

GROUP 9 HERBICIDE

# MON 866

Herbicide



LICENSED

PERIOD 2015-2017 LIC. NO.

9322.161



Specially formulated for Roundup Ready® crops



LICENSED

PERIOD 2012-2014 LIC. NO.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY® CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION IS MAY RESULT.

Herbicide for Roundup Ready Crops

The complete broad-spectrum postemergence herbicide for weed control in many agricultural systems.

Selective broad-spectrum weed control in Roundup Ready crops. Non-selective, broad-spectrum weed control for many agricultural systems and farmsteads.

Carefully follow detailed instructions in label booklet.

Read the entire label before using this product.

Use only according to label instructions.

Read the "LIMIT OF WARRANTY AND LIABILITY" statement, which appears in the label booklet, before buying or using. If terms are not acceptable, return at once unopened.

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. IT IS INTENDED THAT REPACKAGING BE ONLY IN ACCORDANCE WITH A MONSANTO REPACKAGING OR TOLL REPACKAGING AGREEMENT.

PRECAUTIONARY STATEMENTS  
Hazards to Humans and Domestic Animals

Keep out of reach of children

**CAUTION!**

CAUSES MODERATE EYE IRRITATION  
HARMFUL IF INHALED

Avoid contact with eyes, skin, or clothing.  
Avoid breathing vapor or spray mist.



LICENSED

PERIOD 2009-2011 LIC. NO.

<b>FIRST AID:</b> Call a poison control center or doctor for treatment advice.	
<b>IF IN EYES</b>	<ul style="list-style-type: none"> <li>Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.</li> <li>Remove contact lenses if present after the first 5 minutes then continue rinsing eye.</li> </ul>
<b>IF ON SKIN</b>	<ul style="list-style-type: none"> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15 to 20 minutes.</li> </ul>
<b>IF INHALED</b>	<ul style="list-style-type: none"> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.</li> </ul>
<ul style="list-style-type: none"> <li>Have the product container or label with you when calling a poison control center or doctor, or going for treatment.</li> <li>You may also contact (314) 694-4000, collect day or night, for emergency medical treatment information.</li> <li>This product is identified as <b>MON 866 Herbicide, EPA Registration No. 524-544.</b></li> </ul>	

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

**Personal Protective Equipment (PPE)**

Some of the materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for Category A on an EPA chemical resistance category selection chart.

**Mixers, Loaders, Other Handlers and Applicators, when handling this concentrated product or its application solutions of 30 percent concentration or greater, must wear:** long-sleeved shirt and long pants, shoes, socks, and chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride.

**Applicators, when handling only spray solutions where concentration is 30 percent of this product or less, must wear:** long-sleeved shirt and long pants, shoes, and socks.

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

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

<p><b>User Safety Recommendations</b></p> <p>Users should:</p> <ul style="list-style-type: none"> <li>Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.</li> <li>Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.</li> </ul>
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**Environmental Hazards**

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

**Physical or Chemical Hazards**

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

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

**DIRECTIONS FOR USE**

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

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

<p><b>Agricultural Use Requirements</b></p> <p>Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. Refer to supplemental labeling under "AGRICULTURAL USE REQUIREMENTS" in the DIRECTIONS FOR USE section for information about this standard.</p>
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<p><b>Non-Agricultural Use Requirements</b></p> <p>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.</p> <p>Keep people and pets off treated areas until spray solution has dried.</p>
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**STORAGE AND DISPOSAL**

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

**PESTICIDE STORAGE:** Keep container closed to prevent spills and contamination.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, State, or local procedures.

**CONTAINER DISPOSAL:** Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned, or destroyed.

This container must only be refilled with pesticide product. **Do not reuse this container for any other purpose.**

Final disposal must be in compliance with State and local regulations. If not refilled, returned or recycled, triple rinse or pressure rinse, 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.

Do not transport this container if it is damaged or leaking. If this container is damaged, leaking or obsolete, or to obtain information about recycling portable refillable containers, contact Monsanto Company at 1-800-ROUNDUP (1-800-768-6387).

**Users:** When this container is empty, replace the cap and seal all openings that have been made during usage, and return the container to the point of purchase, or to an alternate location designated by the manufacturer at the time of purchase of this product. If not returned, triple rinse or pressure rinse the empty container and offer it for recycling, if available.

**Refillers:** Do not reuse this mini-bulk container except for refill in accordance with a valid Monsanto Agreement for Repackaging and Toll Repackaging. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, and worn-out threads and closure devices. Check for leaks after refilling and before transporting.

(See label booklet for Complete Directions for Use.)

<b>ACTIVE INGREDIENT:</b>	
*Glyphosate, N-(phosphonomethyl)glycine, in the form of its potassium salt	48.8%
<b>OTHER INGREDIENTS:</b>	51.2%
	100.0%

\*Contains 660 grams per liter or 5.5 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its potassium salt. Equivalent to 540 grams per liter or 4.5 pounds per U.S. gallon of the acid, glyphosate.

This product is protected by U.S. Patent No's. 5,668,085 and 6,365,551. Other Patents Pending. No license granted under any non-U.S. patent(s).

EPA Est. (L) 524-LA-1 or (M) 524-IA-1

Lot number prefix L or M indicates appropriate establishment number.

For product information or assistance in using this product, Call toll-free, 1-800-332-3111

Cropshield Formula and Design, Roundup Ready, and Monsanto and Vine Design are registered trademarks of Monsanto Technology LLC.

Packed For:  
MONSANTO COMPANY  
800 N. LINDBERGH BLVD.  
ST. LOUIS, MISSOURI, 63167 USA  
©2009

EPA Reg. No. 524-544

63034H1-2/53



PLACE  
Complete Directions For Use  
Booklet  
HERE

NET 150 GAL

63034H1-1/53

**MON**

**866**

Herbicide



*Specially formulated  
for Roundup Ready® crops*

## Complete Directions for Use

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY® CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

Herbicide for Roundup Ready Crops

The complete broad-spectrum postemergence herbicide  
for weed control in many agricultural systems.

Selective broad-spectrum weed control in Roundup Ready crops.  
Non-selective, broad-spectrum weed control for many agricultural  
systems and farmsteads.

EPA Reg. No. 524-544

2009-1

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Not all products recommended on this label are registered for use in California. Check the registration status of each product in California before using.

Read the entire label before using this product.

Use only according to label instructions.

Read the "LIMIT OF WARRANTY AND LIABILITY" statement at the end of the label before buying or using. If terms are not acceptable, return at once unopened.

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. SEE INDIVIDUAL CONTAINER LABEL FOR REPACKAGING LIMITATIONS.

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## 1.0 INGREDIENTS

### ACTIVE INGREDIENT:

\*Glyphosate, N-(phosphonomethyl)glycine, in the form  
of its potassium salt . . . . . 48.8%

OTHER INGREDIENTS: . . . . . 51.2%  
100.0%

\*Contains 660 grams per liter or 5.5 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its potassium salt. Equivalent to 540 grams per liter or 4.5 pounds per U.S. gallon of the acid, glyphosate.

This product is protected by U.S. Patent No's. 5,668,085 and 6,365,551. Other Patents Pending. No license granted under any non-U.S. patent(s).

## 2.0 IMPORTANT PHONE NUMBERS

FOR PRODUCT INFORMATION OR ASSISTANCE  
IN USING THIS PRODUCT,  
**CALL TOLL-FREE, 1-800-332-3111**  
IN CASE OF AN EMERGENCY INVOLVING THIS HERBICIDE PRODUCT,  
OR FOR MEDICAL ASSISTANCE,  
**CALL COLLECT, DAY OR NIGHT, (314)-694-4000**

IMPORTANT PHONE NUMBERS

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## 3.0 PRECAUTIONARY STATEMENTS

### 3.1 Hazards to Humans and Domestic Animals

Keep out of reach of children

## CAUTION!

CAUSES MODERATE EYE IRRITATION  
HARMFUL IF INHALED

Avoid contact with eyes, skin, or clothing. Avoid breathing vapor or spray mist.

<b>FIRST AID:</b> Call a poison control center or doctor for treatment advice.	
<b>IF IN EYES</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.</li> <li>• Remove contact lenses if present after the first 5 minutes then continue rinsing eye.</li> </ul>
<b>IF ON SKIN</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15 to 20 minutes.</li> </ul>
<b>IF INHALED</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.</li> </ul>
<ul style="list-style-type: none"> <li>• Have the product container or label with you when calling a poison control center or doctor, or going for treatment.</li> <li>• You may also contact (314) 694-4000, collect day or night, for emergency medical treatment information.</li> <li>• This product is identified as <b>MON 866 Herbicide, EPA Registration No. 524-544.</b></li> </ul>	

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

#### Personal Protective Equipment (PPE)

Some of the materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for Category A on an EPA chemical resistance category selection chart.

**Mixers, Loaders, Other Handlers and Applicators, when handling this concentrated product or its application solutions of 30 percent concentration or greater, must wear:** long-sleeved shirt and long pants, shoes, socks, and chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride.

**Applicators, when handling only spray solutions where concentration is 30 percent of this product or less, must wear:** long-sleeved shirt and long pants, shoes, and socks.

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

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

#### User Safety Recommendations

Users should:

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

## 3.2 Environmental Hazards

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

## 3.3 Physical or Chemical Hazards

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

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

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. This product can only be used in accordance with the Directions for Use on this label or in separately published Monsanto supplemental labeling. Supplemental labeling can be found on the Internet at [www.cdms.net](http://www.cdms.net) or [www.greenbook.net](http://www.greenbook.net) or obtained from your Authorized Monsanto Retailer or Monsanto Company Representative.

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

### Agricultural Use Requirements

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

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours.

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

### Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

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

## 4.0 STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Keep container closed to prevent spills and contamination.

## STORAGE AND DISPOSAL

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**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, State, or local procedures.

**CONTAINER DISPOSAL:** Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned, or destroyed.

See container label for additional CONTAINER DISPOSAL instructions.

## 5.0 GENERAL INFORMATION (How This Product Works)

**Product Description:** This product is a postemergence, systemic herbicide with no soil residual activity. It is generally non-selective and gives broad-spectrum control of many annual weeds, perennial weeds, woody brush and trees. It is formulated as a water-soluble liquid. It may be applied through most standard industrial or field sprayers after dilution and thorough mixing with water or other carriers according to label instructions.

Do not add buffering agents or pH adjusting agents to the spray solution when **MON 866 Herbicide** is the only pesticide used unless otherwise directed. See the "MIXING" section of this label for instructions regarding other additives.

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

**Stage of Weeds:** Annual weeds are easiest to control when they are small. Best control of most perennial weeds is obtained when treatment is made at late growth stages approaching maturity. Refer to the "ANNUAL WEEDS

RATE SECTION", "PERENNIAL WEEDS RATE SECTION" and "WOODY BRUSH AND TREES RATE SECTION" for specific weed recommendations.

Always use the higher product application rate in the recommended range when weed growth is heavy or dense, or when weeds are growing in an undisturbed (non-cultivated) area.

Reduced weed control may result from treating weeds with disease or insect damage, weeds heavily covered with dust, or weeds under poor growing conditions.

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

**Rainfastness:** Heavy rainfall soon after application may wash this product off of the foliage and a repeat application may be required for adequate control.

**Spray Coverage:** For best results, spray coverage should be uniform and complete. Do not spray foliage to the point of run-off.

**Mode of Action:** The active ingredient in this product inhibits an enzyme found only in plants and microorganisms that is essential to the formation of specific amino acids.

**No Soil Activity:** Weeds must be emerged at the time of application to be controlled by this product. Weeds germinating from seed after application will not be controlled. Unemerged plants arising from unattached underground rhizomes or root stocks of perennials will not be affected by this herbicide and will continue to grow.

**Biological Degradation:** Degradation of this product is primarily a biological process carried out by soil microbes.

**Maximum Application Rates:** The maximum application or use rates stated throughout this label are given in units of volume (fluid ounces or quarts) of this product per acre. However, the maximum allowed application rates apply to this product combined with the use of any and all other herbicides containing the active ingredient glyphosate, whether applied separately or as tank mixtures, on a basis of total pounds of glyphosate (acid equivalents) per acre. If more than one glyphosate-containing

## GENERAL INFORMATION

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product is applied to the same site within the same year, you must ensure that the total use of glyphosate (pounds acid equivalents) does not exceed the maximum allowed. See the “INGREDIENTS” section of this label for necessary product information.

Except as otherwise specified in a crop section of this label, the combined total of all treatments must not exceed 5.3 quarts of this product (6 pounds of glyphosate acid) per acre per year. For applications in non-crop sites, or in tree, vine or shrub crops, the combined total of all treatments must not exceed 7 quarts of this product (8 pounds of glyphosate acid) per acre per year.

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

## 6.0 WEED RESISTANCE MANAGEMENT

GROUP	9	HERBICIDE
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Glyphosate, the active ingredient in this product, is a Group 9 herbicide based on the mode of action classification system of the Weed Science Society of America. Any weed population may contain plants naturally resistant to Group 9 herbicides. Weed species resistant to Group 9 herbicides may be effectively managed utilizing another herbicide from a different Group, or by using other cultural or mechanical practices.

### 6.1 General Weed Management Recommendations

To minimize the occurrence of glyphosate-resistant biotypes, observe the following general weed management recommendations:

- Scout your fields before and after herbicide applications.
- Start with a clean field, using either a burndown herbicide application or tillage.

- Control weeds early when they are relatively small.
- Add other herbicides (e.g., a selective and/or a residual herbicide) and cultural practices (e.g., tillage or crop rotation) where appropriate.
- One method for adding other herbicides into a continuous Roundup Ready system is to rotate to other Roundup Ready crops.
- Utilize the recommended label rate for the most difficult to control weed in your field. Avoid tank mixtures with other herbicides that reduce this product’s efficacy (through antagonism), or tank mixture recommendations that encourage application rates of this product below the label recommendations.
- Control weed escapes and prevent weeds from setting seeds.
- Clean equipment before moving from field to field to minimize the spread of weed seed or plant parts.
- Use new commercial seed that is as free of weed seed as possible.
- Report any incidence of repeated non-performance of this product on a particular weed to your Monsanto representative, local retailer, or county extension agent.

### 6.2 Management Recommendations For Glyphosate-Resistant Biotypes

**NOTE:** Appropriate testing is critical in order to determine if a weed is resistant to glyphosate. Call 1-800-ROUNDUP (1-800-768-6387) or contact your Monsanto representative to determine if resistance has been confirmed to any particular weed biotype in your area, or visit on the Internet [www.weedresistancemanagement.com](http://www.weedresistancemanagement.com) or [www.weedscience.org](http://www.weedscience.org). For more information see the “ANNUAL WEEDS RATE SECTION” and “PERENNIAL WEEDS RATE SECTION” of this label.

Control recommendations for biotypes confirmed as resistant to glyphosate are made available on separately published supplemental labeling or Fact Sheets for this product and can be obtained from your local retailer or Monsanto representative.

## WEED RESISTANCE MANAGEMENT 14

Since the occurrence of new glyphosate-resistant weeds cannot be determined until after product use and scientific confirmation, Monsanto Company is not responsible for any losses that may result from the failure of this product to control glyphosate-resistant weed biotypes.

**The following good agronomic practices are recommended to reduce the spread of confirmed glyphosate-resistant biotypes:**

- If a naturally occurring resistant biotype is present in your field, this product should be tank-mixed or applied sequentially with an appropriately labeled herbicide with a different mode of action to achieve control.
- Cultural and mechanical control practices (e.g., crop rotation or tillage) may also be used as appropriate.
- One method for adding other herbicides into a continuous Roundup Ready system is to rotate to other Roundup Ready crops.
- Scout treated fields after herbicide applications and control escaping weeds including resistant biotypes before they set seed.
- Thoroughly clean equipment before leaving fields known to contain resistant biotypes.

## 7.0 MIXING

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

**DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS.**

**PRODUCT PERFORMANCE MAY BE SIGNIFICANTLY REDUCED IF WATER CONTAINING SOIL SEDIMENT IS USED AS CARRIER. DO NOT MIX THIS PRODUCT WITH WATER FROM PONDS OR DITCHES THAT IS VISIBLY MUDDY OR MURKY.**

Eliminate any risk of siphoning the contents of the tank back into the carrier source while mixing. Use approved anti-back-siphoning devices where required by State or local regulations.

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

## 7.1 Mixing with Water

This product mixes readily with water. Mix spray solutions of this product as follows. Begin filling the mixing tank or spray tank with clean water. Add the recommended amount of this product near the end of the filling process and mix gently. During mixing, foaming of the spray solution may occur. To prevent or minimize foaming, mix gently, terminate bypass and return lines at the bottom of the tank, and, if necessary, use an anti-foam or defoaming agent.

## 7.2 Tank Mixtures

This product does not provide residual weed control. This product may be tank-mixed with other herbicides to provide residual weed control, a broader weed control spectrum or an alternate mode of action. Always read and follow label directions for all products in the tank mixture.

Some tank mixture products have the potential to cause crop injury under certain conditions, at certain growth stages and/or under other circumstances. Read all labels for products used in the tank mixture prior to use to determine the potential for crop injury.

Tank mixtures with other herbicides, insecticides, fungicides, micronutrients or foliar fertilizers may result in reduced weed control or crop injury and are NOT recommended for applications of this product unless otherwise noted in this product label, or in separate supplemental labeling or Fact Sheets published by Monsanto. Monsanto has not tested all tank-mix product formulations for compatibility, antagonism or reduction in product performance. Buyer and all users are responsible for all loss or damage in connection with the use or handling of mixtures of this product with

herbicides or other materials that are not expressly recommended in this labeling, or in separate supplemental labeling or Fact Sheets published by Monsanto for this product.

When a tank mixture with a generic active ingredient, such as diuron, atrazine, 2,4-D or dicamba is recommended in this label, the user is responsible for ensuring that the specific application being made is included on the label of the product being used in the tank mixture.

Refer to all individual product labels, supplemental labeling and Fact Sheets for all products in the tank mixture, and observe all precautions and limitations on the label, including application timing restrictions, soil restrictions, minimum re-cropping interval and rotational guidelines. Use according to the most restrictive precautionary statements for each product in the tank mixture.

Always predetermine the compatibility of all tank-mix products together in the carrier by mixing small proportional quantities in advance.

For best results, it is recommended that tank mixtures with this product be applied at a minimum spray volume rate of 10 gallons per acre.

## 7.3 Tank-Mixing Procedure

Prepare tank mixtures of this product as follows:

1. Place a 20- to 35-mesh screen or wetting basket over the filling port of the tank.
2. Through the screen, fill the tank one-half full with water and start gentle agitation.
3. If ammonium sulfate is to be used, add it slowly through the screen into the tank and continue adding water into the tank through the screen. If dry ammonium sulfate is being used, ensure that it is completely dissolved in the tank before adding other products.
4. If a wettable powder is used, first make a slurry with water and add it SLOWLY through the screen into the tank while continuing gentle agitation.

5. If a flowable formulation is used, premix one part flowable with one part water and add diluted mixture SLOWLY through the screen into the tank while continuing gentle agitation.
6. If an emulsifiable concentrate formulation is used, premix one part emulsifiable concentrate with two parts water and add diluted mixture SLOWLY through the screen into the tank while continuing gentle agitation.
7. Continue filling the tank with water through the screen and add the required amount of this product near the end of the filling process.
8. Add individual tank-mix components to the tank as follows: wettable powders, flowables, emulsifiable concentrates, drift reduction additives, water soluble liquids (this product).

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

Keep by-pass and return lines on or near the bottom of the tank to minimize foaming.

Screen size in nozzle or line strainers should be no finer than 50 mesh.

## 7.4 Mixing for Hand-Held Sprayers

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

### Spray Solution

Desired Volume	Amount of MON 866 Herbicide					
	0.4%	0.7%	1%	1.5%	4%	7%
1 gal	0.5 oz	1 oz	1.3 oz	2 oz	5 oz	9 oz
25 gal	0.8 pt	0.7 qt	1 qt	1.5 qt	4 qt	7 qt
100 gal	1.6 qt	2.8 qt	1 gal	1.5 gal	4 gal	7 gal

2 tablespoons = 1 fluid ounce

For backpack sprayers, it is recommended that the appropriate amount of this product be mixed with water in a larger container and then filling the sprayer with the mixed solution.

## 7.5 Surfactant

Although not generally required, surfactant may be added to this product. However, surfactant addition is recommended at water carrier volumes above 30 gallons per acre or rates below 16 fluid ounces per acre.

Nonionic surfactants which are labeled for use with herbicides may be used. Do not reduce rates of this product when adding surfactant. When adding additional surfactant, a rate of 0.25 to 0.50 percent surfactant concentration (1 to 2 quarts per 100 gallons of spray solution) when using surfactants which contain at least 70 percent active ingredient, or a 1 percent surfactant concentration (4 quarts per 100 gallons of spray solution) for those surfactants containing less than 70 percent active ingredient is recommended. Read and carefully observe surfactant cautionary statements and other information appearing on the surfactant label.

When applied as recommended under the conditions described, this product controls annual and perennial weeds listed in the label booklet.

## 7.6 Ammonium Sulfate

The addition of 1 to 2 percent dry ammonium sulfate by weight, or 8.5 to 17 pounds per 100 gallons of water, may increase the performance of this product on annual and perennial weeds, particularly under hard water conditions, drought conditions or when tank-mixed with certain residual herbicides. The equivalent rate of ammonium sulfate in a liquid formulation may also be used. Ensure that dry ammonium sulfate is completely dissolved in the spray tank before adding herbicides. Thoroughly rinse the spray system with clean water after use to reduce corrosion.

**NOTE:** When using ammonium sulfate, apply this product at rates recommended in this label. Lower rates will result in reduced performance.

## 7.7 Colorants or Dyes

Colorants or marking dyes may be added to spray solutions of this product; however, they can reduce product performance. Use colorants or dyes according to the manufacturer's recommendations.

## 7.8 Drift Reduction Additives

Drift reduction additives may be used with all equipment types, except wiper applicators, sponge bars and controlled droplet applicator (CDA) equipment. When a drift reduction additive is used, read and carefully observe all precautions, limitations and all other information on the product label. Use of drift reduction additives can affect spray coverage, which can reduce product performance.

## 8.0 APPLICATION EQUIPMENT AND TECHNIQUES

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

This product may be applied with the following application equipment:

**Aerial**—Fixed-wing and helicopter

**Ground Broadcast Spray**—Boom or boomless systems, pull-type sprayers, floaters, pick-up sprayers, spray coupes and other ground broadcast equipment

**Hand-Held or Backpack Equipment**—Backpack sprayers, pump-up pressure sprayers, handguns, handwands, mistblowers\*, lances and other hand-held and motorized spray equipment used to direct the spray onto weed foliage

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

**Selective Equipment**—Shielded and hooded sprayers, wiper applicators and sponge bars

**Injection Systems**—Aerial or ground injection sprayers

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

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING THE DESIRED VOLUMES.

