



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

OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

Ms. Sofia Udovenko FMC Corporation 1735 Market Street Philadelphia, PA 19103

MAR 21 2011

Subject: Revised Disposal Instructions per PR Notice 2007-4

Dear Ms. Udovenko:

The Agency is in receipt of your Application(s) for Pesticide Notification under Pesticide Registration Notice (PRN) 2007-4 dated December 20, 2010 for:

**EPA Registration 279-3307** 

Rage Herbicide

**EPA Registration 279-3316** 

Rage D-Tech Herbicide

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

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

If you have any questions, please call me directly at 703-305-1243 or Beth Benbow of my staff at 703-347-8072.

Sincerely,

Kathryn V. Montague, Product Manager 23

Herbicide Branch

Registration Division (7505P) Office of Pesticide Programs

SEPA	United Environmental Pro Washington,	States  tection Agency	Form Ap	Registration Amendment Other	OPP Identifier Number
	Арр	lication for Pesti	cide - Section	l	
. Company/Product Numbe FMC Corporation/ 27	9-3307	Ms.	A Product Manager Kathryn V. Monta		Proposed Classification  None Restricted
<ul> <li>Company/Product (Name)</li> <li>FMC Corporation/Rage Heri</li> </ul>		PM# PM-	23	_	
FMC Corporation 1735 Market Street Philadelphia, PA 191		(b)(i), to: EPA		nilar or identical in (	th FIFRA Section 3(c)(3) composition and labeling
	70 0 770 0 00 00 00 00 00 00 00 00 00 00	Section -			
Notification - Explain  Explanation: Use addition  Notification of label change p regulations at 40 CFR §§ 156  Formula for this product. I un amended label is not consisti	onse to Agency letter dated below. nal page(s) if necessary. (Fo er PR Notice 2007-4. This not	r section I and Section II. ification is consistent with the 46, and 156.156. No other f 18 U.S.C. Sec. 1001 to wo CFR §§ 156.10, 156.140	the guidance in PR No changes have been r illfully make any false , 156.144, 156.146, a	elow.  otice 2007-4 and the remade to the labeling or	the Confidential Statement of urther understand that if the
·		Section -	III		
A. Material This Product Will Child-Resistant Packaging Yes No Certification must be submitted	Unit Packaging Yes V No If "Yes" No.	Water Soluble  Yes  ✓ No  per If "Yes" tainer Package wgt	Packaging  No. per container	2. Type of Contain  Metal Plastic Glass Paper Other	
Label	ontainer	e(s) Retail Container	5. Lo	cation of Lubel Difeer on label/oɔntein	
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ame Sofia Udovenko	items directly below for iden	Title Senior Registra			ne No. (Include Area Code)
	nents I have made on this fo y knowlinglly false or mislead				6. Date Application Received (Stamped)

3. Title

5. Date

Senior Registration Specialist

12/20/10

2. Signature Sefa. Molovino

4. Typed Name

Sofia Udovenko

FMC Agricultural Products

30924

FMC Corporation 1735 Market Street Philadelphia, PA 19103

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www.fmc.com

December 20, 2010

Mr. Paul Mastradone Document Processing Desk (NOTIFICATIONS) U.S. Environmental Protection Agency One Potomac Yard, Room S-4900 2777 S. Crystal Drive Arlington, VA 22202

Dear Mr. Mastradone:

Subject: Notification for Rage-Herbicide (EPA Reg. No. 279-3307) per PR Notice 2007-4

FMC is submitting a revised label for the subject product. The revisions are notification-type changes (listed below).

The revised page is as follows:

Page 3: Updated Storage and Disposal Section.

The additions are shown in red text on the enclosed label and are being submitted as a notification of your have any questions, please feel free to contact me at 215-299-6626 or by e-mail at sofia.udovenko@fmc.com

Sincerely

Sofia Udovenko

Senior Registration Specialist Agricultural Product Group

FMC Corporation

Enclosures: Cover Letter EPA For 8570-1

Copies (2) of the revised label for Rage Herbicide with changes in red text





GROUP	14	HERBICIDE
GROUP	9	HERBICIDE

# MAR 2 1 2011

## ROM **FN**

### For Use Only by Individuals/Firms Certified And/or Licensed as Pesticide Applicators

EPA Reg. No. 279-3307

**EPA Est. 279-**

Active Ingredient: (1.0)	By Wt.
Carfentrazone-ethyl : Ethyl α, 2-dichloro-5-[	4-
(difluoromethyl)-4, 5-dihydro-3-methyl-5-oxo	
triazol-1-yl]-4-fluorobenzenepropanoate	
Glyphosate IPA**	49.71%
Inert Ingredients:	<u>49.89%</u>
·	100.0%

\* This product contains 0.040 pounds per US gallon of the active ingredient Carfentrazone-ethyl.

\*\* This product contains 5.0 pounds per US gallon of the active ingredient Glyphosate, in the form of isopropylamine salt, (3.71 pounds per gallon of glyphosate acid).
Contains Petroleum Distillates

U.S. Patent Pending

# CAUTION-AVISO

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

THE ACTIVE INGREDIENT CARFENTRAZONE-ETHYL IS MADE IN CHINA, FORMULATED AND PACKAGED IN USA. THE ACTIVE INGREDIENT GLYPHOSATE IS MADE, FORMULATED AND PACKAGED IN USA.

#### FIRST AID (2.0)

#### **FIRST AID**

If Inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

If on Skin or Clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

If in Eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

If Swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

#### **HOTLINE NUMBER (3.0)**

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-331-3148 for emergency medical treatment information.

Note to Physician: Rage herbicide is expected to have low oral and dermal toxicity, and moderate inhalation toxicity. It is expected to be slightly irritating to the skin and minimally irritating to the eyes. Treatment is otherwise controlled removal of exposure followed by symptomatic and supportive care. This product may pose an aspiration pneumonia hazard.

See other panels for additional precautionary information.

#### **ATTENTION**

-Although this label may appear similar to the label on a product you may have used, there may be important label differences. Users must read, understand and strictly follow all label directions, precautions and restrictions.

-It is the user's responsibility to be sure the product is approved for sale or use on the intended crop and for use in the specific geographic area.

-It is the user's responsibility to be aware of and to follow all State or local precautions or restrictions not appearing on this product label.
-Prior to purchase or use of this product, read the Terms of Sale or Use and Limitation of Warranty and Liability in Section 6.0 of this label. If the terms and conditions are unacceptable, return the product immediately in the original and unopened container.

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#### PRECAUTIONARY STATEMENTS (4.0) HAZARDS TO HUMANS (AND DOMESTIC **ANIMALS) (4.1)**

#### Caution

Harmful if swallowed, absorbed through the skin or inhaled. Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

Personal Protective Equipment (PPE)

If you want more options, follow the instructions for category A on the EPA chemical-resistance category selection chart. Applicators and other handlers must wear: long-sleeved shirt and long pants, chemical-resistant gloves made of waterproof material such as polyethylene or polyvinyl chloride, and shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water, Keep and wash PPE separately from other laundry.

#### **User Safety Recommendations:**

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- · Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

#### **ENVIRONMENTAL HAZARDS (4.2)**

Rage is very toxic to algae and moderately toxic to fish. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the high water mark, except as specified on this label. Do not contaminate water when cleaning equipment or disposing of equipment wash water.

#### PHYSICAL AND CHEMICAL HAZARDS (4.3)

Do not use or store near heat or open flame.

Spray solutions of this product should be mixed, stored and applied using only stainless steel, aluminum, fiberglass, plastic or plasticlined 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 (5.0)**

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

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

## AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: Coveralls, chemical-resistant gloves made of any waterproof material and shoes plus socks.

### NON-AGRICULTURAL USE **REQUIREMENTS (5.2)**

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. Turf grasses on golf courses and other non-residential turf areas such as industrial parks, tank farms, professionally managed college and professional sports fields, commercial lawns and ornamental landscapes are not within the scope of the Worker Protection Standard. Do not enter or allow others to enter the treated area until sprays have dried.

#### STORAGE AND DISPOSAL (5.3)

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

Not for use or storage in or around the house.

Keep out of reach of children and animals. Store in original container only. Store in a cool, dry place and avoid excess heat.

STORE ABOVE 10° F (-12° C) TO KEEP FROM

CRYSTALLIZING. Crystals will settle to the bottom. If crystals form, allow product to warm above 50° F (10° C) and mix well or shake to redissolve. Carefully open containers. After partial use, replace lids and close tightly. Do not put concentrated or dilute material into food or drink containers. Do not;containinate other pesticides, or fertilizers, food, or feed by inappropriate storage or disposal.

In case of spill, avoid contact, isolate area and keep out unprotected persons and animala. Confine spills. Call FMC: (800) 331-3148.

To confine spill: Dike surrounding area, sweep,ບາງ ຮຸກກໍlage. Dispose of in accordance with information given under Pesticide Disposal. Wash spill area with water, absorb with sand, cat litter or commercial clay, sweep up and dispose of in an approved manner. Place damaged container in a larger holding container. Identify contents per required hazardous waste labeling regulations.

#### **Pesticide Disposal**

Waste resulting from the use of this product may be disposed of at an approved waste disposal facility.

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#### Container Disposal

Plastic containers: Triple rinse (or equivalent). Then offer for approved pesticide container recycling program, or puncture and dispose of in an approved waste disposal facility. Provided on site incineration is allowed by state and local authorities, stay out of smoke.

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: (For containers greater than 5 gallons) Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth. ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. (For containers 5 gallons or less) Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available, or reconditioning or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

# TERMS OF SALE OR USE AND LIMITATION OF WARRANTY AND LIABILITY (6.0)

Conditions of Sale and Limitation of Warranty and Liability:

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

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions beyond the control or FMC or Seller. To the extent consistent with applicable law, all such risks shall be assumed by Buyer and User, and, to the extent consistent with applicable law, Buyer and User agree to hold FMC and Seller harmless for any claims relating to such factors.

Seller warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the Directions for Use when used in accordance with the directions under normal conditions of use. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, FMC MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, NOR ANY OTHER EXPRESS OR IMPLIED WARRANTIES WITH RESPECT TO THE SELECTION, PURCHASE, OR USE OF THIS PRODUCT. Any warranties, express or implied, having been made are inapplicable if this product has been used contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to (or beyond the control of) seller or FMC, and, to the extent consistent with applicable law, buyer assumes the risk of any such use.

To the extent consistent with applicable law, FMC or seller shall not be liable for any incidental, consequential or special damages resulting from the use or handling of this product. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF FMC AND SELLER FOR ANY AND ALL CLAIMS. LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM

THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF FMC OR SELLER, THE REPLACEMENT OF THE PRODUCT.

This Conditions of Sale and Limitation of Warranty and Liability may not be amended by any oral or written agreement.

## GENERAL INFORMATION FOR AGRICULTURAL USE (7.0)

Rage herbicide is a broad spectrum, non selective herbicide controlling weeds through two modes of action, providing both contact and systemic herbicide effects. Rage herbicide's two modes of action will help minimize herbicide resistant weed populations.

Rage herbicide is a liquid emulsion formulation (EW). Rage should be mixed with water and a recommended adjuvant (see surfactant Section 7.2) for controlling selective post emergence broadleaf and grass weeds on labeled crops. Weed control is best achieved when the product is applied to actively growing weeds up to 4 inches in height or rosettes less than 3 inches across.

Rage herbicide is rapidly absorbed through the foliage of plants and becomes rainfast when spray solution has dried. To avoid significant crop response, applications should not be made within 6 - 8 hours of either rain or irrigation. Within a few hours following application, the foliage of susceptible weeds shows signs of desiccation. Plant necrosis and death occur several days after the application. Some herbicidal symptoms may appear on the crop, due to environmental conditions and/or with certain spray tank additives, some herbicidal symptoms may appear on the crop. However, the crop recovers quickly with no loss in yield.

Extremes in environmental conditions such as temperature, moisture, soil conditions, and cultural practices may affect the activity of Rage herbicide. Under warm moist conditions, herbicide symptoms may be accelerated. While under very dry conditions, the expression of herbicide symptoms may be delayed. Weeds hardened off by drought are less susceptible to Rage herbicide.

#### Tank Mixtures (7.1)

Rage may be tank mixed with other herbicides to control weeds not listed on this label but are on the tank mix partner's label. Read and follow all manufacturers' label recommendations for the companion herbicide along with the recommendations on this label. See Section 7.5 for tank mixing instructions.

#### Adjuvants: (7.2)

A nonionic surfactant (NIS), methylated seed oil (MSO), or crop oil concentrate (COC) is required. Use a non-ionic surfactant (NIS) having at least 80% active ingredient at 0.25% v/v (2 pints per 100 gallons of spray solution) or a methylated seed oil, of a crop oil concentrate (COC) at 1% v/v (1 gallon per 100 gallons of spray solution). Ammonium sulfate (AMS) at 2-4 pounds per acre may be used in addition to the nonionic surfactant, methylated seed oil, or crop oil concentrate. Product use rate should not be reduced when AMS is used. The addition of UAN cr.4MS may increase the level of leaf speckling compared to NIS MSD, or COC used alone. Refer to individual crop recommendation Sections (Sections 22 32) for specific adjuvant type and use fate.

#### Ammonium Sulfate: (7.3)

Where hard water conditions exist; 8 to 16 pounds of dry ammonium sulfate (or the equivalent amount of animonium sulfate in a liquid formulation) should be used per 100 gallons of water. Thoroughly dissolve the dry ammonium sulfate in the spray tank before adding herbicides. After use, completely rinse the spray system with clean water to reduce corrosion.

#### **Drift Reduction Agents: (7.4)**

Drift reduction agents may be used, especially near sensitive vegetation. Drift reduction agents can affect the spray pattern,

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causing reduced performance if adequate coverage is not obtained. Check your local county or state regulations that may require the use of a drift reduction agent. Read and follow label directions for use when using a drift reduction agent.

Mixing and Loading Instructions: (7.5)

Fill the spray tank 3/4 full with clean water and activate the agitation system. Use the following mix order:

- If ammonium sulfate is used, slowly add it into the spray water. Continue agitation and ensure that ammonium sulfate is completely dissolved before adding other products....
- 2) Dry formulations (e.g., powders, dry flowables)
- Liquid suspensions (e.g., Rage herbicide and other flowables)
- Liquids (e.g., EC's). Complete filling the spray tank to the desired level.

The spray tank agitation should be sufficient to ensure uniform spray mixture during application and until the spray tank has been emptied. Rage herbicide is a liquid suspension formulation which should be thoroughly mixed in the spray tank after dry formulations are thoroughly mixed and before other products are added. A compatibility test should be conducted prior to mixing Rage herbicide with other products. Avoid the overnight storage of Rage herbicide spray mixtures. Premixing Rage herbicide spray solutions in nurse tanks is not recommended.

Maintain continuous spray solution agitation until all the spray solution has been used.

Do not use with tank additives that lower the pH of the spray solution below pH of 5 or increase the pH above pH of 8. Buffer the spray solution to alter the pH range as appropriate.

On Farm Testing

Not all varieties or cultivars of labeled crops have been fully evaluated under all environmental and soil conditions. For additional and specific information, consult University or local Extension specialists. It may also be beneficial to conduct small on farm trials under actual conditions with specific varieties or cultivars before treating large acreage.

#### Spray Equipment Clean-Out: (7.6)

Many new pesticides are very active at low rates, especially to sensitive crops. Residues left in mixing equipment, spray tanks, hoses, spray booms and nozzles can cause crop effects if they are not properly cleaned. As soon as possible after spraying Rage herbicide and before using the sprayer equipment for any other applications, the sprayer equipment must be thoroughly cleaned using the following procedure. In addition, users must take appropriate steps to ensure proper equipment clean-out for any other products mixed with Rage herbicide as required on the other product labels. More complete cleaning can be achieved if the spray system is cleaned immediately following the application.

- 1. Drain sprayer tank, hoses, spray boom and spray nozzles. Use a high-pressure detergent wash to remove physical sediment and residues from the inside of the sprayer tank and thoroughly rinse. Then, thoroughly flush sprayer hoses, spray boom and spray nozzles with a clean water rinse. Remove and clean spray tips and all filters and screens (tank, spray hose and spray tips) separately in the ammonia solution of Step 2.
- 2. Next, prepare a sprayer cleaning solution by adding three gallons of ammonia (containing at least 3% active) per 100 gallons of clean water. Prepare sufficient cleaning solution to allow the operation of the spray system for a minimum of 15 minutes to thoroughly flush hoses, spray boom and spray nozzles.
- Convenient and thorough cleaning of the sprayer can be achieved if the ammonia solution or fresh water is left in the spray tank, hoses, spray booms and spray nozzles overnight or during storage.
- 4. Before using the sprayer, completely drain the sprayer system. Rinse the tank with clean water and flush through the hoses, spray boom, and spray nozzles with clean water. Remove and clean spray tips and all filters and screens (tank, spray hose and spray tip) separately in an ammonia solution.

