

279-3316



09/13/2007

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

1/12

WASHINGTON, D.C. 20460

SEP 13 2007

OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES

Callista O. Chukwunenye  
FMC Corporation/APG  
1735 Market Street  
Philadelphia, PA 19103

Dear Dr. Chukwunenye:

SUBJECT: Master Label Amendment and Alternate Product Name  
F6119 EC Herbicide/Rage D-Tech  
EPA Registration No. 279-3316  
Your Application Dated June 18, 2007

The label amendment referred to above, submitted in accordance with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable with the following provision:

1. Revise the "Environmental Hazards" statements to read:

"This pesticide is toxic to fish and aquatic invertebrates. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark except as noted on appropriate labels. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when disposing of equipment wash waters or rinsate.

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Application around a cistern or well may result in contamination of drinking water or groundwater/."

A stamped copy is enclosed for your records. Please submit one (1) copy of your final printed labeling before you release the product for shipment. This amended labeling supersedes all previously accepted ones.

Sincerely yours,

*Joanne I. Miller*

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

Enclosure

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GROUP	14	HERBICIDE
GROUP	4	HERBICIDE



**ACCEPTED**  
**with COMMENTS**  
**In EPA Letter Dated:**  
**SEP 13 2007**

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

279-3316

FROM **FMC**

**For Agricultural or Commercial Use Only  
 NOT FOR SALE OR USE IN CALIFORNIA**

**EPA Reg. No. 279-3316      EPA Est. 279-**

<b>Active Ingredients: (1)</b>	<b>By Wt.</b>
Carfentrazone-ethyl .....	1.44%
2,4-Dichlorophenoxyacetic acid, ethylhexyl ester.	65.52%
<b>Other Ingredients:</b> .....	<b>33.04%</b>
<b>TOTAL</b> .....	<b>100.00%</b>

This product contains 0.13 pounds active ingredient of carfentrazone-ethyl, and 5.92 pounds active ingredient of 2,4-D ester per gallon which is equivalent to 3.93 pounds 2,4-D acid equivalent.  
 Contains Petroleum Distillates  
 U.S. Patent No. 5,125,958

**FINAL PRODUCT FORMULATED AND PACKAGED IN USA.**

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

This label must be in the possession of the user at the time of application. Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

**FIRST AID (2)**

**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 to 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 to 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)**

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™ D-Tech is expected to have low dermal toxicity, and moderate oral and inhalation toxicity. This product may be irritating to the skin and minimally irritating to the eyes. Treatment is otherwise controlled removal of exposure followed by symptomatic and supportive care.

Rage D-Tech has no specific antidote. All treatments should be based on observed signs and symptoms of distress in the patient. Exposure to materials other than this product may have occurred. This product contains petroleum distillates. If large amounts, greater than 1 mg/kg body weight have been ingested, the stomach should be evacuated by gastric intubation with the aid of a cuffed endotracheal tube to prevent aspiration of petroleum distillates. After removal of the stomach contents, wash stomach by instilling 30 - 50 grams of activated charcoal in 3 to 4 ounces of water through the stomach tube and again remove stomach contents. Avoid oily laxatives.

See other panels for additional precautionary information.

**ATTENTION (4)**

- 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 Conditions of Sale and Limitation of Warranty and Liability on page 2 of this label. If the terms and conditions are unacceptable, return the product immediately in the original and unopened container

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listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(4)] the handler PPE requirements may be reduced or modified as specified in the WPS.

### User Safety Recommendations:

Users should:  
Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

Remove clothing immediately if pesticide gets inside. If pesticide gets on skin, wash immediately with soap and water. Then wash thoroughly and put on clean clothing.

Remove PPE immediately after handling the product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

### Environmental Hazards (7)

Rage D-Tech is very toxic to algae, toxic to aquatic invertebrates, and moderately toxic to fish. Drift or runoff may adversely affect aquatic invertebrates and non-target plants. Do not apply when weather conditions favor drift from target area. 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.

### Physical/Chemical Hazards (8)

Do not use or store near heat or open flame.

Do not contaminate water when disposing of equipment wash waters or rinsate.

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Application around a cistern or well may result in contamination of drinking water or groundwater.

Do not contaminate water used for irrigation or domestic purposes.

Spray equipment used in applying this product should be thoroughly cleaned before using for any other purpose. Use repeated flushing with soap and warm water or suitable chemical cleaner. It is best to use a separate sprayer for application of insecticides and fungicides. Do not apply this product directly to, or permit spray mist to drift onto any unlabelled crops, including cotton, okra, grapes, tomatoes, fruit trees, vegetables, flowers, or other desirable crop or ornamental plants which are susceptible to 2,4-D herbicide. Do not apply near susceptible plants as very small amounts of 2,4-D will cause severe injury during the growing or dormant periods. Crops contacted by spray or spray drift may be killed or suffer significant stand loss and/or extensive quality and/or yield reduction.

Do not apply when a temperature inversion exists. Such a condition is characterized by little or no air movement and an increase in air temperature with an increase in height. In humid regions a fog or mist may form. An inversion may be detected by producing a smoke column and checking for a layering effect. If questions exist pertaining to the existence of an inversion, consult with local weather services before making an application.

Use coarse sprays to minimize drift. Do not apply with hollow cone type insecticide nozzles or other nozzle types that produce fine spray droplets.

#### Drift from aerial or ground application may be reduced by:

- (1) applying as near to the target as possible in order to obtain coverage;
- (2) by increasing the VMD of the droplet spectrum;
- (3) by decreasing the spray pressure at the nozzle tips;
- (4) by using nozzles tips and types which produce a coarse spray droplet spectrum;
- (5) by not applying when wind is blowing toward susceptible plants.

At high air or soil surface temperatures; vapors from this product may injure susceptible plants.

