 quart of this product plus 1 pint of Dicamba per acre. Apply when plants are producing new active growth which has been initiated by moisture for a least 2 weeks and when plants are at or beyond flowering.	
Canarygrass, reed	2 to 3	--
	For best results, apply to actively growing plants when most have reached the boot-to-head stage of growth. Allow 7 or more days after application before tillage.	
Cattail	3 to 5	--
	Apply when actively growing and most have reached early head to early bud stage of growth. Allow 7 or more days after application before tillage.	
Clover: Red White	3 to 5	--
	Apply when actively growing and most have reach early head or early bud stage of growth. Allow 7 or more days after application before tillage.	
Cogongrass	3 to 5	--
	Apply when Cogongrass is at least 18 inches tall and actively growing in late summer or fall. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to maintain control. Allow 7 or more days after application before tillage or mowing.	
Dallisgrass	3 to 5	--
	Apply when actively growing and most have reached early head or early bud stage of growth. Allow 7 or more days after application before tillage.	
Dandelion	3 to 5	--
	Apply when plants are actively growing and most have reached the early bud stage of growth. Allow 7 or more days after application before tillage. Also for control, apply 16 fluid ounces of this product plus 0.5 pound a.i. 2,4-D per acre.	
Dock, curly	3 to 5	--
	Apply when plants are actively growing and most have reached the early bud stage of growth. Allow 7 or more days after application before tillage. Also for control, apply 16 fluid ounces of this product plus 0.5 pound a.i. 2,4-D per acre.	
Dogbane, hemp	4	--
	Apply when actively growing and when most weeds have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall. Allow 7 or more days after application before tillage. For suppression, apply 16 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D per acre. Delay applications until maximum emergence of dogbane has occurred.	

PERENNIAL WEEDS	USE RATE Broadcast Spray (Quarts/Acre)	USE RATE Hand Held Equipment (Percent Solution)
Fescue (except tall)	3 to 5	--
Apply when actively growing and most have reached early head or early bud stage of growth. Allow 7 or more days after application before tillage.		
Fescue, tall	1 to 5	--
Apply 3 quarts of this product in per acre to actively growing plants when most have reached boot-to-early seedhead stage of development.		
<b>Fall applications only:</b> Apply 1 quart of this product per acre. Apply to fescue in the fall when actively growing and plants have 6 to 12 inches of new growth. A sequential application of 1 pint per acre of this product plus nonionic surfactant will improve long-term control and control seedlings germinating after fall treatments or the following spring. Allow 7 or more days after application before tillage.		
Guineagrass	3	1
Apply to actively growing guineagrass when most has reached at least the 7-leaf stage of growth. Ensure thorough coverage when using hand-held equipment. Allow 7 or more days after application before tillage.		
Horsenettle	3 to 5	--
Apply when actively growing and most have reached early head or early bud stage of growth. Allow 7 or more days after application before tillage.		
Horseradish	4	--
Apply when actively growing and when most weeds have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall. Allow 7 or more days after application before tillage.		
Ice plant	--	1.5 to 2
Apply to plants that are actively growing. Thorough coverage is necessary for best control.		
Johnsongrass	0.5 to 3	1
In noncrop, or areas where annual tillage (no-till) is not performed, apply 2 to 3 quarts of this product acre. In annual cropping systems apply 1 to 2 quarts of this product per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre. For best results, apply to actively growing plants when most have reached the boot-to-head stage of growth or in the fall prior to frost. Do not tank-mix with residual herbicides when using the 1 quart per acre rate. Allow 7 or more days after application before tillage.		
For burndown of Johnsongrass, apply 1 pint per acre before the plants reach a height of 12 inches. For this use, allow at least 3 days after treatment before tillage.		
Spot treatment (partial control or suppression)-Apply a 1 percent solution of this product when Johnsongrass is 12 to 18 inches in height. Coverage should be uniform and complete.		
Kikuyugrass	2 to 3	--
Spray when most kikuyugrass is at least 8 inches in height (3 or 4-leaf stage of growth) and actively growing. Allow 3 or more days after application before tillage.		
Knapweed	2 to 3	--
Apply when actively growing and when most weeds have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall. Allow 7 or more days after application before tillage.		
Lantana	--	1 to 1.25
Apply to actively growing lantana at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth. Allow 7 or more days after application before tillage.		

PERENNIAL WEEDS	USE RATE Broadcast Spray (Quarts/Acre)	USE RATE Hand Held Equipment (Percent Solution)
Lespedeza	3 to 5	--
	Apply when actively growing and most have reached early head or early bud stage of growth. Allow 7 or more days after application before tillage.	
Milkweed, common	3	--
	Apply when actively growing and most of the milkweed has reached the late bud to flower stage of growth. Following small grain harvest or mowing, allow milkweed to regrow to a mature stage prior to treatment. Allow 7 or more days after application before tillage.	
Muhly, wirestem	1 to 2	--
	Use 1 quart of this product per acre. Use 2 quarts per acre in pasture, sod, or noncrop areas. Spray when the wirestem muhly is 8 inches or more in height and actively growing. Do not till between harvest and fall applications or in the fall or spring prior to spring applications. This product will not provide residual control of wirestem muhly from seeds which germinate after application of this product. Do not tank mix with residual herbicides when using the 1 quart per acre rate. Allow 3 or more days after application before tillage.	
Mullein, common	3 to 5	--
	Apply when actively growing and most have reached early head or early bud stage of growth. Allow 7 or more days after application before tillage.	
Napiergrass	3 to 5	--
	Apply when actively growing and most have reached early head or early bud stage of growth. Allow 7 or more days after application before tillage.	
Nightshade, silverleaf	2	--
	For control. Applications should be made when at least 60 percent of the plants have berries. Fall treatments must be applied before a killing frost. Do not treat when weed is under drought stress as good soil moisture is necessary for active growth. Allow 7 or more days after application before tillage.	
Nutsedge: Purple Yellow	0.5 to 3	1 to 2
	<p>Apply 3 quarts of this product per acre as a broadcast spray, or apply a 1 to 2 percent solution from hand-held equipment to control existing nutsedge plants and immature nutlets attached to treated plants. Treat when plants are in flower or when new nutlets can be found at rhizome tips. Nutlets which have not germinated will not be controlled and may germinate following treatment. Repeat treatments will be required for longterm control of ungerminated tubers.</p> <p>Sequential applications of 1 to 2 quarts of this product per acre will provide control. Make applications when a majority of the plants are in the 3 to 5-leaf stage (less than 6 inches tall). Repeat this application, as necessary, when newly emerging plants reach the 3 to 5-leaf stage. Subsequent applications will be necessary for long-term control.</p> <p>For suppression to partial control of existing plants, apply 1 pint to 2 quarts of this product per acre. Treat when plants have 3 to 5 leaves and most are less than 6 inches tall. Repeat treatments will be required to control subsequent emerging plants or regrowth of existing plants. Wait 7 days after treatment before tillage or mowing.</p>	



PERENNIAL WEEDS	USE RATE Broadcast Spray (Quarts/Acre)	USE RATE Hand Held Equipment (Percent Solution)
Orchardgrass	1 to 2	--
	<p>Apply 2 quarts of this product when the grasses are actively growing and most plants have reached <i>boot-to-early seedhead stage of development</i>. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height. Allow 7 or more days after application before tillage.</p> <p><b>Sods going to no-till corn:</b> Apply 1 to 1.5 quarts of this product per acre. Apply to orchardgrass that is a minimum of 12 inches tall for spring applications and 6 inches tall for fall applications. Allow at least 3 days following application before planting. A sequential application of atrazine will be necessary for optimum results.</p>	
Pampasgrass	--	1.5 to 2
	<p>Apply to plants that are actively growing. Pampasgrass should be at or beyond the boot stage of growth. Thorough coverage is necessary for best control.</p>	
Paragrass	3 to 5	--
	<p>Apply when actively growing and most have reached early head or early bud stage of growth. Allow 7 or more days after application before tillage.</p>	
Phragmites	3 to 5	1 to 2
	<p>For partial control of phragmites in Florida and the counties of other states bordering the Gulf of Mexico, apply 5 quarts per acre as a broadcast spray or apply a 2 percent solution from hand-held equipment. In other areas of the U.S., apply 3 quarts per acre as a broadcast spray or apply a 1 percent solution from hand-held equipment for partial control. For best results, treat during late summer or fall months or when plants are actively growing and in full bloom. Treatment before or after this stage may lead to reduced control. Due to the dense nature of the vegetation, which may prevent good spray coverage or uneven stages of growth, repeat treatments may be necessary to maintain control. Visual control symptoms will be slow to develop.</p>	
Poison hemlock	--	1 to 2
	<p>Apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth. Repeat applications may be needed in succeeding years to control plants arising from seeds.</p>	
Quackgrass	1 to 2	--
	<p><b>In Annual Cropping Systems, or in Pastures and Sods Followed by Deep Tillage:</b> Apply 1 to 2 quarts of this product per acre. Do not tank mix with residual herbicides when using the 1 quart rate. Spray when quackgrass is 6 to 8 inches in height and actively growing. Do not till between harvest and fall applications or in fall or spring prior to spring application. In pastures or sods, for best results use a moldboard plow. Allow 3 or more days after application before tillage.</p> <p><b>Pasture or Sod or Other Noncrop Areas Where Deep Tillage is Not Planned Following Application:</b> Apply 2 to 3 quarts per acre. Spray when the quackgrass is greater than 8 inches tall and actively growing. Do not till between harvest and fall application or in fall or spring prior to spring application. Allow 3 or more days after application before tillage.</p>	
Redvine	3/4 to 2	--
	<p>For suppression, apply 24 fluid ounces of this product per acre at each of two applications 7 to 14 days apart or a single application of 2 quarts per acre. Apply in late September or early October to actively growing plants, which are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.</p>	

PERENNIAL WEEDS	USE RATE Broadcast Spray (Quarts/Acre)	USE RATE Hand Held Equipment (Percent Solution)
Reed, giant	--	2
For control. Apply when plants are actively growing. Best results are obtained when applications are made in late summer to fall.		
Ryegrass, perennial	1 to 3	1
In noncrop, or areas where annual tillage (no-till) is not performed, apply 2 to 3 quarts of this product per acre. In annual cropping systems apply 1 to 2 quarts of this product per acre. For best results, apply to actively growing plants when most have reached the boot-to-head stage of growth or in the fall prior to frost. Do not tank-mix with residual herbicides when using the 1 quart per acre rate. Allow 7 or more days after application before tillage.		
Smartweed, swamp	3 to 5	--
Apply 3 to 5 quarts of this product per acre when plants are actively growing and most have reached the early bud stage of growth. Allow 7 or more days after application before tillage. Also for control, apply 16 fluid ounces of this product plus 0.5 pound active ingredient of 2,4-D per acre in the late summer or fall. Apply when plants are actively growing and most have reached the early bud stage of growth. Allow 7 or more days after application before tillage.		
Spurge, leafy	1/2	--
For suppression, apply 1/2 quart of this product plus 0.5 pound active ingredient 2,4-D per acre in the late summer or fall. Apply when plants are actively growing. If mowing has occurred prior to treatment, apply when most of the plants are 12 inches tall. Allow 7 or more days after application before tillage.		
Starthistle, yellow	2	2
Best results are obtained when applications are made during periods of active growth, including the rosette, bolting and early flower stages.		
Sweet potato, wild	--	3
Apply to actively growing weeds that are at or beyond the bloom stage of growth. Repeat applications may be required. Allow the plant to reach the recommended stage of growth before retreatment. Allow 7 or more days before tillage.		
Thistle, artichoke	--	2
Apply to actively growing weeds that are at or beyond the bloom stage of growth. Repeat applications may be required. Allow the plant to reach the recommended stage of growth before retreatment. Allow 7 or more days before tillage.		
Thistle, Canada	1 to 3	--
Apply 2 to 3 quarts of this product per acre. Apply to actively growing thistles when most are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.  For suppression of Canada thistle, apply 1 quart per acre of this product, or 1 pint of this product plus 0.5 pound a.i. 2,4-D per acre. in the late summer or fall after harvest, mowing or tillage. Allow rosette regrowth to a minimum of 6 inches in diameter before treating. Applications can be made as long as leaves are still green and plants are actively growing at the time of application. Allow 3 or more days after application before tillage.		

PERENNIAL WEEDS	USE RATE	USE RATE
	Broadcast Spray (Quarts/Acre)	Hand Held Equipment (Percent Solution)
Timothy	2 to 3	--
	For best results, apply to actively growing plants when most have reached the boot-to-head stage of growth. Allow 7 or more days after application before tillage.	
Torpedograss	4 to 5	--
	Partial control. Apply to actively growing torpedograss when most plants are at or beyond the seedhead stage of growth. Repeat application will be required to maintain control. Fall treatments must be applied before frost. Allow 7 or more days after application before tillage.	
Trumpet creeper	2	--
	For control. Apply to actively growing plants in late September or October, which are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.	
Vaseygrass	3 to 5	--
	Apply when actively growing and most have reach early head or early bud stage of growth. Allow 7 or more days after application before tillage.	
Velvetgrass	3 to 5	--
	Apply when actively growing and most have reached early head or early bud stage of growth. Allow 7 or more days after application before tillage.	
Wheatgrass, western	2 to 3	--
	For best results, apply to actively growing plants when most have reached the boot-to-head stage of growth. Allow 7 or more days after application before tillage.	

**TANK MIXTURES**

Riverdale Razor Herbicide can be tank mixed with additional products to provide residual control of many of the listed hard to control problem species. The addition of recommended rates of 2,4-D or Dicamba based products will provide improved control of many annual and perennial weeds. This product may be tank-mixed with other herbicides provided the specific product is registered for use on these sites. When tank mixing, read and observe applicable use directions, precautions and limitations on the respective product labels. Use according to the most restrictive label directions for each product in the mixture.

**WOODY BRUSH**

**OPTION 1**

When applied as recommended under the conditions described, this product CONTROLS or PARTIALLY CONTROLS the following woody brush, plants and trees:

- |   |  |   |  |
|---|--|---|--|
| <b>Alder</b><br><i>Alnus</i> spp.                           | <b>Coyote brush</b><br><i>Baccharis consanguinea</i>             | <b>Maple:</b><br><b>Red**</b><br><i>Acer rubrum</i>     | <b>Russian olive***</b><br><i>Elaeagnus angustifolia</i>     |
| <b>Ash</b><br><i>Fraxinum</i> spp.                          | <b>Creepers, Virginia*</b><br><i>Parthenocissus quinquefolia</i> | <b>Sugar</b><br><i>Acer saccharum</i>                   | <b>Sage: black, white</b><br><i>Salvia</i> spp.              |
| <b>Aspen, quaking</b><br><i>Populus tremuloides</i>         | <b>Dewberry</b><br><i>Rubus trivialis</i>                        | <b>Vine</b><br><i>Acer circinatum</i>                   | <b>Sagebrush, California</b><br><i>Artemisia californica</i> |
| <b>Bearmat (Bearclover)</b><br><i>Chamaebatia foliolosa</i> | <b>Dogwood*</b><br><i>Cornus</i> spp.                            | <b>Monkey Flower*</b><br><i>Mimulus guttatus</i>        | <b>Salmonberry</b><br><i>Rubus spectabilis</i>               |
| <b>Beech</b><br><i>Fagus grandifolia</i>                    | <b>Elderberry</b><br><i>Sambucus</i> spp.                        | <b>Oak:</b><br><b>Black*</b><br><i>Quercus velutina</i> | <b>Salt cedar</b><br><i>Tamarix</i> spp.                     |
| <b>Birch</b><br><i>Betula</i> spp.                          | <b>Elm*</b><br><i>Ulmus</i> spp.                                 | <b>Northern Pin</b><br><i>Quercus palustris</i>         | <b>Sassafras</b><br><i>Sassafras aibidum</i>                 |
| <b>Blackberry</b><br><i>Rubus</i> spp.                      | <b>Eucalyptus</b><br><i>Eucalyptus</i> spp.                      | <b>Post</b><br><i>Quercus stellata</i>                  | <b>Sourwood</b><br><i>Oxydendrum arboreum</i>                |
| <b>Blackgum</b><br><i>Nyssa</i> spp.                        | <b>Gorse</b><br><i>Ulex europaeus</i>                            | <b>Red</b><br><i>Quercus rubra</i>                      | <b>Sumac</b><br><i>Rhus vernix</i>                           |
| <b>Bracken</b><br><i>Peridium</i> spp.                      | <b>Hasardia*</b><br><i>Haplopappus squamosus</i>                 | <b>Southern Red</b>                                     | <b>Smooth*</b><br><i>Rhus glabra</i>                         |
| <b>Broom:</b>   | <b>Hawthorn</b>  |   |  |

<b>French</b> <i>Cytisus monspessulanus</i>	<i>Crataegus</i> spp.	<i>Quercus falcata</i>	<b>Winged*</b> <i>Rhus copallina</i>
<b>Scotch</b> <i>Cytisus scoparius</i>	<b>Hazel</b> <i>Corylus</i> spp.	<b>White*</b> <i>Quercus alba</i>	<b>Sweetgum</b> <i>Liquidambar styraciflua</i>
<b>Buckwheat, California*</b> <i>Eriogonum fasciculatum</i>	<b>Hickory*</b> <i>Carya</i> spp.	<b>Persimmon*</b> <i>Diospyros</i> spp.	<b>Swordfern*</b> <i>Polystichum munitum</i>
<b>Cascara*</b> <i>Rhamnus purshiana</i>	<b>Holly, Florida/</b> <b>Brazilian Peppertree*</b> <i>Schinus terebinthifolius</i>	<b>Pine</b> <i>Pinus</i> spp.	<b>Tallowtree, Chinese</b> <i>Sapium sebiferum</i>
<b>Catsclaw*</b> <i>Acacia greggi</i>	<b>Honeysuckle</b> <i>Lonicera</i> spp.	<b>Poison Ivy</b> <i>Rhus radicans</i>	<b>Tan Oak</b> <i>Lithocarpus densiflorus</i>
<b>Ceanothus*</b> <i>Ceanothus</i> spp.	<b>Hornbean, American*</b> <i>Carpinus caroliniana</i>	<b>Poison Oak</b> <i>Rhus toxicodendron</i>	<b>Thimbleberry</b> <i>Rubus parviflorus</i>
<b>Chamise</b> <i>Adenostoma fasciculatum</i>	<b>Kudzu</b> <i>Pueraria lobata</i>	<b>Poplar, yellow*</b> <i>Liriodendron tulipifera</i>	<b>Tobacco, tree*</b> <i>Nicotiana glauca</i>
<b>Cherry:</b>	<b>Locust, black*</b> <i>Robinia pseudoacacia</i>	<b>Raspberry</b> <i>Rubus</i> spp.	<b>Trumpet creeper</b> <i>Campsis radicans</i>
<b>Bitter</b> <i>Prunus emarginata</i>	<b>Madrone</b> <i>Arctostaphylos</i> spp.	<b>Redbud, eastern</b> <i>Cercis canadensis</i>	<b>Waxmyrtle, southern*</b> <i>Myrica cerifera</i>
<b>Black</b> <i>Prunus serotina</i>	<b>Manzanita</b>	<b>Rose, multiflora</b> <i>Rosa multiflora</i>	<b>Willow</b> <i>Salix</i> spp.
<b>Pin</b> <i>Prunus pensylvanica</i>			

\*Partial control  
 \*\*See below for control or partial control instructions.  
 \*\*\*This product is not registered in California for use on Russian olive.