Properly dispose of all cleaning solution and rinsate in accordance with Federal, State, and local regulations and guidelines.

Do not apply sprayer cleaning solutions or rinsate to sensitive crops.

Do not store the sprayer overnight or for any extended period of time with Rage herbicide spray solution remaining in the tank, spray lines, spray boom plumbing, spray nozzles or strainers.

If the sprayer has been stored or idle, purge the spray boom and nozzles with clean water before beginning any application.

Should small quantities of Rage herbicide remaining in inadequately cleaned mixing, loading and/or spray equipment, they may be released during subsequent applications potentially causing effects to certain crops and other vegetation. FMC accepts no liability for any effects due to inadequately cleaned equipment.

#### APPLICATION INFORMATION

#### **GROUND APPLICATION (8.0)**

Operate ground sprayer to deliver uniform spray deposition to the target. Overlaps and slower ground speeds cause higher application rates and possible crop response.

#### Spray Buffer for Ground Application (8.1)

Spray buffer zones for ground applications, listed in the chart below, are required when indigenous endangered plant species are present.

Buffers to Indigenous Endangered Plant Species			
Rage USE RATE (fluid ounces/acre)			
30	20	33	
40	26	46	

Conventional Boom and Nozzle Sprayers (8.2)

Utilize a boom and nozzle sprayer equipped with the appropriate nozzles, spray tips and screens and adjusted to provide optimum spray distribution and coverage at the appropriate operating pressures. Utilize nozzles, which produce minimal amounts of fine spray droplets. Do not exceed 30 psi spray pressure unless otherwise required by the manufacturer of drift reducing nozzles. Apply a minimum of 10 gallons of finished spray per acre. Higher spray volumes are required when there is a dense weed population or crop canopy. Sprayers should be adjusted to position spray tips a minimum of 18 inches above the crop and operated to avoid the application of excessive herbicide rates directly over the rows and/or into the whorl of treated crop plants.

#### Directed Sprayers (8.3)

Rage may be applied with drop nozzles or other sprayer equipment capable of directing the spray to the target weeds and away from sensitive plant parts.

#### Hooded Sprayers (8.4)

Rage may be applied with hooded sprayers to control labeled weeds between the rows of the listed crops in Section 20. This treatment may be made to crops grown in rows, and includes crops grown in rows where mulch or plastic barriers are used as a weed control tool in the drill or plant line. Rage herbicide may be applied at rates up to 40 ounces per broadcast acre not to exceed the amount listed in the Maximum Allowable Rage herbicide Use Table (Section 13.0), in a minimum of 10 gallons per acre of finished spray. Rage herbicide may be tank mixed with other pesticides registered for this treatment pattern.

For best performance, make application to actively growing weeds up to 4 inches tall and rosettes less than 3 inches across. Coverage is essential for good control. A nonionic surfactant or crop oil concentrate must be used to enhance activity of Rage herbicide. For selecting an adjuvant refer to the adjuvant (Section 7.2).

Hooded sprayers must be designed, adjusted and operated to prevent any spray deposition to green stem, leaf tissue, flowers or fruit of the crop. The hooded sprayer should be designed and operated so that the spray pattern is totally enclosed. Hooded sprayers should be operated in such a manner as to minimize vertical movement such as bouncing or the raising of the equipment

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during application. Hood sprayers should not be operated in excess of five (5) miles per hour to minimize which may cause bouncing. Extreme care must be taken during operations in fields where there is undulation of the soil surface, deep furrows, drains or other contours which would disturb the adjustment and positioning of the spray equipment and/or the spray pattern. Applications must not be made when wind conditions disturb the spray patterns which results in spray deposition to sensitive plants or plant parts including crops.

#### Precautions:

Crop injury will occur when spray is allowed to come in contact with the leaves, green stem tissue, flowers or fruit of the crop.

#### Restrictions

Do not apply more than 80 fluid ounces in the growing season as a row middle application. Do not apply more than 120 fluid ounces per crop season as a hooded sprayer application.

#### **Band Treatment Applications (8.5)**

For band treatment, apply the broadcast equivalent rate and volume per acre. To determine these:

Band Width

In inches Broadcast

------ X Rate = Banded rate

Row Width Per Acre

In inches

Band Width

In inches Broadcast

----- X Volume = Banded volume

Row Width Per Acre

#### Hand Held or High Volume Equipment (Spot Treatments) (8.6)

Knapsack sprayers and other high-volume spraying equipment utilizing handguns or other appropriate nozzle configurations may be used to control weeds listed in this label. Mix a 0.75 to 2 percent solution of this product in water, add a nonionic surfactant and apply to foliage of vegetation to be controlled. Refer to the "WEEDS CONTROLLED" Section (Section 16) for specific application information.

Applications should be made on a spray-to-wet basis. Spray coverage should be uniform and complete. Do not spray to point of runoff.

For spot treatment of brush and trees a 5-8 percent solution may be used as a low volume directed spray. This treatment method is most effective in areas where there is a low density of the targeted vegetation. If a straight stream nozzle is used, start the application at the top of the targeted vegetation and spray evenly, contacting a minimum of 50 percent of the foliage, using a back and forth motion until the bottom of the vegetation is reached. For flat fan and cone nozzles and with hand-directed mist blowers, mist the application over the foliage of the targeted vegetation. Small, open-branched trees should be treated from only one side to ensure adequate coverage. If the foliage is thick or there are multiple root sprouts, applications must be made from several sides to ensure adequate spray coverage.

Restriction: Use Coarse Sprays Only

#### Wick-type or Controlled droplet Application systems (8.7)

Aim herbicide is not recommended for this type of application equipment.

#### **AERIAL APPLICATION (9.0)**

Use nozzle types and arrangements that will provide optimum coverage while producing a minimal amount of fine droplets ( see Sections 10 – 11). Apply at a minimum of 3 gallons of finished spray per acre. Higher aerial spray volumes are required for harvest aid/defoliation treatments, dense weed population or crop canopy.

Read and follow all state and local regulations and restrictions regarding the aerial application of herbicides containing carfentrazone and glyphosate.

#### **SPRAY DRIFT REDUCTION ADVISORY (10.0)**

AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR AND THE GROWER.

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 movement from applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications of dry materials.

#### **CONTROLLING SPRAY DROPLET SIZE (11.0)**

#### **Aerial and Ground Applications**

Nozzle Position – Orient nozzles so that the spray is releases parallel to the airstream which results in larger droplets than orientations and is the recommended practice to reduce air turbulence and the production of small droplets. Nozzles must point backward, parallel with the air stream. Never be pointed downwards more than 45 degrees. The distance of the outer most nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.

Application Height – Aerial applications should not be made at a height greater than 10 feet above the top of the target 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.

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

The applicator should be familiar with and take into account the Information covered in the spray drift reduction advisory.

**Volume Median Diameter (VMD)** –The VMD value is the median droplet size of the spray pattern. The optimum Rage herbicide VMD is 450 microns with fewer than 10% of the droplets being 200 microns or less. Use sprayer nozzles that meet these VMD guidelines.

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

**Pressure** - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.

**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 the largest droplets and the lowest drift. Use nozzles that produce a spray pattern with a VMD of 450 microns with fewer than 10% of the droplets being 200 microns or less.

Number of nozzles - Use the minimum number of nozzles that provide uniform coverage.

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

Wind - Drift potential is lowest between winds speeds of 3-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 3 mph due to variable wind direction and high inversion potential. Do not apply Rage when wind speed exceeds 10 mph. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

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**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 sets 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 concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

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

#### **INFORMATION ON DROPLET SIZE (12.0)**

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 Inversions Section 11.2 for more information).

#### MAXIMUM ALLOWABLE RAGE HERBICIDE SEASONAL USE INFORMATION (13.0)

Refer to the crop Section of this label for specific product use directions.

#### Maximum Allowable Rage Herbicide Use Per Acre Per Season for Crops or Crop Grouping

Total Allowed Rage herbicide	
Crop/Crop Group/Crop Subgroup	Rage (fl. ozs./acre) Per Season
Bush berry (Subgroup 13A)	272
Cane berry (Subgroup 13B)	272
Citrus Fruit (Group 10)	272
Corn	99
Cotton	208
Grape	272
Pome fruit (Group 11)	272
Potato	208
Rice	208
Small Grains: Barley, Oats and Wheat (Preplant)	40
Sorghum (Preplant and In-season)	20
Soybeans (Preplant and In-season)	73
Stone Fruit: Cherry, Peach, Plum, etc. (Group 12)	272
Tree nut (Group 14)	272
Tropical fruits	160
Tropical tree fruits	272

## treatments and all in-season treatments, including harvest aid.

\* The total allowable usage includes all applications made to the field per calendar year. This includes fallow treatments, burndown

RAGE HERBICIDE PREHARVEST INTERVALS (14.0)

Refer to the crop Section of this label for specific product use directions.

#### Preharvest Intervals (PHI) or Maximum Growth Stage for Rage Herbicide Applications

<u> </u>			
Crop/Crop Group/Crop Subgroup	PHI (Days Before Harvest) or Growth Stage		
Bush berry (Subgroup 13A)	14 days		
Cane berry (Subgroup 13B)	15 days		
Citrus Fruit (Group 10)	3 days		
Corn	Fourteen leaf collar		
Cotton (Preplant )	7 days		
Cranberry	30 days		
Grape	14 days		
Pasture	56 days (grazing or hay operations)		
Pome fruit: Apples and Pears (Group 11)	3 days		
Potato (Preplant)	7 days		
Small Fruit	14 days		
Small Grains: Barley, Oats and Wheat (Preplant)	Grain (jointing stage) Forage (7 days)		
Sorghum (Preplant )	6 leaf collars		
Soybeans (Preplant )	V10 growth stage		
Stone Fruit: Cherry, Peach, Plum, etc.	17 days		
Tropical fruits	3 days		
Tropical tree fruits	3 days		

Refer to the crop Section (Sections 22-32 for crop tolerance information

#### **CROP ROTATION RESTRICTIONS (15.0)**

Following applications of Rage herbicide, any registered crop may be planted at any time with the following exceptions.

For treatments prior to planting, allow at least 3 days before planting the following crops: Cantaloupe, Casaba melon, Cucumber, Eggplant, Endive (escarole), Garlic, Gourds, Ground cherry, Honeydew melon, Honeyball melons, Mango melons, Muskmelons, Persian melons, all melons, Pumpkin, Summer squash, Winter squash, Tomatillo, Watermelon, Pepper, and Forage grasses.

For all other crops, 12 months.

### **WEEDS (16.0)**

The following weeds are listed with their common and scientific names for clarification and are found in the various crop Sections. Refer to the specific crop Sections for product use information. Optimum control may be achieved when small weeds are treated rather than when they are larger in size. Best weed control may be achieved when actively growing weeds are up to 4 inches high or rosettes are less than 3 inches across.

Refer to "DIRECTIONS FOR USE" (Section 5), "GENERAL INFORMATION" (Section 7), and "APPLICATION INFORMATION" (Section 8) in this label for specific uses and application instructions.

#### **ANNUAL WEEDS (16.1)**

General application instructions for annual wecds: When targeting:

Larger weeds

2) High weed density

3) Weeds hardened offclue to weather conditions

4) Weeds nearing maturity

use higher rates and use more aggressive spray adjuvants

When applied at 20 to 24 fluid ounces per acre, Rage herbicide will provide control of the following weeds:

Ammania, purple
Ammania coccinea
Anoda, spurred
Anoda cristata
Bedstraw, catchweed
Galium aparine

Ground cherry, cutleaf

Physalis angulata

Ground cherry, Wright's

Physais

Groundsel, common Senecio vulgaris

**Bittercress** Cardamine spp. Bluegrass, annual Poa annua Bluegrass, bulbous Poa bulbosa Brome Bromus spp. Brome, downy Bromus tectorum Brome, Japanese Bromus japonicus Burcucumber Sicyos angulatus Buttercup Ranunculus spp. Carpetweed Mollugo verticillata Cocklebur Xanthium strumarium Corn. volunteer Zea mays

Cotton, volunteer Gossypium hirsutum, G. barbadense (non glyphosate tolerant)

Crabgrass Digitaria spp. Dandelion, dwarf Krigia cespitosa Flixweed Descurainia Sophia Foxtail Setaria spp.

Foxtail, Carolina Alopecurus carolinianus Goatgrass, jointed Aegilops cylimdrica Cuban spinach Claytonia perfoliata

Morning glory Ipomoea spp. Mustard spp Sisymbrium spp. Nightshade, black Solanum nigrum

Nightshade, Eastern black Solanum ptychanthum Nightshade, hairy Solanum physalifolium Pennycress, field Thlaspi arvense Poinsettia, wild Euphoria heterophylla Ragweed, common Ambrosia artemisiifolia Ragweed, giant Ambrosia trifida Rocket, London Sisymbrium irio Rocket, yellow Bararea vulgaris Rye

Secale cereale

Sesbania, hemp Sesbania exaltata Smartweed, Pennsylvania Polygonum pensylvanicum Spanish needles Bidens bipinnata Sprangletop Leptochloa spp. Stinkgrass Eragrostis cilianensis Sunflower, wild

Helianthus annus Velvetleaf Abutilon theophrasti

#### When applied at 25 to 28 fluid ounces per acre, Rage herbicide will provide control of the following weeds:

All the weeds listed above at 20 to 24 fluid

ounces per acre plus,

Barley

Hordeum vulgare

Barnyardgrass Echiniochloa crus-galli

Bassia, fivehook Bassia hyssopifolia

Cutleaf evening primrose Oenothera laciniata Chickweed, common Stellaria media Chickweed, mouseear Cerastium vulgatum Cupgrass, wooly Eriochloa villosa

Deadnettle, Purple and Red Lamium spp. Eclipta

Eclipta prostrata Falseflax, smallseed Camelina microcarpa Fiddleneck

Amsinckia spp. Goosegrass Eleusine indica Henbit

Lamium amplexicaule

Itcharass

Rottboellia cochinchinensis Lambsquarters, Common Chenopodium album Johnsongrass, seedling Sorghum halepense

Kochia

Kochia scoparia

Lettuce, prickly Lactuca serriola Knotweed, Prostrate Polygonum aviculare Mallow, common Malva neglecta

Mallow, Venice Hibiscus trionum

Millet, wild proso Panicum miliaceum

Nightshade, silverleaf Solanum elaeagnifolium

Oats, wild Avena fatua Panicum willowweed Epilobium brachycarpum

Panicum Panicum spp. Pigweeds Amaranthus spp Purslane, common Portulaca oleracea Radish, wild

Raphanus raphanistrum Ryegrass, Italian Lolium multiflorum Shattercane Sorahum hicolor Shepherd's-purse Capsella bursa-pastoris Spurge, prostrate Euphorbia prostrata Spurry, umbrella

Holosteum umbellatum Thistle, Russian Salsola kali Waliflower, bushy Erysimum repandum

Wheat, volunteer Triticum aestivum Witchgrass Panicum capillare

Rockpurslane, Redmaids Calandrinia caulescens

Fleabane

Erigeron spp.

Fleabane, hairy

Conyza bonariensis

#### When applied at over 28 fluid ounces per acre, Rage herbicide will provide control of the following weeds.

All the weeds listed above at 20 to 28 fluid

ounces per acre plus, Filaree, Redstem Frodium cicutarium Sowthistle, annual Sonchus oleraceus Signalgrass, broadleaf Brachiaria platyphylla Cheat Bromus secalinus Burclover, California Medicago polymorphia Spurry, Corn Spergula arvensis

Nettle, stinging Urtica dioica Horseweed/Marestail Conyza canadensis Sandbur, field Cenchrus son Coast fiddleneck Amsinckia intermedia Mustards (blue, tansy, tumble, wild) Speedwell, Persian Sinapsis spp Veronica agrestis **PERENNIAL WEEDS (16.2)** 

General application instructions for perennial weeds:

- Apply to vigorously growing perennial weeds.
- Avoid disturbance of vegetation for at least 7 days after application unless otherwise indicated.
- Do not treat weeds that have been moved or tilled until regrowth has reached the recommended stages.
- Treat vegetation prior to a killing frost.
- For selecting an adjuvant refer to the adjuvant (Section
- Weeds that regenerate from underground parts or seed may require a repeat treatment.