## 8.1 Aerial Equipment

All labeled treatments may be made by aerial equipment where appropriate, provided that the applicator complies with the precautions and restrictions specified on this label and in separate supplemental labeling published by Monsanto for this product.

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS SPECIFIED IN THIS LABEL.

Use the recommended rates of this herbicide in 3 to 15 gallons of water per acre unless otherwise specified on this label, or in separate supplemental labeling or Fact Sheets published by Monsanto for this product. Unless otherwise specified, do not exceed 44 fluid ounces per acre using aerial spray equipment. Refer to the individual use area sections of this label for recommended volumes, application rates, and additional use instructions.

FOR AERIAL APPLICATION IN ARKANSAS AND CALIFORNIA, OR SPECIFIC COUNTIES THEREIN, REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATIONS IN THAT STATE OR COUNTY FOR SPECIFIC INSTRUCTIONS, RESTRICTIONS AND REQUIREMENTS.

This product, when tank-mixed with dicamba, may not be applied by air in California.

When tank-mixing this product with 2,4-D, only 2,4-D amine formulations may be used for aerial application in California. Tank mixtures with 2,4-D amine formulations may be applied by air in California for fallow and reduced tillage systems, and for alfalfa and pasture renovation applications only.

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

### AERIAL SPRAY DRIFT MANAGEMENT

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops.

1. The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
2. Nozzles must always point backward, parallel with the air stream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they should be observed.

### Importance of Droplet Size

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

### Controlling Droplet Size

- **Volume:** Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with the higher rated flows produce larger droplets.
- **Pressure:** Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of nozzles:** Use the minimum number of nozzles that provide uniform coverage.

- **Nozzle orientation:** Orienting nozzles so that the spray is released backwards, parallel to the air stream, will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- **Nozzle type:** Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.
- **Boom length:** For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.
- **Application height:** Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces the exposure of the droplets to evaporation and wind.

### Swath Adjustment

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

### Wind

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

### Temperature and Humidity

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

### Temperature Inversions

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small, suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun 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 product should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

Avoid direct application to any body of water.

### Aircraft Maintenance

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

## 8.2 Ground Broadcast Equipment

Apply the recommended rates of this product in 3 to 40 gallons of water per acre as a broadcast spray, unless otherwise specified on this label, or

in separate supplemental labeling or Fact Sheets published by Monsanto for this product. As density of weeds increases, spray volume should be increased within the recommended range to ensure complete coverage. Carefully select proper nozzles to avoid generating a fine mist. For best results with ground application equipment, use flat spray nozzles. Check spray pattern for uniform distribution.

## 8.3 Hand-Held or Backpack Equipment

Apply to foliage of vegetation to be controlled. Spray coverage should be uniform and complete. Use coarse sprays only. For applications made on a spray-to-wet basis, do not spray to the point of run-off. For recommended rates and timing, refer to the “ANNUAL WEEDS—HAND-HELD OR BACKPACK EQUIPMENT” section of this product label.

## 8.4 Selective Equipment

This product may be diluted in water and applied through shielded sprayers, hooded sprayers, wiper applicators or sponge bars to weeds listed on this label growing in any non-crop site specified on this label.

In cropping systems, shielded sprayers, hooded sprayers, and wipers may be used in row middles (in between rows of crop plants). Wipers may be used over the top of crops only when specifically recommended in this label. Such equipment must be capable of preventing all crop contact with the herbicide solutions and operated without leakage of spray mists or dripping onto crop.

### AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.

Contact of this product with desirable vegetation may result in unwanted plant damage or destruction.

### Shielded and Hooded Sprayers

This product, when applied at recommended rates under the conditions described in the following paragraphs for shielded and hooded sprayers, will control those weeds listed in the “ANNUAL WEEDS RATE SECTION”

and “PERENNIAL WEEDS RATE SECTION” of this label. A hooded sprayer is a type of shielded sprayer where the spray pattern is fully enclosed, including the top, sides, front and back, thereby shielding the crop from the spray solution. Adjust the shields on these sprayers to protect desirable vegetation. When applying to crops grown on raised beds, ensure that the hood is capable of completely enclosing the spray pattern. If necessary, extend the front and rear flaps of the hooded applicator downward to reach the ground in deep furrows. **EXTREME CARE MUST BE TAKEN TO AVOID CONTACT OF THIS HERBICIDE WITH DESIRABLE VEGETATION.**

This equipment must be configured and operated in a manner that minimizes bouncing and avoids raising the hood up off the ground surface at any time. If the hood is raised, spray particles may escape and come into contact with the crop, causing damage to or destruction of the crop. Avoid operating this equipment on rough or sloping terrain where the spray hood might be raised up off the ground surface.

Use hoods designed to minimize excessive dripping or run-off down the insides of the hoods. A single, low pressure, low-drift, flat-fan nozzle with an 80 to 95 degree spray angle positioned at the top center of the hood is recommended. Spray volume should be 20 to 30 gallons per acre.

These procedures will reduce the potential for crop injury:

- Spray hoods must be operated on the ground or skimming across the ground surface.
- Leave at least an 8-inch untreated strip over the drill row. (For example, if the crop row width is 38 inches, the maximum width of the spray hood should be 30 inches.)
- Operate at ground speeds of no greater than 5 miles per hour to avoid bouncing of the spray hoods.
- Apply when wind speeds are 10 miles per hour or less.
- Use low-drift nozzles that provide uniform coverage within the treated area.

Crop injury may occur when foliage of treated weeds comes into direct contact with leaves of the crop. Do not apply this product when crop leaves are growing in direct contact with weeds to be treated. Droplets, mist,

foam or splatter of the herbicide solution settling onto desirable vegetation may result in discoloration, stunting or destruction.

### Wiper Applicators

Wiper applicators are devices that physically wipe appropriate amounts of this product directly onto the weed. Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation.

Application equipment used over the top of desirable vegetation should be adjusted so that the wiper contact point is at least 2 inches above the desirable vegetation. Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds should be a minimum of 6 inches above the desirable vegetation. Adjust height of applicator to ensure adequate contact with weeds. Weeds not contacted by the herbicide solution will not be affected. Poor contact may occur when weeds are growing in dense clumps, in severe weed infestations or when weed height varies dramatically. In these instances, repeat treatments may be necessary.

Operate this equipment at ground speeds no greater than 5 miles per hour. Performance may be improved by reducing speed in areas of heavy weed infestations to provide adequate wiper saturation with the herbicide solution. Better results may be obtained when two applications are made in opposite directions.

Droplets, mist, foam or splatter of the herbicide solution settling onto desirable vegetation may result in discoloration, stunting or destruction. Avoid leakage or dripping onto desirable vegetation. Keep wiping surfaces clean. Be aware that on sloping ground the herbicide solution may migrate, causing dripping on the lower end and drying of the wicks on the upper end of the wiper applicator.

Do not use wiper applicators when weeds are wet.

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

Do not add surfactant to the herbicide solution.

**For Rope or Sponge Wick Applicators**—Use solutions ranging from 33 to 75 percent of this product in water.

**For Panel Applicators**—Use solutions ranging from 33 to 100 percent of this product in water.

## 8.5 Injection Systems

This product may be used in aerial or ground injection spray systems. It may be used as a liquid concentrate or diluted prior to injecting into the spray stream. Do not mix this product with the concentrate of other products for use in injection systems.

## 8.6 CDA Equipment

The rate of this product applied per acre by vehicle-mounted controlled droplet applicator (CDA) equipment must not be less than the amount recommended in this label when applied by conventional broadcast equipment. For vehicle-mounted CDA equipment, apply in 2 to 15 gallons of water per acre.

For control of annual weeds with hand-held CDA units, apply a 20-percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 1.5 miles per hour (1 quart per acre). For the control of perennial weeds, apply a 20- to 30-percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 0.75 miles per hour (2 to 3 quarts per acre).

Controlled droplet applicators produce a spray pattern that is not easily visible. Extreme care must be taken to avoid spray or drift from contacting the foliage or any other green tissue of desirable vegetation, as damage or destruction of the plant may result.

## 9.0 ANNUAL AND PERENNIAL CROPS (Alphabetical)

**NOTE:** THIS SECTION GIVES GENERAL DIRECTIONS THAT APPLY TO ALL CROPS LISTED ALPHABETICALLY IN THE SECTIONS THAT FOLLOW. SEE THE INDIVIDUAL CROP SECTIONS FOR SPECIFIC USE INSTRUCTIONS, PREHARVEST INTERVALS, AND ADDITIONAL PRECAUTIONS AND RESTRICTIONS.

See the “ROUNDUP READY CROPS” section of this label, or separately published Monsanto supplemental labeling for this product, for instructions on applications in Roundup Ready crops.

**TYPES OF APPLICATIONS:** Chemical Fallow, Preplant Fallow Beds, Preplant, At-Planting, Preemergence, Hooded Sprayer in Row Middles, Shielded Sprayer in Row Middles, Wiper Application in Row Middles, Post-Harvest

**GENERAL USE INSTRUCTIONS:** Apply this product during fallow intervals preceding planting, prior to planting or transplanting, at-planting, or preemergence to annual and perennial crops listed in this label, except where specifically limited. For any crop not listed in this label, applications must be made at least 30 days prior to planting. Unless otherwise specified, weed control applications may be made according to the rates listed in the “ANNUAL WEEDS RATE SECTION”, “PERENNIAL WEEDS RATE SECTION” and “WOODY BRUSH AND TREES RATE SECTION” of this label. Recommended rates of this product specified on this label for the control of tough weeds, or those specified on separate supplemental labeling for this product, supersede rates recommended in the “ANNUAL WEEDS RATE SECTION”, “PERENNIAL WEEDS RATE SECTION” and “WOODY BRUSH AND TREES RATE SECTION” of this label. Additional information on the control of tough weeds can be found in Fact Sheets published by Monsanto for this product.

Repeat applications may be made up to a maximum of 5.3 quarts of this product per acre per year.

Post-directed hooded sprayers and wiper applicators capable of preventing all crop contact with the herbicide solution may be used in mulched or unmulched row middles after crop establishment. Where specifically noted

in the individual crop sections that follow, wipers may be used above certain crops to control tall weeds. Refer to the “SELECTIVE EQUIPMENT” section of this label for essential precautions regarding crop injury. Crop injury is possible with these types of applications, and shall be the sole responsibility of the applicator.

All labeled treatments may be made by aerial equipment where appropriate, provided that the applicator complies with the precautions and restrictions specified on this label and in separate supplemental labeling published by Monsanto for this product. Refer to the “AERIAL EQUIPMENT” section of this label for additional information.

**TANK MIXTURES:** This product may be tank-mixed with other herbicides to provide residual weed control, a broader weed control spectrum or an alternate mode of action. Always read and follow label directions for all products in the tank mixture. Use all products according to labeled rates. Some tank mixture products have the potential to cause crop injury under certain conditions, at certain crop growth stage and/or under other circumstances. Read all labels for products used in the tank mixture prior to use to determine the potential for crop injury. Always predetermine the compatibility of tank-mix products together in the carrier by mixing small proportional quantities in advance. A tank mixture of this product with other herbicides may cause incompatibility, antagonism, or a reduction in product efficacy. Monsanto has not tested all tank-mix product formulations for compatibility or performance. See the “MIXING” section of this label for more information on tank mixtures.

**GENERAL PRECAUTIONS, RESTRICTIONS:** Avoid contact of this herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops, as severe crop injury or destruction may result. When making at-planting and preemergence applications, applications must be made before crop emergence to avoid severe crop injury. Broadcast applications made at emergence will result in injury or death of emerged seedlings. Apply before seed germination in coarse sandy soils to further minimize the risk of injury. Unless otherwise specified in this label, treatments with selective equipment, including wiper applicators and hooded sprayers, must be made at least 14 days prior to harvest. Post-harvest or fallow applications must be made at least 30 days prior to planting any crop not listed on this label. See

“APPLICATION EQUIPMENT AND TECHNIQUES” section of this label for additional information.

In crops where spot treatments are allowed, 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 not to spray or allow spray to drift outside the target area in order to avoid unwanted crop destruction.

For broadcast postemergence treatments, do not harvest or feed treated vegetation for 8 weeks following application, unless otherwise specified.

Observe the maximum application rates stated throughout this label. Maximum application rates apply to the use of this product combined with the use of any and all other herbicides containing glyphosate as the active ingredient, whether applied separately or as mixtures. Calculate the application rates (glyphosate acid equivalents) and ensure that the total use of this and other glyphosate-containing products does not exceed the stated maximum rate. See the “GENERAL INFORMATION” section of this label for more information on Maximum Application Rates.

## 9.1 Cereal and Grain Crops

**LABELED CROPS:** Barley, Buckwheat, Millet (pearl, proso), Oats, Rice, Rye, Quinoa, Tef, Teosinte, Triticale, Wheat (all types), Wild Rice

**TYPES OF APPLICATIONS:** Those listed in Section 9.0, plus the following: Red Rice Control Prior to Planting Rice, Spot Treatment (except Rice), Wiper Application (Feed Barley and Wheat Only), Preharvest (Feed Barley and Wheat Only)

**PRECAUTIONS, RESTRICTIONS:** Do not treat rice fields or levees when flooded.

### Preplant, At-Planting, Preemergence

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

### Red Rice Control Prior to Planting Rice

**USE INSTRUCTIONS:** Apply 32 fluid ounces of this product in 5 to 10 gallons of water per acre. Flush fields prior to application to obtain uniform germination and stand of red rice. Make application when the majority of the red rice plants are at the 2-leaf stage and no more than 4 inches tall. Red rice plants with less than 2 true leaves may be only partially controlled.

**PRECAUTIONS, RESTRICTIONS:** Avoid spraying during conditions of low humidity, as reduced control may result. Do not treat rice fields or levees when the fields contain floodwater. Do not flood treated fields for 8 days following application.

### Spot Treatment (Except Rice)

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in cereal crops. Apply this product before heading in small grains.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. Crop sprayed in treated area will be killed. Take care not to spray or allow spray to drift outside target area in order to avoid unwanted crop destruction.

### Wiper Application (Feed Barley and Wheat Only)

**USE INSTRUCTIONS:** This product may be applied over the top of feed barley and wheat with wiper applicators. To control common rye or cereal rye, apply after the weeds have headed and achieved maximum growth. See additional instructions on the use of wiper applicators in the “APPLICATION EQUIPMENT AND TECHNIQUES” section of this label.

**PRECAUTIONS, RESTRICTIONS:** Allow at least 35 days between application and harvest. Do not use roller applicators.

### Preharvest (Feed Barley and Wheat Only)

**USE INSTRUCTIONS:** This product provides weed control when applied prior to harvest of feed barley and wheat. For feed barley, apply after the hard-dough stage and when the grain contains 20 percent moisture or less. For wheat, apply after the hard-dough stage of grain (30 percent or less grain moisture). Stubble may be grazed immediately after harvest.

For ground applications, apply this product in 10 to 20 gallons of water per acre. For aerial applications, apply this product in 3 to 10 gallons of water per acre.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 22 fluid ounces of this product per acre. Allow 7 days between application and harvest or grazing. Preharvest application is not recommended for barley or wheat grown for seed, as a reduction in germination or vigor may occur.

#### Post-Harvest

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

**PRECAUTIONS, RESTRICTIONS:** For any crop not listed on this label, applications must be made at least 30 days prior to planting the next crop. Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

## 9.2 Corn

**TYPES OF CORN:** Field corn, Seed corn, Silage corn, Sweet corn, Popcorn

**TYPES OF APPLICATIONS:** Those listed in Section 9.0, plus the following: Spot Treatment, Preharvest

For use directions with Roundup Ready Corn 2, see the "ROUNDUP READY CROPS" section of this label.

#### Preplant, At-Planting, Preemergence

**USE INSTRUCTIONS:** This product may be applied alone or in a tank mixture before, during or after planting corn. Applications must be made prior to crop emergence.

**TANK MIXTURES:** This product may be tank-mixed with the following products. Ensure that the specific product being used is labeled for application prior to the emergence of corn. Read and follow label directions for all products in the tank mixture. Apply these tank mixtures in 10 to 20 gallons of water, or 10 to 60 gallons of nitrogen solution, per acre.

Bullet®, Lariat®, Micro-Tech®, alachlor, Degree®, Degree Xtra®, Harness®, Harness Xtra, Harness Xtra 5.6L, Frontier, Outlook, FullTime, Keystone, Keystone LA, TopNotch, acetochlor, Bicep MAGNUM, Bicep II MAGNUM, Bicep Lite II MAGNUM, Dual II MAGNUM, Stalwart C, Stalwart Xtra, metolachlor, s-metolachlor, 2,4-D, Aim, Aim EC, atrazine, Axiom, Balance PRO, Banvel, Clarity, Define, Distinct, Epic, Guardsman, Guardsman MAX, Hornet, Leadoff, Linex, Lorox, Marksman, pendimethalin, Python, Python II, Radius, Resource, Shark, simazine, Status

For tough-to-control annual weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 22 fluid ounces per acre in these tank mixtures. For other annual weeds listed in this label, apply 16 to 22 fluid ounces of this product per acre when weeds are less than 6 inches tall, and 22 to 32 fluid ounces per acre when weeds are over 6 inches tall. When using nitrogen solutions as the carrier, use rate may need to be increased for acceptable weed control.

**PRECAUTIONS, RESTRICTIONS:** Applications of 2,4-D or dicamba must be made at least 7 days prior to planting corn. Refer to individual tank mixture product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

For Southern states, do not apply in nitrogen solutions to tough-to-control grasses such as barnyardgrass, fall panicum, broadleaf signalgrass, annual ryegrass and any perennial weeds. The area covered by this recommendation includes Illinois and Indiana south of Route 50, Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, New Jersey, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia.

#### Hooded Sprayer

**USE INSTRUCTIONS:** This product may be applied with hooded sprayers for weed control between rows of corn. Only hooded sprayers that completely enclose the spray pattern may be used. See additional instructions on the use of hooded sprayers in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Corn must be at least 12 inches tall, measured without extending leaves. Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator. Do not apply more than 22 fluid ounces of this product per acre for each application and no more than 64 fluid ounces per acre per year for hooded sprayer applications.

#### Spot Treatment

**USE INSTRUCTIONS:** This product may be applied as a spot treatment prior to silking of corn.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. Crop sprayed in the treated area will be killed. Take care not to spray or allow spray to drift outside target area in order to avoid unwanted crop destruction.

#### Preharvest

**USE INSTRUCTIONS:** Make applications at 35 percent grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed). For ground applications, apply up to 64 fluid ounces of this product per acre. For aerial applications, apply up to 44 fluid ounces of this product per acre.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest. Preharvest application is not recommended for corn grown for seed, as a reduction in germination or vigor may occur.

#### Post-Harvest

**USE INSTRUCTIONS:** This product may be applied after harvest of corn. Higher rates may be required to control large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used. Ensure that the specific product being used in the tank mixture is registered for post-harvest application in corn. Read and follow label directions of all products in the tank mixture.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation. Refer to individual

tank mixture product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

## 9.3 Cotton

**TYPES OF APPLICATIONS:** Those listed in Section 9.0, plus the following: Selective Equipment, Spot Treatment, Preharvest

For use directions with Roundup Ready cotton and Roundup Ready Flex cotton, see the "ROUNDUP READY CROPS" section of this label.

#### Preplant, At-Planting, Preemergence

**USE INSTRUCTIONS:** This product may be applied before, during or after planting cotton. Applications must be made prior to crop emergence.

**TANK MIXTURES:** This product may be tank-mixed with the products listed below. Ensure that the specific product being used is labeled for application prior to planting cotton. Read and follow label directions for all products used in the tank mixture. Apply these tank mixtures in 10 to 20 gallons of water per acre.

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Caparol, Clarity, Command, Cotoran, Cotton-Pro, Direx, Dual MAGNUM, Dual II MAGNUM, Karmex, Meturon, pendimethalin, Staple, Stalwart, Zorial, 2,4-D

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**PRECAUTIONS, RESTRICTIONS:** Refer to individual tank mixture product labels for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the mixture.

#### Selective Equipment

**USE INSTRUCTIONS:** This product may be applied using hooded sprayers, shielded sprayers, or wiper applicators over the top of cotton. See additional instructions on the use of this selective equipment in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Allow at least 7 days between application and harvest.

**Spot Treatment**

**USE INSTRUCTIONS:** This product may be applied in cotton as a spot treatment prior to boll opening.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. Crop sprayed in the treated area will be killed. Take care not to spray or allow spray to drift outside target area in order to avoid unwanted crop destruction.

**Preharvest**

**USE INSTRUCTIONS:** This product provides weed control and cotton regrowth inhibition when applied prior to harvest. For weed control, apply at rates given in the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label. For cotton regrowth inhibition, apply 11 to 44 fluid ounces of this product per acre.

Up to 44 fluid ounces of this product may be applied. Apply after sufficient bolls have developed to produce the desired yield. Applications made prior to this time could affect maximum yield potential.

**TANK MIXTURES:** This product may be tank-mixed with DEF 6, Dropp, Folex, Ginstar, or Prep to provide additional enhancement of cotton leaf-drop. Read and follow label directions for all products used in the tank mixture.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest. Preharvest application is not recommended for cotton grown for seed, as a reduction in germination or vigor may occur. Refer to individual tank mixture product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

## 9.4 Fallow Systems

This product may be applied during the fallow period prior to planting or emergence of any crop listed on this label. For any crop not listed on this label, applications must be made at least 30 days prior to planting.

**TYPES OF APPLICATIONS:** Chemical Fallow, Preplant Fallow Beds, Aid-to-Tillage

**Chemical Fallow**

**USE INSTRUCTIONS:** This product may be used as a substitute for tillage to control annual weeds in fallow fields. Also, broadcast or spot treatments will control or suppress many perennial weeds in fallow fields. Tank-mix this product with 2,4-D or dicamba for a broader weed control spectrum. Applications up to 44 fluid ounces per acre may be made by aerial application onto fallow sites where there is sufficient buffer to prevent drift onto adjacent crops.

**PRECAUTIONS, RESTRICTIONS:** Refer to individual tank mixture product labels for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

Some crop injury may occur if dicamba is applied within 45 days of planting.

**Preplant Fallow Beds**

**USE INSTRUCTIONS:** This product will control weeds listed in the "ANNUAL WEEDS RATE SECTION", "PERENNIAL WEEDS RATE SECTION" and "WOODY BRUSH AND TREES RATE SECTION" of this label prior to planting.

**TANK MIXTURES:** Use 8 fluid ounces of this product, plus 2 to 3 fluid ounces of Goal 2XL, per acre to control the following weeds up to the maximum height or length indicated: 3 inches—common cheeseweed, chickweed, groundsel; 6 inches—London rocket, shepherd's-purse.

Use 11 fluid ounces of this product, plus 2 to 3 fluid ounces of Goal 2XL, per acre to control the following weeds up to the maximum height or length indicated: 6 inches—common cheeseweed, groundsel, marestail (*Conyza canadensis*); 12 inches—chickweed, London rocket, shepherd's-purse.