Most cases of ground water contamination involving phenoxy herbicides such as 2,4-D have been associated with mixing/loading

### PRECAUTIONARY STATEMENTS (5) Hazards to Humans and Domestic Animals Caution

Harmful if swallowed, absorbed through the skin or inhaled. Causes moderate eye irritation. Avoid breathing vapors or spray mist. Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

### Personal Protective Equipment (PPE) (6)

Applicators and other handlers must wear: long-sleeved shirt and long pants; chemical-resistant gloves such as barrier laminate, nitrile rubber, neoprene, or viton; shoes plus socks; and protective eye wear.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them. Follow manufacturer's instructions for cleaning and maintaining PPE. If there are no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. After each day of use, clothing or PPE must not be reused until it has been cleaned.

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

For containers over 1 gallon but less than 5 gallons, mixers and loaders who do not use a mechanical system (probe and pump) to transfer the contents of this container must wear coveralls or chemical-resistant apron in addition to the other required PPE. For containers of 5 gallons or more, a mechanical system (probe and pump) must be used for transferring the contents of the container. If the contents of a non-refillable pesticide container are emptied, the probe must be rinsed before removal. If the mechanical system is used in a manner that meets the requirements

and disposal sites. Caution should be exercised when handling 2,4-D pesticides at such sites to prevent contamination of ground water supplies. Use of closed systems for mixing and loading this product will reduce the probability for spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent ground water contamination.

## TERMS OF SALE OR USE AND LIMITATION OF WARRANTY AND LIABILITY (9)

### 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 Section 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 should 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 of FMC or Seller. To the extent consistent with applicable law, all such risks shall be assumed by Buyer and User, and, to the extent permitted by 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 BY 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 permitted by applicable law, buyer assumes the risk of any such use.

To the extent permitted by 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 PERMITTED BY 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.

## DIRECTIONS FOR USE (10)

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read the entire label before using this product.

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 (11)

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, waterproof gloves, and shoes plus socks.

## STORAGE AND DISPOSAL (12)

### Pesticide Storage

Not for use or storage in or around the home.

Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. After partial use, replace lids and close tightly. Do not put formulated or dilute material into food or drink containers. Do not contaminate other pesticides, fertilizers, water, food, or feed by inappropriate storage or disposal.

### In case of spill

Avoid contact, isolate area and keep out unprotected persons and animals. Confine spills. Call FMC: (800) 331-3148.

### To confine spill

Dike surrounding area, sweep up spillage. 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.

### Container Disposal

Plastic containers: Triple rinse (or equivalent). Then offer for an 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, containers may be burned. Stay out of smoke.

## RESISTANCE MANAGEMENT (13)

Some pests are known to develop resistance to herbicides that have been used repeatedly. While the development of weed resistance is well understood, it is not easily predicted. Therefore herbicides should be used in conjunction with the resistance management strategies in the area. Consult the local or State agricultural advisors for details. If weed resistance should develop in the area, this product used alone may not continue to provide sufficient levels of weed control. If the reduced levels of control can not be attributed to improper application techniques, improper use rates, improper application timing, unfavorable weather conditions or abnormally high weed pressure, a resistant strain may have developed.

To reduce the potential for pesticide resistance, use this product in a rotation program with other classes of chemistry and modes of action. Always apply this product at the recommended rates and in accordance with the use directions. Do not use less than recommended label rates alone or in tank mixtures. Do not use reduced rates of the tank mix partner. For optimum performance, scout fields carefully and begin applications when weeds are smaller rather than larger. If resistance is suspected, contact the local or State agricultural advisors.

## GENERAL INFORMATION (14)

Rage D-Tech is an emulsifiable concentrate formulation. Rage D-Tech is to be mixed with water, liquid fertilizer or mixtures of water and liquid fertilizer and adjuvants and applied to labeled crops for selective postemergence control of broadleaf weeds or for burndown prior to planting.

Weed control is optimized when the product is applied to actively growing weeds. Rage D-Tech is a combination of a contact herbicide and a systemic herbicide. Within a few hours following application, the foliage of susceptible weeds show signs of desiccation, and in subsequent days necrosis and death of the plant occur.

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

Rage D-Tech is rapidly absorbed through the foliage of plants. To avoid significant crop response, applications should not be made within 6 to 8 hours after either rain or irrigation or when heavy dew is present on the crop. Due to environmental conditions and with certain spray tank additives, some herbicidal symptoms may appear on the crop.

### Tank Mixtures

Rage D-Tech 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. Tank mixtures of Rage D-Tech with EC formulations of other crop protection products, crop oil concentrates, methylated seed oils, silicone based adjuvants, 28% nitrogen or ammonium sulfate may increase crop response.

### Adjuvant Use Requirements

The use of a quality spray adjuvant is required for optimum performance. Refer to the individual crop recommendation sections of this label for specific adjuvant type and use rates.

### Drift Reduction Agents

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

### 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.

### Methods of Application

Rage D-Tech is a versatile herbicide utilizing several different application methods to achieve the desired results. If Rage D-Tech is being applied in standing crop situations, application methods and adjustments must be precise to prevent undesirable effects to the desirable green stem tissue, foliage, blooms or fruit of the crops being treated.

Aerial applications may be used in some situations. Aerial treatments should be made with a minimum of 3 gallons of total spray per acre with a minimum VMD of 450 microns. (See page 5: Controlling Spray Droplet Size).

Over-the-top applications may be utilized in some situations as noted in the individual crop directions. Spray volumes for ground applications should be 10 gallons of finished spray per acre to insure good target coverage. Spray tips must be positioned no less than 18 inches above the crop and operated in such manner as to avoid overlaps and slower than calibrated ground speeds.

Post directed applications may be utilized when labeled crops have reached minimum growth stages where sprays may be directed to the target weeds, but is not deposited on the green stem, foliage, blooms or fruit of the crop.

Hooded Sprayer applications can be made to many labeled crops. Hooded sprayers must be designed and operated so as to totally enclose the spray nozzles and tips and spray pattern and prevent any spray deposition to the crop being treated.