General Recommendation: (16.3) Weeds without specific recommendations in the following list can by controlled by applying 4.5 to 7.5 pints of this product per acre as a broadcast spray or as a 0.75 to 1.5 percent solution with hand-held equipment. Control is maximized when target plants are actively growing and most have reached early head or early bud stage of growth.

Weed	Recommendation
Alfaifa	See General Recommendation
Medicago sativa	(Section 16.3)
Alligatorweed*	Apply 4.5 to 7.5 pints of this product
Alternanthera philoxeroides	per acre as a broadcast spray or as a
	1.25 percent solution with hand-held
	equipment to provide partial control
	of alligatorweed. Apply when most of
	the target plants are in bloom.
	Repeat applications will be required
	to maintain such control.
Anise/Fennel	See General Recommendation
Foeniculum culgare	(Section 16.3)
Artichoke, Jerusalem Helianthus	See General Recommendation
tuberosus	(Section 16.3)
Bahiagrass	See General Recommendation
Paspalum notatum	(Section 16.3)
Bermudagrass	Apply 4.5 to 7.5 pints of this product
Cynodon dactylon	per acre as a broadcast spray or as a
	1.5 percent solution with hand-held
	equipment. Apuly when target plants
	are actively growing and when seed
	heads appear
Bindweed, field Convolvulus	Apply 6 to 7c5 pints of this product
arvensis,	per acre as a broadcast spray west
Nightshade, silverleaf Solanum	of the Mississippi River and 4.5 to 6
elaeagnifoliumelaeagnifolicum, 🦠	pints of this product per acre east of
Blueweed, Texas Helianthus ciliaris	the Mississippi River. With hand-
	helG equipment, use a 1.5 percent
	solution. Apply when target plants
<b>(</b> ()	are actively growing and are at or
	beyond full bloom. For silverleaf
	nightshade, best results can be
	obtained when application is made
	after berries are formed. Do not treat
	when weeds are under drought
	stress. New leaf development
	indicates active growth. For best
	results apply in late summer or fall.
Brackenfern	Apply 4.5 to 6 pints of this product
Pteridium spp.	per acre as a broadcast spray or as a

	``.
	0.75 – 1 percent solution with hand- held equipment. Apply to fully expanded fronds which are at least 18 inches long.
Cattail Typha spp.	Apply 4.5 to 6 pints of this product per acre as a broadcast spray or as a
No. of the	0.75 percent solution with hand-held equipment. Apply when target plants are actively growing and are at or
	beyond the early-to-full bloom stage of growth. Best results are achieved when application is made during the
	summer or fall months.
Clover, red Trifolium pratense	See General Recommendation (Section 16.3)
Clover, whitetip Trifolium variegatum	See General Recommendation (Section 16.3)
Clover, white	See General Recommendation (Section 16.3)
Trifolium repens Cogongrass	Apply 4.5 to 6 pints of this product
Imperata clylindrica	per acre as a broadcast spray. 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
Cordgrass	necessary to maintain control.  Apply 4.5 to 6 pints of this product
Spartina spp.	per acre as a broadcast spray or as a 1.25 percent solution with hand-held
	equipment. Schedule applications in order to allow 6 hours before treated
	plants are covered by tidewater. The
	presence of debris and silt on the cordgrass plants will reduce
	performance. It may be necessary to wash targeted plants prior to
	application to improve uptake of this product into the plant.
Cutgrass, giant* Zizaniopsis miliacea	Apply 6 pints of this product per acre as a broadcast spray or as a 1
Zizaniopsis minacca	percent solution with hand-held
	equipment to provide partial control of giant cutgrass. Repeat
	applications will be required to maintain such control, especially
	where vegetation is partially submerged in water.
	Allow for substantial regrowth to the 7- to 10-leaf stage prior to
Dallianna	retreatment. See General Recommendation
Dallisgrass Paspalum dilatatum	(Section 16.3)
Dandelion Taraxacum officinale	See General Recommendation (Section 16.3)
Dock, curly Rumex crispus	See General Recommendation (Section 16.3)
Dogbane, hemp Apocynum	Apply 6 pints of this product per acre
cannabinum Knapweed Centaurea repens	as a broadcast spray or as a 1.5 percent solution with hand-held
Horseradish Armoracia rusticana	equipment. Apply when target plants are actively growing and most have
	reached the late bud-to-flower stage of growth. For best results, apply in
Face in Contino and	late summer or fall. See General Recommendation
Fescue Festuca spp. Fescue, tall	Apply 4.5 pints of this product per
Festuca arundinacea	acre as a broadcast spray or as a 1 percent solution with hand-held
	equipment. Apply when target plants are actively growing and most have
	reached the boot-to-head stage of growth. When applied prior to the
	boot stage, less desirable control
Guineagrass	may be obtained.  Apply 4.5 pints of this product per
Panicum maximum	acre as a broadcast spray or as a .75 percent solution with hand-held
	equipment. Apply when target plants are actively growing and when most
	have reached at least the 7-leaf
Hemlock, poison	stage of growth.  See General Recommendation

Conium maculatum	(Section 16.3)
Horsenettle	See General Recommendation
Solanum carolinense	(Section 16.3) See General Recommendation
Mesembryanthemum crystallinum	(Section 16.3)
Johnsongrass Sorghum halepense	Apply 3 to 4.5 pints of this product
Bluegrass, Kentucky Poa pratensis	per acre as a broadcast spray or as a
Bromegrass, smooth Bromus inermis	0.75 percent solution with hand-held
Canarygrass, reed Phalaris arundinacea	equipment. Apply when target plants are actively growing and most have
Orchardgrass Dactylis glomerata	reached the boot-to-head stage of
Ryegrass, perennial Lolium perenne	growth. When applied prior to the
Timothy Phleum pretense	boot stage, less desirable control
Wheatgrass, western Agropyron	may be obtained. In the fall, apply
smithii Lantana	before plants have turned brown.  Apply this product as a 1.5 percent
Lantana camara	solution with hand-held equipment.
	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.
Lespedeza: common, serices	See General Recommendation
Lespedeza striata, Lespedeza	(Section 16.3)
cuneata	
Loosestrife, purple	Apply 4 pints of this product per acre
Lythrum salicaria	as a broadcast spray or as a 1 to 1.5 percent solution using hand-held
	equipment. Treat when plants are
-	actively growing at or beyond the
İ	bloom stage of growth. Best results
	are achieved when application is
	made during summer or fall months.  Fall treatments must be applied
	before a killing frost.
Lotus, American	Apply 4 pints of this product per acre
Nelumbo lutea	as a broadcast spray or as a 0.75
	percent solution with hand-held equipment. Treat when plants are
	actively growing at or beyond the
	bloom stage of growth. Best results
	are achieved when application is
	made during summer or fall months.
	Fall treatments must be applied before a killing frost. Repeat
	treatment may be necessary to
	control regrowth from underground
	parts and seeds.
Maidencane Panicum hematomon	Apply 4.5 to 6 pints of this product per acre as a broadcast spray or as a
r anicum nematomon	0.75 percent solution with hand-held
	equipment. Repeat treatments will
	be required, especially to vegetation
	partially submerged in water. Under
1	
	these conditions, allow for regrowth
Milkweed	these conditions, allow for regrowth to the 7- to 10-leaf stage prior to retreatment.  Apply 4.5 pints of this product per
Milkweed Asclepias spp	these conditions, allow for regrowth to the 7- to 10-leaf stage prior to retreatment.  Apply 4.5 pints of this product per acre as a broadcast spray or as a 1.5
	these conditions, allow for regrowth to the 7- to 10-leaf stage prior to retreatment.  Apply 4.5 pints of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held
	these conditions, allow for regrowth to the 7- to 10-leaf stage prior to retreatment.  Apply 4.5 pints of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment. Apply when target plants
	these conditions, allow for regrowth to the 7- to 10-leaf stage prior to retreatment.  Apply 4.5 pints of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held
Asclepias spp	these conditions, allow for regrowth to the 7- to 10-leaf stage prior to retreatment.  Apply 4.5 pints of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the late bud-to-flower stage of growth.
Asclepias spp  Mullein, common	these conditions, allow for regrowth to the 7- to 10-leaf stage prior to retreatment.  Apply 4.5 pints of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the late bud-to-flower stage of growth.  See General Recommendation
Asclepias spp  Mullein, common Verbascum thapsus	these conditions, allow for regrowth to the 7- to 10-leaf stage prior to retreatment.  Apply 4.5 pints of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the late bud-to-flower stage of growth.  See General Recommendation (Section 16.3)
Asclepias spp  Mullein, common Verbascum thapsus Napiergrass	these conditions, allow for regrowth to the 7- to 10-leaf stage prior to retreatment.  Apply 4.5 pints of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the late bud-to-flower stage of growth.  See General Recommendation
Asclepias spp  Mullein, common Verbascum thapsus	these conditions, allow for regrowth to the 7- to 10-leaf stage prior to retreatment.  Apply 4.5 pints of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the late bud-to-flower stage of growth.  See General Recommendation (Section 16,3)
Asclepias spp  Mullein, common Verbascum thapsus Napiergrass Pennisetum purpureum	these conditions, allow for regrowth to the 7- to 10-leaf stage prior to retreatment.  Apply 4.5 pints of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the late bud-to-flower stage of growth.  See General Recommendation (Section 16.3)  See General Recommendation (Section 16.3)  Apply 4.5 pints of this product per acre as a broadcast spray, or as a
Asclepias spp  Mullein, common Verbascum thapsus Napiergrass Pennisetum purpureum Nutsedge: purple, yellow Cyperus	these conditions, allow for regrowth to the 7- to 10-leaf stage prior to retreatment.  Apply 4.5 pints of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the late bud-to-flower stage of growth.  See General Recommendation (Section 16.3)  See General Recommendation (Section 16.3)  Apply 4.5 pints of this product per acre as a broadcast spray, or as a 0.75 percent solution with hand-held
Mullein, common Verbascum thapsus Napiergrass Pennisetum purpureum Nutsedge: purple, yellow Cyperus rotundus, Cyperus esculentus	these conditions, allow for regrowth to the 7- to 10-leaf stage prior to retreatment.  Apply 4.5 pints of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the late bud-to-flower stage of growth.  See General Recommendation (Section 16.3)  See General Recommendation (Section 16.3)  Apply 4.5 pints of this product per acre as a broadcast spray, or as a 0.75 percent solution with hand-held equipment to control existing
Mullein, common Verbascum thapsus Napiergrass Pennisetum purpureum Nutsedge: purple, yellow Cyperus rotundus, Cyperus esculentus	these conditions, allow for regrowth to the 7- to 10-leaf stage prior to retreatment.  Apply 4.5 pints of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the late bud-to-flower stage of growth.  See General Recommendation (Section 16.3)  See General Recommendation (Section 16.3)  Apply 4.5 pints of this product per acre as a broadcast spray, or as a 0.75 percent solution with hand-held equipment to control existing nutsedde plants and immature
Mullein, common Verbascum thapsus Napiergrass Pennisetum purpureum Nutsedge: purple, yellow Cyperus rotundus, Cyperus esculentus	these conditions, allow for regrowth to the 7- to 10-leaf stage prior to retreatment.  Apply 4.5 pints of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the late bud-to-flower stage of growth.  See General Recommendation (Section 16.3)  See General Recommendation (Section 16.3)  See General Recommendation (Section 16.3)  Apply 4.5 pilits of this product per acre as a broadcast spray, or as a 0.75 percent solution with hand-held equipment to control existing nutsedge plants and immature on tests attached to treated plants.  Apply when target plants are in
Mullein, common Verbascum thapsus Napiergrass Pennisetum purpureum Nutsedge: purple, yellow Cyperus rotundus, Cyperus esculentus	these conditions, allow for regrowth to the 7- to 10-leaf stage prior to retreatment.  Apply 4.5 pints of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the late bud-to-flower stage of growth.  See General Recommendation (Section 16.3)  See General Recommendation (Section 16.3)  Apply 4.5 pints of this product per acre as a broadcrst spray, or as a 0.75 percent solution with hand-held equipment to control existing nutsedge plants and immature outlets attached to treated plants.  Apply when target plants are in thower or when new cuttets can be
Mullein, common Verbascum thapsus Napiergrass Pennisetum purpureum Nutsedge: purple, yellow Cyperus rotundus, Cyperus esculentus	these conditions, allow for regrowth to the 7- to 10-leaf stage prior to retreatment.  Apply 4.5 pints of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the late bud-to-flower stage of growth.  See General Recommendation (Section 16.3)  See General Recommendation (Section 16.3)  Apply 4.5 pints of this product per acre as a broadcrest spray, or as a 0.75 percent solution with hand-held equipment to control existing nutsedge plants and immature anties attached to treated plants.  Apply when target plants are in 10 were or when new nutlets can be found at rhizoine tips. Nutlets which
Mullein, common Verbascum thapsus Napiergrass Pennisetum purpureum Nutsedge: purple, yellow Cyperus rotundus, Cyperus esculentus	these conditions, allow for regrowth to the 7- to 10-leaf stage prior to retreatment.  Apply 4.5 pints of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the late bud-to-flower stage of growth.  See General Recommendation (Section 16.3)  See General Recommendation (Section 16.3)  Apply 4.5 pints of this product per acre as a broadcast spray, or as a 0.75 percent solution with hand-held equipment to control existing nutsedge plants and immature coulds attached to created plants.  Apply when target plants are in thower or whan new coulters can be sound at rhizoine tips: Nutlets which have not germinated will not be
Mullein, common Verbascum thapsus Napiergrass Pennisetum purpureum Nutsedge: purple, yellow Cyperus rotundus, Cyperus esculentus	these conditions, allow for regrowth to the 7- to 10-leaf stage prior to retreatment.  Apply 4.5 pints of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the late bud-to-flower stage of growth.  See General Recommendation (Section 16.3)  See General Recommendation (Section 16.3)  Apply 4.5 pints of this product per acre as a broadcrest spray, or as a 0.75 percent solution with hand-held equipment to control existing nutsedge plants and immature anties attached to treated plants.  Apply when target plants are in 10 were or when new nutlets can be found at rhizoine tips. Nutlets which
Mullein, common Verbascum thapsus Napiergrass Pennisetum purpureum Nutsedge: purple, yellow Cyperus rotundus, Cyperus esculentus	these conditions, allow for regrowth to the 7- to 10-leaf stage prior to retreatment.  Apply 4.5 pints of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the late bud-to-flower stage of growth.  See General Recommendation (Section 16.3)  See General Recommendation (Section 16.3)  Apply 4.5 pints of this product per acre as a broadcrst spray, or as a 0.75 percent solution with hand-held equipment to control existing nutsedge plants and immature and test acreed to treated plants.  Apply when target plants are in thower or when new nutlets can be controlled and may germinate following treatment. Repeat treatments will be required for long-
Mullein, common Verbascum thapsus Napiergrass Pennisetum purpureum Nutsedge: purple, yellow Cyperus rotundus, Cyperus esculentus	these conditions, allow for regrowth to the 7- to 10-leaf stage prior to retreatment.  Apply 4.5 pints of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the late bud-to-flower stage of growth.  See General Recommendation (Section 16.3)  See General Recommendation (Section 16.3)  Apply 4.5 pints of this product per acre as a broadcrest spray, or as a 0.75 percent solution with hand-held equipment to control existing nutsedge plants and immature acties attached to treated plants.  Apply when target plants are in 10-lower or when new nutlets can be found at rhizoine tips. Nutlets which have not germinated will not be controlled and may germinate following treatment. Repeat treatments will be required for long-term control.
Mullein, common Verbascum thapsus Napiergrass Pennisetum purpureum Nutsedge: purple, yellow Cyperus rotundus, Cyperus esculentus  Orchardgrass	these conditions, allow for regrowth to the 7- to 10-leaf stage prior to retreatment.  Apply 4.5 pints of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the late bud-to-flower stage of growth.  See General Recommendation (Section 16.3)  See General Recommendation (Section 16.3)  Apply 4.5 pints of this product per acre as a broadcast spray, or as a 0.75 percent solution with hand-held equipment to control existing nutsedge plants and immature cutlets attached to treated plants.  Apply when target plants are in thower or when new nutlets can be cound at rhizoine tips. Nutlets which have not germinated will not be controlled and may germinate following treatment. Repeat treatments will be required for long-term control.
Mullein, common Verbascum thapsus Napiergrass Pennisetum purpureum Nutsedge: purple, yellow Cyperus rotundus, Cyperus esculentus	these conditions, allow for regrowth to the 7- to 10-leaf stage prior to retreatment.  Apply 4.5 pints of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the late bud-to-flower stage of growth.  See General Recommendation (Section 16.3)  See General Recommendation (Section 16.3)  Apply 4.5 pints of this product per acre as a broadcast spray, or as a 0.75 percent solution with hand-held equipment to control existing nutsedge pilaris and immature outlets attached to treated plants.  Apply when target plants are in rilower or when new cutlets can be cound at rhizoine tips: Nutlets which have not germinated will not be controlled and may germinate following treatment. Repeat treatments will be required for long-term control.
Mullein, common Verbascum thapsus Napiergrass Pennisetum purpureum Nutsedge: purple, yellow Cyperus rotundus, Cyperus esculentus  Orchardgrass	these conditions, allow for regrowth to the 7- to 10-leaf stage prior to retreatment.  Apply 4.5 pints of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the late bud-to-flower stage of growth.  See General Recommendation (Section 16.3)  See General Recommendation (Section 16.3)  Apply 4.5 pints of this product per acre as a broadcast spray, or as a 0.75 percent solution with hand-held equipment to control existing nutsedge plants and immature cutlets attached to treated plants.  Apply when target plants are in thower or when new nutlets can be cound at rhizoine tips. Nutlets which have not germinated will not be controlled and may germinate following treatment. Repeat treatments will be required for long-term control.