**Aid-to-Tillage**

**USE INSTRUCTIONS:** This product may be used in conjunction with tillage practices in fallow systems, or preplant to crops listed on this label, to control downy brome, cheat, volunteer wheat, tansy mustard and foxtail. Apply 8 fluid ounces of this product in 3 to 10 gallons of water per acre. Make applications before weeds are 6 inches in height. Application must be followed by conventional tillage no later than 15 days after treatment and before regrowth occurs. Allow at least 1 day after application before tillage.

PRECAUTIONS, RESTRICTIONS: Tank mixtures with residual herbicides may result in reduced performance of this product.

## 9.5 Grain Sorghum (Milo)

TYPES OF APPLICATIONS: Those listed in Section 9.0, plus the following: Spot Treatment, Wiper Application, Preharvest

### Preplant, At-Planting, Preemergence

USE INSTRUCTIONS: This product may be applied alone or in tank mixture before, during or after planting grain sorghum. Applications must be made prior to crop emergence.

TANK MIXTURES: This product may be tank-mixed with the products listed below. Ensure that the specific product being used is labeled for application prior to planting grain sorghum. Read and follow label directions for all products used in the tank mixture. Apply these tank mixtures in 10 to 20 gallons of water, or 10 to 60 gallons of nitrogen solution, per acre.

atrazine, s-metolachlor, Bicep II MAGNUM, Bullet, Dual II MAGNUM, INTRRO®, Lariat, Micro-Tech

For tough-to-control annual weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply a tank mixture of this product at 22 fluid ounces per acre plus one of the products listed above.

For control of other annual weeds listed on this label, apply 16 to 22 fluid ounces of this product per acre when weeds are less than 6 inches tall, and 22 to 32 fluid ounces per acre when weeds are over 6 inches tall. When using nitrogen solutions as the carrier, the use rate may need to be increased to achieve adequate weed control.

PRECAUTIONS, RESTRICTIONS: Refer to individual tank mixture product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

### Spot Treatment, Wiper Application

USE INSTRUCTIONS: This product may be applied as a spot treatment in grain sorghum before heading. This product may be applied over the top of grain sorghum with wiper applicators to control tall weeds. See additional instructions on the use of wiper applicators in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

PRECAUTIONS, RESTRICTIONS: For spot treatment, do not treat more than 10 percent of the total field area to be harvested. Crop sprayed in the treated area will be killed. Take care not to spray or allow spray to drift outside target area in order to avoid unwanted crop destruction.

For wiper applications, allow at least 40 days between application and harvest. Do not use roller applicators. Do not feed or graze treated grain sorghum fodder. Do not ensile treated vegetation.

### Hooded Sprayer

USE INSTRUCTIONS: This product may be applied with hooded sprayers for weed control between the rows of grain sorghum. Only hooded sprayers that completely enclose the spray pattern may be used. See additional instructions on the use of hooded sprayers in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

PRECAUTIONS, RESTRICTIONS: Grain sorghum must be at least 12 inches tall, measured without extending leaves. Treat before grain sorghum sends tillers between the drill rows. If tillers are sprayed with this herbicide, the main plant may be damaged or destroyed. Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator. Do not graze or feed grain sorghum forage or fodder following applications of this product with hooded sprayers. Do not apply more than 22 fluid ounces of this product per acre per application, and no more than 64 fluid ounces per acre per year for hooded sprayer applications.

### Preharvest

USE INSTRUCTIONS: This product may be applied for weed control prior to harvest after sorghum grain has reached 30 percent moisture or less.

PRECAUTIONS, RESTRICTIONS: Do not apply more than 44 fluid ounces of this product per acre. As with other herbicides that cause sudden plant

death, avoid preharvest applications of this product to milo infected with charcoal rot as lodging can occur. Allow a minimum of 7 days between application and harvest of grain sorghum. Preharvest application is not recommended for sorghum grown for seed, as a reduction in germination or vigor may occur. The use of this product for preharvest grain sorghum (milo) is not registered in California.

#### Post-Harvest

**USE INSTRUCTIONS:** This product may be applied after harvest of grain sorghum. Higher rates may be required to control large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

This product may be applied to grain sorghum stubble following harvest to control or suppress regrowth. Apply 22 fluid ounces of this product per acre for control, or 16 fluid ounces of this product per acre for suppression.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

## 9.6 Herbs and Spices

**LABELED CROPS:** Allspice, Angelica, Star anise, Annatto (seed), Balm, Basil, Borage, Burnet, Camomile, Caper buds, Caraway, Black caraway, Cardamom, Cassia bark, Cassia buds, Catnip, Celery seed, Chervil (dried), Chive, Chinese chive, Cinnamon, Clary, Clove buds, Coriander leaf (cilantro or chinese parsley), Coriander seed (cilantro), Costmary, Culantro (leaf), Culantro (seed), Cumin, Curry (leaf), Dill (dillweed), Dill (seed), Epazote, Fennel seed (common and Florence), Fenugreek, White ginger flower, Grains of paradise, Horehound, Hyssop, Juniper berry, Lavender, Lemongrass, Lovage (leaf and seed), Mace, Marigold, Marjoram (including oregano), Mexican oregano, Mioga flower, Mustard (seed), Nasturtium, Nutmeg, Parsley (dried), Pennyroyal, Pepper (black and white), Pepper leaves, Peppermint, Perilla, Poppy (seed), Rosemary, Rue, Saffron, Sage, Savory (summer and winter), Spearmint, Stevia leaves, Sweet bay, Tansy, Tarragon, Thyme, Vanilla, Wintergreen, Woodruff, Wormwood

**TYPES OF APPLICATIONS:** Those listed in Section 9.0, plus the following: Wiper Application (Peppermint and Spearmint Only), Spot Treatment (Peppermint and Spearmint Only)

**PRECAUTIONS, RESTRICTIONS:** This product could cause crop injury when applied prior to transplanting or direct-seeding crops into plastic mulch. Care must be taken to remove residual product from the plastic prior to planting. Residual product can be removed by a single 0.5-inch application of water, either by natural rainfall or by irrigation. Care should be taken to ensure that the washwater flushes off the plastic mulch and does not enter the transplant holes.

#### Wiper Application or Spot Treatment (Peppermint and Spearmint Only)

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in peppermint and spearmint, or over the top of peppermint and spearmint with wiper applicators. Apply spot treatments on a spray-to-wet basis with hand-held equipment, such as backpack sprayers, pump-up pressure sprayers, handguns, handwands or any other hand-held or motorized spray equipment used to direct the spray solution to a limited area. See additional instructions on the use of wiper applicators in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Applications may be repeated in the same area at 30-day intervals. Allow at least 7 days between application and harvest. For spot treatment applications, do not treat more than 10 percent of the total field area to be harvested. Crop sprayed in the treated area will be killed. Take care not to spray or allow spray to drift outside target area in order to avoid unwanted crop destruction. For wiper applications, droplets, mist, foam or splatter of the herbicide solution onto desirable vegetation may result in discoloration, stunting or destruction.

## 9.7 Oil Seed Crops

**LABELED CROPS:** Borage, Buffalo gourd (seed), Canola, Crambe, Flax, Jojoba, Lesquerella, Meadowfoam, Mustard (seed), Rape, Safflower, Sesame, Sunflower

For use directions with Roundup Ready canola, see the “ROUNDUP READY CROPS” section of this label.

**TYPES OF APPLICATIONS:** Those listed in Section 9.0 plus Preharvest (Safflower and Sunflower Only)

#### **Chemical Fallow, Preplant Fallow Beds, Preplant, Preemergence, At-Planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting oil seed crops listed in this section. Broadcast applications must be made prior to crop emergence.

**TANK MIXTURES:** For sunflowers, a tank mixture with pendimethalin may be applied before, during or after planting into conventionally tilled soil, a cover crop, established sod or previous crop residue.

**PRECAUTIONS, RESTRICTIONS:** For use with canola, do not apply more than 44 fluid ounces of this product per acre. For use with sunflowers, do not apply more than 22 fluid ounces of this product per acre as a single preplant or preemergence application per year. In safflower, the total combined application rate of all preemergence and hooded/shielded sprayer treatments must not exceed 22 fluid ounces of this product per acre per year. In sunflower, the total combined application rate of all preemergence and hooded/shielded sprayer treatments must not exceed 22 fluid ounces of this product per acre per year.

#### **Hooded or Shielded Sprayers in Row Middles, Wiper Applications in Row Middles**

**USE INSTRUCTIONS:** Wiper applicators or hooded/shielded sprayers may be used between the rows once the crop is established. See the “SELECTIVE EQUIPMENT” part of the “APPLICATION EQUIPMENT AND TECHNIQUES” section of the label for information on proper use and calibration of this equipment.

**PRECAUTIONS, RESTRICTIONS:** In safflower, the total combined application rate of all preemergence and hooded/shielded sprayer treatments must not exceed 2 quarts of this product per acre per year. In sunflower, the total combined application rate of all preemergence and hooded/shielded sprayer treatments must not exceed 22 fluid ounces of this product per acre per year.

#### **Preharvest (Safflower and Sunflower Only)**

**USE INSTRUCTIONS:** This product provides weed control when applied as a harvest aid to a physiologically mature crop prior to harvest of safflower and sunflower. For safflower, apply when seed has lost its opaque character, approximately 20 to 30 days after the end of flowering of the secondary branches. For sunflower, apply when the backsides of sunflower heads are yellow and bracts are turning brown and seed moisture content is less than 35%.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between treatment and harvest or livestock feeding. Apply no more than 2 quarts of this product at preharvest timing to safflower. Apply no more than 22 fluid ounces of this product at a preharvest timing to sunflower. Applications must be made at least 30 days prior to planting any crop not listed on this label.

#### **Post-Harvest**

**USE INSTRUCTIONS:** This product may be applied after harvest. Higher rates may be required for control of large weeds, which were growing in the crops at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation. Application must be made at least 30 days prior to planting any crop not listed on this label.

## **9.8 Soybeans**

**TYPES OF APPLICATIONS:** Those listed in Section 9.0, plus the following: Spot Treatment, Preharvest, Selective Equipment

For use directions with Roundup Ready soybeans, see the “ROUNDUP READY CROPS” section of this label.

#### **Preplant, At-Planting, Preemergence**

**USE INSTRUCTIONS:** This product may be applied alone or in a tank mixture before, during or after planting soybeans. Applications must be made prior to crop emergence.

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**TANK MIXTURES:** This product may be tank-mixed with the following products. Ensure that the specific product being used in the tank mixture is labeled for application prior to planting soybeans. Read and follow label directions for all products in the tank mixture. Apply these tank mixtures in 10 to 20 gallons of water per acre.

Aim, Assure II, Axium, Blanket, Boundary, Canopy, Classic, Command, Command Xtra, Domain, Dual MAGNUM, Dual II MAGNUM, FirstRate, Flexstar, Frontier, Fusion, Gangster, Gauntlet, INTRRO, Lexone, Linex, linuron, Lorox, Lorox Plus, metolachlor, s-metolachlor, Me-Too-Lachlor, Micro-Tech, Outlook, Pendimax, pendimethalin, Pursuit, Pursuit Plus, Python, Reflex, Resource, Scepter, Sencor, Squadron, Steel, Valor

For tough-to-control annual weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 22 fluid ounces per acre in these tank mixtures. For other annual weeds listed on this label, apply 16 to 22 fluid ounces of this product per acre when weeds are less than 6 inches tall, and 22 to 32 fluid ounces per acre when weeds are over 6 inches tall.

**PRECAUTIONS, RESTRICTIONS:** Refer to individual tank mixture product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

### Spot Treatment

**USE INSTRUCTIONS:** This product may be applied as a spot treatment prior to initial pod set in soybeans.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. Crop sprayed in the treated area will be killed. Take care not to spray or allow spray to drift outside target area in order to avoid unwanted crop destruction.

### Preharvest

**USE INSTRUCTIONS:** This product may be applied to soybeans for weed control prior to harvest after pods have set and lost all green color.

Apply at rates given in the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION". Care should be taken to avoid excessive seed shatter loss due to ground application equipment.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 3.3 quarts of this product per acre for preharvest applications. Do not apply more than 44 fluid ounces of this product per acre by air. Allow a minimum of 7 days between application and harvest of soybeans. Do not graze or harvest treated hay or fodder for livestock feed within 25 days of last preharvest application. (If the application rate is 22 fluid ounces per acre or lower, the grazing restriction is reduced to 14 days after last preharvest application.) Preharvest application is not recommended for soybeans grown for seed, as a reduction in germination or vigor may occur.

### Selective Equipment

**USE INSTRUCTIONS:** This product may be applied using shielded applicators, hooded sprayers, wiper applicators or sponge bars in soybeans. See additional instructions on the use of this selective equipment in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Allow at least 7 days between application and harvest.

## 9.9 Sugarcane

**TYPES OF APPLICATIONS:** Those listed in Section 9.0, plus Spot Treatment

### Preplant, At-Planting, Preemergence

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

**PRECAUTIONS, RESTRICTIONS:** Do not apply to vegetation in or around ditches, canals or ponds containing water to be used for irrigation.

### Spot Treatment

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

**PRECAUTIONS, RESTRICTIONS:** Avoid spray contact with healthy sugarcane plants since severe damage or destruction may result. Do not feed or graze treated sugarcane foliage following application.

#### Fallow Treatment

**USE INSTRUCTIONS:** This product may be used as a replacement for tillage in fields that are lying fallow between sugarcane crops. This product may also be used to remove the last stubble of ratoon cane. For removal of last stubble of ratoon cane, apply 2.5 to 3.3 quarts of this product in 10 to 40 gallons of water per acre to new growth having at least 7 new leaves. Allow 7 or more days after application before tillage. Applications up to 64 fluid ounces per acre may be made by aerial application in fallow sites where there is sufficient buffer to prevent drift onto adjacent crops. Tank mixtures with 2,4-D and dicamba may be used.

#### Hooded Sprayer

**USE INSTRUCTIONS:** This product may be applied using hooded sprayers for weed control between rows of sugarcane. See additional instructions on the use of hooded sprayers in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Do not allow treated weeds to come into contact with the crop. Droplets, mist, foam or splatter of the herbicide solution settling onto the crop may result in discoloration, stunting or destruction. Such damage shall be the sole responsibility of the applicator.

## 9.9.1 Sugarcane Ripening

This product is a foliar-applied plant growth regulator to hasten ripening and increase the level of sucrose in sugarcane. It is effective in both low- and high-tonnage sugarcane.

When applied as directed under the conditions described, this product will hasten ripening and extend the period of high sucrose level in sugarcane.

As a result of leaf desiccation, improved trash burn can be expected.

Most of the sucrose increase is concentrated in the top nodes of the treated cane stalk. To maximize sugar recovery where topping is practiced at harvest, top at the base of the fourth leaf.

Prior to application, consult your state sugarcane authority or local Monsanto representative regarding the degree of sucrose response anticipated from the variety of sugarcane to be treated. Do not plant subsequent crops in treated fields within 30 days after application other than the following: alfalfa or other forage legumes, beans (all types), corn (all types), cotton, melons (all types), pasture grasses, peanuts, potatoes (Irish or sweet), sorghum (milo), soybeans, squash (all types) or wheat.

**PRECAUTIONS, RESTRICTIONS:** Application of this product may initiate development of shooting eyes. This product may not increase the sucrose content of sugarcane under conditions of good natural ripening. Within 2 to 3 weeks after application, this product may produce a slight yellowing to pronounced browning and drying of leaves, and a shortening of upper internodes. Spindle death may occur.

Rainfall within 6 hours after application may reduce effectiveness.

Application is not recommended for sugarcane grown for seed, as a reduction in germination or vigor may occur.

Do not feed or graze treated sugarcane forage following application.

Do not apply for enhanced ripening to any crops other than sugarcane. Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences.

#### APPLICATION RATES:

Use the following application rates and timing instructions according to the State in which the sugarcane is grown.

**NOTE:** Use the higher rate within the recommended range when treating sugarcane under adverse ripening conditions or when less responsive varieties are to be treated.

**FLORIDA**—Apply 5 to 12 fluid ounces of this product per acre 3 to 5 weeks before harvest of LAST RATOON CANE ONLY.

**HAWAII**—Apply 9 to 21 fluid ounces of this product per acre 4 to 10 weeks before harvest.

**LOUISIANA**—Apply 4 to 12 fluid ounces of this product per acre 3 to 7 weeks before harvest of RATOON CANE ONLY.

**PUERTO RICO**—Apply 5 fluid ounces of this product per acre 3 to 5 weeks before harvest of RATOON CANE ONLY.

**TEXAS**—Apply 5 to 12 fluid ounces of this product per acre 3 to 5 weeks before harvest of RATOON CANE ONLY.

## 9.10 Vegetable Crops

**NOTE:** THIS “VEGETABLE CROPS” SECTION GIVES GENERAL DIRECTIONS THAT APPLY TO ALL VEGETABLE CROPS LISTED ALPHABETICALLY IN THE SECTIONS THAT FOLLOW. SEE THE INDIVIDUAL CROP SECTIONS FOR SPECIFIC USE INSTRUCTIONS, PREHARVEST INTERVALS, PRECAUTIONS AND RESTRICTIONS.

**TYPES OF APPLICATIONS:** Chemical Fallow, Preplant Fallow Beds, Preplant, At-Planting, Preemergence, Prior to Transplanting Vegetables, Hooded Sprayer in Row Middles, Shielded Sprayer in Row Middles, Wiper Application in Row Middles, Post-Harvest, Directed Application (Non-Bearing Ginseng), Wiper Application (Rutabagas Only)

**PRECAUTIONS, RESTRICTIONS:** This product could cause crop injury when applied prior to transplanting or direct-seeding crops into plastic mulch. Care must be taken to remove residual product from the plastic prior to planting. Residual product can be removed by a single 0.5-inch application of water, either by natural rainfall or by irrigation. Care should be taken to ensure that the washwater flushes off the plastic mulch and does not enter the transplant holes. Applications made at emergence will result in injury or death to emerged seedlings.

Avoid contact of herbicide with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops, as severe crop injury or destruction may result. When making preemergence and at-planting applications, applications must be made before crop emergence to avoid severe crop injury. Apply before seed

germination in coarse sandy soils to further minimize the risk of crop injury. In crops with vines, hooded sprayer, shielded sprayer and wiper applications to row middles should be made prior to vine development, otherwise severe crop injury or destruction may result. Unless otherwise specified in this label, treatments with selective equipment, including wipers and hooded sprayers, must be made at least 14 days prior to harvest. Post-harvest or fallow applications must be made at least 30 days prior to planting any crop not listed on this label. See additional use instructions in the “APPLICATION EQUIPMENT AND TECHNIQUES” section of this label.

### 9.10.1 Brassica Vegetables

**LABELED CROPS:** Broccoli, Chinese broccoli (gai lan), Broccoli raab (rapini), Brussels sprouts, Cabbage, Chinese cabbage (bok choy), Chinese cabbage (napa), Chinese mustard cabbage (gai choy), Cauliflower, Cavalo broccolo, Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, Rape greens

### 9.10.2 Bulb Vegetables

**LABELED CROPS:** Garlic, Great-headed garlic, Leek, Onion (dry bulb and green), Welsh onion, Shallot

### 9.10.3 Cucurbit Vegetables and Fruits

**LABELED CROPS:** Chayote (fruit), Chinese waxgourd (Chinese preserving melon), Citron melon, Cucumber, Gherkin, Edible gourd (includes hyotan, cucuzza, hechima, Chinese okra), Melons (all), *Momordica spp* (includes balsam apple, balsam pear, bittermelon, Chinese cucumber), Muskmelon (includes cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey ball melon, mango melon, Persian melon, pineapple melon, Santa Claus melon, snake melon), Pumpkin, Summer squash (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini), Winter squash

(includes butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash), Watermelon

**PRECAUTIONS, RESTRICTIONS:** For Cantaloupe, Casaba melon, Crenshaw melon, Cucumber, Gherkin, Gourds, Honeydew melon, Honey ball melon, Mango melon, Melons (all), Muskmelon, Persian melon, Pumpkin, Squash (summer, winter), and Watermelon, allow at least 3 days between application and planting.

## 9.10.4 Leafy Vegetables

**LABELED CROPS:** Amaranth (Chinese spinach), Arugula (rocket), Beet greens, Cardoon, Celery, Chinese celery, Celtuce, Chaya, Chervil, Edible-leaved chrysanthemum, Garland chrysanthemum, Corn salad, Cress (garden and upland), Dandelion, Dock (sorrel), Dokudami, Endive (escarole), Florence fennel, Gow kee, Lettuce (head and leaf), Orach, Parsley, Purslane (garden and winter), Radicchio (red chicory), Rhubarb, Spinach, New Zealand spinach, Vine spinach, Swiss chard, Watercress (upland), Water spinach

**PRECAUTIONS, RESTRICTIONS:** For Watercress, avoid applications within 3 days prior to seeding, and during the period between seeding and emergence to minimize the risk of crop injury.

## 9.10.5 Fruiting Vegetables

**LABELED CROPS:** Eggplant, Groundcherry (*Physalis spp.*), Pepino, Pepper (includes bell pepper, chili pepper, cooking pepper, pimento, sweet pepper), Tomatillo, Tomato

**PRECAUTIONS, RESTRICTIONS:** For eggplant, ground cherry, pepper (all), and tomatillo, allow at least 3 days between application and planting. For tomato and tomatillo, do not make hooded or shielded sprayer applications in row middles because of the potential for crop injury.

## 9.10.6 Legume Vegetables (Succulent or Dried)

**LABELED CROPS:** Bean (*Lupinus*: includes grain lupin, sweet lupin, white lupin, and white sweet lupin), Bean (*Phaseolus*: includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean), Bean (*Vigna*: includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean), Broad bean (fava), Chickpea (garbanzo), Guar, Jackbean, Lablab bean, Lentil, Pea (*Pisum*: includes dwarf pea, edible-podded pea, English pea, field pea, garden pea, green pea, snowpea, sugar snap pea), Pigeon pea, Soybean (immature seed), Sword bean

**TYPES OF APPLICATIONS:** Those listed in Section 9.0, plus the following: Preharvest (Dry Beans Only) and Spot Treatment (Dry Beans Only)

### Preharvest (Dry Beans, Peas, Lentils and Chickpeas Only)

**USE INSTRUCTIONS:** This product may be applied over the top of dry beans, peas, lentils and chickpeas to control weeds listed on this label prior to harvest. Apply up to 22 fluid ounces of this product per acre in dry beans, or up to 64 fluid ounces in dry peas, lentils or chickpeas, in 3 to 20 gallons of water per acre at the hard dough stage of the legume seed (30 percent grain moisture or less).

**PRECAUTIONS, RESTRICTIONS:** Apply at least 7 days before harvest. Only one application per year may be made. Do not combine a preharvest spray with a spot treatment on the same crop area. Employ at least a 30-day plant-back interval between treatment and replanting for any crop not listed in this label. Preharvest application is not recommended for dry beans grown for seed, as a reduction in germination or vigor may occur. Do not treat cowpeas or field (feed) peas, since these crops are considered to be grown as livestock feed.