## Mixing and Loading Instructions (15)

### Water Spray Solutions

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

- (1) Dry formulations (e.g., powders, dry flowables)
- (2) Liquid suspensions (e.g., SC's, flowables)
- (3) Liquid formulations (e.g., Rage D-Tech and other EC's).
- (4) 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 an EC formulation which should be thoroughly mixed in the spray tank after dry or liquid suspension formulations are thoroughly mixed and before other products are added. A compatibility test should be conducted prior to mixing Rage herbicide with other products. 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 a pH of 5 or increase the pH above a pH of 8. Buffer the spray solution to alter the pH range as appropriate.

Avoid storing spray mixtures overnight or for extended periods. If water mixtures are left unmixed for an extended period, the spray tank should be thoroughly agitated again prior to resuming application.

### Fertilizer Spray Solutions

Rage D-Tech herbicide applications with fertilizer solutions are recommended for preplant burndown and fallow treatments. Fertilizer mixtures with Rage D-Tech for foliar sprays over emerged crops may be allowed (see labeled crops section for specific use directions). Rage D-Tech should be pre-mixed with equal parts of product and water prior to adding to the fertilizer solution. Fill the spray tank 1/2 full with liquid fertilizer. Make sure the agitation system is operating while adding products. Complete filling the spray tank to the desired level. The spray tank agitation should be sufficient to ensure uniform spray mixture during application and must continue until the spray tank has been emptied. Application of the entire tank contents should be made immediately. Overnight storage of mixture is not recommended. Application in near freezing temperature conditions should be avoided to reduce risk of possible crop injury. Rage D-Tech is formulated to be compatible with fertilizer solutions. However, due to variability of fertilizers, use a jar test to ensure the compatibility of other product with Rage D-Tech before mixing then together in the spray tank.

## Spray Equipment Clean-Out (16)

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 D-Tech 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 D-Tech 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) Prepare a sprayer cleaning solution by adding three gallons of ammonia (containing at least 3% active) per 100 gallons of

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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 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.
- (5) Properly dispose of all cleaning solution and rinseate in accordance with Federal, State, and local regulations and guidelines.

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

Do not store the sprayer overnight or for any extended period of time with Rage D-Tech 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 D-Tech remain 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 (17)

### GROUND APPLICATION

Use ground sprayers designed, calibrated and operated to deliver uniform spray droplets to the targeted plant or plant parts. Adjust sprayer nozzles to achieve uniform plant coverage. Overlaps and slower ground speeds (caused by continuing to spray while starting, stopping or turning) may result in higher application rates and possible crop response.

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

#### Spray Buffer for Ground Application

Spray buffer zones for ground applications, listed in chart below, are required where local indigenous endangered plant species are found.

Buffers to Indigenous Endangered Plant Species		
Rage D-Tech Use Rate (lbs. ai per acre)	Low Spray Boom Buffer (ft.)	High Spray Boom Buffer (ft.)
0.516	20	33
1.032	26	46

#### Conventional Boom and Nozzle Sprayers

Rage D-Tech may be applied with 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. Use nozzles that 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. Use higher spray volumes when there is a dense weed population or crop canopy. Adjust sprayers to position spray tips no lower than 18 inches above the crop. Operate the sprayer to prevent herbicide concentration directly over the rows and/or into the whorl of treated crop plants.

#### Directed Sprayers

Rage D-Tech may be applied with drop nozzles or other spray equipment capable of directing the spray to the target weeds and away from sensitive plant parts. Rage D-Tech may be applied up to the maximum rate for the target crop for the control of larger weed sizes or weeds not controlled with lower use rates. Where allowed, use appropriate rates of adjuvants such as nonionic surfactants, crop oil concentrates or methylated seed oils.

### Hooded Sprayers

Hooded sprayers may be used to apply Rage D-Tech. For additional information, refer to the individual crop sections of this label.

### AERIAL APPLICATION

Use nozzle types and arrangements that will provide optimum coverage while producing a minimal amount of fine droplets. Apply at a minimum of 3 gallons of finished spray per acre. Higher spray volumes are required when there is a 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 2,4-D.**

## Spray Drift Reduction Advisory (18)

### 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.

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

#### Droplet Size Information

Reduce drift potential by applying large droplets. The optimum 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 when applications are made improperly, or under unfavorable environmental conditions (See Wind, Temperature and Humidity, and Temperature Inversions).

#### Controlling Spray Droplet Size

**VMD** - VMD is the expression of the droplet size of the spray cloud. The VMD value means that 50% of the droplets are larger than the expressed value and 50% of the droplets are smaller than the expressed value. Optimum Rage D-Tech spray clouds should be 450 microns with fewer than 10% of the droplets being 200 microns or less.

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

**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.

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

**Nozzle Orientation** - For aerial application, orient nozzles so that the spray is released parallel to the airstream which results in larger droplets than other orientations and is the recommended practice to reduce air turbulence and the production of small droplets. Significant deflection from horizontal will reduce droplet size and increase drift potential.

**Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low drift nozzles. For aerial applications, solid stream nozzles oriented straight back produce the largest droplets and potentially the least drift.

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

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**Application Height** – Making applications at the lowest height that is safe reduces exposure of spray droplets to evaporation and wind movement. 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.

**Swath Adjustment** - Swath adjustment distance must increase, with increasing drift potential (higher wind, smaller drops, etc.).

**Wind** - Drift potential is lowest between wind speeds of 3 to 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. Applications in wind conditions outside of this range could increase the risk of off-target effects and should be avoided. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

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

**Temperature Inversions** – Do not apply Rage D-Tech during a temperature inversion because the 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 following 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** – Rage D-Tech should be applied when the wind is blowing away from adjacent sensitive areas (e.g. residential areas, bodies of water, known habitats for threatened or endangered species and non-target crops).