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Pampasgrass	Apply 4.5 to 6 pints per acre as a
Cortaderia jubata	broadcast spray, or 1 to 1.5 percent solution of this product with hand-
	held equipment when plants are
	actively growing.
Paragrass	See General Recommendation
Brachiaria mutica	(Section 16.3)
Phragmites**	For partial control of phragmites in
Phragmites spp.	Florida and the counties of other
	states bordering the Gulf of Mexico.
	apply 7.5 pints per acre as a
	broadcast spray or apply a 1.5 percent solution with hand-held
••	equipment. In other areas of the
	U.S., apply 4.5 to 6 pints per acre as
	a broadcast spray or apply a 1 to 1.5
	percent solution with hand-held
	equipment for partial control. For
	best results, treat during late summer
	or fall months when plants are
	actively growing and in full bloom.
	Due to the dense nature of the
	vegetation, which may prevent good spray coverage and uneven stages
	of growth, repeat treatments may be
	necessary to maintain control. Visual
	control symptoms will be slow to
	develop.
	A
Quackgrass Agropyron repens	Apply 3 to 4.5 pints of this product
Kikuyugrass Pennisetum clandestinum	per acre as a broadcast spray or as a 1.5 percent solution with hand-held
Muhly, wirestem Muhlenbergia	equipment when most quackgrass or
frondosa	wirestem muhly is at least 8 inches in
	height (3 to 4-leaf stage of growth)
	and actively growing. Allow 3 or
	more days after application before
	tillage.
Reed, giant	For control of giant reed and ice
Arundo donax	plant, apply a 1.5 percent solution of this product with hand-held
	equipment when plants are actively
	growing. For giant reed, best results
	are obtained when applications are
	made in late summer to fall.
Smartweed, swamp	See General Recommendation
Polygonum coccineum	(Section 16.3)
Spatterdock	Apply 7 pints of this product per acre
Nuphar luteum	as a broadcast spray or as a 1.0 percent solution with hand-held
	equipment. Apply when most plants
	are in full bloom. For best results,
	apply during the summer or fall
	months.
Starthistle, yellow	See General Recommendation
Centaurea solstitialis	(Section 16.3)
Sweet potato, wild*	Apply this product as a 1.5 percent
Ipomoea pandurata	solution using hand-held equipment.  Apply to actively growing weeds that
	are at or beyond the bloom stage of
	growth. Repeat applications will be
	required. Allow the plant to reach the
	recommended stage of growth
	before re-treatment.
Thistle, artichoke	A male O An A C minter of Alein annulum
	Apply 3 to 4.5 pints of this product
Cynara cardunculus	per acre as a broadcast spray or as a
Cynara cardunculus Thistle, Canada	per acre as a broadcast spray or as a 1.5 percent solution with hand-held
Cynara cardunculus	per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment for Canada thistle. To
Cynara cardunculus Thistle, Canada	per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment for Canada thistle. To control artichoke thistle, apply a 2
Cynara cardunculus Thistle, Canada	per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment for Canada thistle. To control artichoke thistle, apply a 2 percent solution as a spray to wet
Cynara cardunculus Thistle, Canada	per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment for Canada thistle. To control artichoke thistle, apply a 2 percent solution as a spray to wet application. Apply when target plants
Cynara cardunculus Thistle, Canada	per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment for Canada thistle. To control artichoke thistle, apply a 2 percent solution as a spray to wet
Cynara cardunculus Thistle, Canada	per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment for Canada thistle. To control artichoke thistle, apply a 2 percent solution as a spray to wet application. Apply when target plants are actively growing and are at or
Cynara cardunculus Thistle, Canada Cirsium arvense	per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment for Canada thistle. To control artichoke thistle, apply a 2 percent solution as a spray to wet application. Apply when target plants are actively growing and are at or beyond the bud stage of growth. Apply 6 to 7.5 pints of this product per acre as a broadcast spray or as a
Cynara cardunculus Thistle, Canada Cirsium arvense  Torpedograss*	per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment for Canada thistle. To control artichoke thistle, apply a 2 percent solution as a spray to wet application. Apply when target plants are actively growing and are at or beyond the bud stage of growth.  Apply 6 to 7.5 pints of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held
Cynara cardunculus Thistle, Canada Cirsium arvense  Torpedograss*	per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment for Canada thistie. To control artichoke thistle, apply a 2 percent solution as a spray to wet application. Apply when target plants are actively growing and are at or beyond the bud stage of growth.  Apply 6 to 7.5 pints of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment to provide partial control
Cynara cardunculus Thistle, Canada Cirsium arvense  Torpedograss*	per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment for Canada thistie. To control artichoke thistle, apply a 2 percent solution as a spray to wet application. Apply when target plants are actively growing and are at or beyond the bud stage of growth.  Apply 6 to 7.5 pints of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment to provide partial control of torpedograss. Use the lower rates
Cynara cardunculus Thistle, Canada Cirsium arvense  Torpedograss*	per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment for Canada thistle. To control artichoke thistle, apply a 2 percent solution as a spray to wet application. Apply when target plants are actively growing and are at or beyond the bud stage of growth.  Apply 6 to 7.5 pints of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment to provide partial control of torpedograss. Use the lower rates under terrestrial conditions, and the
Cynara cardunculus Thistle, Canada Cirsium arvense  Torpedograss*	per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment for Canada thistle. To control artichoke thistle, apply a 2 percent solution as a spray to wet application. Apply when target plants are actively growing and are at or beyond the bud stage of growth. Apply 6 to 7.5 pints of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment to provide partial control of torpedograss. Use the lower rates under terrestrial conditions, and the higher rates under partially
Cynara cardunculus Thistle, Canada Cirsium arvense  Torpedograss*	per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment for Canada thistle. To control artichoke thistle, apply a 2 percent solution as a spray to wet application. Apply when target plants are actively growing and are at or beyond the bud stage of growth.  Apply 6 to 7.5 pints of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment to provide partial control of torpedograss. Use the lower rates under partially submerged or a floating mat
Cynara cardunculus Thistle, Canada Cirsium arvense  Torpedograss*	per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment for Canada thistie. To control artichoke thistle, apply a 2 percent solution as a spray to wet application. Apply when target plants are actively growing and are at or beyond the bud stage of growth.  Apply 6 to 7.5 pints of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment to provide partial control of torpedograss. Use the lower rates under terrestrial conditions, and the higher rates under partially submerged or a floating mat condition. Repeat treatments will be
Cynara cardunculus Thistle, Canada Cirsium arvense  Torpedograss* Panicum repens	per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment for Canada thistle. To control artichoke thistle, apply a 2 percent solution as a spray to wet application. Apply when target plants are actively growing and are at or beyond the bud stage of growth.  Apply 6 to 7.5 pints of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment to provide partial control of torpedograss. Use the lower rates under terrestrial conditions, and the higher rates under partially submerged or a floating mat condition. Repeat treatments will be required to maintain such control.
Cynara cardunculus Thistle, Canada Cirsium arvense  Torpedograss*	per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment for Canada thistie. To control artichoke thistle, apply a 2 percent solution as a spray to wet application. Apply when target plants are actively growing and are at or beyond the bud stage of growth.  Apply 6 to 7.5 pints of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment to provide partial control of torpedograss. Use the lower rates under terrestrial conditions, and the higher rates under partially submerged or a floating mat condition. Repeat treatments will be

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	beyond the seedhead stage of growth. After application, visual symptoms will be slow to appear and may not occur for 3 or more weeks.
Velvetgrass Holcus spp.	See General Recommendation (Section 16.3)
Waterhyacinth Eichhornia crassipes	Apply 5 to 6 pints of this product per acre as a broadcast spray or apply a 1 percent solution with hand-held equipment. Apply when target plants are actively growing and at or beyond the early bloom stage of growth. After application, visual symptoms may require 3 or more weeks to appear with complete necrosis and decomposition usually occurring within 60 to 90 days. Use the higher rates when more rapid visual effects are desired.
Waterlettuce Pistia stratiotes	For control, apply a 1.0 – 1.5 percent solution using hand-held equipment to actively growing plants. Use higher rates where infestations are heavy. Best results are obtained from mid-summer through winter applications. Spring applications may require retreatment.
Waterprimrose Ludwigia spp.	Apply this product as a 1.0 percent solution using hand-held equipment. Apply to plants that are actively growing at or beyond the bloom stage of growth, but before fall color changes occur. Thorough coverage is necessary for best control.

#### **WOODY BRUSH AND TREES (16.4)**

General application instructions for Woody Brush and Trees:

- Do not treat trees that have been cut or brush that has been mowed or tilled until sufficient leaf area has developed from regrowth.
- For selecting an adjuvant refer to the adjuvant (Section 7.2)
- Ensure thorough coverage when using hand-held equipment.
- Apply when plants are actively growing, and unless otherwise directed, after leaves have fully expanded.
- Use the higher application rates for vines that have reached the woody stage of development.
- In general, best results are obtained when application is made in late summer or fall after fruit formation. In arid areas, however, best results are obtained when brush species are at high moisture content and are flowering in spring or early summer.
- Allow 7 or more days after application before disturbing treated vegetation by operations such as tillage, mowing or removal.
- Plants that regenerate from underground parts or seed may require retreatment.
- Application to undesirable deciduous species with some autumn color is acceptable provided major leaf drop has not occurred.
- Treatments following a fall frost may recult in reduced performance.

Refer to "DIRECTIONS FOR USE" (Section 5), "GENERAL INFORMATION" (Section 7), and "ARRLICATION INFORMATION" (Section 8) in this label for specific uses and application instructions.

Rage herbicide will control or partially control the following woody brush plants and trees when applied as recommended in the following list of species. Applied as a 5 to 8 percent solution in a low volume directed spray as described in the "HAND-HELD AND HIGH-VOLUME EQUIPMENT" Section, this product will control or partially control all species listed in this Section of this label. Use the higher rate of application for dense stands and larger woody brush and trees.

**General Recommendation: (16.5)** Species without a specific recommendation in the list can be partially controlled by applying 3 to 7.5 pints of this product per acre as a broadcast spray, or as a 0.75 to 2.0 percent solution with band-held equipment

0.75 to 2.0 percent solution with hand-held equipment. Weed (Brush and Trees) Recommendation Alder Alnus spp. For control, apply 4.5 to 6 pints per Blackberry Rubus spp. acre as a broadcast spray or as a Dewberry Rubus trivialis 0.75 to 1.25 percent solution with Honeysuckle Lonicera spp. hand-held equipment. Post oak Quercus stellata Raspberry Rubus spp. See General Recommendation Ash Fraxinus spp. (Section 16.5) Aspen, quaking Populus tremuloides For control, apply 3 to 4.5 pints of Hawthorn Crataegus spp. this product per acre as a broadcast Trumpetcreeper Campsis radicans spray or as a 0.75 to 1.25 percent solution with hand-held equipment. Bearclover, Bearmat See General Recommendation Chamaebatia foliolosa (Section 16.5) For control, apply 3 pints per acre of Birch Betula sop Elderberry Sambucus spp. this product as a broadcast spray or Salmonberry Rubus spectabilis as a 3/4 percent solution with hand-Thimbleberry Rubus parviflorus held equipment Bitter cherryPrunus emarginata For control, apply 3 to 7.5 pints of Black cherryPrunus serotina this product per acre as a broadcast Pin cherry Prunus pensylvanica spray or as a 1 to 1.5 percent solution with hand-held equipment. Southern red oak Quercus falcate Sweet gum Liquidambar styraciflua Prunus Prunus spp. See General Recommendation Black oak (Section 16.5) Quercus velutina Buckwheat, California\* Eriogonum For partial control of these species fasciculatum apply 3 to 7.5 pints of this product Hasardia\* Haplopappus squamosus per acre as a broadcast spray or a 1 Monkey Flower\* Mimulus guttatus Tobacco, tree\* Nicotiana glauca to 1.5 percent solution with handheld equipment. Thorough coverage of foliage is necessary for best results. Cascara\* See General Recommendation Rhamnus purshiana (Section 16.5) For partial control, apply a 1.25 to 1.5 Catsclaw\* Acacia greggi percent solution with hand-held equipment when at least 50 percent of the new leaves are fully developed. Ceanothus See General Recommendation Ceanothus spp. (Section 16.5) For control, apply 5 to 6.5 pints of Coyote brush Bacharis consanguinea this product as a broadcast spray or a 1.25 to 1.5 percent solution with hand-held equipment when at least 50 percent of the new leaves are fully developed Creeper, Virginia\* See General Recommendation (Section 16.5) Parthenocissus quinquefolia For partial control, apply 4 to 8 pints Dogwood Cornus spp. of this product per acre as a Hickory Carya spp. Salt cedar\* Tamarix spp. broadcast spray or as a 1 to 2 percent solution of this product with hand-held equipment. Elm\* See General Recommendation (Section 16.5) Ulmus spp Eucalyptus, bluegum For control of eucalyptus resprouts, Eucalyptus globulus apply a 1.5 percent solution of this product with hand-held equipment when resprouts are 6 to 12-feet tall. Ensure complete coverage. Apply when plants are actively growing. Avoid application to drought-stressed plants. French broom For control, apply 3 to 8 pints of this Cytisus monspessulanus product per acre or as a 1.25 to 1.5 Scotch broom percent solution with hand-held Cytisus scoparius equipment. Holly, Florida; Brazilian Peppertree For partial control, apply 4 to 8 pints Schinus terebinthifolius of this product per acre, or as a 1 to Waxmyrtle, southern\* 1.5 percent solution with hand-held Myrica cerifera equipment. See General Recommendation Hornbeam, American Carpinus caroliniana (Section 16.5) For control, apply 6.5 to 8 pints of Kudzu this product per acre as a broadcast Pueraria lobata spray or as a 1.5 percent solution with hand-held equipment. Repeat

	applications will be required to control.
Locust, black* Robinia pseudoacacia	See General Recommendation (Section 16.5)
Manzanita Arctostaphylos spp	See General Recommendation (Section 16.5)
Persimmon* Diospyros spp.	See General Recommendation (Section 16.5)
Poison Ivy Rhus radicans	For control, apply 6.5 to 8 pints of this product per acre as a broadcast
Poison Oak  Rhus toxicodendron	spray or as a 1.5 percent solution with hand-held equipment. Repeat
Tand toxioodendron	applications may be required to maintain control. Fall treatments
	must be applied before leaves lose green color.
Poison sumac* Rhus vernix	See General Recommendation (Section 16.5)
Poplar, yellow*	See General Recommendation
Liriodendron tulipifera Red maple Acer rubrum	(Section 16.5) For control, apply 4 to 6 pints of this
Northern pin oak Quercus palustris Red oak Quercus rubra	product per acre as a broadcast spray or as a 1 to 1.25 percent
	solution with hand-held equipment when leaves are fully developed. For
	partial control, apply 1.75 – 3.25
	quarts of this product per acre as a broadcast spray.
Rose, multiflora Rosa multiflora	For control, apply 4 pints of this product per acre as a broadcast
	spray, or as a 1- 1.5 percent solution with hand-held equipment.
	Treatments should be made prior to
	leaf deterioration by leaf-feeding insects.
Russian-olive Elaeagnus angustifolia	See General Recommendation (Section 16.5)
Sage: black, white Salvia spp Sagebrush, California Artemisia	For control of these species apply 4 to 6 pints of this product per acre as
californica Chamise Adenostoma fasciculatum	a broadcast spray or a 1 percent solution with hand-held equipment.
Tallowtree, Chinese Sapium	Thorough coverage of foliage is
Saltbush, Sea myrtle	necessary for best results.  For control, apply this product as a 1
Baccharis halimifolia	percent solution with hand-held equipment.
Sassafras Sassafras aibidum	See General Recommendation (Section 16.5)
Smooth sumac* Rhus glabra	See General Recommendation (Section 16.5)
Sourwood* Oxdendrum arboreum	See General Recommendation (Section 16.5)
Sugar maple	For control, apply as a 0.75 to 1.25
Acer saccharum	percent solution with hand-held equipment when at least 50 percent
	of the new leaves are fully developed.
Swordfern* Polystichum munitum	See General Recommendation (Section 16.5)
Vine maple*	See General Recommendation
Acer circinatum White oak *	(Section 16.5) See General Recommendation
Quercus alba Willow	(Section 16:5) CCCC For control, apply 5 to 6 pints of this
Salix spp.	product per acre as a broadcast spray or as a 1 percent solution with
TAP:	_hand-held equipment
Winged sumac* Phus copallina	Sec General Recommendation (Section 16.5)

<sup>\*</sup>Partial control

FALLOW SYSTEMS (47.0)

Rage may be utilized in Fallow Cropping Systems only where crops are seeded and harvested on alternate years for solim pisture conservation.