### Spot Treatment (Dry Beans, Peas, Lentils and Chickpeas Only)

**USE INSTRUCTIONS:** This product may be applied as a spot treatment to control troublesome weeds such as Canada thistle, quackgrass, mayweed (dog fennel), and milkweed in dry beans. Apply up to 22 fluid ounces of

this product per acre in dry beans, or up to 64 fluid ounces per acre in dry peas, lentils and chickpeas, in 10 to 20 gallons of water using ground spray equipment, or use a 2-percent solution in a hand-held sprayer. For best results, applications should be made at or beyond the bud stage of growth.

**PRECAUTIONS, RESTRICTIONS:** Apply at least 7 days before harvest. Only one application may be made per year. Do not combine spot treatments with a preharvest broadcast spray on the same crop area. Observe at least a 30-day plant-back interval between treatment and replanting for any crop not listed in this label. Do not feed treated vines and hay to livestock. Do not treat cowpeas or field (feed) peas, since these crops are considered to be grown as livestock feed.

Crop sprayed in the treated area will be killed. Take care not to spray or allow spray to drift outside target area in order to avoid unwanted crop destruction.

## 9.10.7 Root and Tuber Vegetables

**LABELED CROPS:** Arracacha, Arrowroot, Chinese artichoke, Jerusalem artichoke, Beet (garden), Burdock, Canna, Carrot, Cassava (bitter and sweet), Celeriac, Chayote (root), Chervil (turnip-rooted), Chicory, Chufa, Dasheen (taro), Galangal, Ginger, Ginseng, Horseradish, Leren, Kava (turnip-rooted), Parsley (turnip-rooted), Parsnip, Potato, Radish, Oriental radish, Rutabaga, Salsify, Black salsify, Spanish salsify, Skirret, Sweet potato, Tanier, Turmeric, Turnip, Wasabi, Yacon, Yam bean, True yam

### Directed Application (Non-Bearing Ginseng Only)

**USE INSTRUCTIONS:** This product may be applied for general weed control in established non-bearing ginseng. Applications may be made with boom equipment, CDA, shielded sprayers, hand-held and backpack wands, lances, and orchard guns, or with wiper applicators. See additional use instructions for selective equipment in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Applications must be made at least one year prior to harvest. Direct applications so that there is no contact of this product with the ginseng plant.

### Wiper Application (Rutabagas Only)

**USE INSTRUCTIONS:** Wiper applicators may be used over the top of rutabagas for the control of tall weeds. See additional use instructions for wiper applicators in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Allow at least 14 days between application and harvest of rutabagas.

## 9.11 Miscellaneous Crops

**LABELED CROPS:** Aloe vera, Asparagus, Bamboo shoots, Globe artichoke, Okra, Peanut (ground nut), Pineapple, Strawberry, Sugar beet

**TYPES OF APPLICATIONS:** Those listed in Section 9.0, plus the following: General Weed Control, Site Preparation, Spot Treatment (Asparagus), Post-Harvest (Asparagus)

For use directions with Roundup Ready sugar beet, see the "ROUNDUP READY CROPS" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Avoid contact of this product with foliage, green shoots or stems, bark, exposed roots (including those emerging from plastic mulch), or fruit of crops, as severe crop injury or destruction may result. When making preemergence and at-planting applications, applications must be made before crop emergence to avoid severe crop injury. Apply before seed germination in coarse sandy soils to further minimize the risk of crop injury. In crops with vines, hooded sprayer, shielded sprayer and wiper applications to row middles should be made prior to vine development, otherwise severe crop injury or destruction may result. Unless otherwise specified in this product's labeling, treatment with selective equipment, including wipers and hooded sprayers, must be made at least 14 days prior to harvest. Post-harvest or fallow applications must be made at least 30 days prior to planting any crop not listed on this

label. See additional information in the “APPLICATION EQUIPMENT AND TECHNIQUES” section of this label.

#### General Weed Control, Site Preparation

USE INSTRUCTIONS: This product may be applied for general weed control, or for site preparation prior to planting or transplanting crops listed in this section.

PRECAUTIONS, RESTRICTIONS: This product could cause crop injury when applied prior to transplanting or direct-seeding crops into plastic mulch. Care must be taken to remove residues of this product from the plastic prior to planting. Residual product can be removed by a single 0.5-inch application of water, either by natural rainfall or by irrigation. Care should be taken to ensure that the wash water flushes off the plastic mulch and does not enter transplant holes. Allow at least 21 days between residue removal and transplanting. Applications made at emergence will result in injury or death to emerged seedlings.

Do not apply within a week before the first asparagus spears emerge.

Do not feed or graze treated pineapple forage following application.

#### Spot Treatment (Asparagus)

USE INSTRUCTIONS: This product may be applied immediately after cutting, but prior to the emergence of new spears.

PRECAUTIONS, RESTRICTIONS: Do not treat more than 10 percent of the total field area to be harvested. Do not harvest within 5 days of treatment.

#### Post-Harvest (Asparagus)

USE INSTRUCTIONS: This product may be applied after the last harvest and all spears have been removed. If spears are allowed to regrow, delay application until ferns have developed. Delayed treatments should be applied as a directed or shielded spray in order to avoid contact of the spray with ferns, stems or spears. See additional use instructions in the “APPLICATION EQUIPMENT AND TECHNIQUES” section of this label.

PRECAUTIONS, RESTRICTIONS: Direct contact of the spray with asparagus may result in serious crop injury. Select and use recommended types of spray equipment for postemergence post-harvest applications. A directed

spray is any application where the spray pattern is aligned in such a way as to avoid direct contact of the spray with the crop. A shielded spray is any application where a physical barrier is positioned and maintained between the spray and the crop to prevent contact of spray with the crop.

## 10.0 TREE, VINE AND SHRUB CROPS (Alphabetical)

**NOTE:** THIS SECTION GIVES GENERAL DIRECTIONS THAT APPLY TO ALL TREE, VINE, AND SHRUB CROPS LISTED ALPHABETICALLY IN THE SECTIONS THAT FOLLOW. SEE THE INDIVIDUAL CROP SECTIONS FOR SPECIFIC INSTRUCTIONS, PREHARVEST INTERVALS, PRECAUTIONS AND RESTRICTIONS.

TYPES OF APPLICATIONS: Preplant (Site Preparation) Broadcast Spray, General Weed Control, Middles (between rows of trees, vines or bushes), Strips (within rows of trees, vines or bushes), Selective Equipment (shielded sprayer, wiper applicator), Directed Spray, Spot Treatment, Perennial Grass Suppression, Cut Stump

This product may be applied with boom equipment, CDA equipment, shielded sprayers, hand-held and backpack wands, lances, orchard guns or with wiper applicator equipment, unless specifically prohibited in the specific crop sections that follow.

GENERAL USE INSTRUCTIONS: This product may be applied in middles (between rows of trees or vines), strips (within rows of trees or vines), and for general weed control or perennial grass suppression in established tree fruit and nut groves, orchards, berries and vineyards. It may also be used for site preparation prior to planting or transplanting these crops. Apply 11 fluid ounces to 3.3 quarts of this product per acre as directed in the “ANNUAL WEEDS RATE SECTION” and “PERENNIAL WEEDS RATE SECTION” of this label. Use the higher rates in the recommended range when weeds are stressed, growing in dense populations or are greater than 12 inches tall. Repeat applications may be made up to a maximum of 7 quarts per acre per year. See the “GENERAL INFORMATION” section of this label for more information on Maximum Application Rates.

**GENERAL PRECAUTIONS, RESTRICTIONS:** Use extreme care to avoid contact of this herbicide solution, spray, drift or mist with foliage or green bark of trunk, branches, suckers, fruit or other parts of trees, canes and vines. Avoid applications when recent pruning wounds or other mechanical injury has occurred. Contact of this product with other than matured brown bark can result in serious crop damage or destruction. Only shielded or directed sprayers may be used in crops with potential for crop contact, and then only where there is sufficient clearance. For applications in strips (within rows of trees), only selective equipment (directed spray, hooded sprayer, shielded applicator, or wiper) should be used in order to minimize the potential for overspray or drift of this product onto the crop. For berry crops, hooded or shielded sprayers must be fully enclosed including top, sides, front and back. Only wipers or shielded applicators capable of preventing all contact with the crop may be used. See additional use instructions and precautions in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

Allow a minimum of 3 days between application and transplanting.

**Middles (between rows)**

**USE INSTRUCTIONS:** This product will control or suppress annual and perennial weeds, and ground covers, growing between rows of tree and vine crops listed on this label. If weeds are under drought stress, irrigate prior to application. Reduced weed control may result if weeds have been recently mowed at the time of application.

**TANK MIXTURES:** A tank mixture of this product plus Goal 2XL may be applied for annual weed control in-between rows (middles) of citrus crops, tree fruits, tree nuts and vine crops when weeds are stressed or growing in dense populations. Application of 11 to 22 fluid ounces of this product, plus 3 to 12 fluid ounces of Goal 2XL, per acre will control annual weeds with a maximum height of 6 inches, including crabgrass, common groundsel, junglerice, common lambsquarters, redroot pigweed, London rocket, common ryegrass, shepherd's-purse, annual sowthistle, filaree (suppression), horseweed/marestail, stinging nettle and common purslane (suppression). This tank mixture will also control common cheeseweed (malva) or hairy fleabane with a maximum height of 3 inches. Read and follow label directions for all products in the tank mixture.

**Strips (in rows)**

**TANK MIXTURES:** This product may be applied within rows of tree or vine crops in tank mixtures with the following products. Ensure that the specific product being used in the tank mixture is registered for this application. Read and follow label directions of all products in the tank mixture.

Devrinol 50-DF, Direx 4L, Goal 2XL, Karmex DF, Karmex II DF, pendimethalin, Princep Caliber 90, Simazine 4L, Simazine 80W, Sim-Trol 4L, Solicam DF, Surflan AS, Surflan 75W

**PRECAUTIONS, RESTRICTIONS:** Do not apply these tank mixtures in Puerto Rico. Refer to individual tank mixture product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

**Perennial Grass Suppression**

This product will suppress perennial grasses such as bahiagrass, bermudagrass, tall fescue, orchardgrass, Kentucky bluegrass, and quackgrass that are grown as ground covers in tree and vine crops.

For suppression of tall fescue, fine fescue, orchardgrass and quackgrass, apply 4 fluid ounces of this product in 10 to 20 gallons of water per acre.

For suppression of Kentucky bluegrass covers, apply 4 fluid ounces of this product per acre. Do not add ammonium sulfate.

For best results, mow cool-season grass covers in the spring to even their height and apply this product 3 to 4 days after mowing.

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 4 fluid ounces of this product in 10 to 25 gallons of water per acre. Apply 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 3 fluid ounces of this product per acre, followed by an application of 2 to 3 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

For burndown of bermudagrass, apply 22 to 44 fluid ounces of this product in 3 to 20 gallons of water per acre. Use this treatment only if reduction of the bermudagrass stand can be tolerated. When burndown is

required prior to harvest, allow at least 21 days to ensure sufficient time for burndown to occur.

For suppression of bermudagrass, apply 4 to 11 fluid ounces of this product per acre east of the Rocky Mountains and 11 fluid ounces of this product per acre west of the Rocky Mountains. Apply in a total spray volume of 3 to 20 gallons per acre, no sooner than 1 to 2 weeks after full green-up. If the bermudagrass is mowed prior to application, maintain a minimum of 3 inches in height. Sequential applications may be made when regrowth occurs and bermudagrass injury and stand reduction can be tolerated. East of the Rocky Mountains, rates of 4 to 7 fluid ounces of this product per acre should be used in shaded conditions or where a lesser degree of suppression is desired.

### Cut Stump

USE INSTRUCTIONS: Cut stump applications of this product may be made during site preparation or site renovation, prior to transplanting tree crops. This product will control regrowth of cut stumps and resprouts of many types of tree species, some of which are listed below.

Citrus Trees: Calamondin, Chironja, Citron, Citrus hybrids, Grapefruit, Kumquat, Lemon, Lime, Mandarin (Tangerine), Orange (all), Pummelo, Tangelo (ugli), Tangor

Fruit Trees: Apple, Apricot, Cherry (sweet, sour), Crabapple, Loquat, Mayhaw, Nectarine, Olive, Peach, Pear, Plum/Prune (all), Quince

Nut Trees: Almond, Beechnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (hazelnut), Hickory Nut, Macadamia, Pecan, Pistachio, Walnut (black, English)

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

PRECAUTIONS, RESTRICTIONS: DO NOT MAKE CUT STUMP APPLICATIONS WHEN THE ROOTS OF ADJACENT DESIRABLE TREES MAY BE GRAFTED TO THE ROOTS OF THE CUT STUMP. INJURY RESULTING FROM ROOT GRAFTING

MAY OCCUR IN ADJACENT TREES. Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.

## 10.1 Berry Crops

LABELLED CROPS: Blackberry (including bingleberry, black satin berry, boysenberry, Cherokee blackberry, chesterberry, Cheyenne blackberry, coryberry, darrowberry, dewberry, Dirksen thornless berry, Himalayaberry, hullberry, juneberry, lavacaberry, lowberry, lucretiaberry, marionberry, nectarberry, olallieberry, Oregon evergreen berry, phenomenalberry, rangeberry, ravenberry, rossberry, Shawnee blackberry, and youngberry), Blueberry, Cranberry, Currant, Elderberry, Gooseberry, Huckleberry, Loganberry, Salal

TYPES OF APPLICATIONS: Those listed in Section 10.0, plus Spot Treatment in Cranberry Production and Post-Harvest Treatment in Cranberry Production

GENERAL PRECAUTIONS, RESTRICTIONS: To avoid damage, herbicide spray must not be allowed to contact desirable vegetation, including green shoots, canes or foliage. Allow a minimum of 30 days between last application and harvest of cranberries. Allow a minimum of 14 days between last application and harvest of other berry crops.

### Spot Treatment in Cranberry Production

USE INSTRUCTIONS: Spot treatments may be made to control weeds growing in dry ditches (interior and perimeter) of cranberry production areas. Hand-held sprayers or other appropriate application equipment listed under "APPLICATION EQUIPMENT AND TECHNIQUES" in this label may be used. Drop water level to remove standing water in ditches prior to application. With hand-held sprayers, use a 1- to 1.5-percent solution of this product. Spray adequately to wet the vegetation only; do not spray to the point of run-off.

**PRECAUTIONS, RESTRICTIONS:** To achieve maximum weed control in treatment of dry ditches after water drawdown, allow 2 or more days after treatment before reintroduction of water. Apply this product within 1 day after drawdown to ensure application to actively growing weeds. Allow a minimum of 30 days between last application and harvest of cranberries. Do not make applications by air. Do not apply directly to water. Use nozzles that produce medium- to large-sized droplets in order to minimize spray drift and avoid crop injury.

**Post-Harvest Treatment in Cranberry Production**

**USE INSTRUCTIONS:** Application of this product may be made after the harvest of cranberries to control weeds growing in the field. Apply this product to vines that appear dormant (after they have turned red). Hand-held sprayers, wipers, or other appropriate application equipment listed in the “APPLICATION EQUIPMENT AND TECHNIQUES” section of this label may be used for this use. If using hand-held sprayers, use a 0.4- to 0.7-percent solution of this product. Spray adequately to wet the vegetation only; do not spray to the point of run-off. If using hand-held boom sprayers, apply 44 to 86 fluid ounces of this product per acre.

**PRECAUTIONS, RESTRICTIONS:** Make applications only after cranberries have been harvested. Do not treat more than 10 percent of the total bog. Allow a minimum of 6 months after last application and next harvest of cranberries. Do not make applications by air. Do not apply directly to water. Even though vines appear dormant, contact of the herbicide solution with desirable vegetation may result in damage or severe plant injury. Cranberry plants that are directly sprayed may be killed.

**10.2 Citrus**

**LABELLED CROPS:** Calamondin, Chironja, Citron, Citrus hybrids, Grapefruit, Kumquat, Lemon, Lime, Mandarin (Tangerine), Orange (all), Pummelo, Satsuma Mandarin, Tangelo (ugli), Tangor

**TYPES OF APPLICATIONS:** Those listed in Section 10.0

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 1 day between last application and harvest in citrus crops. For citron groves, apply as directed spray only.

The following use instructions pertain to applications in Florida and Texas only.

For burndown or control of the weeds listed below, apply the recommended rates of this product in 3 to 30 gallons of water per acre. Where weed foliage is dense, use 10 to 30 gallons of water per acre.

For goatweed, apply 44 to 64 fluid ounces of this product in 20 to 30 gallons of water per acre when plants are actively growing. Use 44 fluid ounces per acre when plants are less than 8 inches tall, and 64 fluid ounces per acre when plants are greater than 8 inches tall. If goatweed is greater than 8 inches tall, the use of this product in a tank mixture with Krovar I or Karmex may improve weed control.

Refer to the individual product labels for listing of specific crops, rates, geographic restrictions and precautionary statements.

**Perennial weeds:**

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

WEED SPECIES	MON 866 Herbicide RATE PER ACRE			
	0.7 QT	1.3 QT	2 QT	3.3 QT
Bermudagrass	B	—	PC	C
Guineagrass				
Texas and Florida Ridge	B	C	C	C
Florida Flatwoods	—	B	C	C
Paragrass	B	C	C	C
Torpedograss	S	—	PC	C

**10.3 Miscellaneous Tree Food Crops**

**LABELLED CROPS:** Cactus (fruit and pads), Palm (heart, leaves), Palm (oil)

**TYPES OF APPLICATIONS:** Those listed in Section 10.0

## 10.4 Non-Food Tree Crops

**LABELED CROPS:** Pine, Poplar, Eucalyptus, Christmas trees, All other non-food tree crops

**TYPES OF APPLICATIONS:** Those listed in Section 10.0

**NOTE:** Unless otherwise directed, this product is not recommended for use as an over-the-top broadcast spray in plantations or other labeled tree crops.

### Site Preparation

**USE INSTRUCTIONS:** This product may be used for weed control prior to planting non-food tree crops.

**PRECAUTIONS, RESTRICTIONS:** Precautions should be taken to protect nontarget plants during site preparation applications

### Directed Spray, Spot Treatment, Wiper Application

**USE INSTRUCTIONS:** This product may be used as a post-directed spray and spot treatment around established poplar, eucalyptus, Christmas trees and all other non-food tree crops.

**PRECAUTIONS, RESTRICTIONS:** Avoid contact of spray, drift or mist of this product with foliage or green bark of established Christmas trees and other pine trees. Desirable plants may be protected from the spray solution by using shields or coverings of impermeable materials.

## 10.5 Pome Fruit

**LABELED CROPS:** Apple, Crabapple, Loquat, Mayhaw, Pear (including Oriental pear), Quince

**TYPES OF APPLICATIONS:** Those listed in Section 10.0

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 1 day between last application and harvest in pome crops.

## 10.6 Stone Fruit

**LABELED CROPS:** Apricot, Cherry (sweet, tart), Nectarine, Olive, Peach, Plum/Prune (all types), Plumcot

**TYPES OF APPLICATIONS:** Those listed in Section 10.0. For olive groves, apply only as directed spray.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 17 days between last application and harvest in stone fruit crops.

Remove suckers and low-hanging limbs at least 10 days prior to application. Avoid applications near trees with recent pruning wounds or other mechanical injury. Apply only near trees that have been planted in the orchard for 2 or more years. **USE EXTREME CARE TO ENSURE THAT NO PART OF THE PEACH TREE IS CONTACTED WITH OVERSPRAY OR DRIFT OF THIS PRODUCT.**

## 10.7 Tree Nuts

**LABELED CROPS:** Almond, Beechnut, Betelnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Coconut, Filbert (hazelnut), Hickory nut, Macadamia, Pecan, Pine nut, Pistachio, Walnut (black, English)

**TYPES OF APPLICATIONS:** Those listed in Section 10.0

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 3 days between last application and harvest of tree nuts, except coconut. Allow 14 days between application and harvest in coconut.

## 10.8 Tropical and Subtropical Trees and Fruits

**LABELED CROPS:** Ambarella, Atemoya, Avocado, Banana, Barbados cherry (acerola), Biriba, Blimbe, Breadfruit, Cacao (cocoa) bean, Canistel, Carambola (starfruit), Cherimoya, Coffee, Custard apple, Dates, Durian, Feijoa, Figs, Governor's plum, Guava, Ilama, Imbe, Imbu, Jaboticaba, Jackfruit, Longan, Lychee, Mamey apple, Mango, Mangosteen,

Marmaladebox (genip), Mountain papaya, Papaya, Pawpaw, Plantain, Persimmon, Pomegranate, Pulasan, Rambutan, Rose apple, Sapodilla, Sapote (black, mamey, white), Spanish lime, Soursop, Star apple, Sugar apple, Surinam cherry, Tamarind, Tea, Ti (roots and leaves), Wax jambu

**TYPES OF APPLICATIONS:** Those listed in Section 10.0, and as described below as a Bananacide (Banana Only)

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 1 day between last application and harvest in banana, guava, papaya, and plantain crops. Allow a minimum of 14 days between last application and harvest for any other tropical or subtropical tree fruit listed. Allow a minimum of 28 days between last application and harvest in coffee crops. In coffee and banana, delay applications 3 months after transplanting to allow the new coffee or banana plant to become established.

#### **Bananacide (Banana Only)**

**USE INSTRUCTIONS:** This product may be used to destroy banana plants infected with the Banana Bunchy Top Virus, as well as non-infected banana plants in order to establish disease free buffers around plantations. Remove all fruit from the plants within the treatment area prior to treatment. Inject 0.04 fluid ounce (1 milliliter) of this product's concentrate per 2 to 3 inches of pseudostem diameter. Make the injection at least one foot above the ground, except for very small plants, which should be injected vertically into the top. Any subsequent regrowth must also be destroyed. All plants and mats (or units) within a 4-foot radius around a treated mat should be mechanically destroyed.

For control of the Banana Bunchy Top Virus, it is critical that the grower follow a strict control program involving monitoring for diseased plants, spraying to control the aphid vector, and destruction of all infected mats (or units). An infected plant may not show symptoms of the banana bunchy top virus for up to 125 days; therefore, it is critical that the entire mat (or unit) containing the diseased plant be destroyed immediately.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 0.5 fluid ounce (15 milliliter) of this product per mat (or unit). Remove all fruit from plants and mats (or units) prior to treatment. Do not harvest any fruit or plant materials from treated mats (or units) following injection. Do not allow livestock to consume treated plant materials. Following transplant of new

banana plants into treated areas, allow plants to become established for 3 months before applying this product for general weed control.

## 10.9 Vine Crops

**LABELED CROPS:** Grapes (raisin, table, wine), Hops, Kiwi, Passion fruit

**TYPES OF APPLICATIONS:** Those listed in Section 10.0

**USE INSTRUCTIONS:** Apply this product for weed control only when green shoots, canes or foliage are not in the spray zone.

In the northeast and Great Lakes regions, apply this product in grape vineyards prior to the end of the bloom stage in order to avoid crop injury, or apply using shielded sprayers or wiper equipment.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 14 days between last application and harvest of vine crops. Do not use selective equipment in kiwi.