NOTE: If brush has been mowed or tilled or trees have been cut, do not treat until regrowth has reached the recommended stages of growth.

Apply this product when plants are actively growing and, unless otherwise directed, after full leaf expansion. Use the higher rate for larger plants and/or dense areas of growth. On vines, use the higher rate for plants that have reached the woody stage of growth. Best results are obtained when application is made in late summer or fall after fruit formation.

In arid areas, best results are obtained when application is made in the spring to early summer when brush species are at high moisture content and are flowering.

Ensure thorough coverage when using hand-held equipment. Symptoms may not appear prior to frost or senescence with fall treatments.

Allow 7 or more days after application before tillage, mowing or removal. Repeat treatments may be necessary to control plants regenerating from underground parts or seed. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance may result if fall treatments are made following a frost.

See "DIRECTIONS FOR USE" and "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" sections of this label for labeled uses and specific application instructions.

Apply this product as follows to control or partially control the following woody brush and trees.

**Alder/Dewberry/Honeysuckle/Post Oak/Raspberry** - For control, apply 3 to 4 quarts per acre of this product as a broadcast spray or as a 1 to 1.5 percent solution with hand-held equipment.

**Aspen, quaking/Cherry: bitter, black, pin/Hawthorn/Oak, southern red/Sweetgum/Trumpet creeper** - For control, apply 2 to 3 quarts of this product per acre as a broadcast spray or as a 1 to 1.5 percent solution with hand-held equipment.

**Birch/ Elderberry/ Hazel/ Salmonberry/Thimbleberry** - For control, apply 2 quarts per acre of this product as a broadcast spray or as a 1 percent solution with hand-held equipment.

**Blackberry** - For control, apply 3 to 4 quarts per acre of this product as a broadcast spray, or 1 to 1.5 percent solution with hand-held equipment. Make application after plants have reached full leaf maturity. Best results are obtained when applications are made in late summer or fall. After berries have set or dropped in late fall, blackberry can be controlled by applying a 3/4 percent solution of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume with hand-held equipment. For control of blackberries after leaf drop and until killing frost or as long as stems are green, apply 3 to 4 quarts of this product in 10 to 40 gallons of water per acre.

**Broom: French, Scotch** - For control, apply a 1.5 to 2 percent solution with hand-held equipment.

**Buckwheat, California/Hasardia/Monkey Flower/Tobacco, tree** - For partial control of these species, apply a 1 to 2 percent solution of this product as a foliar spray with hand-held equipment. Thorough coverage of foliage is necessary for best results.

**Catsclaw** - For partial control, apply as a 1 to 1.5 percent solution with hand-held equipment.

**Coyote Brush** - For control, apply a 1.5 to 2 percent solution with hand-held equipment when at least 50 percent of the new leaves are fully developed.

**Eucalyptus** - For control of eucalyptus resprouts, apply a 2 percent solution of this product with hand-held equipment when resprouts are 6 to 12 feet tall. Ensure complete coverage. Apply when plants are growing actively. Avoid application to drought-stressed plants.

**Kudzu** - For control, apply 4 quarts of this product per acre as a broadcast spray or as a 2 percent solution with hand-held equipment. Repeat applications will be required to maintain control.

**Madrone resprouts** - For suppression or partial control, apply a 2 percent solution of this product to resprouts less than 3 to 6 feet tall. Best results are obtained with spring/early summer treatments.

**Maple, red** - For control, apply as a 1 to 1.5 percent solution with hand-held equipment when at least 50 percent of the new leaves are fully developed. For partial control, apply 2 to 4 quarts of this product per acre as a broadcast spray.

**Maple, sugar/Oak, northern pin/Oak, red** - For control, apply as a 1 to 1.5 percent solution with hand-held equipment when at least 50 percent of the new leaves are fully developed.

**Poison Ivy/Poison Oak** - For control, apply 4 to 5 quarts of this product per acre as a broadcast spray or as a 2 percent solution with hand-held equipment. Repeat applications may be required to maintain control. Fall treatments must be applied before leaves lose green color.

**Rose, multiflora** - For control, apply 2 quarts of this product per acre as a broadcast spray or as a 1 percent solution with hand-held equipment. Treatments should be made prior to leaf deterioration by leaf-feeding insects.

**Sage, black/Sagebrush, California/Chamise/Tallowtree, Chinese** - For control of these species, apply a 1 percent solution of this product as a foliar spray with hand-held equipment. Thorough coverage of foliage is necessary for best results.

**Tan oak resprouts** - For suppression or partial control, apply a 2 percent solution of this product to resprouts less than 3 to 6 feet tall. Best results are obtained with fall applications.

**Willow** - For control, apply 3 quarts of this product per acre as a broadcast spray or as a 1 percent solution with hand-held equipment.

**Other Woody Brush and Trees listed on this label** - For partial control, apply 2 to 5 quarts of this product per acre as a broadcast spray or as a 1 to 2 percent solution with hand-held equipment. For difficult to control perennial weeds and woody brush and trees, where plants are growing under stressed conditions or where infestations are dense, Razor may be used at 5 to 10 quarts per acre for enhanced results. The annual maximum use rate for Razor is 10.6 quarts per acre per year.

**OPTION 2**

When applied as recommended under the conditions described, this product CONTROLS or PARTIALLY CONTROLS the following woody brush, plants and trees:

Alder, Ash, Aspen, quaking, Bearmat (Bearclover), Beech, Birch, Blackberry, Blackgum, Bracken, Broom (French, Scotch), Buckwheat, California\*, Cascara\*, Catsclaw\*, Ceanothus\*, Chamise, Cherry (Bitter, Black, Pin), Coyote brush, Creeper, Virginia\*, Dewberry, Dogwood\*, Elderberry, Elm\*, Eucalyptus, Gorse, Hasardia\*, Hawthorn, Hazel, Hickory\*, Holly, Florida/Brazilian Peppertree\*, Honeysuckle, Hornbeam, American\*, Kudzu, Locust, black\*, Madrone, Manzanita, Maple (red, sugar, vine), Monkey Flower\*, Oak (Black\*, Northern Pin, Post, Red, Southern Red, White\*), Persimmon\*, Pine, Poison Ivy, Poison Oak, Poplar, yellow\*, Raspberry, Redbud, eastern, Rose, multiflora, Russian-olive\*\*\*, Sage (Black, White), Sagebrush, California, Salmonberry, Salt cedar, Sassafras, Sourwood, Sumac (Poison\*, Smooth\*, Winged\*), Sweetgum, Swordfern\*, Tallowtree, Chinese, Tan Oak, Thimbleberry, Tobacco, tree\*, Trumpetcreeper, Waxmyrtle, southern\*, Willow.

\*Partial control  
\*\*See below for control or partial control instructions.  
\*\*\*This product is not registered in California for use on Russian-olive.

**NOTE:** If brush has been mowed or tilled or trees have been cut, do not treat until regrowth has reached the recommended stages of growth.

Apply this product when plants are actively growing and, unless otherwise directed, after full leaf expansion. Use the higher rate for larger plants and/or dense areas of growth. On vines, use the higher rate for plants that have reached the woody stage of growth. Best results are obtained when application is made in late summer or fall after fruit formation.

In arid areas, best results are obtained when application is made in the spring to early summer when brush species are at high moisture content and are flowering.

Ensure thorough coverage when using hand-held equipment. Symptoms may not appear prior to frost or senescence with fall treatments.

Allow 7 or more days after application before tillage, mowing or removal. Repeat treatments may be necessary to control plants regenerating from underground parts or seed. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance may result if fall treatments are made following a frost.

See "DIRECTIONS FOR USE" and "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" sections of this label for labeled uses and specific application instructions.

**WOODY BRUSH RATE TABLE**

See "APPLICATION RATES TABLE" for recommended spray volumes.

For Other Woody Brush listed on this label but not found in the table below: For partial control, apply 2 to 5 quarts of this product per acre as a broadcast spray or as a 1 to 2 percent solution with hand-held equipment. For difficult to control perennial weeds and woody

brush and trees, where plants are growing under stressed conditions or where infestations are dense, Razor may be used at 5 to 10 quarts per acre for enhanced results. **The annual maximum use rate for Riverdale Razor is 10.6 quarts per acre per year.**

Additional surfactant may be used. If additional surfactant is to be used follow the manufacturers rates and recommendations for use of the surfactant.

WOODY BRUSH	USE RATE Broadcast Spray (Quarts/Acre)	USE RATE Hand Held Equipment (Percent Solution)
Alder	For control. 3 to 4	1 to 1.5
Ash	For partial control. 2 to 5	1 to 2
Aspen, quaking	For control. 2 to 3	1 to 1.5
Bearmat (bearclover)	For partial control. 2 to 5	1 to 2
Beech	For partial control. 2 to 5	1 to 2
Birch	For control. 2	1
Blackberry	For control 3 to 4	1 to 1.5
	Make application after plants have reached full leaf maturity. Best results are obtained when applications are made in late summer or fall. After berries have set or dropped in late fall, blackberry can be controlled by applying a 3/4 percent solution of this product with hand-held equipment. For control of blackberries after leaf drop and until killing frost or as long as stems are green, apply 3 to 4 quarts of this product in 10 to 40 gallons of water per acre.	
Blackgum	For partial control. 2 to 5	1 to 2
Bracken	For partial control. 2 to 5	1 to 2
Broom: French and Scotch	For control.	1.5 to 2
Buckwheat, California	For partial control.	1 to 2
	Thorough coverage of foliage is necessary for best results.	
Cascara	For partial control. 2 to 5	1 to 2
Catsclaw	For partial control.	1 to 1.5
Ceanothus	For partial control. 2 to 5	1 to 2
Chamise	For control.	1
	Thorough coverage of foliage is necessary for best results.	
Cherry: Bitter, Black and Pin	For control. 2 to 3	1 to 1.5
Coyote brush	For control.	1.5 to 2
	Apply when at least 50 percent of the new leaves are fully developed.	
Creeper, Virginia	For partial control. 2 to 5	1 to 2
Dewberry	For control. 3 to 4	1 to 1.5
Dogwood	For partial control. 2 to 5	1 to 2
Elderberry	For control. 2	1
Elm	For partial control. 2 to 5	1 to 2
Eucalyptus	For control.	2
	Apply when eucalyptus resprouts are 6 to 12 feet tall. Ensure complete coverage. Apply when plants are growing actively. Avoid application to drought-stressed plants.	
Gorse	For partial control. 2 to 5	1 to 2

WOODY BRUSH	USE RATE Broadcast Spray (Quarts/Acre)	USE RATE Hand Held Equipment (Percent Solution)
Hasardia	For partial control.	1 to 2
	Thorough coverage of foliage is necessary for best results.	
Hawthorn	For control. 2 to 3	1 to 1.5
Hazel	For control. 2	1
Hickory	For partial control. 2 to 5	1 to 2
Holly, Florida/Brazilian Peppertree	For partial control. 2 to 5	1 to 2
Honeysuckle	For control. 3 to 4	1 to 1.5
Hornbeam, American	For partial control. 2 to 5	1 to 2
Kudzu	For control. 4	2
	Repeat applications will be required to maintain control.	
Locust, black	For partial control. 2 to 5	1 to 2
Madrone, resprouts	For suppression or partial control.	2
	Apply to resprouts less than 3 to 6 feet tall. Best results are obtained with spring/early summer treatments.	
Manzanita	For partial control. 2 to 5	1 to 2
Maple, red	For control. 2 to 4	1 to 1.5
	Apply as a 1 to 1.5 percent solution when at least 50 percent of the new leaves are fully developed. For partial control, apply 2 to 4 quarts of this product per acre.	
Maple, sugar	For control.	1 to 1.5
	Apply when at least 50 percent of the new leaves are fully developed.	
Maple, vine	For partial control. 2 to 5	1 to 2
Monkey flower	For partial control.	1 to 2
	Thorough coverage of foliage is necessary for best results.	
Oak: Black and White	For partial control. 2 to 5	1 to 2
Oak: Northern Pin and Red	For control.	1 to 1.5
	Apply when at least 50 percent of the new leaves are fully developed.	
Oak, post	For control. 3 to 4	1 to 1.5
Oak, southern red	For control. 2 to 3	1 to 1.5
Persimmon	For partial control. 2 to 5	1 to 2
Pine	For partial control. 2 to 5	1 to 2
Poison Ivy	For control. 4 to 5	2
	Repeat applications may be required to maintain control. Fall treatments must be applied before leaves lose green color.	
Poison oak	For control. 4 to 5	2
	Repeat applications may be required to maintain control. Fall treatments must be applied before leaves lose green color.	
Poplar, yellow	For partial control. 2 to 5	1 to 2
Raspberry	For control. 3 to 4	1 to 1.5
Redbud, eastern	For partial control. 2 to 5	1 to 2

WOODY BRUSH	USE RATE Broadcast Spray (Quarts/Acre)	USE RATE Hand Held Equipment (Percent Solution)
Rose, multiflora	For control. 2	1
	Treatments should be made prior to leaf deterioration by leaf-feeding insects.	
Russian olive	For partial control. 2 to 5	1 to 2
	This product is not registered in California for use on Russian olive.	
Sage, black	For control. 2	1
	Thorough coverage of foliage is necessary for best results.	
Sage, white	For partial control. 2 to 5	1 to 2
Sagebrush, California	For control. 2	1
	Thorough coverage of foliage is necessary for best results.	
Salmonberry	For control. 2	1
Salt cedar	For partial control. 2 to 5	1 to 2
Sassafras	For partial control. 2 to 5	1 to 2
Sourwood	For partial control. 2 to 5	1 to 2
Sumac, Poison, Smooth and Winged	For partial control. 2 to 5	1 to 2
Sweetgum	For control. 2 to 3	1 to 1.5
Swordfern	For partial control. 2 to 5	1 to 2
Tallowtree, Chinese	For control. 2	1
	Thorough coverage of foliage is necessary for best results.	
Tan oak resprouts	For suppression or partial control. 2 to 5	1
	Apply to resprouts less than 3 to 6 feet tall. Best results are obtained with fall applications.	
Thimbleberry	For control. 2	1
Tobacco, tree	For partial control. 2 to 5	1 to 2
	Thorough coverage of foliage is necessary for best results	
Trumpet creeper	For control. 2 to 3	1 to 1.5
Waxmyrtle, southern	For partial control. 2 to 5	1 to 2
Willow	For control. 3	1

### NONCROP USES

#### OPTION 1

See "GENERAL INFORMATION" and "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" sections of this label for essential product performance information and the following "NONCROP" sections for specific recommended uses.

EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF SPRAY WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE TURFGRASSES, TREES, SHRUBS OR OTHER DESIRABLE VEGETATION SINCE SEVERE DAMAGE OR DESTRUCTION MAY RESULT.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seeds.

Do not exceed 10.6 quarts of this product per acre per year.

This product does not provide residual weed control. For subsequent weed control, follow a label approved herbicide program.

Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

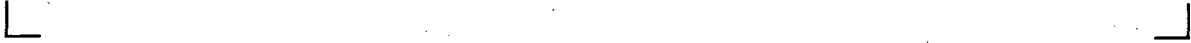


### INDUSTRIAL, RECREATIONAL AND PUBLIC AREAS

When applied as directed for "NONCROP USES", under conditions described, this product controls annual and perennial weeds, woody brush and trees listed on this label growing in areas such as airports, apartment complexes, ditch banks, dry ditches, dry canals, fencerows, golf courses, highways, industrial plant sites, lumber yards, manufacturing sites, office complexes, parking areas, parks, petroleum tank farms and pumping installations, pipelines, power and telephone rights-of-way, railroads, roadsides (including guardrails and shoulders), schools, storage areas, utility substations and warehouse areas.

