

PRECAUTIONARY STATEMENTS  
Hazards to Humans and Domestic Animals

Keep out of reach of children.

**WARNING! AVISO!**

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

CAUSES SUBSTANTIAL BUT TEMPORARY EYE INJURY

HARMFUL IF SWALLOWED OR INHALED

Do not get in eyes or on 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 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>
<b>IF SWALLOWED</b>	<ul style="list-style-type: none"> <li>Have person sip a glass of water if able to swallow.</li> <li>Do not induce vomiting unless told to by a poison control center or doctor.</li> <li>Do not give anything to an unconscious person.</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 <b>(314) 694-4000</b>, collect day or night, for emergency medical treatment information.</li> <li>This product is identified as <b>Honcho® Plus herbicide, EPA Registration No. 524-454</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)**

**Applicators and other handlers must wear:** long-sleeved shirt and long pants, shoes plus socks, and protective eyewear. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

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

<b>User Safety Recommendations</b>
Users should:
<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.</li> <li>Then wash thoroughly and put on clean clothing.</li> </ul>

<b>Environmental Hazards</b>
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.

<b>Physical or Chemical Hazards</b>
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Spray solutions of this product may be mixed, stored and applied using only stainless steel, 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.

<b>Agricultural Use Requirements</b>
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.

<b>Non-Agricultural Use Requirements</b>
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.

ACCEPTED  
FOR REGISTRATION

July 1, 2010

New York State Department  
of Environmental Conservation  
Division of Solid & Hazardous Materials  
Pesticide Product Registration

DOC ID 523132

GROUP	9	HERBICIDE
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HERBICIDE

Non-selective, broad-spectrum weed control for many agricultural systems and farmsteads.

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.

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 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 OR REPACKAGING.

Keep out of reach of children.

**WARNING! AVISO!**

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

ACTIVE INGREDIENT:	EPA Reg. No. 524-454
* Glyphosate, N-(phosphonomethyl)glycine, in the form of its isopropylamine salt .....	EPA Est. (L) 524-LA-1 or (M) 524-IA-1
OTHER INGREDIENTS.....	Lot number prefix L or M indicates appropriate establishment number.
	41.0%
	59.0%
	100.0%

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

No license granted under any non-U.S. patent(s).

EPA Reg. No. 524-454
EPA Est. (L) 524-LA-1 or (M) 524-IA-1
Lot number prefix L or M indicates appropriate establishment number.

Honcho, 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  
©2010



MONSANTO

NET 30 GAL

2121213-2/53X2

Storage and Disposal

Proper pesticide storage and disposal are essential to protect against exposure to people and the environment due to leaks and spills, excess product or waste, and vandalism. Do not allow this product to contaminate water, foodstuffs, feed or seed by storage and disposal. **PESTICIDE STORAGE:** Store pesticides away from food, pet food, feed, seed, fertilizers, and veterinary supplies. Keep container closed to prevent spills and contamination. **PESTICIDE DISPOSAL:** To avoid wastes, use all material in this container, including rinsate, by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program. Such programs are often run by state or local governments or by industry. All disposal must be in accordance with applicable federal, state and local regulations and procedures. **CONTAINER HANDLING AND DISPOSAL:** Nonrefillable container. Do not reuse or refill this container. Triple rinse or pressure rinse (or equivalent) this container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Once properly rinsed, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. If recycling is not available, dispose of in accordance with Federal, state and local regulations and procedures, which may include puncturing the properly rinsed container and disposing in a sanitary landfill.

(See label booklet for Complete Directions for Use.)

**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.

Buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

To the extent consistent with applicable law, buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this Company, including, but not limited to, incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, failure of this product to control weed biotypes which develop resistance to glyphosate, unusual weather, weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

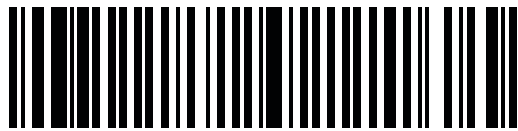
This Company does not warrant any product reformulated or repackaged from this product except in accordance with this Company's stewardship requirements and with express written permission from this Company.

For in-crop (over-the-top) uses on Roundup Ready crops, crop safety and weed control performance are not warranted by Monsanto Company when this product is used in conjunction with "brown bag" or "bin run" seed saved from previous year's production and replanted.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THIS COMPANY OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY, OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY. TO THE FULLEST EXTENT PERMITTED BY LAW, IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.

Upon opening and using this product, buyer and all users are deemed to have accepted the terms of this LIMIT OF WARRANTY AND LIABILITY which may not be varied by any verbal or written agreement. If terms are not acceptable, return at once unopened.