## 11.0 PASTURE GRASSES, FORAGE LEGUMES AND RANGELANDS

**GENERAL USE INSTRUCTIONS:** Refer to the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label for rate recommendations for specific weeds. When applied as directed, this product will control these annual and perennial grasses and broadleaf weeds. Recommended rates of this product specified on this label for the control of tough weeds, or those specified on separate supplemental labeling for this product, supersede rates recommended in the "ANNUAL WEEDS RATE SECTION", "PERENNIAL WEEDS RATE SECTION" and "WOODY BRUSH AND TREES RATE SECTION" of this label. Additional information on the control of tough weeds can be found in Fact Sheets published by Monsanto for this product.

## 11.1 Alfalfa, Clover, and Other Forage Legumes

**LABELLED CROPS:** Alfalfa, Clover, Kenaf, Kudzu, Lespedeza, Leucaena, Lupin, Sainfoin, Trefoil, Velvet bean, Vetch (all types)

**TYPES OF APPLICATIONS:** Preplant, At-Planting, Preemergence, Spot Treatment, Wiper Application, Preharvest (except Kenaf and Leucaena), Stand Removal

For use directions with Roundup Ready alfalfa, see the "ROUNDUP READY CROPS" section of this label.

### Preplant, At-Planting, Preemergence

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

**PRECAUTIONS, RESTRICTIONS:** Remove domestic livestock before application.

### Spot Treatment, Wiper Application

**USE INSTRUCTIONS:** This product may be applied as a spot treatment or over the top of crops listed in this section with wiper applicators. See additional instructions on the use of wiper applicators in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label. Applications may be made in the same area at 30-day intervals.

**PRECAUTIONS, RESTRICTIONS:** For spot treatment and wiper applications, apply in areas where the movement of domestic livestock can be controlled. No more than 10 percent of the total field area should be treated at one time. Remove domestic livestock before application and wait 3 days after application before grazing livestock or harvesting.

### Preharvest (except Kenaf and Leucaena), Stand Removal

**USE INSTRUCTIONS:** This product may be applied as a broadcast application prior to harvest (except in kenaf and leucaena) in declining stands or in any stand where severe crop injury or destruction is acceptable, or to remove established stands of any forage legumes

listed in this section. Applications may be made at any time of the year to control annual and perennial weeds, including quackgrass. For control of quackgrass, apply in the spring, late summer or fall when quackgrass is actively growing. Treatments for quackgrass must be followed by deep tillage for complete control. If the crop is to be harvested or grazed by livestock, use up to a maximum of 44 fluid ounces per acre in alfalfa and up to 32 fluid ounces per acre in all other legumes listed on this label. For complete removal of established stands of clover, it may be necessary to use higher application rates, as listed in the "PERENNIAL WEEDS RATE SECTION" of this label.

**PRECAUTIONS, RESTRICTIONS:** This application may destroy an alfalfa stand, and may severely injure or destroy other labeled crops such as clover. Remove domestic livestock before application. Make only one application to an existing crop stand per year. The treated crop and weeds can be harvested and fed to livestock according to the application rates and intervals defined below. For application rates higher than those listed here, do not harvest for livestock feed or allow livestock to graze on treated foliage.

	Maximum Single Preharvest Application Rate (per acre)	Minimum Interval Between Application and Harvest or Livestock Grazing
Alfalfa	44 fluid ounces	36 hours
All other legumes listed	32 fluid ounces	3 days

Crops listed in this label may be planted into the treated area at any time; all other crops may be planted 30 days after application. Preharvest application is not recommended for alfalfa grown for seed, as a reduction in germination or vigor may occur.

## 11.2 Conservation Reserve Program (CRP)

TYPES OF APPLICATIONS: Renovation (Rotating out of CRP), Site Preparation, Postemergence Weed Control in Dormant CRP Grasses, Wiper Application

### Renovation (Rotating out of CRP), Site Preparation

USE INSTRUCTIONS: This product may be used to prepare CRP land for crop production. Refer to Federal, State or local use guides for CRP renovation recommendations.

PRECAUTIONS, RESTRICTIONS: Crops listed on this label may be planted into the treated area at any time; all other crops may be planted 30 days after application.

### Postemergence Weed Control in Dormant CRP Grasses, Wiper Application

USE INSTRUCTIONS: Apply this product to suppress competitive growth and seed production of undesirable vegetation on CRP land. Applications may be made using wiper applicators to control tall weeds, or as a broadcast or spot treatment to dormant CRP grasses. For selective applications with broadcast spray equipment, apply 5 to 8 fluid ounces of this product per acre in early spring before desirable CRP grasses, such as crested and tall wheatgrass, break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy.

PRECAUTIONS, RESTRICTIONS: Some stunting of CRP perennial grasses will occur if broadcast applications are made when plants are not dormant. No waiting period is required between application and grazing or harvesting for feed. Do not apply more than 2 quarts of this product per acre per year onto CRP land.

## 11.3 Grass Seed or Sod Production

LABELED CROPS: Any grass (*Gramineae* family) except Corn, Sorghum, Sugarcane and those listed in the "CEREAL AND GRAIN CROPS" section of this label

TYPES OF APPLICATIONS: Preplant, At-Planting, Preemergence, Renovation, Removal of Established Stands, Site Preparation, Shielded Sprayer, Wiper Application, Spot Treatment, Creating Rows in Annual Ryegrass

### Preplant, At-Planting, Preemergence, Renovation, Removal of Established Stands, Site Preparation

USE INSTRUCTIONS: This product controls most existing vegetation for purposes of renovating turf or forage grass seed areas, or for establishing turfgrass grown for sod. It may be used to destroy remaining undesirable grass vegetation when production fields are converted to alternate species or crops. Make applications before, during, or after planting, or for renovation purposes. For maximum control of existing vegetation, delay planting to determine if any regrowth from escaped underground plant parts occurs. Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the herbicide spray. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses, such as bermudagrass, summer or fall applications provide best control. Broadcast equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested. Application rates of up to 3.3 quarts per acre may be used to totally remove established stands of tough to kill grass species.

PRECAUTIONS, RESTRICTIONS: Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts. If application rates total 2 quarts per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 2 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting. Crops listed on this

label may be planted into the treated area at any time; all other crops may be planted 30 days after application. Applications must be made prior to crop emergence in order to avoid crop injury.

#### Shielded Sprayer

**USE INSTRUCTIONS:** Apply 22 to 64 fluid ounces of this product in 10 to 20 gallons of water per acre to control weeds between grass seed rows. Uniform planting in straight rows aid in shielded sprayer applications. Best results are obtained when the grass seed crop is small enough to easily pass by the protective shields. See additional instructions on the use of shielded sprayers in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator.

#### Wiper Application

**USE INSTRUCTIONS:** This product may be applied over the top of desirable grasses using wiper applicators for the control of tall weeds. See additional instructions on the use of wiper applicators in the "APPLICATION EQUIPMENT AND TECHNIQUES" section.

**PRECAUTIONS, RESTRICTIONS:** Droplets, mist, foam or splatter of the herbicide solution settling onto desirable vegetation may result in discoloration, stunting or destruction. Such damage shall be the sole responsibility of the applicator.

#### Spot Treatment

**USE INSTRUCTIONS:** Apply a 1-percent solution of this product using hand-held spray equipment to control weeds within established vegetation prior to heading of grasses grown for seed. Hand-held equipment may also be used to control sod remnants or other unwanted vegetation after sod is harvested.

**PRECAUTIONS, RESTRICTIONS:** Crop sprayed in the treated area will be killed. Take care not to spray or allow spray to drift outside the target area in order to avoid unwanted crop destruction.

#### Creating Rows In Annual Ryegrass

**USE INSTRUCTIONS:** Apply 11 to 22 fluid ounces of this product per acre. Best results are obtained when applications are made before ryegrass reaches 6 inches in height. Use the higher rate within the recommended range when ryegrass is greater than 6 inches in height. Set nozzle heights to allow the establishment of the desired row spacing. Use of low-pressure nozzles or drop nozzles designed to target the application over a narrow band are recommended.

**PRECAUTIONS, RESTRICTIONS:** Take care not to spray or allow spray to drift outside target area in order to avoid unwanted crop destruction.

**Grower assumes all responsibility for crop losses resulting from misapplication of this product.**

## 11.4 Pastures

**LABELED CROPS:** Any grass (*Gramineae* family) except Corn, Sorghum, Sugarcane and those listed in the "CEREAL AND GRAIN CROPS" section of this label, including Bahiagrass, Bermudagrass, Bluegrass, Brome, Fescue, Guineagrass, Kikuyugrass, Orchardgrass, Pangola grass, Ryegrass, Timothy, Wheatgrass

**TYPES OF APPLICATIONS:** Preplant, Preemergence, Pasture Renovation, Spot Treatment, Wiper Application, Postemergence Weed Control (Broadcast Treatment)

#### Preplant, Preemergence, Pasture Renovation

**USE INSTRUCTIONS:** This product may be applied for weed control prior to planting or emergence of forage grasses. This product may also be applied to control perennial pasture species listed on this label prior to replanting.

**PRECAUTIONS, RESTRICTIONS:** If application rates total 2 quarts of this product per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 2 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting. Crops listed on this label may be

planted into the treated area at any time; all other crops may be planted 30 days after application.

### Spot Treatment, Wiper Application

**USE INSTRUCTIONS:** This product may be applied in pastures as a spot treatment, or over the top of desirable grasses using wiper applicators to control tall weeds. Applications may be repeated in the same area at 30-day intervals. See additional instructions on the use of wiper applicators in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**PRECAUTIONS, RESTRICTIONS:** For spot treatments or wiper application methods using rates of 2 quarts of this product per acre or less, the entire field or any portion of it may be treated. When spot treatments or wiper applications are made using rates above 2 quarts of this product per acre, no more than 10 percent of the total pasture may be treated at any one time. To achieve maximum performance, remove domestic livestock before application and wait 7 days after application before grazing livestock or harvesting for feed.

### Postemergence Weed Control (Broadcast Treatment)

**USE INSTRUCTIONS:** This product may be applied to pastures to suppress competitive growth and seed production of annual weeds and undesirable vegetation. For selective applications with broadcast spray equipment, apply 8 to 11 fluid ounces of this product per acre in early spring before desirable perennial grasses break dormancy and initiate green growth. Higher application rates to control tough-to-control weeds may be used, however, injury will occur if perennial grasses are no longer dormant. Late fall applications can be made after desirable perennial grasses have reached dormancy.

**PRECAUTIONS, RESTRICTIONS:** Some stunting of perennial grasses will occur if broadcast applications are made when plants are not dormant. Use of higher application rates will cause stand reductions. No waiting period is required between application and grazing or harvesting for feed. Do not apply more than 2 quarts per acre per year onto pasture grasses except for renovation uses as described previously in this section. If replanting is needed due to severe stand reduction, wait 30 days after application before planting any crop not listed on this label.

## 11.5 Rangelands

**TYPES OF APPLICATIONS:** Postemergence

**USE INSTRUCTIONS:** This product will control or suppress many annual weeds growing in perennial cool- and warm-season grass rangelands.

Preventing weed seed production is critical to the successful control and invasion of annual grassy weeds in rangelands. Follow-up applications in sequential years should eliminate most of the viable seeds.

Grazing of treated areas should be delayed to encourage growth of desirable perennials. Allowing desirable perennials to flower and reseed in the treated area will encourage successful transition.

Apply 8 to 11 fluid ounces of this product per acre to control or suppress many weeds, including downy brome, cheatgrass, cereal rye and jointed goatgrass in rangelands. Apply when most brome plants are in early flower and before the plants, including seedheads, turn color. Allowing for secondary weed flushes to occur in the spring following rain events further depletes the seed reserve and encourages perennial grass conversion on weedy sites. Fall applications are recommended where spring moisture is usually limited and fall germination allows for good weed growth.

For medusahead, apply 11 fluid ounces of this product per acre at the 3-leaf stage. Delaying applications beyond this stage will result in reduced or unacceptable control. Controlled burning may be useful in eliminating the thatch layer produced by slow decaying culms prior to application. Allow new growth to occur before spraying after a burn. Repeat applications in subsequent years may be necessary to eliminate the seedbank before reestablishing desirable perennial grasses in medusahead-dominated rangelands.

**PRECAUTIONS, RESTRICTIONS:** Slight discoloration of the desirable grasses may occur, but they will regreen and regrow under moist soil conditions as effects of this product wear off. Do not use ammonium sulfate when spraying rangeland grasses with this product. No waiting period between treatment and feeding or livestock grazing is required. Do not apply more than 2 quarts of this product per acre per year.

# 12.0 ROUNDUP READY CROPS

ROUNDUP READY CROPS CONTAIN A PATENTED GENE THAT PROVIDES TOLERANCE TO GLYPHOSATE, THE ACTIVE INGREDIENT IN THIS PRODUCT. THIS PRODUCT WILL CAUSE SEVERE CROP INJURY OR DESTRUCTION AND YIELD LOSS IF APPLIED TO CROPS THAT ARE NOT GLYPHOSATE TOLERANT. AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, OR ANY DESIRABLE PLANTS THAT DO NOT CONTAIN A GLYPHOSATE TOLERANCE GENE, SINCE SEVERE PLANT INJURY OR DESTRUCTION WILL RESULT. Information on Roundup Ready crops may be obtained from your seed supplier or Monsanto representative. Roundup Ready crops must be purchased from an authorized licensed seed supplier.

The instructions in the sections that follow, or those published separately on Monsanto supplemental labeling for this product, include all applications of this product that may be made onto the specified Roundup Ready crops during the complete cropping season. DO NOT combine these instructions with other instructions for crops in the "ANNUAL AND PERENNIAL CROPS (Alphabetical)" and "PASTURE GRASSES, FORAGE LEGUMES AND RANGELANDS" sections of this label, that do not contain a glyphosate tolerance gene.

**NOTE:** Roundup Ready seed, and the method of selectively controlling weeds in a Roundup Ready crop, are protected under several U.S. Patents, including 5,352,605 and 5,633,435. A license to use Roundup Ready seed must be obtained prior to use. Monsanto retains ownership of the gene and process technologies, and the Purchaser of the seed receives the right to use the licensed genes and technologies subject to the limited use license conditions. Seed containing a Roundup Ready trait cannot be used for research and demonstration, reverse engineering or in connection with herbicide registration. Progeny seed containing a Roundup Ready trait may not be saved for replanting or transferred to others for replanting. Contact your Authorized Monsanto Retailer for information on obtaining a limited use license.

**GENERAL USE INSTRUCTIONS:** Refer to the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label for rate

recommendations for specific weeds. When applied as directed, this product will control these annual and perennial grasses and broadleaf weeds. Observe the maximum application rates and crop stage timings specified for individual Roundup Ready crops in the sections that follow.

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

**For aerial applications**—All labeled treatments may be made by aerial equipment where appropriate, provided that the applicator complies with the precautions and restrictions specified on this label, particularly, in the "AERIAL EQUIPMENT" section, and on all separately published supplemental labeling. Apply this product in 3 to 15 gallons of water per acre. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for procedures on avoiding spray drift that may cause injury to any vegetation not intended for treatment. Use of appropriate buffer zones will help prevent injury to adjacent vegetation.

For proper stewardship of aerial applications over the top of Roundup Ready crops, Monsanto recommends that growers and applicators read and follow all precautions and procedures contained in the use guide, "A Guide to On-Target Aerial Application". Copies of this publication are available by calling 1-800-ROUNDUP (1-800-768-6387).

**ATTENTION:** AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS WHICH DO NOT CONTAIN A GLYPHOSATE TOLERANCE GENE.

See the "MIXING" and "APPLICATION EQUIPMENT AND TECHNIQUES" sections of this label for additional directions and restrictions on the application of this product.

**TANK MIXTURES:** Tank mixtures with other herbicides, insecticides, fungicides, micronutrients or foliar fertilizers may result in reduced weed control or crop injury, and are NOT recommended for postemergence (in-crop) applications of this product over the top of Roundup Ready crops, unless otherwise noted in this product label, or in separate supplemental labeling or Fact Sheets published by Monsanto for this product. Always

read and follow label directions for all products in the tank mixture. Use all products according to labeled rates. Some tank mixture products have the potential to cause crop injury under certain conditions, at certain crop growth stage and/or under other circumstances. Read all labels for products used in the tank mixture prior to use to determine the potential for crop injury. Always predetermine the compatibility of tank-mix products together in the carrier by mixing small proportional quantities in advance. A tank mixture of this product with other herbicides may cause incompatibility, antagonism, or a reduction in product efficacy. Monsanto has not tested all tank-mix product formulations for compatibility or performance. See the "MIXING" section of this label for more information on tank mixtures.

Ammonium sulfate may be mixed with this product for applications to Roundup Ready crops. Refer to the "MIXING" section of this label for instructions on the use of ammonium sulfate.

**Sprayer Preparation:** It is important that sprayer and mixing equipment be clean and free of pesticide residue before making applications of this product. Follow the cleaning procedures specified on the label of the product(s) previously used. **THOROUGHLY CLEAN THE SPRAY TANK AND ALL LINES AND FILTERS TO ELIMINATE POTENTIAL CONTAMINATION FROM OTHER HERBICIDES PRIOR TO MIXING AND APPLYING THIS PRODUCT.**

**NOTE:** The following recommendations are based on a clean start at planting by using a burndown application or tillage to control existing weeds before crop emergence. In no-till and stale seedbed systems, a preplant burndown treatment with this product is recommended to control existing weeds prior to crop emergence. Some weeds, such as black nightshade, broadleaf signalgrass, sicklepod, Texas panicum, sandbur, annual morningglory, woolly cupgrass, shattercane, wild proso millet, burcucumber, and giant ragweed with multiple germination times, or suppressed (stunted) weeds, may require a second application of this product for complete control. The second application should be made after some regrowth has occurred and at least 10 days after a previous application of this product.

Recommended rates of this product specified in this label for the control of tough weeds, or those specified on separate supplemental labeling for this product, supersede rates recommended in the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label.

Additional information on the control of tough weeds can be found in Fact Sheets published by Monsanto for this product.

**GENERAL PRECAUTIONS, RESTRICTIONS:** Observe the maximum application rates stated throughout this label. Maximum application rates apply to the use of this product combined with the use of any and all other herbicides containing glyphosate as the active ingredient, whether applied separately or as mixtures. Calculate the application rates (glyphosate acid equivalents) and ensure that the total use of this and other glyphosate-containing products does not exceed the stated maximum rate. See the "GENERAL INFORMATION" section of this label for more information on Maximum Application Rates.

## 12.1 Roundup Ready Alfalfa

**TYPES OF APPLICATIONS:** Preplant, At-Planting, Preemergence, Postemergence (In-crop)

**GENERAL USE INSTRUCTIONS:** Refer to the following table for the maximum application rates of this product.

Maximum Application Rates	
Combined total per year for all applications, including preplant during year of establishment	5.3 quarts per acre
Combined total per year for in-crop applications for newly established and established stands	4.1 quarts per acre (132 fluid ounces per acre)
Preplant, At-Planting and Preemergence single applications	44 fluid ounces per acre

**GENERAL PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for general precautionary instructions for use in Roundup Ready crops. See the "GENERAL INFORMATION" section of this label for more information on Maximum Application Rates.

**Preplant, At-Planting, Preemergence**

USE INSTRUCTIONS: This product may be applied before, during or after planting Roundup Ready alfalfa.

**Postemergence (In-crop)**

USE INSTRUCTIONS: Applications of this product may be made over the top of Roundup Ready alfalfa (in-crop) from emergence until 5 days prior to cutting. To maximize crop yield and quality potential of forage and hay, applications of this product should be made after weeds have emerged but before alfalfa growth or re-growth interferes with spray coverage of the target weeds.

Refer to the “ANNUAL WEEDS RATE SECTION” and “PERENNIAL WEEDS RATE SECTION” in this label for rate recommendations for specific weeds. When applied as directed, this product will control these annual and perennial grasses and broadleaf weeds. In addition to those weeds listed in these sections, this product will suppress or control the parasitic weed Dodder (*Cuscuta spp*) in Roundup Ready alfalfa. Repeat applications may be necessary for complete control.

**New Stand Establishment (Seeding Year)**—Due to the biology and breeding constraints of alfalfa, up to 10 percent of the seedlings may not contain a Roundup Ready gene and will not survive after the first application of this product. To eliminate the undesirable effects of stand gaps created by this loss of plants, a single application of at least 22 fluid ounces per acre of this product should be applied at or before the 4-trifoliolate growth stage. Refer to the following table for application rates during stand establishment (seeding year).

<b>NEW STAND ESTABLISHMENT (Seeding Year) Application Rates</b>	
<b>Prior to First Cutting</b>	
From emergence up to 4 trifoliolate leaves	22 to 44 fluid ounces per acre
From 5 trifoliolate leaves up to 5 days before <i>first</i> cutting	Up to 44 fluid ounces per acre
<b>After First Cutting</b>	
In-crop application, per cutting, up to 5 days before cutting	Up to 44 fluid ounces per acre

**Established Stands (Non-seeding Year)**—Refer to the following table for directions and application rates for in-crop applications to established stands of alfalfa (non-seeding year).

<b>ESTABLISHED STANDS (Non-seeding Year) Application Rates</b>	
In-crop applications, per cutting, up to 5 days before cutting	Up to 44 fluid ounces per acre

PRECAUTIONS, RESTRICTIONS: Where Roundup Ready alfalfa is grown with a companion or cover crop, or is overseeded with a second species, in-crop (over-the-top) applications of this product will eliminate the non-Roundup Ready (non-glyphosate tolerant) species. Any single in-crop application of this product should not exceed 44 fluid ounces per acre. Sequential applications of this product should be at least 7 days apart. The combined total per year for all in-crop applications in both newly established (seeding year) and established stands (non-seeding year) must not exceed 4.1 quarts (132 fluid ounces) per acre. Remove domestic livestock before application. Wait a minimum of 5 days after last application before grazing, or cutting and feeding of forage and hay.

## 12.2 Roundup Ready Canola (Spring Varieties)

Roundup Ready spring canola is defined as those Roundup Ready canola varieties that are seeded in the spring and harvested in the fall and do not enter a winter dormancy period.

**TYPES OF APPLICATIONS:** Preplant, At-Planting, Preemergence, Postemergence (In-crop)

**GENERAL USE INSTRUCTIONS:** Refer to the following table for the maximum application rates for this product with Roundup Ready canola (spring).

Maximum Application Rates	
Total of all Preplant, At-Planting, Preemergence applications	44 fluid ounces per acre
Total of all In-crop applications from emergence to 6-leaf stage	22 fluid ounces per acre

**GENERAL PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for general precautionary instructions for use in Roundup Ready crops. See the "GENERAL INFORMATION" section of this label for more information on Maximum Application Rates.

### Preplant, At-Planting, Preemergence

**USE INSTRUCTIONS:** This product may be applied before, during or after planting Roundup Ready spring canola.

**PRECAUTIONS, RESTRICTIONS:** Maximum quantity of this product that may be applied for all preplant, at-planting and preemergence applications combined is 44 fluid ounces per acre per season.