**ALLOWABLE Rage D-Tech USE INFORMATION (19)**

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

Maximum Allowable Rage D-Tech Use Per Acre Per Season for Crops or Crop Grouping		
Total Allowed Rage D-Tech Use Per Season *		
Crop/Crop Group/Crop Subgroup	Rage D-Tech (fl. oz/acre) Per Season	Maximum Rate (lb ai/acre) Per Season
Grass (Group 17)	91	2.883
Small Grains	32	1.032
Sorghum	16	0.516
Corn	32	1.032
Soybeans (preplant, in-season)	24	0.774

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

**PREHARVEST INTERVALS (PHI) (20)**

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

Preharvest (PHI) and Grazing Intervals for Rage D-Tech Applications	
Crop/Crop Group/Crop Subgroup	PHI (Days Before Harvest, Slaughter, or Grazing)
Grass (Group 17)	Hay: 30 days Grazing: (dairy) 7 days Slaughter: Remove livestock 3 days prior to slaughter.
Small Grains	3 days
Sorghum	7 days
Corn	3 days
Soybeans (preplant)	7 days before planting

**MAXIMUM GROWTH STAGE APPLICATION ALLOWED (21)**

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

Preplant Interval / Maximum Growth Stage for Rage D-Tech Applications	
Crop/Crop Group/Crop Subgroup	Maximum Growth Stage
Preplant Burndown (Including Soybeans)	Preplant : Follow Planting Interval Guidelines listed in Preplant Burndown Section (Section 24)
Grass (Group 17) (in-season)	Seedling grass: Tiller or 5 leaf up to boot stage. Established stand: Prior to boot stage.
Small Grains (in-season) (Wheat, Barley, Oats, Rye)	In-Season: From tillering up to jointing stage. Pre-Harvest: From hard dough up to 3 days before harvest
Sorghum* (in-season)	In-Season: From 6 inches up to 6 Leaf Collars
Field Corn* (in-season) Popcorn, Seed Corn, Sweet Corn (See specific crop use section for further directions and restrictions.	Broadcast: From spike up to 5 leaf stage (8"). Drop nozzles: Up to 14 leaf collars. Pre-Harvest: From hard dough up to 3 days before harvest

\*Drop nozzles may be required for some applications. See specific crop sections for details.

**CROP ROTATIONAL RESTRICTIONS (22)**

Refer to Preplant Interval Table above and/or individual crop or use sections for crop rotation information.

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**GENERAL WEED LIST (23)**

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 10), "GENERAL INFORMATION" (Section 14), and "APPLICATION INFORMATION" (Section 17) in this label for specific uses and application instructions.

**ANNUAL WEEDS**

When targeting larger weeds, high weed density, weeds hardened off due to weather conditions, or weeds nearing maturity, use higher rates and use more aggressive spray adjuvants.

**PERENNIAL WEEDS**

When targeting perennial weeds:

- (1) Apply to vigorously growing perennial weeds.
- (2) Avoid disturbance of vegetation for at least 7 days after application unless otherwise indicated.
- (3) Do not treat weeds that have been mowed or tilled until regrowth has reached the recommended stages.
- (4) Treat vegetation prior to a killing frost.

For selecting an adjuvant, refer to the specific crop use section. Weeds that regenerate from underground parts or seed may require a repeat treatment.

**Winter Annuals**

Common Name	Scientific Name
Bittercress	<i>Cardamine spp.</i>
Burdock, common	<i>Buttercup spp.</i>
Buttercup, smallflower	<i>Ranunculus abortivus</i>
Dandelion	<i>Taraxacum officinale</i>
Deadnettle	<i>Lamium L. spec.</i>
Henbit	<i>Lamium amplexicaule</i>
Horseweed (Marestail)	<i>Conyza canadensis</i>
Lettuce, prickly	<i>Lactuca serriola</i>
Mustard, wild	<i>Brassica campestris</i>
Pennycress, field	<i>Thlaspi arvense</i>
Pepperweed, Virginia	<i>Lepidium virginicum</i>
Plantain spp.	<i>Plantago spp.</i>
Purslane, common	<i>Portulaca oleracea</i>
Rocket, London	<i>Sisymbrium irio</i>
Shepardspurse	<i>Capsella bursa pastoris</i>
Speedwell	<i>Veronica spp.</i>
Star-of-Bethlehem	<i>Ornithogalum umbellatum L.</i>
Tansymustard	<i>Caperonia palustris</i>

**Summer Annuals**

Asters	<i>Aster spp.</i>
Bedstraw, catchweed	<i>Galium aparine</i>
Beggarticks	<i>Bidens spp.</i>
Bindweed, field	<i>Convolvulus arvensis</i>
Buffalobur	<i>Solanum rostratum</i>
Carpetweed	<i>Mollugo verticillata</i>
Cocklebur, common	<i>Xanthium pennsylvanium</i>
Copperleaf, hophornbeam	<i>Acalypha ostryifolia</i>
Devilsclaw	<i>Proboscidea louisiana</i>
Filaree, redstem	<i>Erodium cicutarium</i>
Flixweed	<i>Descurainia sophia</i>
Hemp, wild	<i>Cannabis sativa</i>
Jimsonweed	<i>Datura stramonium</i>
Knotweed	<i>Polygonum spp.</i>
Kochia	<i>Kochia scoparia</i>
Lambsquarters, Common	<i>Chenopodium album</i>
Mallow, common	<i>Malva neglecta wall r.</i>
Morningglory, spp.	<i>Ipomea spp.</i>
Nightshade, annual	<i>Solanum spp.</i>
Pigweed spp.	<i>Amaranthus spp.</i>
Puncturevine	<i>Tribulus terrestris L.</i>
Purslane, common	<i>Portulaca oleracea</i>
Ragweed, common	<i>Ambrosia artemisiifolia</i>
Ragweed, giant	<i>Ambrosia trifida</i>
Rocket, yellow	<i>Sisymbrium irio</i>

Sida, prickly (Teaweed)	<i>Sida spinosa</i>
Smartweed, PA	<i>Polygonum pennsylvanium</i>
Sneezeweed, bitter	<i>Helenium amarum</i>
Spurge, prostrate	<i>Euphorbia humistrata</i>
Sunflower	<i>Helianthus spp.</i>
Thistle, Russian	<i>Salsola kali</i>
Velvetleaf	<i>Abutilon theophrasti</i>
Vervain, prostrate	<i>Verbena bracteata</i>
Wallflower, bushy	<i>Erysimum repandum</i>
Waterhemp, common	<i>Amaranthus rudis</i>

Use higher product rates when weeds exceed 4-6" in height, weed density is heavy, or where there are high crop residue conditions. Rage D-Tech may be tankmixed with other herbicides labeled for the same crop use to increase weed spectrum and performance.