For specific rates of application and instructions for control of various annual and perennial weeds and woody brush and trees, see the "WEEDS CONTROLLED" section of this label.

This product may be applied with recirculating sprayers, shielded applicators, or wiper applicators in any noncrop site specified on this label. See the Selective Equipment part of "APPLICATION EQUIPMENT and TECHNIQUES" section of this label for information on proper use and calibration of this equipment.



### OPTION 2

#### NONCROP, RECREATIONAL AND PUBLIC AREAS

Additional surfactant may be used. If additional surfactant is to be used follow the manufacturers rates and recommendations for use of the surfactant. When applied as directed for "NONCROP USES", under conditions described, this product controls annual and perennial weeds and woody brush listed on this label growing in areas such as airports, apartment complexes, ditch banks, dry ditches, dry canals, fencerows, golf courses, highways, industrial plant sites, lumber yards, manufacturing sites, office complexes, parking areas, parks, petroleum tank farms and pumping installations, pipelines, power and telephone rights-of-way, railroads, roadsides (guiderails, shoulders), schools, storage areas, utility substations and warehouse areas.

For specific rates of application and instructions for control of various annual and perennial weeds and woody brush, see the "WEEDS CONTROLLED" section of this label.



#### Chemical mowing - Perennials

This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Use 8 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass or quackgrass covers. Use 6 fluid ounces of this product per acre when treating Kentucky bluegrass. Apply treatments in sufficient volume of water to ensure thorough coverage.

Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

#### Chemical mowing - Annuals

For growth suppression of some annual grasses, such as annual ryegrass, wild barley and wild oats growing in coarse turf on roadsides or other industrial areas, apply 4 to 5 fluid ounces of this product in sufficient volume of water to ensure thorough coverage.

Applications should be made when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments may cause injury to the desired grasses.

#### RAILROADS

##### Bare ground, Ballast and Shoulders, Crossings, and Spot treatment

This product may be used to maintain bare ground on railroad ballast and shoulders. This product may be used to improve line-of-sight at railroad crossings and reduce the need for mowing along rights-of-way, wayside structures, and other similar areas. This product may be tank mixed with other herbicides for ballast, shoulder, spot, bare ground, crossing treatments UNLESS SPECIFICALLY PROHIBITED BY THE PRODUCT LABEL.

##### Brush control

This product may be used to control woody brush and trees on railroad rights-of-way. Apply 4 to 10 quarts of this product per acre as a broadcast spray, using boom-type or boom-less nozzles. Up to 80 gallons of spray solutions per acre may be used. Apply a 3/4 to 2 percent solution of this product when using high-volume spray-to-wet applications. Apply a 5 to 10 percent solution of this product when using low volume directed sprays for spot treatment. This product may be tank mixed with other products for enhanced control of woody brush and trees UNLESS SPECIFICALLY PROHIBITED BY THE PRODUCT LABEL.

##### Actively Growing Bermudagrass and Bermudagrass Release

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass. Apply 1 to 3 pints of this product in up to 80 gallons of spray solutions per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

- Bahiagrass, Bluestem, silver, Fescue, tall, Johnsongrass, Trumpetcreeper, Vaseygrass

This product may be tank-mixed with Spyder® (Sulfometuron methyl) If tank-mixed, use no more than 1 to 3 pints of this product with 1 to 2 ounces of Spyder per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Spyder label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

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Bahiagrass, Blackberry, Bluestem, silver, Broomsedge, Dallisgrass, Dewberry, Dock, curly, Dogfennel, Fescue, tall, Johnsongrass, Poorjoe, Raspberry, Trumpet creeper, Vaseygrass, Vervain, blue.

Use only on well-established bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Repeat applications in the same season are not recommended, since severe injury may occur.

#### **ROADSIDES**

##### **Shoulder treatments**

This product may be used on road shoulders.

##### **Guardrails and other obstacles to mowing**

This product may be used to control weeds growing under guardrails and around signposts and other objects along the roadside.

##### **Spot treatment**

This product may be used as a spot treatment to control unwanted vegetation growing along roadsides.

##### **Tank mixtures**

This product may be tank mixed with other herbicides for shoulder, guardrail, spot and bare ground treatments UNLESS SPECIFICALLY PROHIBITED BY THE PRODUCT LABEL.

##### **Release of Bermudagrass or Bahiagrass**

###### **Dormant applications**

This product may be used to control or partially control many winter annual weeds and tall fescue for effective release of dormant bermudagrass or bahiagrass. Treat only when turf is dormant and prior to spring greenup. This product may also be tank-mixed with Spyder (Sulfometuron methyl) for residual control. Tank mixtures of this product with Spyder may delay greenup.

For best results on winter annuals, treat when plants are in an early growth stage (below 6 inches in height) after most have germinated. For best results on tall fescue, treat when fescue is at or beyond the 4- to 6-leaf stage.

Apply 8 to 64 fluid ounces of this product per acre alone or in a tank mixture with 1/4 to 1 ounce per acre of Spyder. Use only in areas where bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated. To avoid delays in greenup and minimize injury, add no more than 1 ounce of Spyder per acre on bermudagrass and no more than 0.5 ounce of Spyder per acre on bahiagrass and avoid treatments when these grasses are in semi-dormant condition.

###### **Actively growing bermudagrass**

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. Apply 1 to 3 pints of this product per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

Bahiagrass, Bluestem, silver, Fescue, tall, Johnsongrass, Trumpet creeper, Vaseygrass

This product may be tank-mixed with Spyder (Sulfometuron methyl). If tank-mixed, use no more than 1 to 2 pints of this product with 1 to 2 ounces of Spyder per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Spyder label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

Bahiagrass, Bluestem, silver, Broomsedge, Dallisgrass, Dock, curly, Dogfennel, Fescue, tall, Johnsongrass, Poorjoe, Trumpet creeper, Vaseygrass, Vervain, blue

Use only on well-established bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Repeat applications of the tank mix in the same season are not recommended, since severe injury may occur.

###### **Actively growing bahiagrass**

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 6 fluid ounces of this product per acre. Apply 1 to 2 weeks after full greenup or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 4 fluid ounces of this product per acre, followed by and application of 2 to 4 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

#### **TANK MIXTURES FOR NONCROP SITES AND FORESTRY SITE PREPARATIONS**

##### **Razor Herbicide plus Spyder (Sulfometuron methyl)**

Use on noncrop sites including airports, industrial plants, lumberyards, petroleum tank farms, pumping stations, railroads, roadsides, storage areas or other similar sites where bare ground is desired.

This tank mixture may also be used as a site preparation treatment for sites to be planted to jack pine, loblolly pine, red pine, slash pine, Virginia pine and other conifer species. When applied as directed for "NONCROP USES" under the conditions described, this product plus Spyder provides control of annual weeds listed in the "WEEDS CONTROLLED" section of the label for this product and control or partial control of the perennial weeds listed below.

Apply 1 to 2 quarts of this product with 2 to 4 ounces of Spyder per acre as a broadcast spray to actively growing weeds. This mixture may be applied by aerial equipment in site prep operations. When applied by air, use the recommended rates. This product plus Spyder tank mixtures may not be applied by air in California. For control of annual weeds, use the lower rates of these products.

For control of the listed perennial weeds, use the higher rates of both products. For partial control, use the lower rates.

Bahiagrass, Bermudagrass\*, Broomsedge, Dock, curly, Dogfennel, Fescue, tall, Johnsongrass\*\*, Poorjoe\*\*, Quackgrass, Trumpetcreeper\*, Vaseygrass, Vervain, blue

\*Suppression at the higher rates only.

\*\*Control at the lower rates.

Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

**TANK MIXTURES NONCROP SITES**

When applied as a tank mixture, this product provides control of the emerged annual weeds and partial control to the emerged perennial weeds listed in this label. RAZOR MAY BE TANK MIXED WITH MOST NONCROP HERBICIDES UNLESS PROHIBITED BY THE SPECIFIC LABEL.

Use according to the most restrictive label directions for each product in the mixture.

**FARMSTEAD WEED CONTROL**

When applied as directed for "NONCROP USES", under conditions described, this product controls undesirable vegetation listed on this label around farmstead building foundations, along and in fences, shelterbelts and for general nonselective farmstead weed control.

For specific rates of application and instructions for control of various annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

**FARM DITCHES**

This product will suppress perennial grasses along farm ditches. Apply this product at a rate of 6 to 8 fluid ounces per acre. Use 8 fluid ounces per acre when treating tall (coarse) fescue, fine fescue, orchardgrass or quackgrass covers. For best suppression of these species, add ammonium sulfate at a rate of 1.7 pounds per 10 gallons of spray solution. Use 6 fluid ounces per acre without ammonium sulfate when treating Kentucky bluegrass.

Apply treatments to actively growing perennial grass covers. Recommended for best spray distribution and coverage, use flat fan nozzles.

Additional surfactant may be used. If additional surfactant is to be used follow the manufacturers rates and recommendations for use of the surfactant.

Where broadleaf weed control or suppression is desired, tank mix this product with an appropriate, labeled broadleaf weed herbicide.

**CONSERVATION RESERVE PROGRAM (CRP ACRES)**

This product can be used to control undesirable vegetation when rotating out of CRP acres or to suppress competitive growth and seed production of undesirable vegetation in CRP acres.

For specific rates of application for various annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

CRP applications may be made with wiper applicators or conventional spray equipment.

For selective applications with broadcast spray equipment, apply 12 to 16 ounces per acre of this product in early spring before desirable CRP grasses, such as crested and tall wheatgrass, break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy. Some stunting of CRP perennial grasses will occur if applications are made when plants are not dormant.

**DORMANT RANGELAND**

This product will control or suppress weeds in dormant rangeland. Refer to the "WEEDS CONTROLLED SECTION" of this label.

Apply 8 to 16 ounces per acre of this product in the early spring when the weeds have greened up, but desirable grasses, such as crested and tall wheatgrass are still truly dormant.

Slight discoloration of the desirable grasses may occur, but they will regreen and regrow under moist soil conditions as effects of this product wear off.

Do not use additional surfactant or ammonium sulfate when spraying dormant rangeland grasses with Riverdale Razor.

### HABITAT MANAGEMENT

This product is recommended for the restoration and/or maintenance of native habitats and in wildlife management areas. Apply as recommended in the "NONCROP USES" section of this label.

**Habitat Restoration and Maintenance** - When applied as directed, exotic and other undesirable vegetation may be controlled in habitat management areas. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broad spectrum vegetation control requirements in habitat management areas. Spot treatments can be made to selectively remove unwanted plants for habitat maintenance and enhancement. For spot treatments, care should be exercised to keep spray off desirable plants.

**Wildlife Food Plots** - This product may be used as a site preparation treatment prior to planting wildlife food plots. Any wildlife food species may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after applying this product before tilling.

### ORNAMENTALS, NURSERIES (PLANTS AND TREES) AND CHRISTMAS TREES

THIS PRODUCT IS NOT RECOMMENDED FOR USE AS AN OVER-THE-TOP BROADCAST SPRAY IN ORNAMENTALS AND CHRISTMAS TREES.

Note: Desirable plants may be protected from the spray solution by using shields or coverings made of cardboard or other impermeable material.

When applied as instructed for the conditions described for "NONCROP USES", this product controls undesirable vegetation listed on this label prior to planting, within and around greenhouses and shadehouses, and as a postdirected spray around established ornamentals and Christmas trees. This product may also be used to trim and edge around trees, buildings, sidewalks, roads, potted plants and other objects in a nursery setting.

For specific rates of application and instructions for control of various annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

Where repeat applications are necessary, do not exceed 10.6 quarts of this product per acre per year.

**Site Preparation** - Following preplant applications of this product, any ornamental, nursery species or Christmas tree species may be planted. Precautions should be taken to protect nontarget plants during site preparation applications.

**Greenhouse/Shadehouse Use** - This product may be used to control weeds listed on this label which are growing in greenhouses. Desirable vegetation must not be present during application and air circulation fans must be turned off.

**Postdirected Spray** - Use as a postdirected spray around established woody ornamental species, nursery species or Christmas trees such as those listed below. Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established ornamental species.

Arborvitae, Azalea, Boxwood, Crabapple, Euonymus, Fir, Hollies, Jojoba, Lilac, Magnolia, Maple, Oak, privet, Pine, Spruce.

### SILVICULTURAL SITES and RIGHTS-OF-WAY

NOTE: NOT RECOMMENDED FOR USE AS AN OVER-THE-TOP BROADCAST SPRAY IN SILVICULTURAL NURSERIES

When applied as directed for "NONCROP USES" under conditions described, this product controls undesirable vegetation listed on this label.

For specific rates of application and instructions for control of various brush, annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

Do not exceed 10.6 quarts of this product per acre per year.

**Aerial Application** - This product may be applied using aerial spray equipment for silvicultural site preparation, and rights-of-way treatments. See the "APPLICATION EQUIPMENT and TECHNIQUES" part of the "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" section of this label for information on how to apply this product by air.

DO NOT APPLY THIS PRODUCT BY AIR TO RIGHTS-OF-WAY SITES IN THE STATE OF CALIFORNIA.

### SITE PREPARATION

Following preplant applications of this product, any silvicultural species may be planted.

### POSTDIRECTED SPRAY

In established silvicultural sites, use as a spray on the foliage of undesirable vegetation. Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of desirable species.

### CUT STUMP TREATMENTS

Woody vegetation may be controlled by treating freshly cut stumps of trees and resprouts with this product. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut vegetation close to the soil surface. Apply a 50 to 100 percent solution of this product to the freshly-cut surface immediately after cutting. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion.

When used according to directions for cut stump application, this product will CONTROL, PARTIALLY CONTROL or SUPPRESS many types of woody brush and tree species, some of which are listed below:

Alder, Eucalyptus, Madrone, Oak, Reed, giant, Salt cedar, Sweetgum, Tan Oak, Willow.

**INJECTION AND FRILL APPLICATIONS**

Woody vegetation may be controlled by injection or frill application of this product. Apply this product using suitable equipment which must penetrate into the living tissue. Apply the equivalent of 1 ml of this product per each 2 to 3 inches of trunk diameter (DBH). This is best achieved by applying a 50 to 100 percent concentration of this material either to a continuous frill around the tree or as cuts evenly spaced around the tree below all branches. As tree diameter increases in size, better results are achieved by applying diluted material to a continuous frill or more closely spaced cuttings. Avoid application techniques that allow runoff to occur from frill or cut areas in species that exude sap freely after frills or cutting. In species such as this, make frill or cut at an oblique angle so as to produce a cupping effect and use undiluted material. For best results, application should be made during periods of active growth and after full leaf expansion.

This treatment WILL CONTROL the following woody species:

Oak, Poplar, Sweetgum, Sycamore

This treatment WILL SUPPRESS the following woody species:

Blackgum, Dogwood, Hickory, Maple, red.

**TURFGRASSES AND GRASSES FOR SEED PRODUCTION**

**PREPLANT AND RENOVATION**

When applied as directed for "NONCROP USES", under conditions described, this product controls most existing vegetation prior to the planting or renovation of either turfgrasses or grass seed production areas.

For specific rates of application and instructions for control of various annual and perennial weeds, and woody brush and trees, see the "WEEDS CONTROLLED" section of this label.

For maximum control of existing vegetation, delay planting to determine if any regrowth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses, such as bermudagrass, summer or fall applications provide best control.

DO NOT DISTURB SOIL OR UNDERGROUND PLANT PARTS BEFORE TREATMENT. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts.

**TURFGRASSES**

Where existing vegetation is growing in a field or unmowed situation, apply this product to actively growing weeds at the stages of growth listed in the "WEEDS CONTROLLED" section of this label.

Where existing vegetation is growing under mowed turfgrass management in such sites as apartment complexes, residential areas and sod farms, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray.

Desirable turfgrasses may be planted following the above procedures.

**GRASSES FOR SEED PRODUCTION**

Apply this product to actively growing weeds at the stages of growth recommended in the "WEEDS CONTROLLED" section of this label prior to planting or renovation of turf or forage grass areas grown for seed production.

DO NOT feed or graze treated areas within 8 weeks after application.

**ANNUAL WEED CONTROL IN DORMANT BERMUDAGRASS AND BAHIAGRASS TURF**

When applied as directed for "NONCROP USES" under the conditions described, this product will provide control or suppression of many winter annual weeds and tall fescue for effective release of dormant bermudagrass and bahiagrass turf. Refer to the rate table for Riverdale Razor alone under the "RELEASE OF BERMUDAGRASS and BAHIAGRASS" section of this label for recommended rates and volumes on the species to be suppressed or controlled. Treat only when turf is dormant and prior to spring greenup. Spot treatments or broadcast applications of this product in excess of 16 fluid ounces per acre may result in injury or delayed greenup in highly maintained turfgrass areas; i.e., golf courses, lawns, etc. DO NOT APPLY TANK MIXTURES of this product plus Spyder (Sulfometuron methyl) in highly maintained turfgrass areas.

**RELEASE OF BERMUDAGRASS OR BAHIAGRASS**

NOTE: Use only in areas where bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated. Use tank mixtures of this product plus Spyder (Sulfometuron methyl) only on railroads, highways, utility plant sites, or other right-of-way areas.