Apply Rage herbicide by ground or aerially alone or with other herbicides in the fallow period prior to planting or the emergence of any crop or rotational crop listed on this label to control or suppress annual broadleaf and grass weeds. For best performance, make

applications to young and actively growing weeds up to 4 inches high or rosettes less than 3 inches across. Coverage is essential for good weed control.

Apply Rage herbicide at 16 to 40 fluid ounces per acre. A nonionic surfactant or crop oil concentrate must be used to enhance activity of Rage herbicide. For selecting an adjuvant refer to the adjuvant (Section 7.2).

When tank mixing Rage herbicide with other products, be sure the Rage herbicide is mixed in the spray tank water after dry formulations, if used. For specific mixing instructions, refer to the Mixing and Loading Instructions (Section 7.5).

Rage may be tank mixed with other herbicides to control weeds not listed on this label. Read and follow all manufacturers' label recommendations for the companion herbicide along with the recommendations on this label.

## BURNDOWN (18.0) (PREPLANT, PREEMERGENCE and AT-PLANT)

For Corn, Cotton, Cucurbits (transplanted), Flax, Fruiting Vegetables (transplanted), Grasses (Crop Group 17), Legume Vegetables (Crop Group 6), Okra (transplanted), Potatoes, Rice, Small Grains, Soybeans, Sorghum, Strawberries (transplanted), Sunflowers.

Apply Rage herbicide alone or with other herbicides or liquid fertilizers as a burn-down treatment prior to planting or within 24 hours after planting of labeled crops to control or suppress grass and broadleaf weeds. For best performance, make applications to actively growing weeds up to 4 inches high or rosettes less than 3 inches across. Coverage is essential for good control. A nonionic surfactant or crop oil concentrate must be used to enhance activity of Rage herbicide. For selecting an adjuvant refer to the adjuvant (Section 7.2).

When tank mixing Rage herbicide with other products, be sure the Rage herbicide is mixed in the spray tank water after dry formulations, if used. When tank mixing with fertilizer solutions be sure to use a Rage herbicide slurry mixture. For specific mixing instructions, refer to the Mixing and Loading Instructions (Section 7.5).

Rage may be tank mixed with other herbicides to control weeds not listed on this label, however mixing with a contact herbicide such as glufosinate, diquat or paraquat based products is not recommended. Read and follow all manufacturers' label recommendations for the companion herbicide along with the recommendations on this label.

#### Precautions for Plastic Beds or Mulch

When applying Rage herbicide prior to transplanting crops into plastic mulch, care must be taken to remove residues of Rage herbicide from the plastic prior to transplanting.

#### **SPOT TREATMENT (19.0)**

Rage may be applied as a spot treatment for the control of weeds in the following crops: citrus, corn, cotton, sorghum, soybeans, barley, buckwheat, millet, pome fruits, rye, stone fruits, tree nuts, triticale and wheat.

Refer to the "HAND-HELD and HIGH-VOLUME EQUIPMENT" Section (Section 8.6) for additional information and dilution charts Spot Treatment Mixing Chart

#### Amount of Rage herbicide

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DESIRED VOLUME	3/4%	1%	1-1/4%	1-1/2%	5%	8%
1 Gal.	1 oz.	1-1/3 oz.	1-2/3 oz.	2 oz.	6 oz.	10-1/4 oz.
25 Gal.	1-1/2 pt.	1 qt.	1-1/4 qt.	1-1/2 qt.	5 qt.	2 gal.
100 Gal.	3 qt.	1 gal.	1-1/4 gal.	1-1/2 gal.	5 gal.	8 gal.

#### 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 and add the correct amount of surfactant.

#### Restrictions

Treatments must be made prior to:

1) Seed head formation in grains

2) Pod set in soybeans

3) Boll opening in cotton.

#### **HOODED SPRAYER APPLICATIONS (19.1)**

Rage herbicide may be applied to the following crops using hooded sprayers in accordance with specific use directions as stated in the following Directions for Use Section.

Corn, Cotton, Peanuts, Sugarcane, Barley, Buckwheat, Millet, Rye, Oats, Soybean, Triticale, Wheat, Calamondin, Chironja, Citron, Grapefruit, Kumquat, Lemon, Lime, Mandarin Orange, Orange, Pummelo, Tangelo, Tangors, Almond, Beechnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert, Hickory nut, Macadamia, Pecan, Walnut, Grapes, Kiwi, Apple, Apricot, Cherry (sweet and sour), Loquat, Mayhaw, Nectarine, Olive, Peach, Pear, Plum, Prune, Quince, Artichoke(Jerusalem), Beans, Beet greens, Beets(red and sugar), Broccoli, Brussels sprouts, Cabbage, Chinese cabbage, Cantaloupe, Carrot, Cauliflower, Casaba melon, Celeriac, Celery, Chard(Swiss), Chicory, Collards, Crenshaw melon, Cucumber, Egg plant, Endive (escarole), Garlic, Gourds, Groundcherry, Melon (honeydew and honeyball), Horseradish, Kale, Kohlrabi, Leek,

Lentils, Lettuce, Mango melon, Melons (all), Muskmelon, Mustard greens, Okra, Onion, Parsley, Parsnips, Peas, Pepper, Persian melon, Potato(Irish and sweet), Pumpkin, Radish, Rape greens, Rhubarb, Shallot, Spinach, Squash(summer and winter), Tomatillo, Tomato, Turnip, Watermelon, Yams, Blackberry, Boysenberry, Cranberry, Currant, Elderberry, Gooseberry, Huckleberry, Raspberry(red and black), Forage grasses, Acerola, Atemoye, Avocado, Banana, Canistel, Cherimoya, Cocoa beans, Coffee, Dates, Figs, Guava, Jaboticaba, Longan, Luchee, Mango, Papaya, Passion fruit, Persimmons, Pomegranate, Sapodilla, Sapote(black, mamey) Sugarapple, Tea.

#### **Directions for Use:**

Rage herbicide may be applied with hooded sprayers to control labeled weeds between the rows of the above listed crops. This treatment may be made to crops grown in rows, and includes crops grown in rows where mulch or plastic barriers are used as a weed control tool in the drill or plant line. Rage may be applied at rates up to 40 ounces per broadcast acre not to exceed the amount listed in the Maximum Allowable Rage Use Table above, in a minimum of 10 gallons per acre of finished spray. Rage may be tankmixed with other pesticides registered for this treatment pattern.

For best performance, make application to actively growing weeds up to 4 inches tall and rosettes less than 3 inches across. **Coverage** is essential for good control. Use a nonionic surfactant at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient or a petroleum or vegetable seed based crop oil concentrate at 1.5 to 2.0 pints per acre.

Hooded sprayers must be designed, adjusted and operated in such a manner as to prevent any spray deposition to green stem, leaf tissue, flowers or fruit of the crop. The hooded sprayer should be designed and operated so as to totally enclose the spray pattern. Sprayers should be operated in such a manner as to minimize vertical movement such as bouncing or the raising of the equipment during application. Sprayers should not be operated in excess of five (5) miles per hour to minimize such bouncing. Extreme care must be taken during operations in fields where there is undulation of the soil surface, deep furrows, drains or other contours which would disturb the adjustment and positioning of the spray equipment and/or the spray pattern. Applications must not be made when wind conditions are such that spray patterns may be disturbed and result in spray deposition to sensitive plants or plant parts.

#### Precautions:

Crop injury will occur when spray is allowed to come in contact with the leaves, green stem tissue, flowers or fruit of the crop.

#### Restrictions:

Do not apply more than 40 fluid ounces during the preplant timing and no more than 80 fluid ounces in season as a covermiddle application. Do not apply more than 120 fluid ounces per crop season as a hooded sprayer application.

Do not apply within 14 days of harvest.



#### **HARVEST AID APPLICATION (20.0)**

Rage herbicide may be applied to cotton, soybeans, and the cereal grain crops (corn, grain sorghum, wheat) to defoliate the mature crop (non-glyphosate tolerant) and/or desiccate troublesome grass and broadleaf weeds such as morningglories, pigweeds, velvetleaf and others that may be present at harvest. Rage herbicide may be used alone or as a tank mixture with other harvest aids (see Section 7.5 for mixing instructions).

Applications should be made when the crop is mature and the grain has—begun to dry down, or according to Extension Service recommendations in the use area. Apply Rage herbicide as a broadcast spray at rates not to exceed the maximum allowable amount found in the MAXIMUM ALLOWABLE RAGE HERBICIDE USE TABLE (Section 13.0).

Applications should be made with a sufficient spray volume that provides complete foliar coverage. Use a minimum of 10 gallons of finished spray per acre for ground application and 5 gallons per acre for aerial application (Section 8.0).

A nonionic surfactant or crop oil concentrate must be used to enhance activity of Rage herbicide. For selecting an adjuvant refer to the adjuvant (Section 7.2).

Do not apply more than 26 fluid ounces of this product per acre per season to wheat.

Rage may be tank mixed with other herbicides to control weeds not listed on this label. Read and follow all manufacturers' label recommendations for the companion herbicide along with the recommendations on this label.

#### CANE BERRY (21.0)

Cane berry (Including but not limited to Blackberry, Boysenberry, Black Raspberry, Red Raspberry, cultivars and/or hybrids of these)

#### **Hooded Sprayer Applications**

Rage may be applied with hooded sprayers to control labeled weeds between the rows of the crop. Refer to the Hooded Sprayer Applications Section of this label for additional specific use directions (Section 8.4).

For berries, hooded or shielded applicators must be fully enclosed including tops, sides, back and front. Only shielded applicators that prevent all contact between herbicide and crops may be used.

#### Post-Directed Application for Weed Control

Rage may be applied at 10 to 32 ounces per acre as a directed spray for weed control using a minimum of 10 gallons of finished spray per acre. For best performance, make applications to actively growing weeds up to 4 inches tall and rosettes less than 3 inches across.

#### Do not allow the spray pattern to contact canes.

#### **Band Treatment Applications**

For band treatment, apply the broadcast equivalent rate and volume per acre. To determine these:

Band Width

In inches Broadcast

Row Width Per Acre

low Width Per Aci

In inches

Band Width

In inches Broadcast

Row Width Per Acre = Banded volume

In inches

Coverage is essential for good control. A nonionic surfactant or crop oil concentrate must be used to enhance activity of Rage

herbicide. For selecting an adjuvant refer to the adjuvant (Section 7.2).

Do not apply when conditions favor drift exist or wind is above 10 mph.

Do not apply more than 272 oz/acre per season

Do not apply within 30 days of harvest of cranberries.

Do not apply within 14 days of harvest of other berries.

For control of additional broadleaf weeds and grasses, Rage herbicide may be tank mixed with other herbicides registered for use in caneberries. When tank mixing Rage herbicide with other products, be sure the Rage herbicide is mixed in the spray tank water after dry formulations, if used. For specific mixing instructions, refer to the Mixing and Loading Instructions (Section 7.5).

#### Chemical Mowing or Row-middle

Hooded sprayer applications can be made to control or suppress both annual and perennials weeds between the row. Weeds should be actively growing and not under stress. The following perennial grasses grown as ground cover between rows in tree crops may be suppressed: Bermudagrass, tall fescue, orchardgrass, Kentucky bluegrass, and quackgrass.

Apply 3-4 fluid ounces of Rage in 10-20 gallons of water per acre to suppress tall fescue, fine fescue, orchardgrass and quackgrass. Kentucky bluegrass ground covers require 4 fluid ounces of product per acre. Do not use Ammonium Sulfate with Rage alone or in tankmixtures.

A mowing to attain an even height of the cool season grass covers is suggested 3-4 days before application.

#### **BUSH BERRY (22.0)**

(Including but not limited to Blueberry, highbush and lowbush, Currant, Elderberry, Gooseberry, Huckleberry)

#### **Dormant Applications**

Apply a broadcast application of Rage herbicide to the base of the main trunk to control actively growing weeds during the dormant stage of the crop.

### **Hooded Sprayer Applications**

Rage may be applied with hooded sprayers to control labeled weeds between the rows of the crop during the vegetative growth stage of the crop. Refer to the Hooded Sprayer Applications Section (Section 8.4) of this label for additional specific use directions.

For berries, hooded or shielded applicators must be fully enclosed including tops, sides, back and front. Only shielded applicators that prevent all contact between herbicide and crops may be used.

#### Postemergent Weed Control of Broadleaf Weeds

Rage herbicide is for post-emergence weed control of certain susceptible broadleaf weeds when used alone or in combination with other herbicides. Apply Rage herbicide at 20 to 40 ounces per acre for control of susceptible broadleaf weeds. The lower rate is for small seedling weeds at the two to three leaf stage; higher rates are needed for larger weeds up to the six-leaf stage. Applications to weeds beyond the six-leaf stage may result in only partial control.

Rage may be mixed with other herbicides that have pre-emergence or post-emergence activity. Any pre-emergence activity must rely on activity from other herbicides as directed on their labels. Contact herbicides may be tank mixed with Rage herbicide to obtain a broader spectrum of weeds controlled (see Section 7.5 for tank mixing instructions). If Rage herbicide is used in a tank mixing refer to the other product labels for all restrictions on tank mixing and observe all label precautions, instructions and rotational cropping restrictions.

Coverage is essential for good control? Use a spray volume adequate to get thorough coverage and use a minimum of 10 gallons of finished spray per acros. Apply only with ground equipment. Applications may be made with boom equipment, shielded or hooded sprayers, hand-held and high volume wands or orchard guns. Control is enhanced with the addition of a nonionic or crop oil concentrate surfactants. A nonionic surfactant or crop oil concentrate must be used to enhance activity of Rage herbicide. For selecting an adjuvant refer to the adjuvant (Seption 7.2).

#### Chemical Mowing or Row-middle

Hooded sprayer applications can be made to control or suppress both annual and perennials weeds between the row. Weeds should be actively growing and not under stress. The following perennial

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grasses grown as ground cover between rows in tree crops may be suppressed: Bermudagrass, tall fescue, orchardgrass, Kentucky bluegrass, and quackgrass.

Apply 3-4 fluid ounces of Rage in 10-20 gallons of water per acre to suppress tall fescue, fine fescue, orchardgrass and quackgrass. Kentucky bluegrass ground covers require 4 fluid ounces of product per acre. Do not use Ammonium Sulfate with Rage alone or in tankmixtures.

A mowing to attain an even height of the cool season grass covers is suggested 3-4 days before application.

#### Precautions

Extreme caution must be taken during applications when desirable fruit or foliage are present to avoid fruit spotting or leaf necrosis. Do not allow spray pattern of Rage herbicide to contact with desirable fruit or foliage. On seedling or newly transplanted bushes do not allow spray pattern to contact green bark of trunk area.

#### Restrictions

Do not apply within 14 day of harvest.

Do not apply more than 40 ounces during the dormant stage, and 80 ounces in season as a row middle application. Do not apply more than 120 ounces per crop season.