For product information or assistance in using this product, call toll-free, 1-800-332-3111.
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(01)00070183000029



(91)02121210325312

Return Container to Monsanto for Recycling  
Contact 1-800-ROUNDUP (1-800-768-6387) for details.

2121215-1/53

ACCEPTED  
FOR REGISTRATION

DOC ID 523132

July 1, 2010

New York State Department  
of Environmental Conservation  
Division of Solid & Hazardous Materials  
Pesticide Product Registration



HERBICIDE



(91)021212105153

## Complete Directions for Use

EPA Reg. No. 524-454

2010-1

GROUP

9

HERBICIDE

2121215-1/53



## Complete Directions for Use

EPA Reg. No. 524-454

2010-1

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.

Non-selective, broad-spectrum weed control for many agricultural systems and farmsteads.

Not all products listed 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 isopropylamine salt. . . . . 41.0%

OTHER INGREDIENTS: . . . . . 59.0%  
100.0%

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

No license granted under any non-U.S. patent(s).

## 2.0 IMPORTANT PHONE NUMBERS

1. FOR PRODUCT INFORMATION OR ASSISTANCE IN USING THIS PRODUCT,  
CALL TOLL-FREE,

1-800-332-3111.

2. IN CASE OF AN EMERGENCY INVOLVING THIS HERBICIDE PRODUCT, OR  
FOR MEDICAL ASSISTANCE, CALL COLLECT, DAY OR NIGHT,  
(314)-694-4000.

## 3.0 PRECAUTIONARY STATEMENTS

### 3.1 Hazards to Humans and Domestic Animals

Keep out of reach of children

## WARNING! AVISO!

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CAUSES SUBSTANTIAL BUT TEMPORARY EYE INJURY  
 HARMFUL IF SWALLOWED OR INHALED

Do not get in eyes or on clothing  
 Avoid breathing vapor or spray mist

**FIRST AID:** Call a poison control center or doctor for treatment advice.

**IF IN EYES**

- Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.
- Remove contact lenses if present after the first 5 minutes then continue rinsing eye.

**IF INHALED**

- Move person to fresh air.
- If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.

**IF SWALLOWED**

- Have person sip a glass of water if able to swallow.
- Do not induce vomiting unless told to by a poison control center or doctor.
- Do not give anything to an unconscious person.

- Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
- You may also contact (314) 694-4000, collect day or night, for emergency medical treatment information.
- This product is identified as **Honcho® Plus herbicide, EPA Registration No. 524-454.**

**DOMESTIC ANIMALS:** This product is considered to be relatively non-toxic 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)**

**Applicators and other handlers must wear:** long-sleeved shirt and long pants, shoes plus socks, and protective eyewear. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for

washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

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

**User Safety Recommendations**

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

## 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 may be mixed, stored and applied using only stainless steel, 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 supplemental labeling. Supplemental labeling can be found on the Internet at [www.agrian.com](http://www.agrian.com), [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 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: coveralls, chemical resistant gloves greater than 14 mils in thickness composed of materials such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber, shoes plus socks and protective eyewear.

### Non-Agricultural Use Requirements

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

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

## 4.0 STORAGE AND DISPOSAL

Proper pesticide storage and disposal are essential to protect against exposure to people and the environment due to leaks and spills, excess product or waste, and vandalism. Do not allow this product to contaminate water, foodstuffs, feed or seed by storage and disposal.

**PESTICIDE STORAGE:** Store pesticides away from food, pet food, feed, seed, fertilizers, and veterinary supplies. Keep container closed to prevent spills and contamination.

**PESTICIDE DISPOSAL:** To avoid wastes, use all material in this container, including rinsate, by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program. Such programs are often run by state or local governments or by industry. All disposal must be in accordance with applicable Federal, state and local regulations and procedures.

**CONTAINER HANDLING AND DISPOSAL:** See container label for container handling and disposal instructions and refilling limitations.

## 5.0 PRODUCT INFORMATION

**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 and can be applied using most standard industrial or field sprayers after dilution and thorough mixing with water or other carriers according to label directions.

**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 that advances to complete browning of above ground 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 or more days. 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 more information on specific weeds.

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

Reduced weed control may result when 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 application is made to annual or perennial weeds that have been mowed, grazed, or cut, and have not been allowed to re-grow to the specified 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 weed control.

**Spray Coverage:** For best results, spray coverage must be uniform and complete. Do not spray foliage to the point of runoff.