When applied as directed for "NONCROP USES" under the conditions described, this product will provide control or suppression of many winter annual weeds and tall fescue for effective release of dormant bermudagrass or bahiagrass. This product may be tank-mixed with Spyder as recommended for residual control. Make applications to dormant bermudagrass or bahiagrass. Tank mixtures of this product plus Spyder may delay greenup. To avoid delays in greenup and minimize injury, do not add more than 1 ounce per acre of Spyder on bermudagrass or more than 0.5 ounce per acre on bahiagrass, or treat when these grasses are in a semi-dormant condition.

For best results on winter annuals, treat when plants are in an early growth stage (below 6 inches in height) after most have germinated. For best results on tall fescue, treat when fescue is in or beyond the 4 to 6-leaf stage.

**WEEDS CONTROLLED**

Rate recommendations for control or suppression of winter annuals and tall fescue are listed below:

Apply the recommended rates of this product alone or as a tank mixture in sufficient water to ensure thorough coverage.

For the best recommendation for the mixture of weeds within your geographic area, contact your Nufarm sales representative.

WEEDS CONTROLLED OR SUPPRESSED WITH RIVERDALE RAZOR ALONE*						
WEED SPECIES	RIVERDALE RAZOR (Fluid Ounces/Acre)					
	8	12	16	24	32	64
Barley, little	S	C	C	C	C	C
Bedstraw, catchweed	S	C	C	C	C	C
Bluegrass, annual	S	C	C	C	C	C
Chervil	S	C	C	C	C	C
Chickweed, common	S	C	C	C	C	C
Clover, crimson	•	S	S	C	C	C
Clover, large hop	•	S	S	C	C	C
Fescue, tall	•	•	•	•	S	S
Geranium, Carolina	•	•	S	S	C	C
Henbit	•	S	C	C	C	C
Ryegrass, Italian	•	•	S	C	C	C
Speedwell, corn	S	C	C	C	C	C
Vetch, common	•	•	S	C	C	C

NOTE: C = Control  
S = Suppression

\*These rates apply only to sites where an established competitive turf is present.

WEEDS CONTROLLED OR SUPPRESSED WITH RIVERDALE RAZOR PLUS SPYDER (SULFOMETURON METHYL)*								
WEED SPECIES	RIVERDALE RAZOR (Fluid Ounces/Acre)	8	12	12	16	16	12	16
	+	+	+	+	+	+	+	+
	Spyder (Ounces/Acre)	1/4	1/4	1/2	1/4	1/2	1	1
Barley, little		C	C	C	C	C	C	C
Bedstraw, catchweed		C	C	C	C	C	C	C
Bluegrass, annual		S	C	C	C	C	C	C
Chervil		C	C	C	C	C	C	C
Chickweed, common		S	C	C	C	C	C	C
Clover, crimson		S	S	S	S	C	C	C
Clover, large hop		•	•	S	S	C	C	C
Fescue, tall		•	•	•	•	•	S	S
Geranium, Carolina		•	S	S	C	C	C	C
Henbit		•	S	C	C	C	C	C
Ryegrass, Italian		•	S	S	C	C	C	C
Speedwell, corn		S	C	C	C	C	C	C
Vetch, common		C	C	C	C	C	C	C

NOTE: C = Control  
S = suppression

\*These rates or mixtures of rates apply only to sites where an established competitive turf is present.

**RELEASE OF ACTIVELY GROWING BERMUDAGRASS**

When applied as directed, this product will aid in the release of bermudagrass by providing control of annual species listed in the "WEEDS CONTROLLED" section of this and the Spyder (Sulfometuron methyl) label and suppression or partial control of certain perennial weeds.

For control or suppression of those annual species listed on this label, use 1 to 3 pints of this product as a broadcast spray in sufficient water to ensure thorough coverage. Use the lower rate when treating annual weeds below 6 inches in height (or length of runner in annual vines). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation.

Use the higher rate of this product for partial control of the following perennial species. Use the lower rates for suppression of growth. For best results, see the "WEEDS CONTROLLED" section of this label for proper stage of growth.

- Bahiagrass, Bluestem, silver, Fescue, tall, Johnsongrass\*, Trumpetcreeper\*\*, Vaseygrass

\*Control at the higher rates.  
\*\*Suppression at higher rates only.

This product may be tank-mixed with Spyder. If tank-mixed, use no more than 1 to 2 pints per acre of this product with 1 to 2 ounces of Spyder per acre.

Use the lower rates of both mixtures to control annual weeds below 6 inches in height (or runner length in annual vines) that are listed in the "WEEDS CONTROLLED" section of this booklet and the Spyder label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages.

Use the higher rates of this product to provide partial control of the following perennial weeds. Use the lower rates for suppression of growth.

- Bahiagrass, Bluestem, silver, Broomsedge, Dock, curly, Dogfennel, Fescue, tall, Johnsongrass\*, Poorjoe\*, Trumpetcreeper\*\*, Vaseygrass, Vervain, blue.

\*Suppression at higher rates only.  
\*\*Control at the higher rates.

### COOL SEASON TURF GROWTH REGULATION

When applied as directed, this product will suppress growth and seedhead development of listed turf species in noncrop sites.

This product is recommended for management of coarse turf on roadside rights-of-way. Use in areas such as airports, apartment complexes, Christmas tree farms, ditch banks, dry ditches, dry canals, fencerows, golf courses, highways, industrial sites, lumberyards, manufacturing sites, office complexes, ornamental nurseries, parks, parking areas, pipelines, petroleum tank farms and pumping installations, railroads, recreational pipeline areas, residential areas, rights-of-way, roadsides (including guardrails and shoulders), sod or turf seed farms, schools, storage areas, substations and warehouse areas. Do not use on high-quality turf or other areas where some turf color changes cannot be tolerated. Slight turf discoloration may occur but turf will regreen and regrow under moist conditions as effects of this product wear off.

Apply 4 to 6 fluid ounces of this product per acre alone or in a recommended tank mixture.

Apply the recommended rates of this product alone or as a tank mixture in sufficient water to ensure thorough coverage.

This product can be used for growth and seedhead suppression of:

#### TALL FESCUE/SMOOTH BROME

For best results, apply this product in a recommended tank mixture to actively growing turfgrasses after greenup in the spring of the year. For suppression of seedheads, applications must be made before boot-to-seedhead stage of development. Applications made from seedhead emergence until maturity may result in turf discoloration or injury.

After mowing or removal of seedheads, this product in a recommended tank mixture may also be used to suppress the growth of certain turfgrasses. Allow turf to recover from stress caused by heat, drought or mowing before making applications. Applications made to turf under stress may increase the potential for discoloration or injury.

#### ANNUAL GRASSES

For growth suppression of some annual grasses such as annual ryegrass, wild barley and wild oats, apply 3 to 4 fluid ounces of this product per acre. Applications should be made when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments made after seedhead emergence may cause injury to the desired grasses.

#### TANK MIXTURES

For the following tank mixtures, consult each product label for weeds controlled and the correct stage of application. Do not treat turf under stress.

##### Tank mixtures plus 2,4-D Amine

For additional weed control benefits, up to 1 pound a.i. per acre of 2,4-D amine may be added to the following tank mixtures. Consult the label for 2,4-D amine for weeds controlled.

#### TALL FESCUE

##### Riverdale Razor plus Corsair® (Clorsulfuron)

For suppression of tall fescue growth and seedheads, and control or partial control of some annual weeds, apply this tank mixture after greenup and prior to boot-to-seedhead stage of development. Use up to 0.5 ounce of clorsulfuron per acre.

This tank mixture can also be applied after mowing or removal of tall fescue seedheads for turf growth suppression. Make only one of the above applications per growing season.

##### Riverdale Razor plus Spyder® (Sulfometuron methyl)

For suppression of tall fescue growth and seedheads, and control or partial control of some annual weeds, apply this tank mixture after greenup and prior to boot-to-seedhead stage of development. Use up to 0.25 ounce of sulfometuron methyl per acre.

##### Riverdale Razor plus Manor® (Metsulfuron methyl)

This tank mixture can be applied after mowing or removal of tall fescue seedheads for turf growth suppression and control or partial control of some annual weeds. Use up to 1/3 ounce of metsulfuron methyl per acre.

#### SMOOTH BROME

##### Riverdale Razor Plus Spyder® (Sulfometuron methyl)

For suppression of smooth brome growth and seedheads and control or partial control of some annual weeds, apply this tank mixture after greenup and prior to boot-to-seedhead stage of development. Use up to 0.25 ounce of sulfometuron methyl per acre.



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## CROP USES

When applied as directed, under the conditions described, this product controls any weeds listed in the annual and perennial weeds and woody brush tables listed on this label. Also refer to the "Selective Equipment" section.

Extreme care must be exercised to avoid contact of spray with foliage, green stems or fruit of desirable crops, plants, trees or other desirable vegetation since severe damage or destruction may result. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seed. Except as other specified on this label, repeat treatments must be made before the crop emerges in accordance with instructions of this label. Unless otherwise specified in a crop section of this label, the combined total of all treatments must not exceed 8 quarts per acre of this product per year.

For any crop not listed in this section, applications must be made at least 30 days prior to planting. Do not harvest or feed treated vegetation for 8 weeks following application, unless otherwise specified..

### ASPARAGUS

**Preharvest Interval:** 5 days

**Types of Applications:** Preplant, preemergence, spot treatment and postharvest

#### Preplant, Preemergence

**Use Directions:** This product may be applied prior to crop emergence for the control of emerged labeled annual and perennial weeds.

**Precautions and Restrictions:** Do not apply within a week before the first spears emerge.

#### Spot Treatment

**Use Directions:** This product may be applied immediately after cutting, but prior to the emergence of new spears.

**Precautions and Restrictions:** Do not treat more than 10 percent of the total field area to be harvested.

#### Postharvest

**Use Directions:** This product may be applied after the last harvest and all spears have been removed. If spears are allowed to regrow, delay application until ferns have developed. Delayed treatments should be applied as directed or shielded spray in order to avoid contact of the spray with ferns, stems or spears.

**Precautions and Restrictions:** Direct contact of the spray with the asparagus may result in serious crop injury. Select and use recommended types of spray equipment for postemergence postharvest applications. A directed spray is any application where the spray pattern is aligned in such a way as to avoid direct contact of the spray with the crop. A shielded spray is an application where a physical barrier is positioned and maintained between the spray and the crop to prevent contact of spray with the crop.

### BERRIES AND SMALL FRUITS

**Labeled Crops:** Blackberry, Blueberry, Boysenberry, Cranberry, Currant, Dewberry, Elderberry, Gooseberry, Huckleberry, Loganberry, Olallieberry, Raspberry (Black and Red).

**Preharvest Interval:** For all listed berries and small fruits except Cranberries 14 days. For Cranberries 30 days.

**Types of Applications:** Preplant, preemergence, directed spray (except cranberry), wiper applicator.

**Use Directions:** This product may be applied as a preplant or preemergence broadcast application or as a wiper application post-planting for crops listed in this section. Directed spray may be applied to any crop except cranberries. For wick or wiper applicators: mix 1 gallon of this product in 4 gallons of water to prepare a 20 percent solution. In severe infestations, reduce equipment ground speed to ensure that adequate amounts of this product are wiped on the weeds. A second treatment in the opposite direction may be beneficial.

**Precautions and Restrictions:** Do not permit herbicide solution to contact desirable vegetation, including green shoots, canes or foliage.

### CEREAL GRAINS

**Labeled Crops:** Barley, Buckwheat, Millet (Pear, Proso), Oats, Rice, Rye, Triticale, Wheat (all), Wild Rice

**Preharvest Interval:** Wheat 35 days.

**Types of Applications:** Preplant, Preemergence, at-planting, postharvest, spot treatment (except rice), preharvest (wheat only), wiper applicators (wheat only)

Do not treat rice fields or levees when the fields contain flood water.

**Preplant, Preemergence and At-planting**

**Use Directions:** This product may be applied before, during or after planting of cereal crops. Applications must be made prior to emergence of the crop.

**Spot Treatment (except rice):**

**Use Directions:** This product may be applied as a spot treatment in cereal crops. Applications must be made prior to heading of small grains.

**Precautions and Restrictions:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

**Postharvest**

**Use Directions:** This product may be applied after harvest of cereal crops. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures of this product with 2,4-D or Dicamba may be used.

**Precautions and Restrictions:** For any crop not listed on this label, applications must be made at least 30 days prior to planting the next crop. This product may be tank-mixed with the listed herbicides provided the specific product is registered for use on these sites. When tank mixing, read and observe applicable use directions, precautions and limitations on the respective product labels. Use according to the most restrictive label directions for each product in the mixture. Do not harvest or feed treated vegetation for 8 weeks following applications.

**Preharvest (Wheat only)**

**Use Directions:** Apply at rates given in the annual and perennial weeds and woody brush tables listed on this label. This product may be applied by both ground and aerial application equipment. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for instructions for ground and aerial application. Apply after the hard-dough state of grain (30 percent or less grain moisture) and at least 7 days prior to harvest.

**Precautions and Restrictions:** Do not apply more than 1 quart per acre of this product for preharvest applications to wheat. Do not apply to wheat grown for seed unless the likelihood in germination and/or vigor is acceptable. Reduction in germination or vigor may occur.

**Wiper Applications (wheat only)**

Wiper applicators may be used on wheat.

**Precautions and Restrictions:** Allow at least 35 days between application and harvest. Do not use roller applicators.

**CITRUS CROPS**

**Labeled Crops:** Calamondin, Chironja, Citron, Grapefruit, Kumquat, Lemon, Lime, Mandarin Orange, Orange (all), Pummelo, Tangelo, Tangerine, Tangors

**Preharvest Interval:** 1 day

**NOTE:** For general use directions, see the "TREE AND VINE CROPS (General)" section of this label. The following directions are specific to citrus crops.

**Citron:** Apply as a directed spray only.

**CORN**

**Types of Corn:** Field Corn, Seed Corn, Sweet Corn and Popcorn

**Preharvest Interval:**

*Conventional* - 7 days; *forage* 8 weeks

Roundup Ready Gene - 7 days; 7 days for corn grain; 50 days for forage

**Types of Applications:** Preplant, preemergence, at-planting, hood sprayers, spot treatment, preharvest, post harvest

Add an agriculturally approved nonionic surfactant at 0.5 to 1.0 percent by volume of spray solution. Adding 1 to 2 percent by weight of dry ammonium sulfate (or equivalent from other formulations) may increase the performance of this product.

**Preplant, Preemergence and At-planting**

**Use Directions:** This product may be applied before, during or after planting corn. Applications must be made prior to emergence of the crop.

**Tank Mixes**

**Use Directions:** This product may be tank mixed with the listed herbicides. Subject to any limitations stated on labeling of specific products, the following tank mixtures may be applied before, during or after planting in conventional tillage systems, into a cover crop, established sod or in previous crop residue. Apply these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre.

Atrazine	Extrazine®	Lorox®/Linuron
Bicep®	Frontier®	Marksman®/Atrazine + Dicamba
Bicep® II	Guardman®	Micro-Tech®
Bladex®/Cyanazine	Harness®/Acetochlor	Partner®
Broadstrike®	Harness® Xtra	Prowl®/Pendimethalin
Bullet®	Harness® Xtra 5.6L	Simazine
Dicamba	Lariat®	Surpass®/Acetochlor
Dual®	Lasso®/Alachlor	Surpass 100
Dual® II	Linex®	Topnotch®

**For Southern states, AL, AR, FL, GA, KY, LA, MO, MS, OK, NC, SC, TN, TX and VA,** do not apply in nitrogen solutions to tough-to-control grasses such as barnyardgrass, fall panicum, broadleaf signalgrass, annual ryegrass and any perennial weeds. For improved burndown, this product may be tank mixed with 2,4-D (Weedar, Weedone and others) or Dicamba.

For difficult to control annual weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 2 pints per acre in these tank mixtures. For other labeled annual weeds, apply 1 to 1-1/2 pints of this product per acre when weeds are less than 6 inches tall, and 2 to 3 pints when weeds are over 6 inches tall.

**Precautions and Restrictions:** Do not plant corn until at least 7 days after application of 2,4-D or Dicamba. The tank mix recommendations in this section are not registered in California. This product may be tank-mixed with the listed herbicides provided the specific product is registered for use on these sites. When tank mixing, read and observe applicable use directions, precautions and limitations on the respective product labels. Use according to the most restrictive label directions for each product in the mixture. When using these tank mixtures, do not exceed 4 quarts of this product per acre.

#### Hooded Sprayers

**Use Directions:** This product may be used through hooded sprayers for weed control between the rows of corn. Only hooded sprayers that completely enclose the spray pattern may be used.

When applying to corn that is grown on raised beds, ensure that the hood is designed to completely enclose the spray solution. If necessary, extend the front and rear flaps of the hoods to reach the ground in deep furrows.

Follow these requirements:

- The spray hoods must be operated on the ground or skimming across the ground.
- Do not apply more than 1 quart of this product per acre per application.
- Corn must be at least 12 inches tall, measured without extending leaves.
- Leave at least an 8 inch untreated strip over the drill row. For example, if the crop row width is 38 inches, the maximum width of the spray hood should be 30 inches.
- Maximum tractor speed: 5 mph.
- Maximum wind speed: 10 mph.
- Use low-drift nozzles.

Crop injury may occur when the foliage of treated weeds comes into direct contact with leaves of the crop. Do not apply this product when the leaves of the crop are growing in direct contact with weeds to be treated. Droplets, mist, foam or splatter of the herbicide solution may contact the crop and cause discoloration, stunting or destruction.