### Postemergence (In-crop)

**USE INSTRUCTIONS:** This product may be applied postemergence to Roundup Ready spring canola from emergence through the 6-leaf stage of development. Applications made during bolting or flowering may result in crop injury and yield loss. To maximize yield potential, make applications early to eliminate competing weeds.

**Single Application**—Apply 11 to 16 fluid ounces of this product per acre no later than the 6-leaf stage for the control of annual weeds. Avoid overlapping applications as this may result in temporary yellowing, delayed flowering, and/or growth reduction. Similar crop injury may result when applications of more than 11 fluid ounces per acre are applied after the 4-leaf stage.

**Sequential Application**—Apply 11 fluid ounces of this product per acre to 1- to 3-leaf canola followed by a sequential application at a minimum interval of 10 days, but no later than the 6-leaf stage. Sequential applications are recommended for early emerging annual weeds and perennial weeds such as Canada thistle and quackgrass, or when multiple applications are needed for adequate weed control.

**PRECAUTIONS, RESTRICTIONS:** No more than two in-crop (over-the-top) broadcast applications may be made from crop emergence through the 6-leaf stage of development and the total of all in-crop applications should not exceed 22 fluid ounces of this product per acre. Allow a minimum of 60 days between last application and canola harvest.

## 12.3 Roundup Ready Canola (Winter Varieties)

Roundup Ready winter canola is defined as those Roundup Ready canola varieties that are seeded in early fall and harvested the following spring or summer. Winter canola varieties are intended to enter a cold period dormancy in the winter.

**TYPES OF APPLICATIONS:** Preplant, At-Planting, Preemergence, Postemergence (In-crop)

**GENERAL USE INSTRUCTIONS:** Refer to the following table for the maximum application rates of this product with Roundup Ready canola (winter).

**Maximum Application Rates**

Total of all Preplant, At-Planting, Preemergence applications	44 fluid ounces per acre
Total of all In-crop applications from emergence to canopy closure or prior to bolting in the spring	44 fluid ounces per acre

**GENERAL PRECAUTIONS, RESTRICTIONS:** See the “ROUNDUP READY CROPS” section of this label for general precautionary instructions for use in Roundup Ready crops. See the “GENERAL INFORMATION” section of this label for information on Maximum Application Rates.

**Preplant, At-Planting, Preemergence**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting Roundup Ready winter canola.

**PRECAUTIONS, RESTRICTIONS:** Maximum quantity of this product that may be applied for all preplant, at-planting and preemergence applications combined is 44 fluid ounces per acre per season.

**Postemergence (In-crop)**

**USE INSTRUCTIONS:** This product may be applied to Roundup Ready winter canola varieties from emergence to canopy closure in the fall and prior to bolting in the spring. Applications made during or after bolting may result in crop injury and yield loss. To maximize yield potential, make applications early to eliminate competing weeds.

Some weeds with multiple germination times, or suppressed (stunted) weeds, or weeds that have overwintered may require sequential applications of this product for control. The second application should be made after some regrowth has occurred and at least 60 days after a previous application of this product.

**Single Application**—Apply 16 to 22 fluid ounces of this product per acre in the fall. Applications in the fall should be made when weeds are small and actively growing. Use the higher rate in the recommended range when weed densities are high, when weeds have overwintered or when weeds become large and well established. Applications of greater than 16 fluid

ounces per acre prior to the 6-leaf stage may result in reduced crop growth in the fall. Avoid spray overlaps. Spray overlaps may result in temporary yellowing and/or growth reduction.

**Sequential Applications**—Apply 11 to 22 fluid ounces of this product per acre to 2-leaf or larger canola in the fall, followed by a sequential application at the same rate and at a minimum interval of 60 days, but before bolting in the spring. Sequential applications are recommended for early emerging annual weeds and winter emerging weeds such as downy brome, jointed goatgrass and ryegrass, and for weeds that have overwintered. This product will control or suppress most perennial weeds. For some perennial weeds, sequential applications may be required to reduce competition with the crop.

**PRECAUTIONS, RESTRICTIONS:** No more than two over-the-top broadcast applications may be made from crop emergence up to the onset of bolting, and the total in-crop application must not exceed 44 fluid ounces of this product per acre. Applications of greater than 16 fluid ounces per acre prior to the 6-leaf stage may result in reduced crop growth in the fall. Allow a minimum of 60 days between last application and harvest of canola grain. No waiting period is required between application and open grazing of livestock.

## 12.4 Roundup Ready Corn 2

**TYPES OF APPLICATIONS:** Preplant, At-Planting, Preemergence, Postemergence (In-crop), Spot Treatment, Preharvest, Post-Harvest

**GENERAL USE INSTRUCTIONS:** Refer to the following table for maximum application rates of this product with Roundup Ready Corn 2.

Maximum Application Rates

Combined total per year for all applications	5.3 quarts per acre
Total of all Preplant, At-Planting, Preemergence applications	3.3 quarts per acre
Total of all In-crop applications from emergence through 48-inch corn	64 fluid ounces per acre (32 fluid ounces per acre per application)
Maximum Preharvest application rate after maximum kernel fill is complete and the crop is physiologically mature (black layer formation) until 7 days before harvest*	22 fluid ounces per acre

\*See PRECAUTIONS, RESTRICTIONS section for Preharvest applications.

GENERAL PRECAUTIONS, RESTRICTIONS: See the "ROUNDUP READY CROPS" section of this label for general precautionary instructions for use in Roundup Ready crops. The maximum combined total amount of this product that may be applied per year is 5.3 quarts per acre. See the "GENERAL INFORMATION" section of this label for information on Maximum Application Rates. **The use of the in-crop (over-the-top) rates described in these instructions on other than Roundup Ready Corn 2 may cause crop injury and reduced yields.**

**Preplant, At-Planting, Preemergence**

USE INSTRUCTIONS: This product may be applied alone or in a tank mixture before, during or after planting Roundup Ready Corn 2.

TANK MIXTURES: This product may be tank-mixed with the products listed below. Ensure that the specific product being used is labeled for application prior to emergence of corn. Read and follow label directions for all products in the tank mixture. Apply these tank mixtures in 10 to 20 gallons of water, or 10 to 60 gallons of nitrogen solution, per acre.

Bullet, Lariat, Micro-Tech, alachlor, Degree, Degree Xtra, Harness, Harness Xtra, Harness Xtra 5.6L, Frontier, Outlook, FullTime, Keystone, Keystone LA, TopNotch, acetochlor, Bicep MAGNUM, Bicep II MAGNUM,

Bicep Lite II MAGNUM, Dual II MAGNUM, metolachlor, 2,4-D, Aim, Aim EC, atrazine, Axiom, Balance PRO, Banvel, Clarity, Define, Distinct, Epic, Guardsman, Guardsman MAX, Hornet, Leadoff, Linex, Lorox, Marksman, pendimethalin, Python, Python II, Radius, Resolve, Resource

PRECAUTIONS, RESTRICTIONS: Maximum quantity of this product that may be applied for all preplant, at-planting and preemergence applications combined is 3.3 quarts per acre per season. Refer to individual tank mixture product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

**NOTE:** For maximum weed control, a postemergence (in-crop) application of this product should be applied following the use of the preemergence residual products listed above.

**Postemergence (In-crop)**

USE INSTRUCTIONS: This product may be applied alone or in tank mixtures over the top of corn hybrids designated as Roundup Ready Corn 2 from emergence through the V8 stage (8 leaves with collars), or until corn height reaches 30 inches (free standing), whichever comes first. Drop nozzles are recommended for optimum spray coverage and weed control when corn height is 24 to 30 inches. For corn heights 30 to 48 inches (free standing), apply this product **only** using ground application equipped with drop nozzles aligned to avoid spraying into the whorls of the corn plants. Single in-crop applications of this product up to 48-inch corn must not exceed 32 fluid ounces per acre. Sequential in-crop applications of this product from emergence through 48 inches in height must not exceed 64 fluid ounces per acre per growing season.

When applied as directed, this product will control annual grasses and broadleaf weeds listed on this label. Many perennial grasses and broadleaf weeds will be controlled or suppressed with one or more application of this product. A postemergence application of 16 to 22 fluid ounces of this product per acre should be made before weeds exceed 4 inches in height, or, generally, before they become competitive with the crop. If new flushes of weeds occur, a sequential application of this product at 16 to 22 fluid ounces per acre should be made before weeds exceed 4 inches in height.

**TANK MIXTURES:** This product may be tank-mixed with the following products. Ensure that the specific product being used in the tank mixture is registered for application postemergence (in-crop) to corn. Read and follow label directions of all products in the tank mixture.

Bullet, Micro-Tech, alachlor, Degree, Degree Xtra, Harness, Harness Xtra, Harness Xtra 5.6L, acetochlor, 2,4-D, Aim EC, atrazine, Banvel, Basis, Basis Gold, Clarity, Distinct, Equip, Hornet, Marksman, Option, Resolve, Resource

Tank-Mix Partner	Maximum Height Of Corn At Application
Degree Degree Xtra Harness Harness Xtra Harness Xtra 5.6L	11 inches
Bullet* Micro-Tech*	5 inches
atrazine	12 inches

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

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 10 days between in-crop applications of this product. Allow a minimum of 50 days between application of this product and harvest of corn forage or grain. Refer to individual tank mixture product label for restrictions and precautions, use according to the most restrictive precautionary statements for each product in the tank mixture.

**Preharvest**

**USE INSTRUCTIONS:** This product may be applied for annual and perennial weed control prior to harvest at use rates up to 22 fluid ounces per acre. Make applications at 35 percent grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed).

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest or feeding of corn stover or grain. A preharvest application may **only** be made if the combined total of previously applied over-the-top or drop nozzle applications does not exceed 44 fluid ounces of this product per acre.

**Post-Harvest**

**USE INSTRUCTIONS:** This product may be applied for weed control after crop harvest. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between treatment and harvest or feeding of treated vegetation.

## 12.5 Roundup Ready Cotton

**TYPES OF APPLICATIONS:** Preplant, At-Planting, Preemergence, Postemergence (In-crop), Selective Equipment (In-crop), Preharvest

**GENERAL USE INSTRUCTIONS:** Refer to the following table for maximum application rates of this product with Roundup Ready cotton.

Maximum Application Rates	
Combined total per year for all applications	5.3 quarts per acre
Total of all Preplant, At-Planting, Preemergence applications	3.3 quarts per acre
Total of all In-crop applications from ground cracking to layby	2.5 quarts per acre
Maximum Preharvest application rate	44 fluid ounces per acre
Combined total of all In-crop applications from emergence through harvest	4 quarts per acre

**GENERAL PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for general precautionary instructions for use in Roundup Ready crops. The combined total application of this product

from cotton emergence through harvest must not exceed 4 quarts per acre. Allow a minimum of 7 days between application and harvest. See the "GENERAL INFORMATION" section of this label for more information on Maximum Application Rates.

**Preplant, At-Planting, Preemergence**

USE INSTRUCTIONS: This product may be applied before, during or after planting Roundup Ready cotton.

TANK MIXTURES: This product may be tank-mixed with 2,4-D and Clarity and applied prior to planting only. This product may be tank-mixed with the following products and applied prior to crop emergence. Ensure that the specific product being used in the tank mixture is registered for application prior to the emergence of cotton. Read and follow label directions of all products in the tank mixture.

Caparol, Direx, Dual MAGNUM, fluometuron, metolachlor, pendimethalin, Staple

PRECAUTIONS, RESTRICTIONS: Maximum quantity of this product that may be applied for all preplant, at-planting and preemergence applications combined is 3.3 quarts per acre per season. Refer to individual tank mixture product label for restrictions and precautions. Use according to the most restrictive precautionary statements for each product in the tank mixture.

**Postemergence (In-crop)**

USE INSTRUCTIONS: This product may be applied over the top of Roundup Ready cotton (in-crop) at rates up to 22 fluid ounces per acre per application from ground cracking until the 4-leaf (node) stage of development (until the fifth true leaf reaches the size of a quarter). NO MORE THAN TWO OVER-THE-TOP BROADCAST APPLICATIONS MAY BE MADE FROM CROP EMERGENCE THROUGH THE 4-LEAF (NODE) STAGE OF DEVELOPMENT. SEQUENTIAL OVER-THE-TOP OR POST-DIRECTED APPLICATIONS OF THIS PRODUCT IN-CROP MUST BE AT LEAST 10 DAYS APART AND COTTON MUST HAVE AT LEAST TWO NODES OF INCREMENTAL GROWTH BETWEEN APPLICATIONS. **Over-the-top applications made after the 4-leaf (node) stage of development may result in boll loss, delayed maturity and/or yield loss. DO NOT ADD ADDITIONAL**

SURFACTANT OR ADDITIVES CONTAINING SURFACTANT TO THIS PRODUCT (OTHER THAN THOSE CONTAINED IN ANY TANK-MIX PRODUCT) FOR OVER-THE-TOP APPLICATIONS TO ROUNDUP READY COTTON.

TANK MIXTURES: This product may be tank-mixed with the following products and applied over the top of Roundup Ready cotton up to the 4-leaf stage. Ensure that the specific product being used in the tank mixture is registered for application postemergence (in-crop) to cotton. Read and follow label directions of all products in the tank mixture.

Assure II, Dual MAGNUM, Fusilade, Poast Plus, Select MAX, Staple, metolachlor

Staple may cause leaf yellowing and/or leaf crinkling when applied postemergence (in-crop).

Dual MAGNUM applied over the top of Roundup Ready cotton may cause leaf injury in the form of necrotic spotting.

**Salvage Treatment**—This treatment may be used after the 4-leaf stage of development and should only be used where weeds threaten to cause the loss of the crop. Apply 22 fluid ounces per acre either as an over-the-top application or as a post-directed treatment sprayed higher on the cotton plants and over the weeds. **NOTE: SALVAGE TREATMENTS WILL RESULT IN SIGNIFICANT BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS. NO MORE THAN ONE SALVAGE TREATMENT SHOULD BE USED PER GROWING SEASON. DO NOT ADD ADDITIONAL SURFACTANT OR ADDITIVES CONTAINING SURFACTANT TO THIS PRODUCT (OTHER THAN THOSE CONTAINED IN ANY TANK-MIX PRODUCT) FOR OVER-THE-TOP APPLICATIONS TO ROUNDUP READY COTTON.**

PRECAUTIONS, RESTRICTIONS: Maximum quantity of this product that may be applied for all in-crop applications from ground-cracking to layby combined is 2.5 quarts per acre per season.

Refer to individual tank mixture product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

**Selective Equipment (In-crop)**

USE INSTRUCTIONS: This product may be applied using precision post-directed or hooded sprayers at rates up to 22 fluid ounces per acre

per application through layby. At this stage, use post-directed equipment that directs the spray to the base of the cotton plants. Avoid contact of the herbicide spray with leaves of the cotton plant to the maximum extent possible. To minimize spray contact, maintain a low spray pressure (less than 30 pounds per square inch) and place nozzles in a low position directing a horizontal spray pattern under the leaves of the cotton plant and onto the weeds in the row. For best results, make applications while weeds are small (less than 3 inches in height). See additional use instructions in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**TANK MIXTURES:** This product can be tank-mixed with the following products for in-crop application using precision post-directed or hooded sprayers. Ensure that the specific product being used in the tank mixture is registered for application postemergence (in-crop) to cotton. Read and follow label directions of all products in the tank mixture.

Aim, Caparol, Chateau, Direx, Envoke, Layby-Pro, pendimethalin, Staple, Valor

Staple may cause leaf yellowing and/or leaf crinkling when applied postemergence (in-crop).

**PRECAUTIONS, RESTRICTIONS:** Maximum quantity of this product that may be applied for all in-crop applications from ground-cracking to layby combined is 2.5 quarts per acre per season. NO MORE THAN TWO APPLICATIONS OF THIS PRODUCT SHOULD BE MADE FROM THE 5-LEAF STAGE THROUGH LAYBY SEQUENTIAL OVER-THE-TOP OR POST-DIRECTED APPLICATIONS OF THIS PRODUCT IN-CROP MUST BE AT LEAST 10 DAYS APART AND COTTON MUST HAVE AT LEAST TWO NODES OF INCREMENTAL GROWTH BETWEEN APPLICATIONS. Refer to individual tank mixture product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

#### Preharvest

**USE INSTRUCTIONS:** This product may be applied for annual and perennial weed control prior to crop harvest after 20 percent boll crack. Apply up to 44 fluid ounces of this product per acre. **NOTE:** This product will not enhance the performance of harvest aids when applied to Roundup Ready cotton.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 7 days between application and harvest of cotton. Do not apply this product for preharvest weed control to cotton grown for seed, as a reduction in germination or vigor may occur. DO NOT ADD ADDITIONAL SURFACTANT OR ADDITIVES CONTAINING SURFACTANT TO THIS PRODUCT (OTHER THAN THOSE CONTAINED IN ANY TANK-MIX PRODUCT) FOR OVER-THE-TOP APPLICATIONS TO ROUNDUP READY COTTON.

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

## 12.6 Roundup Ready Flex Cotton

The instructions provided in this section are specific to, and should only be used with, varieties designated as Roundup Ready Flex cotton. Applications described in this section over the top of cotton other than Roundup Ready Flex cotton will cause crop injury and reduced yields. DO NOT combine the instructions in this section with those in the "Roundup Ready Cotton" section of this label, or with any other Roundup Ready cotton or Roundup Ready Flex cotton instructions on labeling for this or other glyphosate-containing products. Drift of this product from applications made to Roundup Ready Flex cotton onto adjacent fields of post 4-leaf (node) Roundup Ready cotton may cause extensive crop injury, including boll loss, delayed maturity and/or yield loss.

**TYPES OF APPLICATIONS:** Preplant, At-Planting, Preemergence, Postemergence (In-crop), Preharvest

**GENERAL USE INSTRUCTIONS:** Refer to the following table for maximum application rates of this product with Roundup Ready Flex cotton.

**Maximum Application Rates**

Combined total per year for all applications	5.3 quarts per acre
Total of all Preplant, At-Planting, Preemergence applications	3.3 quarts per acre
Total of all In-crop applications from cracking to 60 percent open bolls	4.0 quarts per acre
Total of all In-crop applications between layby and 60 percent open bolls	44 fluid ounces per acre
Maximum allowed from 60 percent open bolls to 7 days prior to harvest	44 fluid ounces per acre

**GENERAL PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for general precautionary instructions for use in Roundup Ready crops. The combined total application of this product from cotton emergence through harvest must not exceed 4 quarts per acre. The maximum combined total quantity of this product for all applications in a season is 5.3 quarts per acre. See the "GENERAL INFORMATION" section of this label for more information on Maximum Application Rates.

**Preplant, At-Planting, Preemergence**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting Roundup Ready Flex cotton.

**TANK MIXTURES:** This product may be tank-mixed with 2,4-D or Clarity and applied prior to planting only. This product may be tank-mixed with the following products and applied prior to crop emergence. Ensure that the specific product being used in the tank mixture is registered for application prior to emergence of cotton. Read and follow label directions of all products in the tank mixture.

Caparol, Direx, Dual MAGNUM, fluometuron, pendimethalin, Staple, diuron, metolachlor

**PRECAUTIONS, RESTRICTIONS:** Maximum quantity of this product that may be applied for all preplant, at-planting and preemergence applications combined is 3.3 quarts per acre per season. Refer to individual tank mixture product label for restrictions and precautions; use according to

the most restrictive precautionary statements for each product in the tank mixture.

**Postemergence (In-crop)**

**USE INSTRUCTIONS:** This product may be applied to control annual grasses and broadleaf weeds listed on this label in Roundup Ready Flex cotton. To maximize yield potential, spray cotton early to eliminate competing weeds. Many perennial weeds will be controlled or suppressed with one or more applications of this product. In general, an initial application of 22 fluid ounces per acre on 1 to 3 inch tall annual grass and broadleaf weeds is recommended. This product may be applied postemergence to Roundup Ready Flex cotton by ground application equipment at rates up to 32 fluid ounces per acre per application. In addition to broadcast applications, post-directed spray equipment may be used to achieve more thorough weed coverage. **DO NOT ADD ADDITIONAL SURFACTANT OR ADDITIVES CONTAINING SURFACTANT TO THIS PRODUCT FOR OVER-THE-TOP APPLICATIONS TO ROUNDUP READY FLEX COTTON.**

**TANK MIXTURES:** This product may be tank-mixed with the following products and applied postemergence (in-crop) over the top of Roundup Ready Flex cotton. Ensure that the specific product being used in the tank mixture is registered for application postemergence (in-crop) to cotton. Read and follow label directions of all products in the tank mixture.

Assure II, Dual MAGNUM, Envoke, Fusilade, Poast Plus, Select MAX, Staple, metolachlor

Staple may cause leaf yellowing and/or leaf crinkling when applied postemergence (in-crop).

Dual MAGNUM applied over the top of Roundup Ready cotton may cause leaf injury in the form of necrotic spotting.

**PRECAUTIONS, RESTRICTIONS:** The maximum single, in-crop application rate of this product to Roundup Ready Flex cotton using ground application equipment is 32 fluid ounces per acre. **In-crop application rates above 22 fluid ounces per acre made alone or with the addition of other crop chemical products containing surfactant may cause a crop response including leaf speckling or leaf necrosis.** Do not exceed a maximum rate of 22 fluid ounces of this product per acre when making applications

by air. Between layby and 60 percent open bolls, the maximum combined total application rate of this product is 44 fluid ounces per acre. The maximum combined total of all applications of this product made from crop emergence to 60 percent open bolls must not exceed 4.0 quarts per acre. Refer to individual tank mixture product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

**Preharvest**

USE INSTRUCTIONS: This product may be applied to Roundup Ready Flex cotton for annual and perennial weed control prior to harvest after 60 percent boll crack. Up to 44 fluid ounces of this product may be applied using either aerial or ground application equipment. **DO NOT ADD ADDITIONAL SURFACTANT OR ADDITIVES CONTAINING SURFACTANT TO THIS PRODUCT FOR OVER-THE-TOP APPLICATIONS TO ROUNDUP READY FLEX COTTON.**

**NOTE:** This product will not enhance the performance of harvest aids when applied to Roundup Ready Flex cotton.

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 7 days between application and harvest of Roundup Ready Flex cotton.

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

# 12.7 Roundup Ready Soybeans

TYPES OF APPLICATIONS: Preplant, At-Planting, Preemergence, Postemergence (In-crop), Preharvest, Post-Harvest

GENERAL USE INSTRUCTIONS: Refer to the following table for maximum application rates of this product with Roundup Ready soybeans.

<b>Maximum Application Rates</b>	
Combined total per year for all applications	5.3 quarts per acre
Total of all Preplant, At-Planting, Preemergence applications	3.3 quarts per acre
Total of all In-crop applications from cracking through flowering (R2 stage soybeans)	64 fluid ounces per acre
Maximum Preharvest application rate	22 fluid ounces per acre

GENERAL PRECAUTIONS, RESTRICTIONS: See the “ROUNDUP READY CROPS” section of this label for general precautionary instructions for use in Roundup Ready crops. The maximum combined total quantity of this product for all applications in a season is 5.3 quarts per acre. See the “GENERAL INFORMATION” section of this label for more information on Maximum Application Rates.