#### **CORN (23.0)**

## Field Corn, Seed Corn, Popcorn, Corn Silage, and Sweet Corn (Processing and Fresh Market)

Apply Rage herbicide alone or as a tank mixture with other herbicides to emerged and actively growing weeds. Apply to corn in all tillage systems from 30 days before planting up to 8 leaf collar growth stage. Do not apply when conditions favoring drift exist or wind is above 10 mph.

#### Coverage is essential for good control.

Use a nonionic surfactant at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient. Under dry conditions the use of a crop oil concentrate may improve weed control. The use of a crop oil concentrate may increase leaf speckling on the treated corn leaves. For best performance, make application to actively growing weeds up to 4 inches high and rosettes less than 3 inches across.

Sprayers should be adjusted to position spray tips a minimum of 18 inches above the crop and operated to avoid the application of excessive herbicide rates directly over the rows and/or into the whorl of the corn plant. Be aware that overlaps and slower ground speeds while starting, stopping or turning while spraying may result in higher application rates and possible crop response.

#### Preplant, Preemergence and At-Plant

Apply Rage herbicide alone, with other herbicides or liquid fertilizers as a burn-down treatment prior to planting or corn emergence to control or suppress grass and broadleaf weeds. For best performance, make applications to actively growing weeds up to 4 inches high or rosettes less than 3 inches across. **Coverage is essential for good control.** A nonionic surfactant or crop oil concentrate must be used to enhance activity of Rage herbicide. For selecting an adjuvant refer to the adjuvant (Section 7.2).

When tank mixing Rage herbicide with other products, be sure the Rage herbicide is mixed in the spray tank water after dry formulations, if used. When tank mixing with fertilizer solutions be sure to use a Rage herbicide slurry mixture. For specific mixing instructions, refer to the Mixing and Loading Instructions (Section 7.5). For all products used in tank mixes, refer to the specific product labels for all restrictions on tank mixing and observe all label precautions, instructions and rotational cropping restrictions.

#### Hooded Sprayer Applications (Applications may be made to glyphosate tolerant and conventional varieties with hooded sprayers)

Rage may be applied with hooded sprayers to control labeled weeds between the rows of the crop. Refer to the Hooded Sprayer Applications Section (Section 8.4) for additional specific use directions.

Rage at 10 to 20 fluid ounces per acre. Use higher rates when weeds are under stress or are larger.

Applications should be made by ground equipment using a minimum finished spray volume of 10 gallons of spray per acre, or by air at a minimum finished spray volume of 3 gallons of spray per acre. Do not apply more than 99 fluid ounces of Rage herbicide per acre per season including fallow/preplant burndown and labeled crop applications.

#### **Tank Mixtures**

Rage may be tank mixed with other labeled herbicides to control weeds not listed on this label. Read and follow all manufacturers' label recommendations for the companion herbicide except for specific recommendations on this label. When tank mixing Rage herbicide with other products, be sure the Rage herbicide is mixed in the spray tank water after dry formulations, if used. For specific mixing instructions, refer to the Mixing and Loading Instructions (Section 7.5).

For control of additional broadleaf weeds and grasses, Rage herbicide may be tank mixed with 2,4-D (amine), Accente, Accent Golde, Atrazine, Banvele, Basise, Basis Golde, Beacone, Callisto, Clarity™, Distincte, Exceede, Hornete, Libertye, Lightninge, Marksmane, Northstar™, Permite, Poaste, Scorpione III, Sencore, Shotgune, Spirit™, Steadfast, Sterlinge and Toughe.

When tank mixing Rage herbicide with Accent, Accent Gold, Atrazine, Basis Gold, Liberty, Poasto, and Shotgun use adjuvants recommended on the tank mix partner label. These may include nonionic surfactant, crop oil concentrate, 28% nitrogen, ammonium sulfate or combinations of these.

# For Directed Spray Applications (Applications may be made to glyphosate tolerant and conventional varieties) Rage may be applied with drop nozzles or other sprayers capable of

Rage may be applied with drop nozzles or other sprayers capable of directing the spray to the target weeds and away from the corn plant. Do not allow spray contact to the crop when applying to conventional corn varieties, Rage herbicide may be used up to the maximum of 50 fluid ounces per acre using drop nozzles for control of larger weed sizes for those weeds listed below under "Control of Weeds". Use appropriate rates (see Section 7.2) of adjuvants such as non-ionic surfactant, crop oil concentrate or methylated seed oil.

#### **Seed Corn Production**

For seed production fields, apply Rage using drop nozzles or other equipment to make a directed spray treatment. Avoid directing spray solution into the whorl of glyphosate tolerant varieties. Avoid spray contact to the crop when applying to conventional corn varieties.

Seed corn inbreds have generally shown good tolerance to Rage herbicide, however, all inbreds have not been tested. Broadcast applications may result in spray being concentrated into the whorl of the plant, which will increase leaf response. To minimize application into the whorl of the plants, drop nozzles or other type directed sprayers must be used to direct the spray to the targeted weeds.

#### **Sweet Corn Production**

Rage may be applied to sweet corn; however, the user assumes all responsibility for herbicide tolerance. All hybrids/varieties have not been tested for sensitivity to Rage herbicide nor does FMC Corporation have access to all seed company or food processor data. Broadcast applications may result in spray being concentrated into the whorl of the plant, which will increase leaf response. To minimize application into the whorl of the plants, drop nozzles or other type directed sprayers must be used to direct the spray to the targeted weeds.

Therefore, to the extent consistent with applicable law, any crop response arising from the use of Rage herbicities on sweet corn is the responsibility of the user. Use Rage herbicide only under the recommendation of the seed company, food processor, or State Agricultural Extension Service.

#### **Tank Mixtures**

Rage may be tank mixed with Atrazine 4L (16 duid ounces per acre) or Atrazine 90DF (9 ounces per acre) or Dican.ba or 2,4-D (0.125 to 0.25 pounds active per acre, Banvel of Clarity (3 to 4 ounces per acre) for additional weed control, and for residual weed control. Higher rates of Atrazine, Banvel® or Clarity herbicides can be used, but do not exceed the recommunicationabel use rates allowed by these labels. For selecting an adjuvant refer to the adjuvant (Section 7.2).

#### Restriction

Do not apply Rage herbicide as a banded or broadcast treatment over the top of corn varieties not genetically tolerant to glyphosate herbicide.

#### **COTTON (24.0)**

#### Removal of Failed Cotton Stands

Rage at the rate of 20 to 32 ounces per acre broadcast as a foliar spray over the top of the remaining cotton plants and weeds with sufficient spray volume to provide coverage of the cotton plant, in particular the terminal area. **Coverage is essential for good control**. A nonionic surfactant or crop oil concentrate must be used to enhance activity of Rage herbicide. For selecting an adjuvant refer to the adjuvant (Section 7.2).

Rage may be tankmixed with Mustang MAX insecticide for the control of cutworms at this application timing.

Do not apply when conditions favoring drift exist or wind is above 10 mph.

#### **Hooded Sprayer Applications**

Rage may be applied with hooded sprayers to control labeled weeds between the rows of the crop. Refer to the Hooded Sprayer Applications Section (Section 8.4) for additional specific use directions.

#### Post-directed and Lay-by Application

Rage herbicide is a contact and systemic herbicide for postemergence directed sprayer or hooded/shielded sprayer applications for the control of broadleaf and grass weeds in cotton. Apply Rage herbicide alone or as a tank mixture with other herbicides to emerged and actively growing weeds. When tank - mixing Rage herbicide with other products, be sure the Rage herbicide is mixed in the spray tank water after dry formulations, if used. For specific mixing instructions, refer to the Mixing and Loading Instructions (Section 7.5).

Applications of Rage herbicide or Rage herbicide tank mixtures should be made with directed sprayers or hooded sprayers to prevent contact of spray solution with the cotton plant. Do not allow spray solution to contact cotton foliage or green stem tissue.

Directed spray equipment should position nozzles a minimum 3 to 4 inches above the soil, with nozzles directed beneath the crop canopy. Rage herbicide or Rage herbicide tank mix applications should be made to cotton that is a minimum of 6 inches in height. Applications to cotton at 5 to 6 nodes or less must be made with hooded or shielded sprayer equipment to completely avoid contact with cotton plants.

Lay-by applications of Rage herbicide or Rage herbicide tank mixtures at later growth stages of cotton may be made when cotton plants have achieved a height of 12 inches or more with sufficient bark development and height differential between crop bottom leaves and the soil. Spray solution should be directed at the base of cotton plants to avoid contact with green stem tissue or foliage while maintaining maximum contact with broadleaf weeds that are at appropriate treatment size.

Do not apply when conditions favoring drift exist or wind is above 10

For best performance, make application to actively growing weeds up to 4 inches tall and rosettes less than 3 inches across. **Coverage is essential for good control.** A nonionic surfactant or crop oil concentrate must be used to enhance activity of Rage herbicide. For selecting an adjuvant refer to the adjuvant (Section 7.2).

#### Rage Use Rates and Directions

Apply Rage herbicide at 20 to 52 ounces per acre as a post-directed treatment using a directed sprayer a hooded sprayer or lay-by sprayer using a minimum finished spray volume of 10 gallons per acre. Do not apply more than 160 fluid ounces of Rage herbicide per season by post-directed and lay-by applications.

For control of additional broadleaf weeds and grasses, Rage herbicide may be tank mixed with other herbicides such as Staple, Buctril, Caparol, Cotoran (or other products containing fluometuron), Karmex, MSMA, or other herbicides registered for cotton post-directed and/or lay-by applications. Refer to the other product's label for restrictions on tank mixing, and observe all label precautions, instructions and rotational cropping restrictions.



#### Harvest Aid Application

Rage herbicide may be applied as a harvest aid on non-glyphosate resistant cotton varieties for weed desiccation, cotton defoliation and regrowth control, and on glyphosate-resistant varieties for weed desiccation prior to harvest and on both types as a systemic perennial weed management tool.

Apply Rage herbicide at 25 to 52 oz product per acre using a quality spray adjuvant. NIS spray adjuvant is recommended when temperatures are consistently above 60 degrees F immediately prior to and after treatment. COC or other adjuvants that give enhanced leaf penetration capabilities are recommended for conditions below 60 degrees F before and after treatment. Applications must be made at 70% open bolls or according to local extension service recommendations.

Apply Rage herbicide in at least 10 gallons of spray solution per acre by ground or at least 5 gallons of spray solution per acre by air using equipment and parameters that optimize coverage and penetration of foliage. Coverage is essential for optimum defoliation potential. Repeat application of Rage herbicide at 25 to 32 oz of product per acre or Aim EC at 1 oz of product per acre with recommended adjuvants to remove any remaining foliage or to desiccate regrowth if necessary. Dense cotton canopy, large plant size, and environmental conditions not conducive to complete plant coverage may reduce initial application performance and increase the need for a second application.

Rage may be applied as a tank mix or as a sequential application with other cotton harvest aids. Rage Herbicide may be tank mixed with Dropp, Def, Finish, Prep, Folex, Harvade, Ginstar, CottonQuik, or other registered cotton harvest aid products.

Refer to the other product's label for restrictions on tank mixing, and observe all label precautions, instructions and rotational cropping restrictions.

#### **Precautions**

Apply broadcast to conventional cotton varieties only after desired boll load has matured, as applications made prior to this stage may reduce yield. Broadcast applications to glyphosate tolerant varieties may be made after 15 percent cracked boll stage.

#### Restrictions

Do not apply more than 208 ounces of Rage herbicide per acre per season.

Do not apply within 7 days of harvest.

Do not apply to cotton grown for seed production.

#### GRAIN SORGHUM (Grain and/or Forage) (25.0)

#### Burndown (Preplant, Preemergence and At-Plant)

Rage may be applied as a Burndown application; please refer to the Burndown Application Section of this label for additional specific use directions.

#### **Hooded Sprayer Applications**

Rage may be applied with hooded sprayers to control labeled weeds between the rows of the crop. Refer to the Hooded Sprayer Applications Section (Section 8.4) for additional specific use directions.

#### Restrictions

Do not apply after the 6 Leaf Cellars Do not apply Rage to sweet sorghum.

### GRAPE (Raisin, Table and Wine) (23.0)

Rage herbicide may be applied as a directed spray for postemergence weed control of susceptible broadlhaf weeds. Apply Rage herbicide alone or as a tank mixture with other herbicides to emerged and actively growing weeds to middlus (between rows of plants), and strips (in row of plants). Rage herbicide may be mixed with other herbicides that have pre-emergence or post-emergence activity. Any pre-emergence activity must rely on activity from other herbicides as directed on their labels. Apply Rage herbicide at 12 to 40 fluid ounces per acre. Rage herbicide may be applied at any time during the season (see precautions).

#### HOODED SPRAYER APPLICATIONS

Rage may be applied with hooded sprayers to control labeled weeds between the rows of the crop. Refer to the Hooded Sprayer Applications Section (Section 8.4) for additional specific use directions.

Equipment and Application: Coverage is essential for good control. Use a spray volume adequate to get thorough coverage and use a minimum of 10 gallons of finished spray per acre. Apply only with ground equipment. A nonionic surfactant or crop oil concentrate must be used to enhance activity of Rage herbicide. For selecting an adjuvant refer to the adjuvant (Section 7.2). Chemical Mowing or Row-middle

Hooded sprayer applications can be made to control or suppress both annual and perennials weeds between the row. Weeds should be actively growing and not under stress. The following perennial grasses grown as ground cover between rows in tree crops may be suppressed: Bermudagrass, tall fescue, orchardgrass, Kentucky bluegrass, and quackgrass.

Apply 3-4 fluid ounces of Rage in 10-20 gallons of water per acre to suppress tall fescue, fine fescue, orchardgrass and quackgrass. Kentucky bluegrass ground covers require 4 fluid ounces of product per acre. Do not use Ammonium Sulfate with Rage alone or in tankmixtures.

A mowing to attain an even height of the cool season grass covers is suggested 3-4 days before application.

For grapes, hooded or shielded applicators must be fully enclosed including tops, sides, back and front. Only shielded applicators that prevent all contact between herbicide and crops may be used.

Precautions: Extreme caution must be used during applications when desirable fruit or foliage are present in order to avoid fruit spotting or leaf necrosis. Do not allow spray mist of Rage herbicide to come in contact with desirable fruit or foliage. On seedling or newly transplanted vines do not allow spray to contact green bark of trunk area. Other herbicides may be more injurious to young vines than Rage herbicide and the precautions and restrictions on the labels of all tank-mix herbicides must be followed.

#### Restrictions

Do not apply more than 40 fluid ounces per application (including preplant site preparation) and 272 fluid ounces per season. Allow a minimum of 14 days between last application and harvest. If Rage herbicide is used in a tank mixture, observe the other product's label for restrictions, precautions, and rotational cropping instructions.

## MILLET: PROSO MILLET, PEARL MILLET (27.0)

#### Burndown (Preplant, Preemergence and At-Plant)

Rage may be applied as a Burndown application; please refer to the Burndown Application Section (Section 18) of this label for additional use directions.

#### **Spot Treatment**

Apply Rage herbicide as a spot treatment alone or as a tank mixture with other herbicides to emerged and actively growing weeds.

Refer to the "HAND-HELD and HIGH-VOLUME EQUIPMENT" Section for additional information and dilution charts. See Spot Treatment chart under Section 19.

For best performance, make application to actively growing weeds up to 4 inches tall and rosettes less than 3 inches across. For dense weed pressure, use the higher recommended rate plus tank mix combinations. **Coverage is essential for good control.** Use a nonionic surfactant at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient. A high quality

sprayable liquid nitrogen fertilizer (2-4% v/v or 2-4 gallons per 100 gallon spray solution) or ammonium sulfate (AMS) at the rate of 2-4 pounds per acre may be used in addition to the nonionic surfactant.

#### Restrictions

Do not harvest for forage within 56 days of application.

#### PASTURES: hay, forage and sod (28.0)

#### Pasture, forage, hay or sod crop renovation

Rage may be applied as a broadcast spray for the control of annual and perennial weeds prior to planting forage grasses. If application rates total 2.25 quarts per acre or less, no waiting period for feeding of livestock grazing is required. If the rate is greater than 2.25 quarts per acre, remove livestock before application and wait 8 weeks following application before grazing or harvest/hay operations.

#### **Spot Treatment**

Rage may be applied as a spot treatment for the control of annual and perennial weeds growing in pastures, hay, forage and sod grasses composed of including but not limited to bahiagrass, bermudagrass, bluegrass, brome, fescue, orchardgrass, ryegrass, timothy, wheatgrass, St Augustine and zoysia.

Refer to the "HAND-HELD and HIGH-VOLUME EQUIPMENT" Section (Section 8.6) for additional information and dilution charts.