For specific rates of application and instructions for control of various annual and perennial weeds, see the "WEEDS CONTROLLED" Section of the label.

**Precautions and Restrictions:** Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator. Do not graze or feed corn forage or fodder following applications of this product through hooded sprayers. Do not apply more than 3 quarts of this product per acre per year for hooded sprayer applications.

#### Spot treatment

**Use Directions:** For spot treatments, apply this product prior to silking of corn.

**Precautions and Restrictions:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

#### Preharvest

**Use Directions:** Make applications at 35 percent grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed). For ground applications, apply up to 3 quarts of this product per acre. For aerial applications, apply up to 1 quart of this product per acre.

**Precautions and Restrictions:** It is not recommended that corn grown for seed be treated preharvest because a reduction in germination or vigor may result.

#### Postharvest

**Use Directions:** This product may be applied after harvest of corn. Higher recommended rates may be required for control of large weeds which were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or Dicamba may be used.

**Precautions and Restrictions:** Do not harvest or feed treated vegetation for 8 weeks following application.

### CORN - ROUNDUP READY® GENE POSTEMERGENCE APPLICATION

NUFARM AMERICAS, INC. RECOMMENDS USE OF THIS PRODUCT ONLY ON CORN HYBRIDS DESIGNATED AS CONTAINING THE ROUNDUP READY GENE.

**Preharvest Interval:** Preharvest 7 days; grain 7 days; forage 50 days.

#### General Information

Applying this product to corn hybrids which are not designated as Roundup Ready will result in severe crop injury and yield loss. The Roundup Ready designation indicates that the corn contains a patented gene which provides tolerance to this herbicide. Information on Roundup Ready corn may be obtained from your seed supplier or Nufarm representative.

This product may be applied postemergence to Roundup Ready corn from emergence through the V8 stage (8 leaves with collars) or until corn height reaches 30 inches, whichever comes first. Single in-crop applications of this product are not to exceed 1 quart per acre. Sequential in-crop applications of this product from emergence through the V8 stage or 30 inches must not exceed 2 quarts per acre per growing season.

#### Maximum Allowable Yearly Rates

- **Preplant:** Maximum amount of this product which can be applied prior to crop emergence is 5 quarts per acre.
- **In-Crop:** Maximum combined total of multiple in-crop applications from emergence through the V8 stage or 30 inches is 2 quarts per acre.
- **Preharvest:** Maximum amount of this product that can be applied after maximum kernel fill is complete and the crop is physiologically mature (blac layer formation) until 7 days before harvest is 1 quart per acre.
- **Cropping Season:** Combined total per year for all applications may not exceed 8 quarts per acre.

When applied as directed, this product controls labeled annual grass and broadleaf weeds in Roundup Ready corn. Many perennial grasses and broadleaf weeds will be controlled or suppressed with one or more applications of this product. Applications should be made to actively growing weeds before they reach the maximum size listed in the label. Refer to the label for proper use instructions.

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product under hard water conditions, drought conditions or when tank mixed with Bullet, Micro-Tech or Partner herbicides. Ensure that ammonium sulfate is completely dissolved in the spray tank before adding herbicides.

**For ground application:** Use the recommended rates of this product in 5 to 20 gallons of spray solution per acre as a broadcast spray. Carefully select correct nozzles and spray pressure to avoid spraying a fine mist. Check for even distribution of spray droplets.

**For aerial application:** Use the recommended rates of this product in 3 to 15 gallons of spray solution per acre. Do not exceed 1 quart of product per acre. Refer to label booklet for weeds controlled or suppressed. Avoid drift. Do not apply during inversion conditions, when winds are gusty or under any other conditions which favor drift. Drift may cause damage to any vegetation contacted to which treatment is not intended. To prevent injury to adjacent vegetation, appropriate buffer zones must be maintained.

**Sprayer Preparation:** Thoroughly clean the spray tank and all lines and filters to eliminate potential contamination from other herbicides prior to mixing and applying this product.

**Precautions and Restrictions:** Allow a minimum of 10 days between in crop applications of this product. There are no rotational crop restrictions following applications of this product. **Avoid drift. Extreme care must be used when applying this product to prevent injury to desirable plants and crops which do not contain the Roundup Ready gene.**

#### Weed Control Recommendations

**Use Directions:** Apply 24 to 32 fluid ounce of this product per acre for control of labeled grasses and broadleaf weeds in conventional and no-till corn production systems. Refer to the label for rate recommendations for specific annual weeds. Up to 1 quart per acre will control or suppress the growth of perennial weeds such as: bermudagrass, Canada thistle, common milkweed, field bindweed, hemp dogbane, horsenettle, nutsedge, quackgrass, rhizome johnsongrass, redvine, trumpetcreeper, swamp smartweed, and wirestem muhly. For additional information on perennial weeds, see the label.

**Preemergence followed by Postemergence Weed Control Program:** This product may be applied postemergence in-crop following any labeled preemergence herbicide application. The post application of this product should be made before the weeds reach a height and/or density that the weeds become competitive with the crop. A single in-crop application of this product at the recommended rate will provide control of emerged weeds listed on the label. This product may be applied postemergence to Roundup Ready corn from emergence through the V8 stage (8 leaves with collars) or until corn height reaches 30 inches (free standing), whichever comes first.

**Postemergence Only Weed Control Program:** This product may be applied alone as a postemergence in-crop application to provide control of emerged weeds listed on the label. The postemergence application of this product should be made before the weeds reach a height and/or density that the weeds become competitive with the crop. If new flushes of weeds occur, a sequential application of 24 to 32 fluid ounces per acre will control the labeled grasses and broadleaf weeds. This product may be applied postemergence to Roundup Ready corn from emergence through the V8 stage or until corn height reaches 30 inches (free standing), whichever comes first.

**Tank Mixtures**

**Use Directions:** This product may be tank mixed with the listed herbicides.

**Precautions and Restrictions:** When tank mixing, read and observe applicable use directions, precautions and limitations on the respective product labels. Use according to the most restrictive label directions for each product in the mixture. Tank mixtures with other products may result in increased potential for crop injury and/or weed antagonism. Refer to the table below for height limitation for tank mix partner.

Tank Mix Partner	Maximum Height of Corn (Inches)
Atrazine	12
Bullet®	5
Harness® Harness Xtra Harness Xtra 5.6L	11
Micro-Tech®	5
Partner®	5
Permit®	24

\*Bullet, Micro-Tech and Partner are not registered for use as a postemergence application in Texas.

**COTTON**

**Preharvest Interval:** 7 days

**Types of Applications:** Preplant, preemergence, at-planting, selective equipment, spot treatment, preharvest

**Preplant, Preemergence, and At-planting**

**Use Directions:** this product may be applied before, during or after planting cotton. Applications must be made prior to emergence of the crop.

**Selective Equipment**

**Use Directions:** This product may be applied through recirculating sprayers, shielded applicators or wiper applicators in cotton.

**Precautions and Restrictions:** See the "SELECTIVE EQUIPMENT" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

**Spot Treatment:**

**Use Directions:** Apply this product prior to boil opening on cotton.

**Precautions and Restrictions:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

**Preharvest**

**Use Directions:** This product provides weed control and cotton regrowth inhibition when applied prior to the harvest of cotton. Apply 1 to 2 quarts of this product in 3 to 10 gallons of water per acre for cotton regrowth inhibition.

This product may be applied using either aerial or ground spray equipment. For ground applications with broadcast equipment, apply this product in 10 to 20 gallons of water per acre. For aerial applications, apply this product in 3 to 10 gallons of water per acre.

This product may be tank mixed with DEF® 6, Folex® or Prep® to provide additional enhancement of cotton leaf drop

**Precautions and Restrictions:** Do not apply more than 2 quarts of this product per acre for preharvest applications. Do not apply more than 1 quart per acre of this product by air. Do not apply more than 2 quarts of this product per acre by ground. The use of additives for preharvest application to cotton is prohibited. Do not apply to cotton grown for seed unless the likelihood in germination and/or vigor is acceptable. Reduction in germination or vigor may occur. Do not feed or graze treated cotton forage or hay following preharvest applications. Allow a minimum of 7 days between application and harvest of cotton.

**COTTON - ROUNDUP READY® GENE  
POSTEMERGENCE APPLICATION**

NUFARM AMERICAS, INC. RECOMMENDS THIS PRODUCT FOR USE ONLY OVER-THE-TOP OF OR DIRECTED ONTO IMPROVED COTTON VARIETIES THAT ARE DESIGNATED AS COTTON WITH THE ROUNDUP READY GENE.

**Preharvest Interval:** 7 days

**Types of Applications:** preplant burndown, over-the-top, post-directed, hooded sprayer, salvage or preharvest

**General Information**

Severe injury or death of cotton will result if any cotton varieties not properly designated as having the Roundup Ready gene are sprayed with this product. Avoid contact of herbicide with foliage, green stems, or fruit of crops, or any desirable plants and trees, other than crops with the Roundup Ready gene, since severe injury or destruction will result.

The Roundup Ready designation indicates that the cotton contains a patented gene which provides tolerance to glyphosate herbicides. Information on Roundup Ready cotton may be obtained from your seed supplier.

**Maximum Allowable Yearly Rates**

- Combined total per year for all applications 8 quarts per acre
- Preplant, Preemergence applications 5 quarts per acre
- Total in-crop applications from cracking to layby 4 quarts per acre
- Maximum preharvest application rate 2 quarts per acre

There are no rotational crop restrictions following applications of this product.

**For ground applications:** Use the recommended rates of this product in 5 to 20 gallons of spray solution per acre as a broadcast spray. Carefully select proper nozzle and spray pressure to avoid spraying a fine mist. For best results with ground application equipment, use flat fan nozzles. Check for even distribution of spray droplets.

**For aerial applications:** Use the recommended rates of this product in 3 to 15 gallons of spray solution per acre. Do not exceed a maximum rate of 1 quart per acre of this product when making applications by air. Avoid drift. Extreme care must be used when applying this product to prevent injury to desirable plants and crops which do not contain the Round Ready gene. Do not apply during low-level inversion conditions, when winds are gusty or under any other conditions which favor drift. Drift may cause damage to any vegetation contacted to which treatment is not intended. To prevent injury to adjacent desirable vegetation, appropriate buffer zones must be maintained.

**Sprayer Preparation**

It is important that sprayer and mixing equipment be clean and free of pesticide residue before making applications of this product to Roundup Ready cotton. Follow the cleaning procedures specified on the label of the product(s) previously used. Cotton is very sensitive to many herbicides at extremely low concentrations and care should be taken to thoroughly clean all equipment prior to use.

**Weeds Controlled**

For specific rates of application and instructions for control of various annual and perennial weeds, refer to the "WEEDS CONTROLLED" section of this label. This product applied at 1 quart per acre will burndown or suppress the growth of the following perennial weeds and reduce crop competition from yellow and purple nutsedge rhizome johnsongrass, common bermudagrass, silverleaf nightshade, trumpet creeper, and redvine. Fall preharvest applications may be required for control of these perennial weeds.

Tank mixtures with other herbicides may result in reduced weed control or crop injury and are not recommended for over-the-top applications of this product.

Some weeds with multiple germination times or suppressed (stunted) weeds may require sequential applications of this product for control

**Preplant Burndown**

**Use Directions:** Always plant into a weed free seedbed. In no-till and stale seedbed systems, always burn down existing weeds before cotton emerges. Apply a preplant burndown treatment of 16 to 48 fluid ounces per acre of this product.

**Over-the-top applications**

**Use Directions:** This product may be applied by aerial or ground application equipment postemergence to Roundup Ready cotton from the ground cracking stage until the four leaf (node) stage of development (until the fifth true leaf reaches the size of a quarter). Over-the-top applications made after the four leaf (node) stage of development may result in boll loss, delayed maturity and/or yield loss.

**Precautions and Restrictions:** Any single over-the-top broadcast application should not exceed 1 quart per acre. No more than two over-the-top broadcast applications may be made from crop emergence through the four leaf (node) stage of development. Sequential over-the-top applications of this product must be at least 10 days apart and cotton must have at least two nodes of incremental growth between applications.

**Post-directed or hooded applications**

**Use Directions:** This product may be applied using precision post-directed or hooded sprayers to Roundup Ready cotton through layby. At this stage, post-directed equipment should be used which directs the spray to the base of the cotton plants. Contact of the spray with cotton leaves should be avoided to the maximum extent possible. To minimize spray onto the leaves of the cotton plants, place nozzles in a low position directing a horizontal spray pattern under the cotton leaves to contact weeds in the row, and maintain low spray pressure (less than 30 PSI). For best results, make applications while weeds are small (less than 3 inches).

**Precautions and Restrictions:** Any single post-directed application should not exceed 1 quart per acre of this product No more than two applications should be made from the fifth leaf through layby. Sequential in-crop applications of this product must be at least 10 days apart and cotton must have at least two nodes of incremental growth between applications.

**Salvage Treatment**

**Use Directions:** This treatment may be used after the four leaf stage of development and should only be used where weeds threaten to cause the loss of the crop. One quart per acre may be applied either as an over-the-top applications or as a post-directed treatments sprayed higher on the cotton plants and over the weeds.

**Precautions and Restrictions:** SALVAGE TREATMENTS WILL RESULT IN SIGNIFICANT BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS. NO MORE THAN ONE SALVAGE TREATMENT SHOULD BE USED PER GROWING SEASON.

**Preharvest Applications**

**Use Directions:** This product may be applied for preharvest annual and perennial weed control as a broadcast treatment to Roundup Ready cotton after 20% boll crack.

**Precautions and Restrictions:** Allow a minimum of 7 days between application and harvest. This product will not enhance performance of harvest aids when applied to Roundup Ready cotton. DO NOT APPLY THIS HERBICIDE PREHARVEST TO CROPS GROWN FOR SEED.

**ATTENTION: USE OF THIS PRODUCT IN ACCORDANCE WITH LABEL DIRECTIONS IS EXPECTED TO RESULT IN NORMAL GROWTH OF ROUNDUP READY COTTON. HOWEVER, VARIOUS ENVIRONMENTAL CONDITIONS, AGRONOMIC PRACTICES AND OTHER FACTORS MAKE IT IMPOSSIBLE TO ELIMINATE ALL RISKS ASSOCIATED WITH THIS PRODUCT, EVEN WHEN APPLICATIONS ARE MADE IN CONFORMANCE WITH THE LABEL SPECIFICATIONS. IN SOME CASES, THESE FACTORS CAN RESULT IN BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS.**

Read the "Warranty" in this label booklet for this product before using. For over-the-top uses on Roundup Ready crop varieties, crop safety and weed control performance are not warranted by Nufarm Americas, Inc. when this product is used in conjunction with "brown bag" or "bin-run" seed saved from previous year's production and replanted. If these terms are not acceptable, return the product unopened at once.

**FALLOW AND REDUCED TILLAGE SYSTEMS**

**General Information**

This product plus a nonionic surfactant may be tank mixed with the listed herbicides. These recommended tank mixtures may be applied using ground or aerial equipment. Refer to the "WEEDS CONTROLLED" section of this label for specific rates and instructions.

- 2,4-D
- Dicamba
- Goal

**Precautions and Restrictions:** This product plus a nonionic surfactant may be tank-mixed with the listed herbicides provided the specific product is registered for use on these sites. When tank mixing, read and observe applicable use directions, precautions and limitations on the respective product labels. Use according to the most restrictive label directions for each product in the mixture.

**Riverdale Razor plus 2,4-D**

**Precautions and Restrictions:** Do not apply 2,4-D tank mixtures by air in California. Applications must be made at least 7 days prior to planting corn.

**Riverdale Razor plus Dicamba**

**Precautions and Restrictions:** Do not apply Dicamba tank mixtures by air in California. The addition of Dicamba in a mixture with this product may provide short-term residual control of selected weed species. Some crop injury may occur if Dicamba is applied within 45 days of planting. Applications must be made at least 7 days prior to planting corn.

**Riverdale Razor plus Goal**

**Use Directions:** This product alone or in tank mixtures with Goal plus 0.5 to 1.0 percent nonionic surfactant by total spray volume will provide control of those weeds listed below. Make applications when weeds are actively growing and at the recommended stages of growth.

**Precautions and Restrictions:** Avoid spraying when weeds are subject to moisture stress, when dust is on the foliage or when straw canopy covers the weeds.

RIVERDALE RAZOR 12 Fluid Ounces/Acre		RIVERDALE RAZOR 16 Fluid Ounces/Acre	
Barnyardgrass	6"	Annual grasses at left plus:	Mustard
Barley	12"	Chickweed	12"
Bluegrass, annual	6"	Crabgrass	12"
Rye	6"	Groundsel	6"
Wheat	18"	Horseweed/Marestail	6"
		Johnsongrass, seedling	12"
		Lambsquarters	12"
			Oats, wild
			Pigweed, redroot
			Rocket, London
			Ryegrass, annual
			Shepherdspurse

NOTE: Use 32 fluid ounces of this product per acre where heavy weed densities exist.

RIVERDALE RAZOR 12 Fluid Ounces/Acre + GOAL** 2 to 4 Fluid Ounces/Acre	RIVERDALE RAZOR 16 Fluid Ounces/Acre + GOAL** 2 to 4 Fluid Ounces/Acre
Annual grasses above plus:	Annual grasses listed above and to the left plus:
Cheeseeweed common 3"	Cheeseeweed, common 6"
Chickweed 3"	Chickweed 12"
Groundsel 3"	Groundsel 6"
Rocket, London 6"	Rocket, London 12"
Shepherdspurse 6"	Shepherdspurse 12"

NOTE: Use 32 fluid ounces of this product per acre in mixtures with 2 to 4 fluid ounces of Goal per acre where heavy weed densities exist.