**PREPLANT BURNDOWN (24)**

Rage D-Tech may be used as a burndown treatment for weed control prior to new plantings. Apply Rage D-Tech alone or with other herbicides or liquid fertilizers as a burn-down treatment to control annual broadleaf weeds less than six inches tall.

**Required Intervals Between Preplant Burndown Applications and Planting**

Crop	Maximum Rate (fluid oz/acre)	Planting Interval (Days Before Planting)
Corn (Field)	Up to 8	3 days
Corn (Field, Seed, Pop)	9 - 16	7 days
Corn (Field, Seed, Pop)	17 - 32	14 days
Soybeans	8 - 16	7 days
Soybeans	17 - 24	14 days
Grain Sorghum	8 - 16	10 days
Small Grains	8 - 32	30 days
Grasses* (Group 17)	8 - 32	30 days

**Preplant Application Rage D-Tech Use Rates**

When applying Rage D-Tech as a pre-plant burndown treatment, refer to the following information for the maximum product use rates for the respective crops listed.

Crop	Product Use Rates
Corn	8 - 32 fluid oz/acre
Soybeans	8 - 24 fluid oz/acre
Grain Sorghum	8 - 16 fluid oz/acre
Small Grains	8 - 32 fluid oz/acre
Grasses (Group 17)	8 - 32 fluid oz/acre

Use higher rates when weeds exceed 4-6" in height, weed density is heavy, or under high crop residue conditions; but do not exceed labeled rates. Rage D-Tech may be tankmixed with other herbicides labeled for the same crop use to increase weed spectrum and performance.

Apply with 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. In situations of dense weed canopy, large weeds, or heavy crop residue, increasing spray volume to a minimum of 15 GPA by ground and 5 GPA by air is recommended.

Do not exceed the applicable amounts as listed for the specific crop in the MAXIMUM ALLOWABLE Rage D-Tech USE TABLE found on page 5. For optimum performance, make applications to actively growing weeds up to 4 inches high or rosettes less than 3 inches across. Coverage is essential for good weed control.

**Adjuvant Recommendation**

A nonionic surfactant or crop oil concentrate or methylated seed oil is required. Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient or a petroleum or oil seed based crop oil concentrate (COC) at 1.5 to 2 % v/v (1.5 to 2.0 gallons per 100 gallons of spray solution) or a methylated seed oil (MSO) at 1 to 2% v/v (1 to 2 gallons per 100 gallons of spray solution). A high quality sprayable liquid nitrogen fertilizer at 2 to 4 % v/v (2 to 4 gallons per 100 gallons) or ammonium sulfate at 2 to 4 pounds per acre may be used in addition to the selected NIS, MSO or COC.



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**Rage D-Tech Preplant Burndown Tank Mixtures**

Rage D-Tech may be tankmixed with other herbicide products such as dicamba products, glyphosate products, glufosinate, paraquat, atrazine products, Authority™ products, Spartan®, or other herbicide classes labeled for use in these crops for enhanced weed spectrum or residual weed control or where grasses may be emerged at application. Rage D-Tech has no negative interactions with insecticides and may be tankmixed with insecticide products, including Mustang Max™, Hero™, Capture® LFR™, Brigade®, and others. Use adjuvant recommendations for the tank-mix partner according to their label directions.

For other specific mixing instructions, refer to the Mixing and Loading Instructions under the GENERAL INFORMATION section.

Refer to the above chart for the recommended planting intervals following Rage D-Tech applications.

Users must follow the most restrictive labeling regarding plant back restrictions, rotational guidelines, methods of application, and surfactant requirements of the tank mixture components.

**FALLOW SYSTEMS (25)**

Rage D-Tech may be utilized in Fallow Cropping Systems where crops are seeded and harvested on alternate years for soil moisture conservation and crop residue management. For treatments in the year a crop is planted, refer to PREPLANT BURNDOWN section below for use directions.

Apply Rage D-Tech by ground or air, alone or in combination with other herbicides in the fallow period prior to planting. For optimum performance, make applications to actively growing target species up to 4 inches high or rosettes less than 3 inches across. Coverage is essential for good control.

**Rage D-Tech Use Rates**

Apply Rage D-Tech at up to 32.0 fluid ozs. (up to 1.032 pounds active ingredient) per acre in fallow systems.

Apply with 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. Under dense weed canopy, large weeds, or heavy crop residue, increasing spray volume to a minimum of 15 GPA by ground and 5 GPA by air is recommended.

**Adjuvant Recommendations**

A nonionic surfactant or crop oil concentrate or methylated seed oil is required. Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient or a petroleum or oil seed based crop oil concentrate (COC) at 1.5 to 2 % v/v (1.5 to 2.0 gallons per 100 gallons of spray solution) or a methylated seed oil (MSO) at 1 to 2% v/v (1 to 2 gallons per 100 gallons of spray solution). A high quality sprayable liquid nitrogen fertilizer at 2 to 4 % v/v (2 to 4 gallons per 100 gallons) or ammonium sulfate at 2 to 4 pounds per acre may be used in addition to the selected NIS, MSO or COC.

For all products used in tank mixes, refer to the specific product labels for all restrictions on tankmixing and observe all label precautions, instructions and rotational cropping restrictions.