See Spot Treatment chart under Section 19.

For best performance, make application to actively growing weeds up to 4 inches tall and rosettes less than 3 inches across. For dense weed pressure, use the higher recommended rate plus tank mix combinations. **Coverage is essential for good control**. A nonionic surfactant or crop oil concentrate must be used to enhance activity of Rage herbicide. For selecting an adjuvant refer to the adjuvant (Section 7.2).

# **SMALL GRAINS** (WHEAT, BARLEY, TRITICALE, RYE, RICE, BUCKWHEAT, TEOSINTE, WILD RICE AND OATS) (29.0)

#### Burndown (Preplant, Preemergence and At-Plant)

Rage may be applied as a Burndown application; please refer to the Burndown Application Section (Section 18.0) of this label for additional specific use directions.

#### **Spot Treatment**

Apply Rage herbicide as a spot treatment alone or as a tank mixture with other herbicides to emerged and actively growing weeds.

Refer to the "HAND-HELD and HIGH-VOLUME EQUIPMENT" Section (Section 8.6) for additional information and dilution charts.

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

For best performance, make application to actively growing weeds up to 4 inches tall and rosettes less than 3 inches across. For dense weed pressure, use the higher recommended rate plus tank mix combinations. Coverage is essential for good control. A nonionic surfactant or crop oil concentrate must be used to enhance activity of Rage herbicide. For selecting an adjuvant rafer to the adjuvant (Section 7.2).

#### Restrictions

Do not harvest wheat or feed barley for forage within 7 days of application.

Do not harvest triticale, rye or oats fur forage within 56 days of application.

#### **SOYBEANS (30.0)**

Apply Rage herbicide alone or as a tank mixture with other herbicides to emerged and actively growing weeds. Apply to soybeans in all tillage systems to active growing weeds prior to crop emergence. Do not apply when conditions favoring drift exist.

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For best performance, make application to actively growing weeds up to 4 inches high and rosettes less than 3 inches across. Use the higher level of listed rates when treating more mature weeds or dense vegetative growth. Coverage is essential for good control.

To control weeds not listed on this label, Rage herbicide may be tank mixed with other herbicides registered for use on soybeans. When tank mixing Rage herbicide with other products, be sure the Rage herbicide is mixed in the spray tank water after dry formulations, if used. For specific mixing instructions, refer to the Mixing and Loading Instructions (Section 7.5). Refer to the other product's label for restrictions on tank mixing, and observe all label precautions, instructions, and rotational cropping restrictions.

For additional information on crop response refer to the general information Section of the Rage herbicide label.

#### **Burndown (Preplant, Preemergence and At-Plant)**

Rage may be applied as a Burndown application; please refer to the Burndown Application Section (Section 18.0) of this label for additional specific use directions.

#### **Hooded Sprayer Applications (All Varieties)**

Rage may be applied with hooded sprayers to control labeled weeds between the rows of the crop. Refer to the Hooded Sprayer Applications Section (Section 8.4) for additional specific use directions.

#### For Directed Applications (All Varieties)

Use Rage herbicide at 20 to 73 fluid ounces per acre. Applications should be made by ground equipment using a finished spray volume of 10-20 gallons of spray per acre. When soybeans are grown under very dry soil moisture conditions, a high quality sprayable liquid nitrogen fertilizer (2-4% v/v or 2- 4 gallons per 100 gallon spray solution) may be used in addition to the nonionic surfactant. Apply as a post-directed treatment with spray directed toward the base of the plant and avoid contact with soybean foliage. The use of spray shields may reduce spray contact with soybean foliage. Rage herbicide contact with soybean foliage can result in significant crop response.

## **Broadcast Postemergence Applications (Glyphosate Tolerant Varieties Only)**

Apply Rage herbicide for the control of velvetleaf. Where soybeans of Group 3.5 or less (earlier maturing), use Rage herbicide at rates up to 12 fluid ounces per acre. Where soybeans of greater than Group 3.5 (later maturing), use Rage herbicide at rates up to 24 fluid ounces per acre.

Use a nonionic surfactant 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient.

#### Restrictions

Do not apply more than 73 fluid ounces total per season in burndown, directed and over the top application. Do not feed treated soybean forage or soybean hay to livestock.

Do not apply Rage during a period from emergence to V2. After plants have reached V3 applications can be made up to V10, using the proper application method.

Do not apply to soybeans after the V10 growth stage.

#### **Tank Mixtures**

Rage may be tank mixed with other herbicides to control weeds not listed on this label, with the exception of diphenylether herbicides. Read and follow all manufacturers' label recommendations for the companion herbicide except for specific recommendations on this label. When tank-mixing Rage herbicide with other products, be sure the Rage herbicide is mixed in the spray tank water after dry formulations, if used. For specific mixing instructions, refer to the Mixing and Loading Instructions (Section 7.5). Rage herbicide may be tank mixed with other herbicides. Refer to the Tank Mixtures and Recommended Adjuvants Sections (Sections 7.1 and 7.2).

### TREE FRUIT AND NUT CROPS (31.0)

Citrus Fruits including Calamondin, Citrus citron, chironja, tangelo, tangor, Grapefruit, Kumquat, Lemon, Lime, Mandarin (tangerine), Orange (sour), Orange (sweet), Pummelo, Satsuma mandarin

Pome Fruits to including Apple, Crabapple, Loquat, MayHaw, Pear, Pear (oriental), Quince

Stone Fruits including Apricot, Cherry (sweet), Cherry (tart), Nectarine, Peach, Plum, Plum (Chickasaw), Plum (Damson), Plum (Japanese), Plumcot, Prune (dormant applications only)

Nuts including Almond, Beech nut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (hazelnut), Hickory nut, Macadamia nut (bush nut), Pecan, Pistachio, Walnut (black and English)

#### **Weed Control**

Apply Rage herbicide for post-emergence weed control of target weeds, or in a tank mix combination with other herbicides . Rage alone provides no weed control through soil activity. Maintaining long-term weed control requires repeat applications as new weeds germinate and/or tank mixing with registered preemergence herbicide products. When tank mixing read and follow all label directions of all products used.

Apply Rage Herbicide at 20 to **99** fluid ounces per acre for control of emerged and actively growing weeds, referring to Sections 16.1 and 16.2 of this product label to select the appropriate use-rate. A nonionic surfactant or crop oil concentrate product must be used to maximize Rage Herbicide's performance. For selecting an adjuvant refer to Section 7.2, Adjuvants.

Rage Herbicide may be applied as directed for weed control in tree fruit and nut crops at any time during the year, except as noted in the Restrictions below

#### Restrictions

Rage Herbicide may not be applied during the fruiting cycle in Stonefruit Crop Group orchards, including cherries, apricots, peaches, plums and prunes. Do not use Rage Herbicide in stonefruit orchards during the interval from bud-burst until after harvest.

Rage Herbicide Rage Herbicide may not be applied during the fruiting cycle in Pome Fruit Crop Group orchards West of the Rocky Mountains. Do not use Rage Herbicide in Western pome fruit orchards during the interval from green tip/tight cluster until after harvest.

#### **Hooded Sprayer Applications**

Rage may be applied with hooded sprayers in middles between the tree rows to control weeds listed in Sections 16.1 and 16.2 of this label. Refer to the Hooded Sprayer Applications section (section 8.4) for additional use directions.

#### Tree Skirt Production Systems

Different productions systems dictate different Rage Herbicide application techniques. Skirted trees are grown to allow lower branches of the trees to touch the ground. Non-skirted trees are grown in production systems where branches are pruned up the trunk, allowing access to the root collar and lower trunk.

When using Rage in skirted production orchards/groves, the use of a hooded sprayer is required. When using Rage in non-skirted orchards/groves applications may be made with directed sprayers.

Regardless of the orchard production system, pruning method or the sprayer type utilized, do not allow Rage spray solution to contact green stem tissue, leaves, fruit or blooms.

#### **Equipment and Application**

Coverage is essential for good control. Use a rinished spray volume adequate for thorough coverage, applying a minimum of 10 gallons of finished spray per acre. Apply only with ground equipment. Applications may be made with boom equipment,



hooded sprayers, shielded sprayers, hand-held and high volume wands or orchard guns.

#### Chemical mowing or row middle

Applications can be made to control or suppress both annual and perennials weeds between the row. Weeds should be actively growing and not under stress. The following perennial grasses grown as ground cover between rows in tree crops may be suppressed: Bermudagrass, tall fescue, orchardgrass, Kentucky bluegrass, and quackgrass.

Apply 3-4 fluid ounces of Rage in 10-20 gallons of water per acre to suppress tall fescue, fine fescue, orchardgrass and quackgrass. Kentucky bluegrass ground covers require 4 fluid ounces of product per acre. Do not use Ammonium Sulfate with Rage alone or in tankmixtures.

A mowing to attain an even height of the cool season grass covers is suggested 3-4 days before application.

Rage can be used to inhibit seedhead emergence and suppress vegetative growth of bahaigrass. Single applications will suppress vegetative growth for a period of approximately 45 days and sequential applications will suppress vegetative growth for approximately 120 days.

Application should be made at 1 to 2 weeks after full green-up of bahaigrass, prior to seedhead emergence or after the bahaigrass has been mowed to a uniform height of 3 to 4 inches. Apply 5 fluid ounces per acre of this product, plus 1 quart of an approved nonionic surfactant per 100 gallons of total spray volume in 10 to 25 gallons of water per acre.

Sequential applications of Rage may be required to extend chemical mowing activity 6-8 weeks after first application in other perennial grass covers.

#### **Precautions**

Caution must be used during applications to avoid contact of spray, spray drift or mist with foliage or green bark of trunk, branches, suckers, fruit, foliage or other parts of trees. Contact with other than matured brown bark can result in serious damage.

On seedling or newly transplanted trees do not allow spray to contact green bark or trunk area. Other herbicides may be more injurious to young trees than Rage herbicide; so, if tank mixtures are used, the most restrictive precautions and restrictions of all tank-mix herbicide labels must be followed.

#### Restrictions

Do not directly apply Rage Herbicide spray solution to tree suckers.

Do not apply more than **99** fluid ounces per application (including preplant site preparation) and **272** fluid ounces per season. If Rage herbicide is used in a tank mixture, observe the other product's label for restrictions, precautions, and rotational cropping instructions.

Do not apply to Citrus within 3 day of harvest.

Do not apply to Pome Fruits from green tip/tight cluster until after harvest West of the Rocky Mountains. East of the Rocky Mountains do not apply within 3 days of harvest.

Do not apply to Stone Fruits from bud burst until after harvest. Do not apply to Nut Trees within 3 days of harvest.

## MIXING AND APPLICATION INSTRUCTIONS (32.0)

PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT MUST BE USED FOR EFFECTIVE PRODUCT APPLICATION. AVOID SPRAYING DESIRABLE PLANTS BY CAREFULLY DIRECTING THE SPRAY OF HAND-GUN SPRAYERS. FOR BEST RESULTS DO NOT MIX WITH WATER FROM PONDS AND DITCHES THAT MAY CONTAIN SOIL.

#### Mixing (32.1)

Rage mixes readily with water. Fill the mixing or spray tank with ½ the required amount of water. Add the recommended amount of this product and complete filling the tank to the desired level (see

"DIRECTIONS FOR USE" (Section 5.0) and "WEEDS CONTROLLED (Section 16)" Sections of this label. The surfactant (e.g. adjuvant) should be added near the end of the filling process, and the solution should be mixed well through agitation. Remove hose from tank immediately after filling to avoid siphoning back into the water source.

To prevent or minimize foaming of the spray solution that may occur during mixing and application, avoid the use of mechanical agitators, place the filling hose below the surface of the spray solution, terminate by-pass and return lines at the bottom of the tank and if needed use an approved anti-foam or defoaming agent.

Screen size in nozzle or line strainers should be no finer than 50 mesh. Carefully select correct nozzle to avoid spraying a fine mist which could cause drift (Section 11.2). For best results with conventional ground application equipment, use recommended nozzles that provide coverage without fine droplets (Section 11.2). Check for even distribution of spray droplets, and use nozzle manufacturer's guidelines (Section 11.2).

#### Adjuvants (32.2)

When using Rage herbicide for site preparation and other noncrop applications, use a surfactant labeled for use with Rage herbicide or tank mix partners that contains 80 percent or more active ingredient.

Mix 1 or more quarts of a nonionic surfactant per 100 gallons of spray solution.

When making broadcast applications, surfactants should not be used in excess of 1 quart per acre (see Section. 7.2).

Always read and follow the manufacturer's surfactant label recommendations, cautionary statements and other information for best results with tank mix partners with Rage herbicide.

If colorants or marking dyes are desired, choose those that are approved for use with herbicides. If colorants or marking dyes are used, performance may be reduced, especially at lower rates or dilutions.

Always read and follow the manufacturer's label recommendations, cautionary statements and other information for best results.

#### Spray Equipment Clean-Out (32.3)

Many new pesticides are very active at low rates, especially to sensitive crops. Residues left in mixing equipment, spray tanks, hoses, spray booms and nozzles can cause crop effects if they are not properly cleaned. As soon as possible after spraying Rage herbicide and before using the sprayer equipment for any other applications, the sprayer equipment must be thoroughly cleaned using the following procedure. In addition, users must take appropriate steps to ensure proper equipment clean-out for any other products mixed with Rage herbicide as required on the other product labels. More complete cleaning can be achieved if the spray system is cleaned immediately following the application.

- 1. Drain sprayer tank, hoses, spray boom and spray nozzles. Use a high-pressure detergent wash to remove physical sediment and residues from the inside of the sprayer tank and thoroughly rinse. Then, thoroughly flush sprayer hoses, spray boom and spray nozzles with a clean water rinse. Remove and clean spray tips and all filters and screens (tank, spray hose and spray tips) separately in the ammonia solution of Step 2.
- 2. Next, prepare a sprayer cleaning solution by adding three gallons of ammonia (containing at least 3% active) per 100 gallons of clean water. Prepare sufficient cleaning solution to allow the operation of the spray system for a minimum of 15 minutes to thoroughly flush hoses, spray boom and spray nozzles.
- 3. Convenient and thorough cleaning of the sprayer can be achieved if the ammonia solution or fresh water is laften the spray tank, hoses, spray booms and spray nozzles overnight or during storage.
- 4. Before using the sprayer, completely drain the sprayer system. Rinse the tank with clean water and flush through the hoses, spray boom, and spray nozzles with clean water. Remove and clean spray tips and all filters and screens (tank, spray hose and spray tip) separately in an ammonia solution.

5. Properly dispose of all cleaning solution and rinsate in accordance with Federal, State, and local regulations and quidelines.

Do not apply sprayer cleaning solutions or rinsate to sensitive crops.

Do not store the sprayer overnight or for any extended period of time with Rage herbicide spray solution remaining in the tank, spray lines, spray boom plumbing, spray nozzles or strainers.

If the sprayer has been stored or idle, purge the spray boom and nozzles with clean water before beginning any application.

Should small quantities of Rage herbicide remaining in inadequately cleaned mixing, loading and/or spray equipment, they may be released during subsequent applications potentially causing effects to certain crops and other vegetation. FMC accepts no liability for any effects due to inadequately cleaned equipment.

#### **APPLICATION INFORMATION (33.0)**

#### Aerial Equipment (33.1)

Unless otherwise specified, combine the recommended rates of Rage herbicide and surfactant with 3 to 20 gallons of water per acre as a broadcast spray. See the "WEEDS CONTROLLED" Section (Section 16) of this label for specific rates. When using aerial equipment, product applications may only be made as specifically recommended in this label. (See Sections 11.1 and 11.2)

#### Boom Equipment (33.2)

When using boom equipment, combine the recommended rates of Rage herbicide and surfactant with 3 to 30 gallons of water per acre as a broadcast spray to control weed or brush species listed in this label unless otherwise specified. See the "WEEDS CONTROLLED" Section (Section 16) of this label for specific rates. To ensure best results complete coverage is required. Spray volume should be increased within the recommended range as density of vegetation increases. Carefully select correct nozzle to avoid spraying a fine mist. For best results with ground application equipment, use flat fan nozzles. Check for even distribution of spray droplets.

### Hand-Held and High-Volume Equipment (33.3) Use Coarse Sprays Only

Knapsack sprayers and other high-volume spraying equipment utilizing handguns or other appropriate nozzle configurations may be used to control weeds listed in this label. Mix a 0.75 to 2 percent solution of this product in water, add a nonionic surfactant and apply to foliage of vegetation to be controlled. Refer to the "WEEDS CONTROLLED" Section (Section 16) for specific application information.