**Preplant, At-Planting, Preemergence**

USE INSTRUCTIONS: This product may be applied before, during or after planting Roundup Ready soybeans.

TANK MIXTURES: This product may be tank-mixed with 2,4-D, Banvel or Clarity and applied prior to planting only. This product may be tank-mixed with the following products and applied prior to crop emergence. Ensure that the specific product being used in the tank mixture is registered for application prior to emergence of soybeans. Read and follow label directions of all products in the tank mixture.

- Aim, Assure II, Axiom, Authority, Blanket, Boundary, Canopy, Classic, Cobra, Command, Command Xtra, Domain, Dual MAGNUM, Dual II MAGNUM, FirstRate, Flexstar, Frontier, Fusion, Gangster, INTRRO, Lexone, Linex, Lorox, metolachlor, Micro-Tech, Outlook, Pendimax, pendimethalin, Pursuit, Pursuit Plus, Python, Reflex, Resource, Scepter, Select, Select MAX, Sencor, Spartan, Squadron, Steel, Valor, 2,4-D

**PRECAUTIONS, RESTRICTIONS:** Maximum quantity of this product that may be applied for all preplant, at-planting and preemergence applications combined is 3.3 quarts per acre per season. Refer to individual tank mixture product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

**Postemergence (In-crop)**

**USE INSTRUCTIONS:** This product may be used to control annual grasses and broadleaf weeds in Roundup Ready soybeans. Applications of this product can be made in Roundup Ready soybeans from emergence (cracking) through flowering (R2 stage soybeans). R2 stage soybeans ends when a pod 5 millimeters (3/16 inch) long appears at one of the four uppermost nodes on the main stem with a fully developed leaf (R3 stage). Refer to the "ANNUAL WEEDS RATE SECTION" of this label for rate recommendations for specific annual weeds. In general, an initial application of 22 fluid ounces per acre on 2 to 8 inch tall weeds is recommended. Weeds will generally be 2 to 8 inches tall, 2 to 5 weeks after planting. If the initial application is delayed and weeds are larger, apply a higher rate of this product. This product may be applied up to 44 fluid ounces per acre as a single, in-crop application for control of annual weeds and where dense weed populations exist.

A 22- to 44-fluid ounce per acre rate (single or multiple applications) of this product will control or suppress perennial weeds, such as, bermudagrass, Canada thistle, common milkweed, field bindweed, hemp dogbane, horsenettle, marestail (horseweed), nutsedge, quackgrass, rhizome johnsongrass, redvine, trumpetcreeper, swamp smartweed and wirestem muhly. For best results, allow perennial weed species to achieve at least 6 inches of growth before spraying with this product.

Under adverse growing conditions such as drought, hail, wind damage or a poor soybean stand that slows or delays canopy closure, a sequential application of this product may be necessary to control late flushes of weeds. **IN THE SOUTHERN STATES, A SEQUENTIAL APPLICATION OF THIS PRODUCT WILL BE REQUIRED TO CONTROL NEW FLUSHES OF WEEDS IN THE ROUNDUP READY SOYBEAN CROP.** To control giant ragweed, it is recommended that 22 fluid ounces of this product per acre be applied

when the weed is 8 to 12 inches tall to increase control and possibly avoid the need for a sequential application.

**TANK MIXTURES:** This product may be tank-mixed with the following products and applied postemergence (in-crop) over the top of Roundup Ready soybeans. Ensure that the specific product being used in the tank mixture is registered for application postemergence (in-crop) to soybeans. Read and follow label directions of all products in the tank mixture.

Arrow, Assure II, Basagran, Classic, Cobra, Extreme, FirstRate, Flexstar, Fusilade DX, Fusion, Harmony GT XP, Poast, Poast Plus, Pursuit, Pursuit Plus, Raptor, Reflex, Select, Select MAX, Synchrony STS, Targa, Ultra Blazer

**PRECAUTIONS, RESTRICTIONS:** The combined total application from crop emergence through harvest must not exceed 64 fluid ounces per acre. The maximum rate for any single in-crop application is 44 fluid ounces per acre. The maximum combined total of this product that can be applied during flowering (R2 stage soybeans) is 44 fluid ounces per acre. Refer to individual tank mixture product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture. In some cases, these tank-mix products will cause visual soybean injury.

**Preharvest**

**USE INSTRUCTIONS:** This product may be applied to Roundup Ready soybeans for weed control prior to harvest. Apply up to 22 fluid ounces of this product per acre after pods have set and lost all green color.

**PRECAUTIONS, RESTRICTIONS:** Care should be taken to avoid excessive seed shatter loss due to ground application equipment. Allow a minimum of 14 days between final application and harvest of soybean grain or feeding of soybean grain, forage or hay.

**Post-Harvest**

**USE INSTRUCTIONS:** This product may be applied for weed control after harvest of Roundup Ready soybeans. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

# 12.8 Roundup Ready Sugar Beet

**TYPES OF APPLICATIONS:** Preplant, At-Planting, Preemergence, Postemergence (In-crop)

**GENERAL USE INSTRUCTIONS:** Refer to the following table for maximum application rates of this product with Roundup Ready sugar beet.

Maximum Application Rates	
Combined total per year for all applications	5.3 quarts per acre
Total of all Preplant, At-Planting, Preemergence applications	3.3 quarts per acre
Total of all applications made from emergence to 8-leaf stage	56 fluid ounces per acre
Total of all applications made between 8-leaf stage and canopy closure	44 fluid ounces per acre

**GENERAL PRECAUTIONS, RESTRICTIONS:** See the “ROUNDUP READY CROPS” section of this label for general precautionary instructions for use in Roundup Ready crops. The maximum combined total quantity of this product for all applications in a season is 5.3 quarts per acre. See the “GENERAL INFORMATION” section of this label for more information on Maximum Application Rates.

**Preplant, At-Planting, Preemergence**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting of Roundup Ready sugar beet.

**PRECAUTIONS, RESTRICTIONS:** Maximum quantity of this product that may be applied for all preplant, at-planting and preemergence applications combined is 3.3 quarts per acre per season. Refer to individual tank mixture product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

**Postemergence (In-crop)**

**USE INSTRUCTIONS:** This product may be applied over the top of Roundup Ready sugar beets for control of annual grasses and broadleaf weeds from emergence to 30 days prior to harvest. To maximize yield potential, spray sugar beets early to eliminate competing weeds. Up to 4 sequential applications of this product may be made with at least 10 days between applications. This product will control or suppress most perennial weeds. For some perennial weeds, repeat applications may be required to eliminate crop competition throughout the growing season.

**PRECAUTIONS, RESTRICTIONS:** The combined total application of this product from crop emergence through harvest must not exceed 3 quarts per acre. The maximum rate for any single application from crop emergence until the 8-leaf stage is 32 fluid ounces per acre. The maximum rate for any single application between the 8-leaf stage and canopy closure is 22 fluid ounces per acre. Allow a minimum of 30 days between last application and sugar beet harvest. Tank mixtures of this product with herbicides, insecticides or fungicides may result in crop injury or reduced weed control. Refer to individual tank mixture product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

# 13.0 NON-CROP USES AROUND THE FARMSTEAD

**TYPES OF USES:** General Weed Control, Trim-and-Edge, Greenhouse/ Shadehouse, Chemical Mowing, Cut Stump, Habitat Management

**GENERAL USE INSTRUCTIONS:** Refer to the “ANNUAL WEEDS RATE SECTION” and “PERENNIAL WEEDS RATE SECTION” of this label for rate recommendations for specific weeds. When applied as directed, this product will control these annual and perennial grasses and broadleaf weeds. Recommended rates of this product specified in the following sections, or on separate supplemental labeling or Fact Sheets published by Monsanto for this product, on how to control tough weeds supersede recommended rates in the “ANNUAL WEEDS RATE SECTION” and “PERENNIAL WEEDS RATE SECTION” of this label.

## 13.1 General Weed Control and Trim-and-Edge

**USE INSTRUCTIONS:** This product may be used to control annual weeds, perennial weeds and woody brush found in any part of the farmstead, including around building foundations and equipment storage areas, along and in fences, in dry ditches and canals, along ditchbanks, farm roads, shelterbelts, and prior to planting landscape ornamentals.

**TANK MIXTURES:** This product may be tank-mixed with the following products, provided that the specific product used is registered for use on these non-crop sites. Refer to the individual product labels for approved farmstead sites and application rates. Read and follow label directions of all products in the tank mixture.

2,4-D, simazine, Arsenal, Banvel, Barricade 65WG, Clarity, diuron, Endurance, Escort XP, Karmex DF, Krovar I DF, Oust, Pendulum 3.3 EC, Pendulum WDG, Plateau, Princep DF, Princep 4L, Ronstar, Sahara DG, Surflan AS Specialty, Telar DF, Vanquish

For annual weeds, use 22 fluid ounces per acre of this product when weeds are less than 6 inches tall, 32 fluid ounces per acre when weeds are 6 to 12 inches tall and 44 fluid ounces per acre when weeds are greater than 12 inches tall. For perennial weeds, apply 44 fluid ounces to 3.3 quarts per acre in these tank mixes. For application of tank mixtures with these products using backpack sprayers, handguns or other hand-held applicators, see the "ANNUAL WEEDS—HAND-HELD OR BACKPACK EQUIPMENT" section of this label for recommended application rates of this product.

**PRECAUTIONS, RESTRICTIONS:** Refer to individual tank mixture product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

## 13.2 Greenhouse/Shadehouse

**USE INSTRUCTIONS:** This product may be used to control weeds in and around greenhouses and shadehouses.

**PRECAUTIONS, RESTRICTIONS:** Desirable vegetation must not be present during application and air circulation fans must be turned off until after the application has dried. Do not use in residential greenhouses.

## 13.3 Chemical Mowing

**USE INSTRUCTIONS:** This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Use 4 fluid ounces of this product per acre when treating Kentucky bluegrass. Use 4 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass, bahiagrass or quackgrass covers. Use 11 fluid ounces of this product per acre when treating bermudagrass. Use 44 fluid ounces of this product per acre when treating torpedograss or paragrass. Apply treatments in 10 to 20 gallons of spray solution per acre. Chemical mowing applications may be made along farm ditches and other parts of farmsteads.

**PRECAUTIONS, RESTRICTIONS:** Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

## 13.4 Cut Stump

**TYPES OF USES:** Treating cut stumps in any non-crop site listed on this label

**USE INSTRUCTIONS:** This product will control regrowth of cut stumps and resprouts of many types of woody brush and tree species, some of which are listed below. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50- to 100-percent solution of this product to the freshly cut surface immediately after cutting. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion.

Alder	Oak	Reed, giant	Tan oak
Eucalyptus	Pepper, Brazilian	Saltcedar	Willow
Madrone	Pine, Austrian	Sweetgum	

**PRECAUTIONS, RESTRICTIONS:** Do not make cut stump applications when the roots of desirable woody brush or trees may be grafted to the roots of the cut stump. Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.

## 13.5 Habitat Management

**TYPES OF USES:** Habitat Restoration and Maintenance, Wildlife Food Plots

### Habitat Restoration and Maintenance

**USE INSTRUCTIONS:** This product may be used to control exotic and other undesirable vegetation in habitat management areas. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broad-spectrum vegetation control requirements in habitat management areas. Spot treatments can be made to selectively remove unwanted plants for habitat maintenance and enhancement.

### Wildlife Food Plots

**USE INSTRUCTIONS:** This product may be used as a site preparation treatment to control annual and perennial weeds prior to planting wildlife food plots. Any wildlife food species, including Roundup Ready canola, may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after application before tillage.

**PRECAUTIONS, RESTRICTIONS:** Do not process treated Roundup Ready canola seed from wildlife food plots for food or domestic livestock feed. Do not graze or feed treated Roundup Ready canola from wildlife food plots to domestic livestock. There are no rotational restrictions for planting any wildlife food species or for allowing native species to repopulate the area following applications of this product.

## 14.0 ANNUAL WEEDS RATE SECTION

When water carrier volumes are between 16 and 40 gallons per acre for ground applications, and between 6 and 15 gallons per acre for aerial applications, the following use rates will control the annual weeds listed in the table that follows:

- 22 fluid ounces per acre—grass and broadleaf annual weeds less than 6 inches in height or circumference, and vines less than 3 inches in length.
- 32 fluid ounces per acre—grass and broadleaf annual weeds 6 to 12 inches in height or circumference, and vines 3 to 6 inches in length.
- 44 fluid ounces per acre—grass and broadleaf annual weeds greater than 12 inches in height or circumference, and vines greater than 6 inches in length.

**WHEN WATER CARRIER VOLUMES ARE BETWEEN 3 AND 15 GALLONS PER ACRE FOR GROUND APPLICATIONS, AND BETWEEN 3 AND 5 GALLONS PER ACRE FOR AERIAL APPLICATIONS, USE THE RATES SPECIFIED FOR INDIVIDUAL WEEDS AS FOLLOWS IN THE "ANNUAL WEEDS RATE TABLE (Alphabetically by Species)".**

Apply to actively growing annual weeds. Annual weeds are generally easiest to control when they are small.

Older, mature (hardened) and otherwise tough-to-control annual weed species may require higher rates than recommended in this table even if they meet the size requirements listed. This product may be used up to 44 fluid ounces per acre for tough-to-control weeds and where heavy weed densities exist. Follow all precautions and restrictions, including the allowed maximum application rates and crop stage timings specified in the instructions for the crops, including Roundup Ready crops, and use sites listed on this label.

Maximum size refers to the maximum plant height, length of runners for vines or circumference of rosette plants in inches.

Do not tank-mix with soil residual herbicides when using these rates unless otherwise specified.

## ANNUAL WEEDS RATE SECTION

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For weeds that have been mowed, grazed or cut, allow regrowth to occur prior to treatment.

**ANNUAL WEEDS RATE TABLE**  
(Alphabetically by Species)

WEED SPECIES	RATE (fluid ounces per acre)				
	11	16	22	27	32
	Maximum height/length (in inches)				
Ammannia, purple	3	6	12	-	18
Anoda, spurred	-	2	3	5	8
Barley	18	18+	-	-	-
Barnyardgrass	-	3	6	7	9
Bassia, fivehook	-	-	6	-	-
Beggarweed, Florida	-	5	8	-	-
Bittercress	12	20	-	-	-
Bluegrass, annual	10	-	-	-	-
Bluegrass, bulbous	6	-	-	-	-
Brome, downy <sup>1,2</sup>	6	12	-	-	-
Brome, Japanese	6	12	24	-	-
Browntop panicum	6	8	12	-	24
Buckwheat, wild <sup>3</sup>	-	1	2	-	-
Burcucumber	-	6	12	-	18
Buttercup	12	20	-	-	-
Carolina geranium	-	-	4	-	9
Carpetweed	-	6	12	-	-
Cheat <sup>2</sup>	6	20	-	-	-
Chervil	20	-	-	-	-
Chickweed	-	12	18	-	-
Cocklebur	12	18	24	-	36
Copperleaf, hophornbeam	-	2	4	-	6
Copperleaf, Virginia	-	2	4	-	6
Coreopsis, plains	-	6	12	-	18
Corn, volunteer	6	12	20	-	-
Corn speedwell	12	-	-	-	-
Crabgrass	3	6	12	-	-
Crowfootgrass	-	-	6	-	12

Cutleaf evening primrose	-	-	3	-	6
Devilsclaw (unicorn plant)	-	3	6	-	-
Dwarfdandelion	12	-	-	-	-
Eastern manna grass	8	12	-	-	-
Eclipta	-	4	8	12	-
Fall panicum	4	-	6	-	12
Falsedandelion	-	20	-	-	-
Falseflax, smallseed	12	-	-	-	-
Fiddleneck	-	6	12	-	-
Field pennycress	6	12	-	-	-
Filaree	-	-	6	-	12
Fleabane, annual	6	20	-	-	-
Fleabane, hairy ( <i>Conyza bonariensis</i> )	-	-	6	-	10
Fleabane, rough	3	6	12	-	-
Florida pusley	-	-	4	-	6
Foxtail; giant, bristly, yellow	6	12	20	-	-
Foxtail, Carolina	10	-	-	-	-
Foxtail, green	12	-	-	-	-
Goatgrass, jointed	6	12	-	-	-
Goosegrass	-	3	6	-	12
Grain sorghum (milo)	6	12	20	-	-
Groundcherry	-	3	6	-	9
Groundsel, common	-	6	10	-	-
Hemp sesbania	-	2	4	6	8
Henbit	-	-	6	-	12
Horseweed/Marestail* ( <i>Conyza canadensis</i> )	-	6	12	-	18
Itchgrass	6	8	12	-	18
Jimsonweed	-	-	12	-	18
Johnsongrass, seedling	6	12	18	-	24
Junglerice	-	3	6	7	9
Knotweed	-	-	6	-	12
Kochia <sup>4</sup>	-	3 to 6	12	-	-
Lambsquarters*	-	6	12	-	20
Little barley	6	12	-	-	-
London rocket	6	-	24	-	-

## ANNUAL WEEDS RATE SECTION

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# ANNUAL WEEDS RATE SECTION

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**ANNUAL WEEDS RATE TABLE (Cont'd.)**  
(Alphabetically by Species)

WEED SPECIES	RATE (fluid ounces per acre)				
	11	16	22	32	
	Maximum height/length (in inches)				
Mayweed	-	2	6	12	18
Morningglory, annual ( <i>Ipomoea spp</i> )	-	-	3	-	6
Mustard, blue	6	12	18	-	-
Mustard, tansy	6	12	18	-	-
Mustard, tumble	6	12	18	-	-
Mustard, wild	6	12	18	-	-
Nightshade, black	-	4	6	-	12
Nightshade, hairy	-	4	6	-	12
Oats	3	6	18	-	-
Pigweed, Palmer*	-	12	18	24	-
Pigweed species*	-	12	18	24	-
Prickly lettuce	-	6	12	-	-
Purslane	-	-	3	-	6
Ragweed, common*	-	6	12	-	18
Ragweed, giant*	-	6	12	-	18
Red rice	-	-	4	-	-
Rye, volunteer/cereal <sup>2</sup>	6	18	18+	-	-
Ryegrass species*	-	-	6	-	12
Sandbur, field	6	12	-	-	-
Sandbur, longspine	6	12	-	-	-
Shattercane	6	12	20	-	-
Shepherd's-purse	6	12	-	-	-
Sicklepod	-	2	4	-	8
Signalgrass, broadleaf	-	3	6	7	9
Smartweed, ladythumb	-	-	6	-	9
Smartweed, Pennsylvania	-	-	6	-	9
Sowthistle, annual	-	-	6	-	12
Spanishneedles	-	-	6	-	12
Speedwell, purslane	12	-	-	-	-
Sprangletop	6	12	20	-	-

Spurge, prostrate	-	6	12	-	-
Spurge, spotted	-	6	12	-	-
Spurry, umbrella	6	-	-	-	-
Stinkgrass	-	12	-	-	-
Sunflower	12	18	-	-	-
Swinecress	-	5	12	-	-
Teaweed/Prickly sida	-	2	4	-	6
Texas panicum	6	8	12	-	24
Thistle, Russian <sup>5</sup>	-	6	12	-	-
Velvetleaf	-	-	6	-	12
Virginia pepperweed	-	18	-	-	-
Waterhemp*	-	-	6	-	12
Wheat <sup>2</sup>	6	12	18	-	-
Wheat (overwintered)	-	6	12	-	18
Wild oats	3	6	18	-	-
Wild proso millet	-	6	12	-	18
Witchgrass	-	12	-	-	-
Woolly cupgrass	-	6	12	-	-
Yellow rocket	-	12	20	-	-

<sup>1</sup> For control of downy brome in no-till systems, use 16 fluid ounces per acre.

<sup>2</sup> Performance is better if application is made before this weed reaches the boot stage of growth.

<sup>3</sup> Use 16 fluid ounces per acre of this product to control wild buckwheat in the cotyledon to 2-leaf stage. Use 22 fluid ounces per acre to control 2- to 4-leaf wild buckwheat. For improved control of wild buckwheat over 2 inches in size, use sequential treatments of 22 fluid ounces followed by 22 fluid ounces of this product per acre.

<sup>4</sup> Do not treat Kochia in the button stage.

<sup>5</sup> Control of Russian thistle may vary based on environmental conditions and spray coverage. Whenever possible, a tank mixture with 2,4-D as described below may improve control.

\*A glyphosate-resistant biotype has been confirmed. For additional information, refer to the "WEED RESISTANCE MANAGEMENT" section of this label. You may also visit on the Internet, [www.weedscience.org](http://www.weedscience.org) or [www.weedresistancemanagement.com](http://www.weedresistancemanagement.com), or contact your Monsanto representative.

# ANNUAL WEEDS RATE SECTION

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## 14.1 Annual Weeds—Tank Mixtures with 2,4-D, Dicamba or Tordon 22K

Better control of certain tough weeds can be achieved by tank-mixing this product with 0.25 pound of dicamba, or 0.5 pound of 2,4-D, or 1 to 2 fluid ounces of Tordon 22K per acre. These other herbicides, combined with the rate of this product specified in the “ANNUAL WEEDS RATE TABLE”, will control the following weeds up to the maximum height or length indicated: 6 inches—prickly lettuce, marestail/horseweed, morningglory, kochia (dicamba only), wild buckwheat (Tordon 22K only); 12 inches—cocklebur, lambsquarters, pigweed, Russian thistle (2,4-D only).

This product at rates given in the “ANNUAL WEEDS RATE SECTION” will control the following weeds up to a maximum height or length of 6 inches—common ragweed, giant ragweed, Pennsylvania smartweed, and velvetleaf. For better control, tank-mix this product with 0.5 pound of 2,4-D per acre.

Ensure that the specific product is registered for application at the desired site. Follow all precautions and limitations on the tank-mix product label, including application timing restrictions, soil restrictions, minimum re-cropping interval and rotational guidelines. Use according to the more restrictive label requirements. Some crop injury may occur if dicamba or Tordon 22K is applied within 45 days of planting.

## 14.2 Annual Weeds—Hand-Held or Backpack Equipment

For control of weeds listed in the “ANNUAL WEEDS RATE TABLE”, apply a 0.4-percent solution of this product to weeds less than 6 inches in height or runner length. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds. For annual weeds over 6 inches tall, or unless otherwise specified, use a 0.7-percent solution.

For best results, use a 1.5-percent solution on harder-to-control perennials, such as bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

When using application methods that result in less than complete coverage, use a 4-percent solution for annual and perennial weeds, and a 4- to 7-percent solution for woody brush and trees.

## 14.3 Annual Weeds—Tank Mixtures with Atrazine for Fallow and Reduced Tillage Systems

For use only in Colorado, Kansas, Nebraska, Oklahoma, Oregon, South Dakota, and Washington. In Oregon and Washington, do not exceed 1 pound of atrazine per acre.