\* Maximum height or length in inches

\*\* Use the higher rate of Goal when weeds approach maximum recommended height or stands are dense.

### ECOFARMING SYSTEMS

The recommendations made in this section are not registered for use in California.

The Ecofarming System consists of the following rotation: winter wheat, corn/sorghum, ecofallow. When applied as a tank mixture, this product provides control of emerged annual weeds listed in this label before planting corn or sorghum in the Ecofarming System. The tank mixture should be applied in 28-0-0 or 32-0-0 liquid fertilizer carrier at 20 to 30 gallons per acre. The liquid fertilizer may be diluted with water to achieve the desired carrier volume.

#### Weeds Controlled

**Use Directions:** The following weeds, up to a maximum height of 4 inches, will be controlled:

Brome, downy, Cheat, Foxtail (Green, yellow), Kochia\*, Lettuce, prickly, Pigweed, redroot, Thistle, Russian, Wheat, volunteer.

\*For improved control of kochia, add 4 fluid ounces per acre (0.125 pound a.i. per acre) of Dicamba to the tank mixtures.

#### Tank Mixtures

**Use Directions:** This product may be tank-mixed with the listed herbicides provided the specific product is registered for use on these sites.

**Precautions and Restrictions:** When tank mixing, read and observe applicable use directions, precautions and limitations on the respective product labels. Use according to the most restrictive label directions for each product in the mixture. Risk of crop injury from 2,4-D or Dicamba can be reduced by applying this treatment 7 to 14 days before planting. Refer to the label booklet for Lasso herbicide for preemergence weed control achieved by this tank mixture.

#### Riverdale Razor plus 2,4-D

**Use Directions:** Use 16 to 20 fluid ounces per acre of this product plus 2, 4-D at 3/8 to 1/2 pound a.i. per acre.

#### Riverdale Razor plus Atrazine

**Use Directions:** Use 16 to 20 fluid ounces per acre of this product plus Atrazine at 3/4 to 1 pound a.i. per acre.

#### Riverdale Razor plus Lasso®

**Use Directions:** Use 16 to 20 fluid ounces per acre of this product plus Lasso® at 2-1/2 to 3 quarts per acre.

#### AID TO TILLAGE

**Use Directions:** This product, when used in conjunction with preplant tillage practices, will provide control of downy brome, cheat, volunteer wheat, tansy mustard and foxtail. Apply 8 fluid ounces of this product plus 0.5 to 1.0 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Make applications when weeds are actively growing and before they are 6 inches in height. Application must be followed by conventional tillage practices no later than 15 days after treatment and before regrowth occurs. Allow at least 1 day after application before tillage.

**Precautions and Restrictions:** Tank mixtures with residual herbicides may result in reduced performance.



### FORAGE CROPS AND LEGUMES

**Labeled Crops:** Alfalfa, Forage Grasses, Forage Legumes

**Preharvest Interval:**

Alfalfa - 8 weeks preharvest treatment

Forage grasses and legumes - 14 days spot treatment or wiper applicators

**Types of Applications:** Preplant, preemergence, a-planting, spot treatment, wiper applicators, preharvest (alfalfa only)

**Preplant, Preemergence and At-planting**

**Use Directions:** This product may be applied before, during or after planting crops listed in this section. Applications must be made prior to emergence of the crop.

**Precautions and Restrictions:** Remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

**Spot Treatment (Forage grasses and forage legumes)**

See "SPOT TREATMENT AND WIPER APPLICATION" in the "PASTURES" section of this label.

**Wiper Applicator (Forage grasses and forage legumes)**

**Use Directions:** See "SPOT TREATMENT AND WIPER APPLICATION" in the "PASTURES" section of this label.

**Spot Treatment or wiper applications (Alfalfa only)**

**Use Directions:** This product may be applied as a spot treatment in alfalfa. This product may be applied with wiper applicators to control or suppress the weeds listed on the "WIPER APPLICATORS" in the "SELECTIVE EQUIPMENT" section of this label. Applications may be made in the same area at 30 day intervals.

**Precautions and Restrictions:** For spot treatment and wiper applications, apply in areas where the movement of domestic livestock can be controlled. No more than one-tenth of any acre should be treated at one time. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason. Remove domestic livestock before application and wait 14 days after application before grazing livestock or harvesting.

**Preharvest (Alfalfa only)**

**Use Directions:** This product may be used in declining alfalfa stands or any stand of alfalfa where crop destruction is acceptable. This application will severely injure or destroy the stand of alfalfa. When applied as directed under the conditions described, this product controls annual and perennial weeds listed on this label prior to the harvest. This product may be applied by both ground and aerial application equipment. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for instructions for ground and aerial application. Applications may be made at any time of year. Make only one preharvest application to an existing stand of alfalfa per year. For control of quackgrass, apply in the spring, late summer or fall when quackgrass is actively growing and at the proper growth stage (6 to 8 inches or more in height). Treatments for quackgrass must be followed by deep tillage for complete control.

**Precautions and Restrictions:** The treated crop can be harvested and fed to livestock after 36 hours. Allow a minimum of 36 hours between application and harvest. For best results, harvest within 7 days of spraying. Do not apply more than 1 quart of this product per acre as a preharvest treatment to alfalfa. Do not apply to alfalfa grown for seed unless the likelihood in germination and/or vigor is acceptable. Reduction in germination or vigor may occur.

### GRAIN SORGHUM (MILO)

**Preharvest Interval:** 7 day preharvest treatment; 40 days wiper applicator

**Types of Applications:** Preplant, preemergence, at-planting, spot treatment, wiper applicators, hooded sprayers, preharvest, postharvest

**Preplant, Preemergence, At-planting**

**Use Directions:** This product may be applied before, during or after planting grain sorghum (milo). Applications must be made prior to emergence of the crop.

**Tank Mixtures**

**Use Directions:** The following products may be applied in tank mix combination with this product in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre. Apply before, during or after planting in conventional tillage systems, into a cover crop, established sod or over previous crop residue.

Atrazine	Lariat®
Bicep® II	Lasso®/alachlor
Bullet®	Micro-Tech®
Dual® II	Partner®

**Annual Weeds:** for difficult to control weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 2 pints per acre in these tank mixtures. For other labeled annual weeds, apply 1 to 1-1/2 pints of this product per acre when weeds are less than 6 inches tall, and 2 to 3 pints when weeds are over 6 inches tall.

**Precautions and Restrictions:** This product may be tank-mixed with the listed herbicides provided the specific product is registered for use on these sites. When tank mixing, read and observe applicable use directions, precautions and limitations on the respective product labels. Use according to the most restrictive label directions for each product in the mixture.

**Spot Treatment and Wiper Application**

**Use Directions:** This product may be applied as a spot treatment in grain sorghum (milo). Make spot treatments before heading of milo. This product may be applied with wiper applicators to control or suppress the weeds listed under "Wiper applicators" in the "Selective Equipment" section of this label.

**Precautions and Restrictions:** For spot treatment, do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason. For wiper applicators, allow at least 40 days between application and harvest. Do not use roller applicators. Do not feed or graze treated milo fodder. Do not ensile treated vegetation.

**Hooded Sprayers**

**Use Directions:** This product may be used through hooded sprayers for weed control between the rows of grain sorghum (milo). Only hooded sprayers that completely enclose the spray pattern may be used.

When applying to grain sorghum (milo) that is grown on raised beds, ensure that the hood is designed to completely enclose the spray solution. If necessary, extend the front and rear flaps of the hoods to reach the ground in deep furrows.

Follow these requirements:

- The spray hoods must be operated on the ground or skimming across the ground.
- Do not apply more than 1 quart of this product per acre per application.
- Grain sorghum (milo) must be at least 12 inches tall, measured without extending leaves.
- Leave at least an 8 inch untreated strip over the drill row. For example, if the crop row width is 38 inches, the maximum width of the spray hood should be 30 inches.
- Maximum tractor speed: 5 mph.
- Maximum wind speed: 10 mph.
- Use low-drift nozzles.

Crop injury may occur when the foliage of treated weeds comes into direct contact with leaves of the crop. Do not apply this product when the leaves of the crop are growing in direct contact with weeds to be treated. Droplets, mist, foam or splatter of the herbicide solution may contact the crop and cause discoloration, stunting or destruction.

**Precautions and Restrictions:** Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator. Do not graze or feed grain sorghum (milo) forage or fodder following applications of this product through hooded sprayers. Do not apply more than 3 quarts of this product per acre per year for hooded sprayer applications.

**Preharvest**

**Use Directions:** This product may be applied prior to harvest of grain sorghum (milo). Make applications at 30 percent moisture or less.

**Precautions and Restrictions:** Do not apply more than 2 quarts of this product per acre. Do not apply to grain sorghum (milo) grown for seed unless the likelihood in germination and/or vigor is acceptable. Reduction in germination or vigor may occur. The use of this product for preharvest grain sorghum (milo) is not registered in California. Allow a minimum of 7 days between application and harvest of grain sorghum (milo).

**Postharvest**

**Use Directions:** This product may be applied after harvest of grain sorghum (milo). Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures of this product with 2,4-D or Dicamba may be used.

This product may be applied to grain sorghum (milo) stubble following harvest to suppress or control regrowth. Apply 1 quart of this product per acre for control of 1-1/2 pints of this product per acre for suppression. Use 0.5 to 1.0 percent nonionicsurfactant in 3 to 10 gallons of spray solution per acre.

**Precautions and Restrictions:** This product may be tank-mixed with the listed herbicides provided the specific product is registered for use on these sites. When tank mixing, read and observe applicable use directions, precautions and limitations on the respective product labels. Use according to the most restrictive label directions for each product in the mixture. Do not harvest or feed treated vegetation for 8 weeks following application.

**PASTURES**

**Type of Pastures:** Alfalfa, Bahiagrass, Bermudagrass, Bluegrass, Brome, Clover, Fescue, Orchardgrass, Ryegrass, Timothy, and Wheatgrass.

**Preharvest Interval:** 14 days - spot treatment and wiper application; 8 weeks pasture or hay crop renovation

**Types of Applications:** Spot treatment, wiper applicators, pasture or hay crop renovation

**Spot Treatment and Wiper Application**

**Use Directions:** This product may be applied as a spot treatment or with wiper applicators in pastures. When applied as a spot treatment as recommended, this product controls annual and perennial weeds listed in this label. Applications may be made in the same area at 30 day intervals.

**Precautions and Restrictions:** For spot treatment and wiper application, apply in areas where the movement of domestic livestock can be controlled. No more than 1/10 of any acre should be treated at one time. Remove domestic livestock before application and wait 14 days after application before grazing livestock or harvesting.

**Pasture or Hay Crop Renovation**

**Use Directions:** This product may be applied prior to planting or emergence forage grasses and legumes. In addition, this product may be used to control annual and perennial weeds listed in this label prior to planting.

**SOYBEANS**

**Preharvest Interval:** Conventional 7 days. Roundup Ready - 14 days

**Types of Applications:** Preplant, preemergence, at-planting, spot treatment, preharvest, selective equipment.

**Preplant, Preemergence and At-planting**

**Use Directions:** This product may be applied before, during or after planting soybeans. Applications must be made prior to emergence of the crop.

**Tank Mixtures**

**Use Directions:** This product may be tank mixed with the listed herbicides. Subject to any limitations stated on labeling of specific products, the following tank mixtures may be applied before, during or after planting in conventional tillage systems, into a cover crop, established sod or in previous crop residue.

Canopy®	Lasso®/Alachlor	Pursuit®
Command®	Linex®	Pursuit® Plus
Dual®	Lorox®/Linuron	Phython™
Dual II Magnum®	Lorox Plus®	Scepter®
FirstRate™	Micro-Tech®	Sencor®/Lexone
Frontier®	Partner®	Squadron®
Frontrow™	Preview®	Turbo®
Fusion®	Pendimax™/(pendimethalin)	
Gemini®		

For improved burndown, this product may be tank mixed with 2,4-D or 2,4-DB herbicide. See the 2,4-D label for intervals between application and planting.

**Precautions and Restrictions:** The tank mix recommendations in this section are not registered in California. This product may be tank-mixed with the listed herbicides provided the specific product is registered for use on these sites. When tank mixing, read and observe applicable use directions, precautions and limitations on the respective product labels. Use according to the most restrictive label directions for each product in the mixture.

**Spot Treatment**

**Use Directions:** For spot treatments, apply this product prior to initial pod set in soybeans.

**Precautions and Restrictions:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

**Preharvest**

**Use Directions:** This product may be applied prior to harvest of soybeans. Apply after pods have set and lost all green color. Care should be taken to avoid excessive seed shatter loss due to ground application equipment.

This product may be applied by both ground and aerial application equipment. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for instructions for ground and aerial application. When applied as directed under the conditions described, this product controls annual and perennial weeds listed on this label prior to the harvest of soybeans. For specific rates and application instructions for control of various annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

**Precautions and Restrictions:** Allow a minimum of 7 days between application and harvest of soybeans. Do not apply more than 6 quarts per acre of this product for preharvest applications. Do not apply more than 1 quart per acre of this product by air. Do not apply to soybeans grown for seed unless the likelihood in germination and/or vigor is acceptable. Reduction in germination or vigor may occur. Do not graze or harvest treated crop for livestock feed within 25 days of last preharvest application.

**Selective Equipment**

**Use Directions:** This product may be applied through recirculating sprayers, shielded applicators, hooded sprayers, wiper applicators, or sponge bars in soybeans. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for instructions for specific information on use of equipment.

**Precautions and Restrictions:** Allow at least 7 days between application and harvest.

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## SOYBEANS - ROUNDUP READY® GENE POSTEMERGENCE APPLICATIONS

NUFARM AMERICAS, INC. RECOMMENDS USE OF THIS PRODUCT FOR POSTEMERGENCE APPLICATION ONLY ON SOYBEAN VARIETIES DESIGNATED AS CONTAINING THE ROUNDUP READY GENE.

**Preharvest Interval:** Roundup Ready - 14 days

### General Information

Applying this product to soybean varieties which are not designated as Roundup Ready will result in severe crop injury and yield loss. Avoid contact with foliage, green stems, or fruit of crops, or any desirable plants which do not contain the Roundup Ready gene, since severe injury or destruction will result.

The Roundup Ready designation indicates that the soybean contains a patented gene which provides tolerance to glyphosate herbicides. Information on Roundup Ready soybeans may be obtained from your seed supplier.

### Maximum Allowable Application Rates

- Combined total per year for all applications: 8 quarts per acre
- Preplant, Preemergence applications: 5 quarts per acre
- Total in-crop applications from cracking throughout flowering: 3 quarts per acre
- Maximum preharvest application rate: 1 quart per acre

When applied as directed, this product will control labeled annual grasses and broadleaf weeds in Roundup Ready soybeans. Many perennial grasses and broadleaf weeds will be controlled or suppressed with one or more applications of this product.

**Precautions and Restrictions:** The combined total application from crop emergence through harvest must not exceed 3 quarts per acre. The maximum rate for any single in crop application is 2 quarts per acre. The maximum combined total of this product which can be applied during flowering is 2 quarts per acre. Allow a minimum of 14 days between final application and harvest of soybeans. There are no rotational crop restrictions following applications of this product.

**For ground application:** Use the recommended rates of this product in 5 to 20 gallons of spray solution per acre as a broadcast spray. Carefully select correct nozzles and spray pressure to avoid spraying a fine mist. Check for even distribution of spray droplets.

**For aerial application:** Use the recommended rates of this product in 3 to 15 gallons of spray solution per acre. Do not exceed 1 quart of product per acre. Do not apply during low level inversion conditions, when winds are gusty or under any other conditions which favor drift. Drift may cause damage to any vegetation contacted to which treatment is not intended. Maintain appropriate buffer zones to prevent injury to adjacent desirable vegetation.

Aerial applications on Roundup Ready soybeans may be made only in the following states: Alabama, Arkansas, Colorado, Florida, Georgia, Kansas, Louisiana, Mississippi, Missouri (boot heel only), Nebraska, North Carolina, North Dakota, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Virginia and Wyoming.

### ANNUAL WEED RATE RECOMMENDATIONS

The following rate recommendations will provide control of labeled grasses and broadleaf weeds in conventional and no-till soybean production systems. Refer to the rate recommendations for specific annual weeds in the "ANNUAL WEEDS" section of the label.

Nufarm Americas, Inc. will not warrant crop safety or weed control when Roundup Ready soybeans are treated with herbicides not specified on this label. Because of the potential for: 1) crop injury, 2) poor weed control from antagonism, and/or 3) rotation crop restrictions; herbicides not specified on this label (or current supplemental label) ARE APPLIED AT THE SOLE RISK OF THE BUYER AND USER, whether applied preemergence or applied postemergence as a tank mixture with this product.

This product may be used up to 2 quarts per acre in any single application for control of annual weeds, where heavy weed densities exist.

### Preplant Burndown

The following recommendations are based on a clean start at planting by using a burndown application or tillage to control existing weeds before crop emergence. In no-till and stale seedbed systems, a preplant burn-down treatment of 16 to 64 fluid ounces per acre of this product can be used to control existing weeds prior to crop emergence.