Applications should be made on a spray-to-wet basis. Spray coverage should be uniform and complete. Do not spray to point of runoff.

For spot treatment of brush and trees a 5-8 percent solution may be used as a low volume directed spray. This treatment method is most effective in areas where there is a low density of the targeted vegetation. If a straight stream nozzle is used, start the application at the top of the targeted vegetation and spray evenly, contacting a minimum of 50 percent of the foliage, using a back and forth motion until the bottom of the vegetation is reached. For flat fan and cone nozzles and with hand-directed mist blowers, mist the application over the foliage of the targeted vegetation. Small, open-branched trees should be treated from only one side to ensure adequate coverage. If the foliage is thick or there are multiple root sprouts, applications must be made from several sides to ensure adequate spray coverage.

Follow the mixing chart below to reach your desired volume: . See Spot Treatment chart under Section 19.

# WEEDS CONTROLLED IN NON CROP (34.0)



Rage herbicide will control annual and perennial weeds as well as woody brush and trees. Rates of application and other use instructions are indicated under each type of weed in the following tables (Section 16).

#### **ANNUALS WEEDS (34.1)**

General application instructions for annual weeds:

- Apply Rage herbicide to actively growing broadleaf weeds and annual grasses.
- Avoid disturbance of treated vegetation for at least 7 days after application. Weeds may be mowed, tilled or burned after this period.

"APPLICATION INFORMATION (Section 33.0)" for labeled uses and specific application instructions.

Rage may be applied as either a broadcast application or with handheld or high-volume application equipment (Section 33.3).

#### **Broadcast Application:**

For weeds less than 6 inches tall apply 1 – 1.5 pints of this product per acre plus 1 or more quarts of a nonionic surfactant per 100 gallons of spray solution.

For weeds greater than 6 inches tall apply 2.5 pints or more of this product per acre plus 1 or more quarts of a surfactant (Section. 32.2)

Hand-Held, High-Volume Application: -

Apply a .75 percent solution of this product in water plus 1 or more quarts of a recommended surfactant (Section. 33.3) per 100 gallons of spray solution and apply to foliage of vegetation to be controlled.

Germination of annual weeds may continue throughout the growing season depending on the extent of soil moisture and precipitation. Weeds that germinate after application will require repeat treatments. See Section 16.1 for the list of annual weeds Rage herbicide controls and suppresses.

#### PERENNIAL WEEDS (34.2)

General application instructions for perennial weeds:

- Apply to vigorously growing perennial weeds.
- Avoid disturbance of vegetation for at least 7 days after application unless otherwise indicated.
- Do not treat weeds that have been mowed or tilled until regrowth has reached the recommended stages.
- Treat vegetation prior to a killing frost.
- Add 1 or more quarts of nonionic surfactant per 100 gallons spray solution to the rates of this product given in this list. See Section 32.3 for additional surfactant information.
- Weeds that regenerate from underground parts or seed may require a repeat treatment.

"APPLICATION INFORMATION (Section 34.0)" for labeled uses and specific application instructions.

Rage herbicide plus surfactant will control the PERENNIAL WEEDS in Section 16.3 when applied as recommended.

#### WOODY BRUSH and TREES (34.3)

General application instructions for Woody Brush and Trees:

- Trees that have been cut or brush that has been mowed or tilled should not be treated until sufficient leaf area has developed from regrowth.
- Use a recommended surfactant (Section 33.2)
- Ensure thorough coverage when using hand-held equipment.
- Apply when plants are actively growing, and unless otherwise directed, after leaves have fully expanded.
- Use the higher application rates for vines that have reached the woody stage of development, or are large or stressed because of environmental conditions.
- In general, best results are obtained when application is made in late summer or fall after fruit ion nation. In arid areas, however, best results are obtained when brush species are at high moisture content and are flowering in spring or early summer.

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- Allow 7 or more days after application before disturbing treated vegetation by operations such as tillage, mowing or removal
- Plants that regenerate from underground parts or seed may require retreatment.
- Application to undesirable deciduous species with some autumn color is acceptable provided major leaf drop has not occurred
- Treatments following a fall frost may result in reduced performance.

"APPLICATION INFORMATION (Section 34.0)" for labeled uses and specific application instructions.

Rage herbicide will control or partially control the woody brush plants and trees when applied as recommended listed in Section 16.4 Applied as a 5 to 8 percent solution in a low volume directed spray as described in the "HAND-HELD AND HIGH-VOLUME EQUIPMENT" Section (Section 34.3), this product will control or partially control all species listed in this Section of this label. Use the higher rate of application for dense stands and larger woody brush and trees.

**General Recommendation:** Species without a specific recommendation in the list can be partially controlled by applying 3 to 7.5 pints of this product per acre as a broadcast spray, or as a 0.75 to 1.5 percent solution with hand-held equipment.

#### AQUATIC, SITE PREPARATION AND OTHER NON-CROP SITES (35.0)

When applied as directed and under the conditions described in the "WEEDS CONTROLLED" Section (Section 16) in this label, this product will control or partially control the labeled weeds growing in aquatic sites, areas being prepared for planting of plantation tree species and on other non-crop sites such as in public areas, recreational areas, or industrial sites. See the Aquatic Sites, Site Preparation and Other Non-crop Sites Sections of the label for a listing of specific use sites.

#### Aquatic Sites (35.1)

This product may be applied to emerged weeds in all bodies of fresh and brackish water which may be flowing, non-flowing or transient. This includes lakes, rivers, streams, ponds, estuaries, rice levees, seeps, irrigation and drainage ditches, canals, reservoirs, wastewater treatment facilities, wildlife habitat restoration and management areas.

If aquatic sites are present in the noncrop area and are part of the intended treatment, read and observe the following directions:

This product does not control plants which are completely submerged or have a majority of their foliage under water.

Irrigation -Irrigation from Rage herbicide treated area may result in injury to the irrigated vegetation. Do not use treated water for irrigation in commercial nurseries or greenhouses. For crops, do not use treated water for irrigation purposes until 14 days after treatment, or until analysis by FMC approved laboratory determines the carfentrazone-ethyl and major degradate level in intake water is less than 5 ppb.

Treated water may be used for irrigation by commercial turf farms and on residential turf and ornamentals without a holding restriction providing the application was made as a spot treatment to 20% or less of the water body surface area. If more than 20 % of the water body surface is treated, do not use the water for irrigation by commercial turf farms or on residential turf and ornamentals until 14 days after treatment, or until analysis by FMC approved laboratory determines the carfentrazone-ethyl and major degradate level in intake water is less than 5 ppb.

The following table summarizes water holding periods prior to using treated water.

Water Use Restrictions Following Applications with Rage herbicide

	<u> </u>	
Water Use	< 20 % of the	20- 50 % of the
	surface acre treated	surface acre treated
		(spot treatment)
Drinking	0 day	1 day
Fishing and	0 day	0 day
swimming		
Livestock	0 day	1 day
consumption		
Spray tank	0 day	14 days
applications* and		
Irrigation to	]	
Commercial Turf		
Farms and		
Residential Turf		
and Ornamentals		
Spray tank	14 days	14 days
applications* and		
Irrigation to Food		
Crops		<u> </u>

<sup>\*</sup> For preparing agricultural sprays for food crops, turf, or ornamentals (to prevent phytotoxicity), do not use water treated with Rage Herbicide before the specified time period.

There is no restriction on the use of treated area for recreation.

Consult local state fish and game agency and water control authorities before applying this product to public water. Permits may be required to treat such water.

NOTE: Do not apply this product directly to water within 1 mile upstream of an active potable water intake in flowing water (i.e., river, stream, etc.) or within 1 mile of an active potable water intake in a standing body of water such as lake, pond or reservoir. To make aquatic applications around and within 1 miles of active potable water intakes, the water intake must be turned off for a minimum period of 48 hours after the application. The water intake may be turned on prior to 48 hours if the glyphosate level in the intake water is below 0.7 parts per million and the carfentrazone-ethyl level in the intake water is below 0.2 ppm as determined by laboratory analysis. These aquatic applications may be made ONLY in those cases where there are alternative water sources or holding ponds which would permit the turning off of an active potable water intake for a minimum period of 48 hours after the applications.

Dry ditches may be treated 1 day after drawdown of water to ensure application to actively growing weeds. Allow 7 or more days after treatment before reintroduction of water to achieve maximum weed control.

Avoid washing of spray from treated foliage by spray boat or recreational boat back wash or by rainfall within 6 hours of application. Delay re-treatment for 24 hours or longer after the initial treatment.

Floating Mats of vegetation may require retreatment. Applications made to moving bodies of water must be made while traveling upstream to prevent concentration of this herbicide in water. When making any bank side applications, do not overlap more than 1 foot into open water. Do not spray in bodies of water where weeds do not exist.

The maximum application rate of 4 quarts per acre must not be exceeded in any single broadcast application that is being made over water.

Impounded water that requires treatment of the total surface should be treated in two or more segments with enough time between applications to avoid oxygen depletion, due to (recaving vegetation. Oxygen depletion may result in fish kill.

#### Site Preparation (35.2)

Rage herbicide may be applied as a site preparation treatment prior to planting any silvicultural tree species. See the Weeds Controlled Section to determine rates of application.

Aerial Application - This product may be applied with aerial application equipment for site preparation pric. to planting any silvicultural tree species. See Section 34.1 for additional information.

Post Directed Spray In Established Silvicultural Sites:



Rage herbicide may be used as a directed spray on the foliage of undesirable vegetation to control weeds around desirable trees. Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of desirable species.

#### Other Non-Crop Sites (35.3)

Buffer Strips

This product may be used to control the listed weeds in terrestrial non-crop sites (such as those listed below) and/or in aquatic sites within these areas. This product may be used to trim-and-edge around objects and landscape features in non-crop sites. Sites that can be treated include:

Conservation Reserve Program
Edge of landscape beds, commercial
Residential
Fencerows
Golf Courses
Habitat Restoration
& Management Areas
Highways & Roadsides
Industrial Plant Sites
Lumberyards
Mine Reclamation Project Sites
Parking Areas
Pavement cracks
Parks & public landscapes

Pipeline, Power, Telephone &
Utility Rights-of-Way
Pumping Installations
Railroads
Schools
Storage Areas
Electrical substations
Farmyards

## TURFGRASS RENOVATION (36.0) (Excluding Commercial Sod Farms)

This product can be used to control most existing vegetation prior to renovating turfgrass areas. To maximize control of existing vegetation, delay planting or sodding to allow regrowth from escaped underground plant parts. Then retreat after sufficient regrowth has been attained. If the existing vegetation is under mowing management, skip one regular mowing before applying this product to allow sufficient growth for good spray interception. Do not disturb soil or underground plant parts before treatment. Any physical disturbance such as tillage or renovation technique including vertical mowing, coring or slicing should be delayed for 7 days after application to allow translocation into underground plant parts.

Desirable turfgrasses may be established following the above procedures.

## WILDLIFE HABITAT RESTORATION AND MANAGEMENT AREAS (37.0)

This product is recommended for the restoration and/or maintenance of native habitat and in wildlife management areas.

#### Habitat Restoration and Maintenance -

Undesirable vegetation, including exotic and invasive species, may be controlled with this product in habitat management areas. The product may be broadcast to provide broad spectrum vegetation control objectives or applied in spot treatments to selectively remove unwanted plants for habitat enhancement. Objectives, for example, may include allowing recovery of native plant species or opening up water to attract waterfowl. Care should be exercised with spot treatments to keep spray off of desirable plants.

#### Wildlife Food Plots -

This product may be used to control undesirable vegetation prior to establishing wildlife food plots. Apply as directed in the Weeds Controlled Section to control target vegetation in the plot area. Native species may be allowed to re-infest, or any wildlife food species can be planted in the treated area. If tillage is needed to prepare a seedbed, wait 7 days after applying this product before tilling to allow for maximum effectiveness.

#### **WIPER APPLICATIONS (38.0)**

This product can be used for wick or wiper applications.

Mix proportions of this product and clean water to make a 33 - 75 percent solution. Addition of a nonionic surfactant at a rate of 10 percent by volume of total herbicide solution is recommended.

Wiper applications can be used to control or suppress annual and perennial weeds listed on this label. See the "WEEDS CONTROLLED" Section (Section 16) in this label for recommended timing, growth stage and other instructions for achieving optimum results.

In heavy weed stands, a double application in opposite directions may improve results.

## RELEASE OF DORMANT BERMUDAGRASS AND BAHIAGRASS (39.0)

This product, when applied as directed, will release dormant bermudagrass or bahiagrass by controlling many winter annual weeds and tall fescue. Apply to dormant bermudagrass or bahiagrass.

For best results, treat after most winter annuals have germinated and are in an early growth stage (below 4 inches in height). 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 in 10 to 25 gallons of water per acre plus 1 quarts nonionic surfactant per 100 gallons of total spray volume.

Rage herbicide

(FLUID OZ/ACRE)

12

18

18

#### WEEDS CONTROLLED OR SUPPRESSED\*

WEED SPECIES	Control
Barley, little Hordeum pusillum	9
Bedstraw, catchweed Galium aparine	9
Bluegrass, annual Poa annua	9
Chervil Chaerophyllum tainturieri	9
Chickweed, common Stellaria media	9
Clover, crimson Trifolium incarnatum	18
Clover, large hop Trifolium campestre	18
Speedwell, corn Veronica arvensis	9
Fescue, tail Festuca arundinacea	**
Geranium, Carolina Geranium caroliniaum	24

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

Henbit Lamium amplexicaule

Ryegrass, Italian Lolium multiflorum Vetch, common Vicia sativa

## RELEASE OF ACTIVELY GROWING BAHAIGRASS OR BERMUDAGRASS (40.0)

NOTE: USE ONLY ON SITES WHERE BAHIAGRASS OR BERMUDAGRASS ARE DESIRED FOR GROUND COVER AND SOME TEMPORARY INJURY OR YELLOWING OF THE GRASSES CAN BE TOLERATED.

When applied as directed, this product will aid in the release of bermudagrass by controlling annual weed species listed in the "Release of Bermudagrass and Bahaigrass" Section of this label and by suppressing or partially controlling certain perchilal weeds.

Apply 1 to 2.5 pints of this product as a broadcast spray in 10 to 25 gallons of spray solution per acre, plus 1 quart of a rionionic surfactant per 100 gallons of total spray volume to control or suppress those annual species listed in this label. The higher rate should be used as plant size approaches 6 inches in Lieight or more (or length of runner in annual vines approaches 6 inches or more) or as they approach flower or seedhead formation.

<sup>\*\*</sup> Suppression only



Use the higher rate for partial control or longer-term suppression of the following perennial species. Use lower rates for shorter-term suppression of growth.

Bahiagrass, Johnsongrass\*\*
Dallisgrass, Trumpetcreeper\*
Fescue (tall), Vaseygrass

\*Suppression at the higher rate only.

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 result.

## BAHAIGRASS SEEDHEAD AND VEGETATIVE SUPPRESSION (40.1)

Rage can be used to inhibit seedhead emergence and suppress vegetative growth of bahaigrass. Single applications will suppress vegetative growth for a period of approximately 45 days and sequential applications will suppress vegetative growth for approximately 120 days.

Application should be made at 1 to 2 weeks after full green-up of bahaigrass, prior to seedhead emergence or after the bahaigrass has been mowed to a uniform height of 3 to 4 inches.

Apply 5 fluid ounces per acre of this product, plus 1 quart of an approved nonionic surfactant per 100 gallons of total spray volume in 10 to 25 gallons of water per acre.

Seedhead and vegetative growth suppression can be extended by making sequential applications of this product plus nonionic surfactant at approximately 45 day intervals.

Applications must be made prior to seedhead emergence for continued vegetative growth suppression. For continued vegetative growth 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 3 fluid ounces of this product per acre plus nonionic surfactant. A second sequential application of 2 to 3 fluid ounces per acre plus nonionic surfactant may be made approximately 45 days after the last application.

#### **ANNUAL GRASS GROWTH SUPPRESSION (40.2)**

This product may be used to suppress some annual grasses, such as annual ryegrass, wild barley and wild oats growing in coarse turf on roadsides or other industrial areas. Apply 3 to 4 ounces of this product in 10 to 40 gallons of spray solution per acre. Use nonionic surfactant in the spray solution at a rate of 0.5% volume/volume (2 quarts per 100 gallons of spray solution).

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.

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#### LABEL TRACKING INFORMATION

Label Code: Rage\_4\_12-20-10



<sup>\*\*</sup>Johnsongrass is controlled at the higher rate.