Applications of 16 to 20 fluid ounces of this product, plus 1 to 2 pounds of atrazine, per acre will control the following weeds: barnyardgrass (requires 20 fluid ounces for control), downy brome, green foxtail, lambsquarters, prickly lettuce, tansy mustard, pigweed, field sandbur, stinkgrass, Russian thistle, volunteer wheat, witchgrass and kochia (add 0.12 pound of dicamba for control). Ensure that the specific atrazine or dicamba product being used is registered for application on the desired site.

## 15.0 PERENNIAL WEEDS RATE SECTION

Apply to actively growing perennial weeds.

**NOTE:** If weeds have been mowed or tilled, do not treat until plants have resumed active growth and have reached the recommended stages.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seed. Repeat treatments must be made prior to crop emergence.

Unless otherwise stated, allow 7 or more days after application before tillage. Best results are obtained when soil moisture is adequate for active weed growth.

# PERENNIAL WEEDS RATE SECTION

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**PERENNIAL WEEDS RATE TABLE**  
(Alphabetically by Species)

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
Alfalfa	1 - 1.5	3 - 10	1.5%

Make applications after the last hay cutting in the fall. Allow alfalfa to regrow to a height of 6 to 8 inches or more prior to treatment. Applications should be followed with deep tillage at least 7 days after treatment, but before soil freeze-up.

Alligatorweed	3	3 - 20	1%
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For partial control, apply when most of the plants are in bloom. Repeat applications will be required to achieve control.

Anise (fennel) <sup>1</sup>	—	—	1 - 1.5%
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Apply as a spray-to-wet treatment.

Bahiagrass <sup>2</sup>	2 - 3.3	3 - 20	1.5%
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For suppression in grass seed production areas. For ground applications only. Ensure entire crown area has resumed growth prior to a fall application. Bentgrass should have at least 3 inches of growth. Tillage prior to treatment should be avoided. Tillage 7 to 10 days after application is recommended for best results.

Bermudagrass	2 - 3.3	3 - 20	1.5%
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For control, apply 3.3 quarts of this product per acre. For partial control, apply 64 fluid ounces per acre. Treat when bermudagrass is actively growing and seedheads are present. Retreatment may be necessary to achieve control.

Bermudagrass, water (knotgrass)	0.7 - 1	5 - 10	1.5%
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Apply 32 fluid ounces of this product in 5 to 10 gallons of water per acre. Apply when water bermudagrass is 12 to 18 inches in length. Allow 7 or more days before tilling, flushing or flooding the field.

Fall applications only: Apply 22 fluid ounces of this product in 5 to 10 gallons of water per acre. Fall fields should be tilled prior to application. Apply prior to frost on water bermudagrass that is 12 to 18 inches in length.

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

Bindweed, field	0.4 - 3.3	3 - 20	1.5%
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Do not treat field bindweed under drought stress, as good soil moisture is necessary for active growth.

For control, apply 2.5 to 3.3 quarts of this product per acre west of the Mississippi River and 2 to 2.5 quarts per acre east of the Mississippi River. Apply when the weeds are at or beyond full bloom. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost.

Also for control, apply 44 fluid ounces of this product, plus 0.5 pound of dicamba, in 10 to 20 gallons of water per acre. Do not apply by air.

For suppression on irrigated agricultural land, apply 22 to 44 fluid ounces of this product plus 1 pound of 2,4-D, in 10 to 20 gallons of water per acre with ground equipment only. Applications should be made following harvest or in fall fallow ground when the bindweed is actively growing and the majority of runners are 12 inches or more in length. Irrigate at least once to promote active bindweed growth.

For suppression, apply 11 fluid ounces of this product, plus 0.5 pound of 2,4-D, in 3 to 10 gallons of water per acre for ground applications, and 3 to 5 gallons of water per acre for aerial applications. Apply by air in fallow and reduced tillage systems only. Applications should be delayed until maximum emergence has occurred and when vines are between 6 to 18 inches in length.

**In California only,** apply 22 fluid ounces to 3.3 quarts of this product per acre. Actual rate needed for suppression or control will vary within this range depending on local conditions. For suppression on irrigated land where annual tillage is performed, apply 22 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to bindweed that has reached a length of 12 inches or greater. Allow maximum weed emergence and runner growth. Allow 3 or more days after application before tillage.

Bluegrass, Kentucky	0.7 - 1.5	3 - 40	1.5%
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Apply 44 fluid ounces of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 22 to 32 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.

Bluesteed, Texas	2 - 3.3	3 - 40	1.5%
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Apply 2.5 to 3.3 quarts of this product per acre west of the Mississippi River and 2 to 2.5 quarts per acre east of the Mississippi River. Apply when plants are at or beyond full bloom. New leaf development indicates active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost.

# PERENNIAL WEEDS RATE SECTION

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## PERENNIAL WEEDS RATE SECTION 112

**PERENNIAL WEEDS RATE TABLE (Cont'd.)**  
**(Alphabetically by Species)**

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
Brackenfern	2 - 3	3 - 40	1%

Apply to fully expanded fronds that are at least 18 inches long.

Bromegrass, smooth	0.7 - 1.5	3 - 40	1.5%
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Apply 44 fluid ounces of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 22 to 32 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.

Bursage, woolly-leaf	—	3 - 20	1.5%
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For control, apply 44 fluid ounces of this product plus 0.5 pound of dicamba per acre. For partial control, apply 22 fluid ounces of this product plus 0.5 pound of dicamba per acre. Apply when plants are producing new active growth which has been initiated by moisture for at least 2 weeks and when plants are at or beyond flowering.

Canarygrass, reed <sup>2</sup>	1.5 - 2	3 - 40	1.5%
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Cattail <sup>2</sup>	2 - 3.3	3 - 40	1.5%
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Clover; red or white <sup>1</sup>	2 - 3.3	3 - 20	1.5%
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Also for control, apply 11 to 22 fluid ounces of this product plus 0.5 to 1 pound of 2,4-D, in 3 to 10 gallons of water per acre.

Cogongrass	2 - 3.3	10 - 40	1.5%
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Apply when cogongrass is at least 18 inches tall in late summer or fall. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to achieve control.

Dallisgrass <sup>2</sup>	2 - 3.3	3 - 20	1.5%
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Dandelion <sup>1</sup>	2 - 3.3	3 - 40	1.5%
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Also for control, apply 11 fluid ounces of this product, plus 0.5 pound of 2,4-D, in 3 to 10 gallons of water per acre.

Dock, curly <sup>1</sup>	2 - 3.3	3 - 40	1.5%
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Also for control, apply 11 to 22 fluid ounces of this product, plus 0.5 to 1 pound of 2,4-D, in 3 to 10 gallons of water per acre.

Dogbane, hemp	3	3 - 40	1.5%
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Apply when most plants have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall.

For suppression, apply 11 fluid ounces of this product, plus 0.5 pound of 2,4-D, in 3 to 10 gallons of water per acre for ground applications, and 3 to 5 gallons of water per acre for aerial applications. Delay applications until maximum emergence of dogbane has occurred.

Fescue (except tall) <sup>2</sup>	2 - 3.3	3 - 20	1.5%
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Fescue, tall	0.7 - 2	3 - 40	1.5%
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Apply 64 fluid ounces of this product per acre when most plants have reached boot-to-early seedhead stage of development.

Fall applications only: Apply 22 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to fescue in the fall when plants have 6 to 12 inches of new growth. A sequential application of 11 fluid ounces per acre of this product will improve long-term control and control seedlings germinating after fall treatments or the following spring.

Guineagrass	1.5 - 2	3 - 40	1%
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Apply when most plants have reached at least the 7-leaf stage of growth. Ensure thorough coverage when using hand-held equipment. In Texas and ridge of Florida, use 44 fluid ounces of this product per acre for control. In the flatwoods region of Florida, 64 fluid ounces of this product per acre is required for control.

Horsenettle <sup>1</sup>	2 - 3.3	3 - 20	1.5%
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Horseradish	3	3 - 40	1.5%
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Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.

Iceland <sup>1</sup>	—	—	1.5 - 2%
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Thorough coverage is necessary for best control.

Jerusalem artichoke <sup>1</sup>	2 - 3.3	3 - 20	1.5%
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Johnsongrass	0.4 - 2	3 - 40	1%
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In annual cropping systems, apply 22 to 44 fluid ounces of this product per acre. Apply 22 fluid ounces of this product in 3 to 10 gallons of water per acre. Use 44 fluid ounces of this product when applying 10 to 40 gallons of water per acre. In non-crop areas, or areas where annual tillage (no-till) is not practiced, apply 44 to 64 fluid ounces of this product in 10 to 40 gallons of water per acre.

## PERENNIAL WEEDS RATE SECTION 113

# PERENNIAL WEEDS RATE SECTION 114

**PERENNIAL WEEDS RATE TABLE (Cont'd.)**  
(Alphabetically by Species)

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
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For best results, apply when most plants have reached the boot-to-head stage of growth or in the fall prior to frost. Allow 7 or more days after application before tillage. Do not tank-mix with residual herbicides when using 22 fluid ounces of this product per acre.

For burndown of Johnsongrass, apply 11 fluid ounces of this product in 3 to 10 gallons of water per acre before the plants reach a height of 12 inches. For this use, allow at least 3 days after treatment before tillage.

Spot treatment (partial control or suppression)—Apply a 0.7-percent solution of this product when Johnsongrass is 12 to 18 inches in height. Coverage should be uniform and complete.

Kikuyugrass	1.5 - 2	3 - 40	1.5%
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Spray when most kikuyugrass is at least 8 inches in height (3- or 4-leaf stage of growth). Allow 3 or more days after application before tillage.

Knapweed	3	3 - 40	1.5%
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Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.

Lantana	—	—	1%
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Apply at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth.

Lespedeza <sup>1</sup>	2 - 3.3	3 - 20	1.5%
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Milkweed, common	2	3 - 40	1.5%
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Apply when most plants have reached the late bud to flower stage of growth.

Muhly, wirestem	0.7 - 1.5	3 - 40	1.5%
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Use 22 fluid ounces of this product in 3 to 10 gallons of water per acre. Use 44 fluid ounces of this product when applying 10 to 40 gallons of water per acre or in pasture, sod, or non-crop areas. Spray when the wirestem muhly is 8 inches or more in height. Do not till between harvest and fall applications, or in the fall or spring prior to spring applications. Allow 3 or more days after application before tillage.

Mullein, common <sup>1</sup>	2 - 3.3	3 - 20	1.5%
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Napiergrass <sup>2</sup>	2 - 3.3	3 - 20	1.5%
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Nightshade, silverleaf	1.5	3 - 10	1.5%
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Applications should be made when at least 60 percent of the plants have berries. Fall treatments must be applied before a killing frost.

Nutsedge, purple or yellow	0.4 - 2	3 - 40	1 - 1.5%
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Apply 64 fluid ounces of this product per acre or apply a 1- to 1.5-percent solution for control of nutsedge plants and immature nutlets attached to treated plants. Treat when plants are in flower or when new nutlets can be found at rhizome tips. Nutlets that have not germinated will not be controlled and may germinate following treatment. Repeat treatments will be required for long-term control of ungerminated tubers.

Sequential applications: 22 to 44 fluid ounces of this product in 3 to 10 gallons of water per acre will also provide control. Make applications when a majority of the plants are in the 3- to 5-leaf stage (less than 6 inches tall). Repeat this application, as necessary, when newly emerging plants reach the 3- to 5-leaf stage. Subsequent applications will be necessary for long-term control.

For partial control of existing plants, apply 11 to 44 fluid ounces of this product in 3 to 40 gallons of water per acre. Treat when plants have 3 to 5 leaves and most are less than 6 inches tall. Repeat treatments will be required to control subsequent emerging plants or regrowth of existing plants.

Orchardgrass	0.7 - 1.5	3 - 40	1.5%
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Apply 44 fluid ounces of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 22 to 32 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.

Orchardgrass sods going to no-till corn: Apply 22 to 32 fluid ounces of this product in 3 to 10 gallons of water per acre. Apply to orchardgrass that is a minimum of 12 inches tall for spring applications, and 6 inches tall for fall applications. Allow at least 3 days following application before planting. A sequential application of atrazine will be necessary for optimum results.

Pampasgrass	—	—	1 - 1.5%
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Pampasgrass should be at or beyond the boot stage of growth. Thorough coverage is necessary for best control.

Paragrass <sup>2</sup>	2 - 3.3	3 - 20	1.5%
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# PERENNIAL WEEDS RATE SECTION 115

## PERENNIAL WEEDS RATE SECTION 116

**PERENNIAL WEEDS RATE TABLE (Cont'd.)**  
(Alphabetically by Species)

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
Phragmites	2 - 3.3	10 - 40	1 - 1.5%

For partial control and best results, treat during late summer or fall when plants are actively growing and in full bloom. Treatment before or after this stage may result in reduced control. Due to the dense nature of this vegetation that may prevent good spray coverage or uneven stages of growth, repeat treatments may be necessary to achieve control. Visual control symptoms will be slow to develop.

Poison hemlock	—	—	1 - 1.5%
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For hand-held equipment, apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth. Thorough coverage is necessary for best control.

Pokeweed, common	1	3 - 40	1.5%
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Apply to actively growing plants up to 24 inches tall.

Quackgrass	0.7 - 2	3 - 40	1.5%
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In annual cropping systems, or in pastures and sods followed by deep tillage. Apply 22 fluid ounces of this product in 3 to 10 gallons of water per acre. For 10 to 40 gallons of water per acre, apply 44 fluid ounces of this product. Do not tank-mix with residual herbicides when using the 22-fluid ounce rate. Spray when quackgrass is 6 to 8 inches in height. Do not till between harvest and fall applications or in fall or spring prior to spring application. Allow 3 or more days after application before tillage. In pastures or sods, use a moldboard plow for best results.

In pastures, sods or non-crop areas where deep tillage does not follow application: Apply 44 to 64 fluid ounces of this product in 10 to 40 gallons of water per acre when the quackgrass is greater than 8 inches tall.

Redvine	0.5 - 1.5	5 - 10	1.5%
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For suppression, apply 16 fluid ounces of this product per acre at each of two applications 7 to 14 days apart or a single application of 44 fluid ounces per acre. Apply recommended rates in 5 to 10 gallons of water per acre. Apply in late September or early October to plants that are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.

Reed, giant	—	—	1.5%
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Best results are obtained when applications are made in late summer to fall.

Ryegrass, perennial	0.7 - 2	3 - 40	1%
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In annual cropping systems, apply 22 to 44 fluid ounces of this product per acre. Apply 22 fluid ounces of this product in 3 to 10 gallons of water per acre. Use 44 fluid ounces of this product when applying 10 to 40 gallons of water per acre. In non-crop areas, or areas where annual tillage (no-till) is not practiced, apply 44 to 64 fluid ounces of this product in 10 to 40 gallons of water per acre.

For best results, apply when most plants have reached the boot-to-head stage of growth or in the fall prior to frost. Do not tank-mix with residual herbicides when using 22 fluid ounces of this product per acre.

Smartweed, swamp <sup>1</sup>	2 - 3.3	3 - 40	1.5%
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Also for control, apply 11 fluid ounces of this product, plus 0.5 pound of 2,4-D, in 3 to 10 gallons of water per acre in the late summer or fall.

Sowthistle, perennial	1.5 - 2	3 - 40	1.5%
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Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.

Spurge, leafy	—	3 - 10	1.5%
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For suppression, apply 11 fluid ounces of this product, plus 0.5 pound of 2,4-D, in 3 to 10 gallons of water per acre in the late summer or fall. If mowing has occurred prior to treatment, apply when most plants are 12 inches tall.

Starthistle, yellow	1.5	10 - 40	1.5%
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Best results are obtained when applications are made during the rosette, bolting and early flower stages.

Sweet potato, wild	—	—	1.5%
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For partial control, apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.

Thistle, artichoke	—	—	1.5%
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For partial control, apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.

## PERENNIAL WEEDS RATE SECTION 118

PERENNIAL WEEDS RATE TABLE (Cont'd.)  
(Alphabetically by Species)

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
Thistle, Canada	1.5 - 2	3 - 40	1.5%

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

For suppression in the spring, apply 22 fluid ounces of this product, or 11 fluid ounces of this product plus 0.5 pound of 2,4-D, in 3 to 10 gallons of water per acre. Allow rosette regrowth to a minimum of 6 inches in diameter before treating. Applications can be made as long as leaves are still green and plants are actively growing at the time of application. Allow 3 or more days after application before tillage.

Timothy <sup>2</sup>	1.5 - 2	3 - 40	1.5%
Torpedograss	2.5 - 3.3	3 - 40	1.5%

For partial control, apply when most plants are at or beyond the seedhead stage of growth. Repeat applications will be required to achieve control. Fall treatments must be applied before frost.

Trumpetcreeper	1.5	5 - 10	1.5%
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For partial control, apply in late September or October, to plants that are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.

Vaseygrass <sup>2</sup>	2 - 3.3	3 - 20	1.5%
Velvetgrass <sup>2</sup>	2 - 3.3	3 - 20	1.5%
Wheatgrass, western <sup>2</sup>	1.5 - 2	3 - 40	1.5%

<sup>1</sup> Apply when most plants have reached the early bud stage of growth.

<sup>2</sup> Apply when most plants have reached the early heading stage of growth.

## 16.0 WOODY BRUSH AND TREES RATE SECTION

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

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

Unless otherwise directed, apply broadcast treatments in 3 to 40 gallons of water per acre. Ensure thorough coverage when using hand-held equipment. Symptoms may not appear prior to frost or senescence with fall treatments.

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

WOODY BRUSH AND TREES RATE TABLE  
(Alphabetically by species)

Weed Species	Rate (QT/A)	Hand-Held % Solution
Alder	2 - 3	1%
Ash <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Aspen, quaking	1.5 - 2	1%
Bearmat (Bearclover) <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Beech <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Birch	1.5 - 2	1%

## WOODY BRUSH AND TREES SECTION 119

## WOODY BRUSH AND TREES SECTION 120

**WOODY BRUSH AND TREES RATE TABLE (Cont'd.)**  
(Alphabetically by species)

Weed Species	Rate (QT/A)	Hand-Held % Solution
Blackberry	2 - 3	1%
<p>Make applications after plants have reached full leaf maturity. Best results are obtained when applications are made in late summer or fall. Applications may also be made after leaf drop and until a killing frost or as long as stems are green. After berries have set or dropped in late fall, blackberry can be controlled by applying a 0.7-percent solution of this product. For control of blackberries after leaf drop and until killing frost or as long as stems are green, apply 2 to 2.5 quarts of this product in 10 to 40 gallons of water per acre.</p>		
Blackgum	1.5 - 3.3	1 - 1.5%
Bracken	1.5 - 3.3	1 - 1.5%
Broom; French, Scotch	—	1 - 1.5%
Buckwheat, California <sup>1,2</sup>	—	1 - 1.5%
Cascara <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Catsclaw <sup>1</sup>	—	1%
Ceanothus <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Chamise <sup>2</sup>	—	1%
Cherry; bitter, black, pin	1.5 - 2	1%
Coyote brush	—	1 - 1.5%
<p>Apply when at least 50 percent of the new leaves are fully developed.</p>		
Dogwood <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Elderberry	1.5 - 2	1%
Elm <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Eucalyptus	—	1.5%
<p>For control of eucalyptus resprouts, apply when resprouts are 6 to 12 feet tall. Ensure complete coverage. Avoid application to drought-stressed plants.</p>		
Florida holly (Brazilian Peppertree) <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Gorse <sup>1</sup>	1.5 - 3.3	1 - 1.5%

Hasardia <sup>1,2</sup>	—	1 - 1.5%
Hawthorn	1.5 - 2	1%
Hazel	1.5 - 2	1%
Hickory <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Honeysuckle	2 - 3	1%
Hornbeam, American <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Kudzu	2.5 - 3.3	1.5%
<p>Repeat applications may be required to achieve control.</p>		
Locust, black <sup>1</sup>	1.5 - 3	1 - 1.5%
Madrone resprouts <sup>1</sup>	—	1.5%
<p>Apply to resprouts that are 3 to 6 feet tall. Best results are obtained with spring/early summer treatments.</p>		
Manzanita <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Maple, red	1.5 - 3	1%
<p>Apply a 1-percent solution when at least 50 percent of the new leaves are fully developed. For partial control, apply 44 to 86 fluid ounces of this product per acre.</p>		
Maple, sugar	—	1%
<p>Apply when at least 50 percent of the new leaves are fully developed.</p>		
Monkey flower <sup>1,2</sup>	—	1 - 1.5%
Oak; black, white <sup>1</sup>	1.5 - 3	1 - 1.5%
Oak, post	2 - 3	1%
Oak, northern	—	1%
<p>Apply when at least 50 percent of the new pin leaves are fully developed.</p>		
Oak; southern, red	1.5 - 2	1%
Persimmon <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Pine	1.5 - 3.3	1 - 1.5%
Poison ivy/Poison oak	2.5 - 3.3	1.5%
<p>Repeat applications may be required to maintain control. Fall treatments must be applied before leaves lose green color.</p>		
Poplar, yellow <sup>1</sup>	1.5 - 3.3	1 - 1.5%

## WOODY BRUSH AND TREES SECTION 122

WOODY BRUSH AND TREES RATE TABLE (Cont'd.)  
(Alphabetically by species)

Weed Species	Rate (QT/A)	Hand-Held % Solution
Redbud, eastern	1.5 - 3.3	1 - 1.5%
Rose, multiflora	1.5	1%
Treatments should be made prior to leaf deterioration by leaf-eating insects.		
Russian olive <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Sage, black <sup>2</sup>	—	1%
Sage, white <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Sagebrush, California <sup>2</sup>	—	1%
Salmonberry	1.5 - 2	1%
Saltcedar	1.5 - 3.3	1 - 1.5%
Sassafras <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Sourwood <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Sumac, poison, smooth, winged <sup>1</sup>	1.5 - 3	1 - 1.5%
Sweetgum	1.5 - 2	1%
Swordfern <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Tallowtree, Chinese <sup>2</sup>	—	1%
Tan oak resprouts <sup>1</sup>	—	1.5%
Apply to resprouts that are less than 3 to 6 feet tall. Best results are obtained with fall applications.		
Thimbleberry	1.5 - 2	1%
Tobacco, tree <sup>1</sup>	—	1 - 1.5%
Trumpetcreeper	1.5 - 2	1%
Vine maple <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Virginia creeper	1.5 - 3.3	1 - 1.5%

Waxmyrtle, Southern <sup>1</sup>	1.5 - 3.3	1 - 1.5%
Willow	2 - 3	1%

<sup>1</sup> Partial Control

<sup>2</sup> Thorough coverage of foliage is necessary for best results.

## 17.0 LIMIT OF WARRANTY AND LIABILITY

Monsanto Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label booklet ("Directions") when used in accordance with those Directions under the conditions described therein. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

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## LIMIT OF WARRANTY AND LIABILITY 124

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