**Crop Planting Intervals**

The following crops may be planted 12 months after the application date:

Vegetable, leaves (Group 2)
Vegetable, tuberous and corn (Subgroups 1C and 1D)
Vegetable, bulb (Group 3)
Vegetable, leafy (Group 4)
Vegetable, brassica (Group 5)
Vegetable, legume (Group 6)
Vegetable, foliage of legume (Group 7)
Vegetable, fruiting; Okra (Group 8)
Vegetable, cucurbit (Group 9)
Bushberry (Subgroup 13A)
Herbs and Spices (Group 19)
Tropical Fruits
Rapeseed

Mustard seed
Safflower seed
Crambe seed
Borage seed
Strawberry
Horseradish
Peanut
Citrus fruit (Group 10)
Pome fruit (Group 11)
Stone fruit (Group 12)
Caneberry (Subgroup 13B)
Tree Nut, Pistachio (Group 14)
Tropical Tree Fruit
Hops
Grape
Tobacco

For crops not listed in the above table, the planting interval (days before planting) is 30 days or until residues have dissipated. However, under certain conditions, there may be a risk of injury to these crops. Factors important to consider are: the use rate (lower rates have less crop concerns), environmental conditions since warmer and moist soils will favor product degradation, while cold soils, saturated soils or dry soils favor crop injury. The user must weigh these risks and is responsible for the decision.

**The Crop Uses in the Following Sections are for In-Season Applications of Rage D-Tech**

**CORN, Field (Grain and Silage), Seed Corn, Popcorn, and Sweet Corn for Processing and Fresh Market (26)**

**Preplant Applications**

For preplant applications, refer to the Preplant Burndown section of the label page 6.

**Postemergence Applications**

Apply Rage D-Tech up to 8 fluid ounces per acre for broadcast treatments or 32 fluid ounces with drop nozzles or hooded sprayer 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. Broadcast applications can be made from spiking up to 8 inches tall. Directed applications with drop nozzles or hooded sprayers may be made to corn up to 36 inches tall. In situations of dense weed canopy, large weeds, or dense crop canopy, increasing spray volume to a minimum of 15 GPA by ground and 5 GPA by air is recommended.

Coverage is essential for good weed control.

**Adjuvant Recommendations**

Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient. Use of adjuvants other than nonionic surfactants is not recommended for broadcast foliar applications.

When applied as directed, at up to 8.0 fluid ounces per acre broadcast or 32 fluid ounces per acre directed spray, Rage D-Tech will provide control of the listed weeds up to 4-6 inches tall.

Cocklebur
Copperleaf, hophornbeam
Kochia
Lambsquarters, common
Morningglory, ivyleaf
Morningglory, pitted
Nightshade, Eastern black
Nightshade, hairy
Pennycress, field
Pigweed, prostrate
Pigweed, redroot
Pigweed, smooth
Purslane, common

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Sesbania, hemp
Smartweed, Penn.
Sunflower
Thistle, Russian
Velvetleaf
Waterhemp

Apply Rage D-Tech at labeled rates in combination with other labeled corn herbicides such as Atrazine or Glyphosate (on Glyphosate-resistant hybrids only) at their labeled use rates for broader spectrum weed control. Use only a nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient. Use of adjuvants other than nonionic surfactants in Rage D-Tech tank mixtures is not recommended for broadcast foliar applications on corn. Leaf speckling can occur when Rage D-Tech is used with certain crop protection products and adjuvants. Bromoxynil mixtures and Basagran mixtures may cause significant crop response to corn plants

Follow the most restrictive label requirements of the tank mixture components.

**Application Precautions**

The application of Rage D-Tech to corn may result in temporary crop response such as speckling or necrosis of the leaves. Application during high moisture and temperature conditions may cause injury or stalk brittleness. Do not cultivate for 7 to 10 days after treatment or stalk breakage may occur. Do not make applications if the corn foliage is wet from dew, rainfall or irrigation. Users should be aware of these inherent risks and accept these risks prior to application of Rage D-Tech.

**Restrictions**

Do not forage or feed corn fodder for 7 days following application.

**Special Corn Use Applications**

**Directed Applications**

Apply Rage D-Tech with drop nozzles or other sprayers capable of directing the spray to the target weeds and away from the whorl or foliage of the corn plant. Rage D-Tech may be used up to the maximum of 32.0 fl. oz. (1.032 pounds active) per acre per season. Refer to the Maximum Allowable Use Table (page 4). Rates between 8.0 fl. oz. and 32.0 fl. oz. can be used to aid in control of larger weeds as listed under, "Control of Weeds". Be aware that weeds growing in and under dense canopies may not receive adequate spray coverage necessitating the use of higher spray volumes for acceptable control. Use appropriate rates of adjuvants such as non-ionic surfactant (NIS), crop oil concentrate (COC) or methylated seed oil (MSO).

**Hooded Sprayer Applications**

Apply Rage D-Tech 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.

**Seed Corn Production**

For seed production fields, apply Rage D-Tech using drop nozzles or other equipment to make a directed spray treatment. Avoid directing spray solution onto corn foliage or into the whorl.

Seed corn inbreds have generally shown good tolerance to Rage D-Tech herbicide. However, all inbreds have not been tested. Broadcast applications may result in spray being concentrated into the whorl of the plant that 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 Precaution**

Rage D-Tech may be applied to sweet corn, however, the user assumes all responsibility for herbicide tolerance with such use. All hybrids/varieties have not been tested for sensitivity to Rage D-Tech herbicide. Drop nozzles or other type directed

sprayers must be used to direct the spray to the targeted weeds, to minimize application into the whorls.

Any crop response arising from the use of Rage D-Tech herbicide on sweet corn is the responsibility of the user. Use Rage D-Tech herbicide only under the recommendation of the Seed Company, food processor, or State Agricultural Extension Service.

Use only NIS as the spray adjuvant in sweet corn applications

**SORGHUM (Grain and Forage) (27)**

**PrePlant Applications**

For preplant applications, refer to the Preplant Burndown section of the label page 6.