### MIDWEST/MID-ATLANTIC RECOMMENDATIONS

#### Narrow row or drilled soybeans

A single in-crop application of this product will provide effective control of labeled weeds. For best results, an initial application of 32 fluid ounces per acre on 4 to 8 inches weeds is recommended. Weeds will generally be 4 to 8 inches tall 3 to 5 weeks after planting. If the initial application is delayed and weeds are 8 to 18 inches tall, use 48 ounces per acre for best results.

Under adverse growing conditions such as drought, hail, wind damage or a poor soybean stand that slows or delays canopy closure, a sequential application of this product at 24 to 32 fluid ounces per acre may be necessary to control late flushes of weeds.

**Wide row soybeans**

An in-crop application of this product will provide effective control of the initial stand of labeled weeds. For best results, an initial application of 32 fluid ounces per acre on 4 to 8 inches weeds is recommended. Weeds will generally be 4 to 8 inches tall 3 to 5 weeks after planting. If new flushes of weeds occur, they can be controlled by sequential applications of this product.

**Initial and Sequential (if needed) Applications**

APPLICATIONS	WEED HEIGHT (Inches)	USE RATE (Fluid Ounces/Acre)
Initial and Sequential (if needed)	1 to 3	24
	4 to 8	32
	8 to 18	48

**Giant ragweed**

Apply 32 fluid ounces per acre when the weed is 8 to 12 inches tall to avoid the need for sequential application.

**Black nightshade, Pennsylvania smartweed, velvetleaf, and waterhemp**

Apply 32 fluid ounces per acre to weeds 3 to 6 inches tall, and 48 fluid ounces per acre when weeds are up to 12 inches tall.

**Morningglory species**

Apply 32 fluid ounces when weeds are up to 4 inches tall and 48 fluid ounces per acre when weeds are up to 6 inches tall.

**Sequential Application for Certain Weeds**

Some weeds, such as black nightshade, woolly cupgrass, shattercane, wild proso millet, burcumber, and giant ragweed, with multiple germination times may require a sequential application of this product. Suppressed or stunted weeds may also require sequential applications. Sequential applications should be made after some regrowth has occurred. Use a minimum of 24 fluid ounces of this product per acre for sequential applications.

**SOUTHEAST RECOMMENDATION**

**Narrow row drilled, or wide-row soybeans**

An in-crop application of this product will provide effective control of the initial stand of labeled weeds. For best results, an initial application of 32 fluid ounces per acre on 3 to 6 inches weeds is recommended. Weeds will generally be 3 to 6 inches tall 2 to 3 weeks after planting.

Under adverse growing conditions such as drought, hail, wind damage or a poor soybean stand that slows or delays canopy closure, a sequential application of this product at 16 to 32 fluid ounces per acre may be necessary to control late flushes of weeds.

**Initial and Sequential (if needed) Applications**

APPLICATIONS	WEED HEIGHT (Inches)	USE RATE (Fluid Ounces/Acre)
Initial	3 to 6	32
	6 to 12	48
Sequential (if needed)	2 to 3	16
	3 to 6	24
	6 to 12	32

**Florida pusley, hemp sesbania and spurred anoda**

Apply 32 fluid ounces per acre to weeds 2 to 4 inches tall for the initial application. Apply 32 fluid ounces per acre when these weeds are 3 to 6 inches tall if a sequential application is necessary.

**Morningglory, black nightshade, groundcherry, and Pennsylvania smartweed**

Apply 24 fluid ounces per acre on 1 to 3 inches weeds, 32 fluid ounces per acre on 3 to 6 inches weeds, or 48 fluid ounces per acre on 6 to 12 inches weeds for the initial application.

**Sequential Application for Certain Weeds**

Some weeds, such as black nightshade, broadleaf signalgrass, Texas panicum, burcumber, and sicklepod, with multiple germination times may require a sequential application of this product. Suppressed or stunted weeds may also require sequential applications. Sequential applications should be made after some regrowth has occurred. Use a minimum of 16 fluid ounces of this product per acre for sequential applications. The combined total of all in-crop postemergence treatments must not exceed 96 fluid ounces per acre.

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### DELTA/MID-SOUTH RECOMMENDATIONS

#### Narrow row, drilled, or wide row soybeans

An in-crop application of this product will provide effective control of the initial stand of labeled weeds. A sequential application will be required to control new flushes of weeds. For best results, an initial application of 32 fluid ounces per acre on 2 to 4 inches weeds is recommended. Weeds will generally be 2 to 4 inches tall 2 to 3 weeks after planting.

#### Initial and Sequential Applications

APPLICATIONS	WEED HEIGHT (Inches)	USE RATE (Fluid Ounces/Acre)
Initial	2 to 4	32
	5 to 12	48
Sequential	2 to 3	16
	3 to 6	24
	6 to 12	32

#### Hemp sesbania and spurred anoda

Apply a sequential treatment of 32 fluid ounces per acre on 3 to 6 inches weeds if necessary.

#### Sequential Application for Certain Weeds

Some weeds, such as black nightshade, broadleaf signalgrass, Texas panicum, burcumber, and sicklepod, with multiple germination times may require a sequential application of this product. Suppressed or stunted weeds may also require sequential applications. Sequential applications should be made after some regrowth has occurred. Use a minimum of 16 fluid ounces of this product per acre for sequential applications.

### PERENNIAL WEEDS RATE RECOMMENDATIONS

At the rate of 32 to 64 fluid ounces per acre (single or multiple applications), this product will control or suppress perennial weeds such as: bermudagrass, Canada thistle, common milkweed, field bindweed, hemp dogbane, horsenettle, marestail (horseweed), nutsedge, quackgrass, rhizome johnsongrass, redvine, trumpetcreeper, swamp smartweed, and wirestem muhly.

For best results, allow perennial weed species to achieve at least 6 inches of growth before spraying with this herbicide. For additional information on perennial weeds, see the "PERENNIAL WEEDS" section of this label. For some perennial species, repeat application may be required to eliminate crop competition throughout the growing season.

### SUGARCANE

**Types of Applications:** Preplant, preemergence, broadcast treatment, spot treatment, fallow, hooded sprayers

#### Preplant, preemergence

**Use Directions:** This product may be applied in or around sugarcane fields prior to the emergence of plant cane.

**Precautions and Restrictions:** Do not apply to vegetation in or around ditches, canals or ponds containing water to be used for irrigation. Where repeat treatments are necessary, do not exceed a total of 10.6 quarts of this product per acre per year.

#### Spot Treatment

**Use Directions:** This product may be applied as a spot treatment in sugarcane. For control of volunteer or diseased sugarcane, make a 1 percent solution of this product in water and spray to wet the foliage of vegetation to be controlled. When spraying volunteer or diseased sugarcane, the plants should have at least 7 new leaves.

**Precautions and Restrictions:** Avoid spray contact with healthy cane plants since severe damage or destruction may result. Where repeat treatments are necessary, do not exceed a total of 10.6 quarts of this product per acre per year. Do not apply to vegetation in or around ditches, canals or ponds containing water to be used for irrigation. Do not feed or graze treated sugarcane forage following application.

#### Broadcast Treatment

**Use Directions:** Apply this product in 10 to 40 gallons of water per acre on emerged weeds prior to the emergence of plant cane. For specific rates of application and instructions for control of various annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

**Precautions and Restrictions:** Where repeat treatments are necessary, do not exceed a total of 10.6 quarts of this product per acre per year. Do not apply to vegetation in or around ditches, canals or ponds containing water to be used for irrigation. Do not feed or graze treated sugarcane following application.

#### Fallow Treatments

**Use Directions:** This product may be used as a replacement for tillage in fields that were lying fallow between sugarcane crops. This product may also be used to remove the last stubble of ratoon cane. For removal of last stubble or ratoon cane, apply 4 to 5 quarts of this product in 10 to 40 gallons of water per acre to new growth having at least 7 or more new leaves.

**Precautions and Restrictions:** Allow 7 or more days after application before tillage.

**Hooded Sprayers**

**Use Directions:** This product may be used through hooded sprayers for weed control between the rows of sugarcane.

Minimize the potential for spray particles to escape from under the hood by operating the sprayer at appropriate ground speeds, nozzle pressures and wind speeds. Operation on rough or sloping ground may result in spray particles escaping from the hood.

When applying to sugarcane that is grown on raised beds, ensure that the hood is designed to completely enclose the spray. If necessary, extend the front and rear flaps of the hood to reach the ground in furrows between the rows.

Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting the crop. Contact with this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator.

**Precautions and Restrictions:** Do not allow treated weeds to come into contact with the crop. Droplets, mist, foam or splatter of the herbicide solution settling on the crop may result in discoloration, stunting or destruction.

**TILLAGE**  
**CONSERVATION TILLAGE, MINIMUM TILLAGE AND NO-TILL SYSTEMS**  
**CORN AND SOYBEANS TANK MIXTURES**

The recommendations made in this section are not registered for use in California.

**Tank Mixtures**

**Use Directions:** This product may be tank mixed with the listed herbicides. When applied as recommended under the conditions described, the tank mixtures listed in this section control many emerged weeds, and give preemergence control of many annual weeds where corn or soybeans will be planted directly into a cover crop, established sod or in previous crop residues. Apply these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre before, during or after planting. Do not apply these mixtures after crop emergence. When tank mixing with residual herbicides, add an agriculturally approved nonionic surfactant at 0.5 to 1.0 percent by volume of spray solution. The addition of 1 to 2 percent dry ammonium sulfate by weight may increase the performance of this product.

**Precautions and Restrictions:** This product may be tank-mixed with the listed herbicides provided the specific product is registered for use on these sites. When tank mixing, read and observe applicable use directions, precautions and limitations on the respective product labels. Use according to the most restrictive label directions for each product in the mixture. When using these tank mixtures, do not exceed 4 quarts of this product per acre.

**CORN**

For residual control, this product may be tank-mixed with the following herbicides or combination of herbicides:

Atrazine	Dual®	Partner®
Bicep®	Lariat®	Prowl®/Pendimethalin
Bullet®	Lasso®/Alachlor	Simazine
Cyanazine	Micro-Tech®	

For improved burndown, this product may be tank-mixed with 2,4-D or Dicamba. Applications of 2,4-D or Dicamba must be made at least 7 days prior to planting corn.

\*Partner herbicide is not registered in California.

**SOYBEANS**

For residual control, this product may be tank-mixed with the following herbicides or combination of herbicides:

Canopy®	Linuron	Pursuit®
Command®	Lorox® Plus	Pursuit Plus®
Dual®	Micro-Tech®	Scepter®
Gemini®	Partner®	Sencor®
Lasso®/Alachlor	Preview®	Squadron®
Lexone®	Prowl®	Turbo®

For improved burndown, this product may be tank-mixed with the following herbicides:

This product may be tank-mixed with the listed herbicides provided the specific product is registered for use on these sites.

- 2,4-DB
- 2,4-D\* (WEEDONE® 638, WEEDAR® 64, others)

\* See the label for 2,4-D for intervals between application and planting.

### CORN AND SOYBEANS

#### Annual Weeds

**Use Directions:** For difficult-to-control weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 2 pints per acre in these tank mixtures. For other labeled annual weeds, apply 1 to 1-1/2 pints of this product per acre when weeds are less than 6 inches tall, and 2 to 3 pints when weeds are over 6 inches tall. For a complete list of annual weeds controlled, see the "WEEDS CONTROLLED" section of this label.

#### Perennial Weeds

**Use Directions:** At normal application times in minimum tillage systems, perennial weeds may not be at the proper stage of growth for control. See the "WEEDS CONTROLLED" section of this label for the proper stage of growth for perennial weeds.

Use of 2 to 4 quarts of this product per acre in the tank mixtures mentioned above, under these conditions provides top kill and reduces competition from many emerged perennial grass and broadleaf weeds. For emerged perennial weeds controlled, see the "WEEDS CONTROLLED" section of this label.

To obtain the desired stage of growth, it may be necessary to apply this product alone in the late summer or fall and then follow with a label-approved, seedling weed-control program at planting.

Use of these tank mixtures for bermudagrass or johnsongrass control in minimum tillage systems is not recommended. For bermudagrass control, follow the instructions under "PERENNIAL WEEDS" section of this label and then use a label-approved, seedling weed-control program in a minimum tillage or conventional tillage system. For Johnsongrass control, follow instructions under "PERENNIAL WEEDS" section of this label, and then use a label-approved, seedling weed-control program with conventional tillage.

### TREE AND VINE CROPS (General)

**Types of Applications:** Middles (between rows), Stripes (in rows), selective equipment, perennial grass suppression

This section gives general directions that apply to all citrus crops, tree fruits, tree nuts and vine crops. See the individual crop sections for instructions, preharvest intervals, precautions and restrictions for specific crops.

#### General Information

This product is recommended for weed control in established groves, vineyards, and orchards, or for site preparation prior to transplanting crops listed in this section. Repeat treatments may be necessary to control weeds originating from underground parts of untreated weeds or from seeds. This product does not provide residual weed control. For subsequent weed control, use repeated applications of this product. When applying this product, refer to the "WEEDS CONTROLLED" section of this label and to specific recommendations in this section for rates to be used.

Applications may be made with boom equipment, CDA, shielded sprayers, hand-held and high-volume wands, lances, orchard guns or with wiper applicator equipment, except as directed in this section. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for specific information on use of equipment.

**Precautions and Restrictions:** Do not apply more than 10.6 quarts of this product per acre per year. Extreme care must be exercised to avoid contact of herbicide solution, spray drift or mist with foliage or green bark of trunk, branches, suckers, fruit or other parts of trees or vines. Contact of this product with other than matured brown bark can result in serious crop damage. Avoid painting out stumps with this product as injury resulting from root grafting may occur in adjacent trees.

### MIDDLES MANAGEMENT

#### FOR ANNUAL WEEDS IN MIDDLES BETWEEN ROWS OF TREE AND VINE CROPS

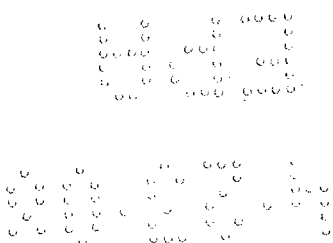
For citrus crops, treat uniformly between trees.

#### Riverdale Razor/Riverdale Razor plus Goal

**Use Directions:** This product alone or in mixtures with Goal will control or suppress the annual weeds listed below.

Apply the recommended rates of this product, either alone or in mixtures with Goal, plus 0.5 to 1.0 percent nonionic surfactant by spray volume per acre. Apply when weeds are actively growing and less than 6 inches in height or diameter. If weeds are under drought stress, irrigate prior to application. Reduced control may occur if weeds have been mowed prior to application. Up to 48 fluid ounces per acre of this product may be used to control weeds, which have been mowed, are stressed or are growing in dense populations.

**Precautions and Restrictions:** When tank mixing, read and observe applicable use directions, precautions and limitations on the respective product labels. Use according to the most restrictive label directions for each product in the mixture.

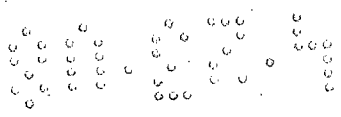




WEED SPECIES	MAXIMUM HEIGHT/DIAMETER (Inches)	WATER VOLUME (gpa)	USE RATE PER ACRE	
			RIVERDALE RAZOR (Fluid Ounces)	GOAL (Fluid Ounces)
Barley	6	3 to 10	8	--
Barnyardgrass	6	3 to 10	12	--
Bluegrass, annual	6	3 to 10	8	--
Cheeseweed, common	3 6	3 to 10	12 to 32 + 16 to 32 +	4 to 16 4 to 16
Chickweed, common	6	3 to 10	12	--
Crabgrass	6	3 to 10	16 or 16 to 32 +	-- *4 to 16**
Filaree*	6	3 to 10	16 to 32 +	4 to 16
Fleabane, hairy	6	3 to 10	16 or 16 to 32 +	-- *4 to 16**
Groundsel, common	6	3 to 10	16 or 16 to 32 +	-- *4 to 16**
Horseweed/Marestail	6	3 to 10	16 to 32 +	4 to 16
Junglerice	6	3 to 10	16 or 16 to 32 +	-- *4 to 16**
Lambsquarters, common	6	3 to 10	16 or 16 to 32 +	-- *4 to 16**
Nettle, stinging	6	3 to 10	16 to 32 +	4 to 16
Pigweed, redroot	6	3 to 10	16 or 16 to 32 +	-- *4 to 16**
Purselane, common*	6	3 to 10	16 to 32 +	4 to 16
Red Maids	6	3 to 10	12	--
Rocket, London	6	3 to 10	16 or 16 to 32 +	-- *4 to 16**
Ryegrass, common	6	3 to 10	16 or 16 to 32 +	-- *4 to 16**
Shepherdspurse	6	3 to 10	16 or 16 to 32 +	-- *4 to 16**
Sowthistle, annual	6	3 to 10	16 or 16 to 32 +	-- *4 to 16**

Suppression Only

\*\*The mixture of this product plus Goal is recommended when weeds are stressed or growing in dense populations.



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**STRIPS**  
FOR ANNUAL AND PERENNIAL WEEDS IN STRIPS OF TREE AND VINE CROPS

**Tank Mixtures**

**Use Directions:** This product may be applied in rows of tree or vine crops and may also be tank mixed with the following herbicide products. When tank mixing with residual herbicides, add an agriculturally approved nonionic surfactant at 0.5 to 1.0 percent by volume of spray solution.