**Postemergence Applications**

Apply up to 8 fluid ounces per acre for broadcast treatments or 16 fluid ounces with drop nozzles or hooded sprayer 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. Broadcast applications can be made from 5 inches tall to the V6 leaf stage. In situations of dense weed canopy, large weeds, or dense crop canopy, increasing spray volume to a minimum of 15 GPA by ground and 5 GPA by air is recommended.

Coverage is essential for good weed control.

**Adjuvant Recommendations**

For standalone Rage D-Tech applications, use a nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient. Use of adjuvants other than nonionic surfactants is not recommended for standalone Rage D-Tech broadcast foliar applications.

**Directed Application**

Drop nozzles are recommended if applications are to be made under cool, cloudy, wet, or high humidity conditions to limit the amount of product deposited onto sorghum leaves and/or into the sorghum whorl. Rage D-Tech may be used up to the maximum of 16.0 fl. oz. (0.516 pound active ingredient) per acre using drop nozzles for control of larger weed sizes for those weeds listed under "Control of Weeds".

**When applying Rage D-Tech postemergence to sorghum grown for seed, the use of drop nozzles is recommended to direct spray away from uppermost crop leaves and the sorghum whorl.**

**Hooded Sprayer Application**

Rage D-Tech 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.

**Precautions**

Drop nozzles or spray hoods should be used to minimize spray solution contact with crop foliage when the Rage D-Tech use rate is higher than 8.0 fl. oz. (0.258 pound active ingredient) per acre.

**When applied, as directed, at up to 8.0 fluid ounces per acre broadcast or 16 fluid ounces per acre directed spray, Rage D-Tech will provide control of the listed weeds up to 4-6 inches tall.**

Cocklebur
Copperleaf, hophornbeam
Kochia
Lambsquarters, common
Morningglory, ivyleaf
Morningglory, pitted
Nightshade, Eastern black
Nightshade, hairy
Pennycress, field
Pigweed, prostrate
Pigweed, redroot
Pigweed, smooth

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Puncturevine
Purslane, common
Sesbania, hemp
Smartweed, Pennsylvania.
Sunflower
Thistle, Russian
Velvetleaf
Waterhemp

**Sorghum Tank Mixture**

Apply Rage D-Tech with other labeled sorghum herbicides such as Atrazine at their labeled use rates for broader spectrum weed control. Use adjuvant recommendations for Atrazine or other labeled products according to label directions. When COC is recommended for broadcast post-emergence use, use only for very hot and dry application conditions.

Follow the most restrictive label requirements of the tank mixture components.

**Application Precautions**

The application of Rage D-Tech to sorghum may result in temporary crop response such as speckling or necrosis of the leaves. The use of COC will increase this potential. Application during high moisture and temperature conditions may cause injury. Do not cultivate for a week to 10 days after treatment or stalk breakage may occur. Do not make applications if the sorghum foliage is wet from dew, rainfall or irrigation. Users should be aware of these inherent risks and accept these risks prior to application of Rage D-Tech.

**Restrictions**

Do not feed fodder for 7 days following application. Do not graze meat animals on treated areas within 3 days of slaughter. Do not graze dairy animals on treated areas within 7 days after application.

**SMALL GRAINS (28)**

**Barley, Oats, Rye, Wheat.**

**PrePlant Applications**

For preplant applications, refer to the Preplant Burndown section of the label page 6.

**Postemergence Use**

Apply 8 to 32 fluid ounces per acre for broadcast treatments in a minimum finished spray volume of 10 gallons of spray per acre by ground or by air at a minimum finished spray volume of 3 gallons of spray per acre. Broadcast applications can be made from 3-tiller to jointing. In situations of dense weed canopy, large weeds, or dense crop canopy, increasing spray volume to a minimum of 15 GPA by ground and 5 GPA by air is recommended.

**Coverage is essential for good weed control.**

**Adjuvant Recommendations**

Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient. Use of adjuvants other than nonionic surfactants is not recommended for broadcast foliar applications.

A high quality sprayable liquid nitrogen fertilizer at 2 to 4 % v/v (2 to 4 gallons per 100 gallons) or ammonium sulfate at 2 to 4 pounds per acre may be used in addition to the selected NIS

**When applied, as directed, at 8.0 to 32.0 fluid ounces per acre, Rage D-Tech will provide control of the listed weeds up to 4-6 inches tall.**

Bindweed, field
Canola, volunteer
Catchweed Bedstraw
Common Mallow (Cheeseweed)
Dandelion, common
Filaree, redstem
Flixweed
Geranium, Carolina
Knotweed
Kochia

Lambsquarters, common
Nightshade, Eastern black
Nightshade, hairy
Pennycress, field
Pepperweed, Virginia
Pigweed, prostrate
Pigweed, redroot
Pigweed, smooth
Purslane, common
Rocket, London
Shepardspurse

**Restrictions**

Do not apply more than 32 fl. oz. (1.032 pound active ingredient) per acre per season including fallow, preplant burndown and labeled crop applications. Refer to the Maximum Allowable Apply Rage D-Tech at labeled rates in combination with sulfonylurea or other registered small grain herbicides at their labeled use rates for broader spectrum weed control. Use only a nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient. Use of adjuvants other than nonionic surfactants in Rage D-Tech tank mixtures is not recommended for broadcast foliar applications on small grains.

Follow the most restrictive label requirements of the tank mixture components.

**Application Precautions**

The application of Rage D-Tech to small grains may result in temporary crop response such as speckling or necrosis of the leaves. Tank mixtures with other EC or ester formulation products may increase this risk. Do not make applications if the foliage is wet from dew, rainfall or irrigation. Users should be aware of these inherent risks and accept these risks prior to application of Rage D-Tech.

**Restrictions**

Do not graze dairy animals or meat animals being finished for slaughter for 14 days following application. Do not feed treated straw to livestock.

**GRASS (Crop Group 17) (29)**

**Such as Forage, Fodder, Hay, Seed and Sod**

**PrePlant Applications**

For preplant applications, refer to the Preplant Burndown section of the label page 6.