- |                     |               |
|---------------------|---------------|
| Goal® 2XL           | Simazine 80W  |
| Karmex® DF          | Simazine 90DF |
| Krovar® I           | Solicam® 80DF |
| Krovar® II          | Surflan® AS   |
| Princep Caliber® 90 | Surflan® 75W  |
| Simazine 4L         |               |

**RECOMMENDED RATES**

WEEDS	USE RATE (Quarts/Acre)	USE DIRECTIONS
<b>Annual Weeds</b>	1 to 5	Use rates at the higher end of the recommended range when weeds are stressed, growing in dense populations or are greater than 12 inches tall.
<b>Perennial Weeds</b>	0.5 to 5	For control or suppress perennial weeds. Follow the recommendations in the "WEEDS CONTROLLED" section of this label for stage of growth and application rates for specific perennial weeds.

**Precautions and Restrictions:** This product may be tank-mixed with the listed herbicides provided the specific product is registered for use on these sites. When tank mixing, read and observe applicable use directions, precautions and limitations on the respective product labels. Use according to the most restrictive label directions for each product in the mixture. Do not apply these tank mixtures in Puerto Rico.

**Riverdale Razor plus Goal plus Simazine/Surflan**

**Use Directions:** This product plus low rates of Goal in 3-way or 4-way mixtures with simazine and/or Surflan will provide postemergence control of the weeds listed below. Apply these tank mixtures in 3 to 40 gallons of water. Add 0.5 to 1.0 percent nonionic surfactant by total spray volume to the spray solution. Apply 1 to 5 quarts per acre of this product plus 4 to 48 fluid ounces per acre of Goal plus labeled rates of simazine and/or Surflan to control the following weeds

- Barley, wild, Bluegrass, annual, Cheeseweed, common, Chickweed, common, Filaree\*, Fleabane, hairy, Groundsel, common, Horseweed/Marestail, Nettle, stinging, Pineappleweed, Rocket, London, Shepherdspurse, Sowthistle, annual.

\*Use a minimum of 1.5 quarts of this product in these mixtures.

**NOTE:** This recommendation does not preclude the use of Goal in these mixtures at higher, labeled rates for preemergence weed control.

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**PERENNIAL GRASS SUPPRESSION ON ORCHARD FLOORS**

When applied as directed, this product will suppress vegetative growth as indicated below.

SITE	USE RATE (Fluid Ounces)	WATER VOLUME (gpa)
<b>Bahiagrass</b>	2 to 6 + 0.5 to 1.0 percent nonionic surfactant by total spray volume	10 to 25
<p>This product will provide significant inhibition of seedhead emergence and will suppress vegetative growth for a period of approximately 45 days with a single application and approximately 120 days with sequential applications. Apply this product 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. Applications must be made prior to seedhead emergence. Apply 6 fluid ounces of this product plus 0.5 to 1.0 percent nonionic surfactant by total spray volume.</p> <p>Sequential applications of this product plus nonionic surfactant may be made at approximately 45-day intervals to extend the period of seedhead and vegetative growth suppression. For continued seedhead suppression, sequential applications must be made prior to seedhead emergence. Apply no more than 2 sequential applications per year. As a first sequential application, apply 4 fluid ounces of this product plus nonionic surfactant. A second sequential application of 2 to 4 fluid ounces may be made approximately 45 days after the last application.</p>		
<b>Bermudagrass</b>	6 fluid ounces to 2 quarts + 0.5 to 1.0 percent nonionic surfactant by total spray volume	3 to 20
<p><b>For Burndown:</b> Apply 1 quart of this product plus 0.5 to 1.0 percent nonionic surfactant by total spray volume in 3 to 20 gallons of water per acre east of the Rocky Mountains. Use 1 to 2 quarts of this product in 3 to 10 gallons of water per acre west of the Rocky Mountains. Use this treatment only if reduction of the bermudagrass stand can be tolerated. When burndown is required prior to harvest, allow at least 21 days to ensure sufficient time for burndown to occur.</p> <p><b>Suppression only (east of the Rocky Mountains):</b> Apply 6 to 16 fluid ounces of this product plus 0.5 to 1.0 percent nonionic surfactant by total spray volume in 3 to 20 gallons of water per acre. Apply no sooner than 1 to 2 weeks after full green-up. Mowing prior to application may occur provided a minimum height of 3 inches is maintained. Rates of 6 to 10 fluid ounces of this product plus nonionic surfactant should be used in shaded conditions or where a lesser degree of suppression is desired. Sequential applications may be made when regrowth occurs and bermudagrass injury and stand reduction can be tolerated.</p> <p><b>Suppression only (west of the Rocky Mountains):</b> Apply 16 fluid ounces of this product plus 0.5 to 1.0 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre to bermudagrass up to 6 inches in height and no sooner than 1 to 2 weeks after full green-up. Mowing prior to application may occur provided a minimum height of 3 inches is maintained. Sequential applications may be made when regrowth occurs and bermudagrass injury and stand reduction can be tolerated.</p>		
<b>Cool Season Grass Covers</b>	6 to 8 + 0.5 to 1.0 percent nonionic surfactant by total spray volume	10 to 20
<p>For suppression of tall fescue, fine fescue, orchardgrass and quackgrass, apply 8 fluid ounces of this product plus 0.5 to 1.0 percent nonionic surfactant by total spray volume. For best suppression, add ammonium sulfate to the spray solution at a rate of 2 percent by weight or 17 pounds per 100 gallons of spray solution.</p> <p>For suppression of Kentucky bluegrass covers, apply 6 fluid ounces plus 0.5 to 1.0 percent nonionic surfactant. Do not add ammonium sulfate.</p> <p>For best results, mow cool-season grass covers in the spring to even their height and apply the recommended rate of this product 3 to 4 days after mowing. Avoid treating cool season grass covers under poor growing conditions, such as drought stress (drip irrigation), disease or insect damage.</p>		

**LOW VOLUME APPLICATION (FLORIDA AND TEXAS)**

For burndown or control of the weeds listed, apply the recommended rates of this product plus 0.5 to 1.0 percent nonionic surfactant by total spray volume in 3 to 30 gallons of water per acre. Where weed foliage is dense, use 10 to 30 gallons of water per acre.

**Use Directions:** For burndown or control of the weeds listed, apply the recommended rates of this product plus 0.5 to 1.0 percent nonionic surfactant by total spray volume in 3 to 30 gallons of water per acre. Where weed foliage is dense, use 10 to 30 gallons of water per acre.

**Annual Weeds**

**Use Directions: Goatweed-** Apply 2 to 3 quarts per acre of this product plus 17 pounds of ammonium sulfate per 100 gallons of water plus 0.5 to 1.0 percent nonionic surfactant by total spray volume. apply in 20 to 30 gallons of water per acre when plants are actively growing. Use 2 quarts per acre when plants are less than 8 inches tall and 3 quarts per acre when plants are greater than 8 inches. If goatweed is greater than 8 inches, the addition of Krovar II or Karmex may improve control. Use labeled rates for these residual products.

**Precautions and Restrictions:** This product may be tank-mixed with the listed herbicides provided the specific product is registered for use on these sites. When tank mixing, read and observe applicable use directions, precautions and limitations on the respective product labels. Use according to the most restrictive label directions for each product in the mixture.

**Perennial Weeds**

Apply when weeds are actively growing and at the growth stated listed in the "PERENNIAL WEEDS CONTROLLED" section of this label. If perennial weeds are mowed, allow weeds to regrow to the recommended stage of growth.

WEED SPECIES	RIVERDALE RAZOR RATE PER ACRE			
	1 Quart	2 Quarts	3 Quarts	5 Quarts
Bermudagrass	B	•	PC	C
Guineagrass Texas and Florida Ridge Florida Flatwoods	B •	C B	C C	C C
Paragrass	B	C	C	C
Torpedograss	S	•	PC	C

B = Burndown      PC = Partial Control  
C = Control        S = Suppression

**TREE FRUITS**

**Labeled Crops:** Apple, Apricots, Cherry (Sweet, Sour), Loquat, Mayhaw, Nectarine, Olive, Peach, Pear, Plum/Prune (all), Quince

**Preharvest Interval**

Apple, Loquat, Mayhaw, Pear and Quince - 1 day  
Apricots, Cherries, Nectarines, Olives, Peaches, Plums/Prunes - 17 days

**Types of Applications:** General weed control, middles (between rows of trees), strips (in row of trees), selective equipment

**NOTE:** For general use directions, see the "TREE AND VINE CROPS (General)" section of this label. The following directions are specific to tree fruits.

**Restrictions and Application Equipment**

**Apricots, Nectarines, Peaches and Plums/Prunes:** Any application equipment listed in this section may be used in Arizona, California, Colorado, Idaho, Kansas, Kentucky, New Jersey, North Dakota, Oklahoma, Oregon, Texas, Utah and Washington, except for peaches grown in the states specified in the following paragraph. In all other states use wiper equipment only.

**Cherries:** Any application equipment listed in this section may be used in all states.

**Olives:** Apply as a directed spray only.

**Peaches:** Grown in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina and Tennessee only, apply with a shielded boom sprayer or shielded wiper applicator, which prevents any contact of this product with the foliage or bark of trees. Apply no later than 90 days after first bloom. Applications made after this time may result in severe damage. Remove suckers and low-hanging limbs at least 10 days prior to application. Avoid applications near trees with recent pruning wounds or other mechanical injury. Apply only near trees which have been planted in the orchard for 2 or more years. Extreme care must be taken to ensure no part of the peach tree is contacted.

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### TREE NUTS

**Labeled Crops:** Almond, Beechnut, Brazil Nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (Hazelnut), Hickory Nut, Macadamia, Pecan, Pistachio, Walnut (Black, English).

**Preharvest Interval:** 3 days

**Types of Applications:** General weed control, middles (between rows of trees), strips (in row of trees), selective equipment

**NOTE:** For general use directions, see the "TREE AND VINE CROPS (General)" section of this label.

### TROPICAL CROPS

**Labeled Crops:** Acerola, Atemoya, Avocado, Banana (Plantains), Breadfruit, Canistel, Carambola, Cherimoya, Coca Beans, coffee, Dates, Figs, Genip, Guava, Jaboticaba, Jackfruit, Longan, Lychee, Mango, Papaya, Passion Fruit, Persimmons, Pineapple, Pomegranate, Saodilla, Sapote (Black, Mamey, White), Soursop, Sugar Apple, Tamarind, Tea

**Preharvest Interval:**

Acerola, Atemoya, Avocado, Breadfruit, Canistel, Carambola, Cherimoya, Cocoa Beans, Dates, Figs, Genip, Jaboticaba, Jackfruit, Logan, Lychee, Mango, Mayhaw, Passion Fruit, Persimmons, Pomegranate, Sapodilla, Sapote, Soursop, Sugar Apple, Tamarind, Tea - 14 Days

Coffee - 28 days

Banana (Plantains), Guava, Papaya - 1 day

**Types of Applications:** General weed control, middles (between rows of trees), strips (in row of trees), selective equipment

**NOTE:** For general use directions, see the "TREE AND VINE CROPS (General)" section of this label. The following directions are specific to tropical crops.

**Precautions and Restrictions:** Do not feed or graze treated pineapple forage following application. In coffee and banana, delay applications 3 months after transplanting to allow the new coffee or banana plant to become established.

### VEGETABLES

**Labeled Crops:** Artichoke (Jerusalem), Beans (all), Beet Greens, Beets (Red, Sugar), Broccoli (all), Brussels Sprouts, Cabbage (all), Cabbage (Chinese), Cantaloupe, Carrot, Cauliflower, Casaba Melon, Celeriac, Celery, Chard (Swiss), Chicory, Collards, Crenshaw Melon, Radish, Rape Greens, Rhubarb, Cucumber, Eggplant, Endive, Garlic, Gourds, Ground Cherry, Honeydew Melon, Honey Ball Melon, Horseradish, Kale, Kohlrabi, Leek, Lentils, Lettuce, Mango Melon, Melons (all), Muskmelon, Mustard Greens, Okra, Onion, Parsley, Parsnips, Peas (all), Pepper (all), Persian Melon, Potato (Irish, Sweet), Pumpkin, Rutabaga, Shallot, Spinach (all), Squash (Summer, Winter), Tomatillo, Tomato, Turnip, Watercress, Watermelon, Yams

**Use Directions:** This product may be applied prior to the emergence of direct seeded vegetables and prior to transplanting vegetables.

**Precautions and Restrictions:** When applying this product prior to transplanting crops into plastic mulch, care must be taken to remove residues of this product from the plastic prior to transplanting. Residues can be removed by 1/2 inch natural rainfall or by applying water via a sprinkler system.

For the following crops apply only prior to planting. Allow at least 3 days between application and planting on cantaloupe, casaba melon, crenshaw melon, cucumber, eggplant, garlic, gourds, ground cherry, honeydew melon, honey ball melon, mango melon, melons (all), muskmelon, pepper (all), persian melon, pumpkin, squash (summer, winter), tomatillo, tomato, watercress and watermelon.

**Wiper Applicator (Rutabagas only)**

**Use Directions:** Wiper applicators may be used in rutabagas.

**Precautions and Restrictions:** Allow at least 14 days between application and harvest.

### VINE CROPS

**Labeled Crops:** Grapes and Kiwi Fruit

**Preharvest Interval:** 14 days

**NOTE:** For general use directions, see the "TREE AND VINE CROPS (General)" section of this label. The following directions are specific to vine crops.

**Precautions and Restrictions:** Applications should not be made when green shoots, canes, or foliage are in the spray zone. In the northeast and Great Lakes regions, applications must be made prior to the end of bloom stage of grapes to avoid injury. Do not use selective equipment on Kiwi fruit.

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### STORAGE AND DISPOSAL

Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

**STORAGE:** STORE ABOVE 10°F(-12°C) TO KEEP PRODUCTS FROM CRYSTALLIZING. Crystals will settle to the bottom. If allowed to crystallize, place in a warm room 68°F(20°C) for several days to redissolve and shake, roll or agitate to mix well before using.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state or local procedures. Emptied container retains vapor and product residue. Observe all label safeguards until container is destroyed.

**CONTAINER DISPOSAL:** Do not reuse container. Triple rinse container. Then puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**CONTAINER DISPOSAL FOR REFILLABLE CONTAINERS:** Close all openings which have been opened during use and replace all caps. Contact Nufarm's Customer Service Department at 1-800-345-3330, to arrange for return of the empty refillable container.

### WARRANTY DISCLAIMER

The directions for use of this product must be followed carefully. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, (1) THE GOODS DELIVERED TO YOU ARE FURNISHED "AS IS" BY MANUFACTURER OR SELLER AND (2) MANUFACTURER AND SELLER MAKE NO WARRANTIES, GUARANTEES, OR REPRESENTATIONS OF ANY KIND TO BUYER OR USER, EITHER EXPRESS OR IMPLIED, OR BY USAGE OF TRADE, STATUTORY OR OTHERWISE, WITH REGARD TO THE PRODUCT SOLD, INCLUDING, BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, USE, OR ELIGIBILITY OF THE PRODUCT FOR ANY PARTICULAR TRADE USAGE. UNINTENDED CONSEQUENCES, INCLUDING BUT NOT LIMITED TO INEFFECTIVENESS, MAY RESULT BECAUSE OF SUCH FACTORS AS THE PRESENCE OR ABSENCE OF OTHER MATERIALS USED IN COMBINATION WITH THE GOODS, OR THE MANNER OF USE OR APPLICATION, INCLUDING WEATHER, ALL OF WHICH ARE BEYOND THE CONTROL OF MANUFACTURER OR SELLER AND ASSUMED BY BUYER OR USER. THIS WRITING CONTAINS ALL OF THE REPRESENTATIONS AND AGREEMENTS BETWEEN BUYER, MANUFACTURER AND SELLER, AND NO PERSON OR AGENT OF MANUFACTURER OR SELLER HAS ANY AUTHORITY TO MAKE ANY REPRESENTATION OR WARRANTY OR AGREEMENT RELATING IN ANY WAY TO THESE GOODS.

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**Editor's Note #1**

When using alternate brand name *Razor SPI* and alternate formula with colorant, the following changes will be made:

1. Front panel addition: "Containing a Temporary Blue Colorant to assist in accurate and uniform applications"
2. Front panel addition: "†Spray Pattern Indicator"
3. Page 3 addition: Riverdale Razor SPI contains a colorant for marking spray applications. When using this product, applicators are able to accurately and uniformly apply this product. The colorant is temporary and breaks down in sunlight and/or dissipates in rain.
4. Page 6 deletion:

**COLORANTS OR DYES**

Agriculturally-approved colorants or marking dyes may be added to this product. Colorants or dyes used in spray solutions of this product may reduce performance, especially at lower rates or dilutions. Use colorants or dyes according to the manufacturer's recommendations.

**Editor's Note #2**

When using alternate brand name *Razor Pro* and related alternate surfactants the following changes will be made.

- 1.A Front panel addition: "This fully loaded formulation contains 14.0% surfactant. Eliminates the need for additional surfactant and it is rainfast within 2 hours of application."

OR

- 1.B Front panel addition: "Contains the ultimate formulation. Eliminates the need for additional surfactant and it's rainfast within 2 hours of application."
2. Delete from booklet: All references to adding more surfactant.

**Additional/Alternate Marketing Statements**

41% Glyphosate Concentrate with Surfactant

Non-Planted Areas

Hand held standard sprayers

Not for use on (1) turf being grown for sale or other commercial use as sod; (2) trees being grown for sale or other commercial use, or for the production of timber or wood products; (3) turf, trees, crops, timber or other plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes. For use on plants in non-crop and non-timber only.

For use around residential, industrial, institutional and their immediate vicinity.