**Postemergence Applications**

Apply 8 to 91 fluid ounces per acre for broadcast treatments 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. Broadcast applications can be made to seedling grass from 5 leaf stage to boot stage. Applications to established grasses or pastures may be made up to boot stage. In situations of dense weed canopy, large weeds, or dense crop canopy, increasing spray volume to a minimum of 15 GPA by ground and 5 GPA by air is recommended.

**Coverage is essential for good weed control.**

**Adjuvant Recommendations**

A nonionic surfactant or crop oil concentrate is required. Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient or a petroleum or oil seed based crop oil concentrate (COC) at 1.5 to 2 % v/v (1.5 to 2.0 gallons per 100 gallons of spray solution). A high quality sprayable liquid nitrogen fertilizer at 2 to 4 % v/v (2 to 4 gallons per 100 gallons) or ammonium sulfate at 2 to 4 pounds per acre may be used in addition to the selected NIS or COC.

**When applied as directed, at 8.0 to 91.0 fluid ounces per acre, Rage D-Tech will provide control or partial control of the listed weeds 4-6 inches tall.**

Bedstraw, catchweed
Bindweed, field
Burdock, common
Buttercup, small flower
Broomweed*

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Chickweed*
Croton, wooly (Goatweed)
Devils Claw
Dandelion
Evening primrose, common
Evening primrose, cutleaf
Filaree, Redstem*
Fleabane, daisy*
Fleabane, rough*
Flixweed
Galinsoga
Geranium, Carolina
Horseweed (Marestail)*
Honeysuckle*
Ironweed*
Jimsonweed*
Jerusalem Artichoke*
Knotweed
Kochia
Lambsquarters, common
Lettuce, prickly*
Mallow, common (Cheeseweed)
Mint, purple*
Morningglory, annual
Morningglory, common
Morningglory, ivy
Morningglory, wooly
Mustard, wild
Nettle, stinging
Nightshade, Eastern black
Nightshade, hairy
Pennycress, field
Pepperweed, Virginia
Pigweed, prostrate
Pigweed, redroot
Pigweed, smooth
Pigweed, spiny
Plaintain, buckhorn,
Poison ivy *
Puncturevine
Purslane, common
Ragweed, common
Ragweed, giant*
Ragweed, lanceleaf
Rocket, London
Shepardspurse
Sicklepod*
Smartweed, Penn.
Sneezeweed, bitter
Sowthistle, annual
Spurry, corn
Star of Bethlehem
Starthistle, yellow*
Sumac*
Sunflower
Tansymustard
Thistle, musk
Thistle, plumeless
Thistle, Russian
Wallflower, bushy
Willow*

**\*Partial control only.**

Rage D-Tech may be applied with fertilizer solutions. Up to 1/2 of the spray volume (by air or ground) may be liquid nitrogen fertilizer. See *Mixing and Loading Instructions (15)* for further information on application using fertilizer solutions as the carrier.

**Tank Mixtures**

Rage D-Tech may be applied in tank mixtures with other labeled herbicides to enhance control of labeled weeds or to control weeds not listed on this label. Read and follow all manufacturers label directions for the companion herbicide.

Follow the most restrictive label requirements of the tank mixture components.

**Application Precautions**

Rage D-Tech has provided good safety on grass species, however not all grass species and varieties have been evaluated. Check with local extension agents, specialists or FMC representatives to determine if your grass species has been evaluated. If tolerance is unknown, it is recommended to try Rage D-Tech on a small area prior to treating entire field. The application of Rage D-Tech may result in temporary crop response such as speckling or necrosis of the leaves.

Do not make applications if the foliage is wet from dew, rainfall or irrigation. Users should be aware of these inherent risks and accept these risks prior to application of Rage D-Tech.

**Restrictions**

Do not apply more than 91 fluid ounces per acre per season.  
Do not graze dairy animals for 7 days following application  
Do not harvest grass for Hay for 30 days following application.  
Remove meat animals from treated pastures or rangeland 3 days before slaughter.  
Do not make applications less than 7 days apart.  
Do not make more than 3 applications per season.

**HARVEST AID APPLICATIONS (30)**

Rage D-Tech may be applied as a harvest aid in small grains (wheat, barley, oats, rye) and field corn to control or suppress weeds such as morningglory, kochia; horseweed (marestail), Russian thistle, bindweed, cocklebur, jimsonweed, pigweeds, ragweed, sunflower, and velvetleaf that may interfere with harvest operations. Apply Rage D-Tech at 16.0 to 32.0 fluid oz per acre in spray volumes outlined in the crop sections of this label. Do not apply harvest aid treatments until after the hard dough stage.

**Adjuvant Recommendations**

A nonionic surfactant or crop oil concentrate or methylated seed oil is required. Use a nonionic surfactant (NIS) at 0.25% v/v (2 pints per 100 gallons of spray solution) having at least 80% active ingredient or a petroleum or oil seed based crop oil concentrate (COC) at 1.5 to 2 % v/v (1.5 to 2.0 gallons per 100 gallons of spray solution) or a methylated seed oil (MSO) at 1 to 2% v/v (1 to 2 gallons per 100 gallons of spray solution). A high quality sprayable liquid nitrogen fertilizer at 2 to 4 % v/v (2 to 4 gallons per 100 gallons) or ammonium sulfate at 2 to 4 pounds per acre may be used in addition to the selected NIS, MSO or COC.

**Coverage is essential for good weed control.**

**Restrictions**

Do not graze dairy animals or meat animals being finished for slaughter for 14 days following application.  
Do not feed treated straw to livestock.  
Do not apply less than 7 days prior to grain harvest of small grains, or less than 3 days after treatment of field corn.

**LABEL TRACKING INFORMATION (31)**

Label Code: (Added just prior to release by FMC Product Registrations)

Submitted: RageD-Tech\_3\_06-13-07(Red)  
EPA Approval Date:

**FMC Corporation**

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