**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. Plants arising from unattached underground rhizomes or root stocks of perennials that had not yet emerged at the time of application of this product will not be affected 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 product's labeling are given in units of volume (fluid ounces, pints, 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 product is applied to the same site within the same year, you must ensure that the total use of glyphosate 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 8 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 10.6 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 Weed Management Practices

To minimize the occurrence of glyphosate-resistant biotypes observe the following weed management practices:

- Scout your fields before and after herbicide application.
- 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.
- Use the application rate for the most difficult to control weed in your field. Avoid tank mixtures with other herbicides that reduce the efficacy of this product (through antagonism), or with ones that encourage application rates of this product below those specified on this label.
- 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 of 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 in any particular weed biotype has been confirmed 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.

Directions for the control of biotypes confirmed to be 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.

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 can reduce the spread of confirmed glyphosate-resistant biotypes:**

- If a naturally occurring resistant biotype is present in your field, this product can 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) can 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 application and control weed escapes, 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 may be mixed, stored and applied using only clean stainless steel, 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.**

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 promptly after using this product by thoroughly flushing with water.

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

### 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 required amount of this product near the end of the filling process and mix gently. Use caution to avoid siphoning back into the carrier source. During mixing, foaming of the spray solution may occur. To prevent or minimize foaming, mix gently, terminate by-pass 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. Read and follow all label directions of all products in the tank mixture.

Some tank-mix products have the potential to cause crop injury under certain conditions, at certain growth stages and/or under other circumstances. Read the label for all 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 could result in reduced weed control or crop injury. Buyer and all users are responsible for any and 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 specified on this label, or in separate supplemental labeling or Fact Sheets published for this product.

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

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, apply tank mixtures with this product 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.

- Through the screen, fill the tank one-half full with water and start gentle agitation.
- 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.
- If a wettable powder is used, prepare a slurry of it with water, and add it SLOWLY through the screen into the tank while continuing gentle agitation.
- If a flowable formulation is used, premix one part flowable with one part water, and add the diluted mixture SLOWLY through the screen into the tank while continuing gentle agitation.
- If an emulsifiable concentrate formulation is used, premix one part emulsifiable concentrate with two parts water and add the diluted mixture SLOWLY through the screen into the tank while continuing gentle agitation.
- Continue filling the tank with water through the screen and add the required amount of this product near the end of the filling process.
- If a nonionic surfactant is used, add it to the tank before completing the filling process.
- Add individual formulations to the spray tank as follows: wettable powders, flowables, emulsifiable concentrates, drift control additives, water-soluble liquids (this product), surfactants.

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 re-suspend 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 can 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 as indicated in the following table in water:

### Spray Solution

Desired Volume	Amount of Honcho Plus Herbicide					
	0.5%	1%	1.5%	2%	5%	10%
1 gal	0.7 oz	1.3 oz	2 oz	2.7 oz	6.5 oz	13 oz
25 gal	1 pt	1 qt	1.5 qt	2 qt	5 qt	10 qt
100 gal	2 qt	1 gal	1.5 gal	2 gal	5 gal	10 gal

2 tablespoons = 1 fluid ounce

For use in backpack sprayers, consider mixing the appropriate amount of this product with water in a larger container and then filling the sprayer from the larger container.

## 7.5 Surfactants

Nonionic surfactants (NIS) or wetting agents that have at least 70 percent active ingredient and are labeled for use with herbicides may be added to the spray solution, unless otherwise directed. Do not reduce rates of this herbicide when adding surfactants. Read and carefully observe all caution statements and other information appearing on the surfactant label.

## 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. An equivalent rate of a liquid formulation of ammonium sulfate 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 promptly after use to reduce corrosion.

**NOTE:** When using ammonium sulfate, apply this product at rates specified on 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 performance. Use colorants or dyes according to the manufacturer's directions.

## 7.8 Drift Reduction Additives

Drift reduction additives may be used with all equipment types, except wiper applicators, sponge bars and Controlled Droplet Applicators. When a drift reduction additive is used, read and carefully observe all precautions, limitations, and all other information on the additive 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 Spray 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 treatments described on this label may be made using aerial application equipment where appropriate, provided that the applicator complies with the precautions and restrictions specified on this label and in separate supplemental labeling published for this product.

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

Apply this herbicide at the appropriate rate as described on this label in 3 to 15 gallons of water per acre unless otherwise directed on this label or in separate supplemental labeling or Fact Sheets published for this product. Unless otherwise specified, do not exceed 2 quarts of this product per acre when using aerial application equipment. Refer to the individual use area sections of this label for application rates, spray volumes and additional use instructions.

FOR AERIAL APPLICATION IN ARKANSAS OR CALIFORNIA, OR SPECIFIC COUNTIES THEREIN, REFER TO THE FEDERAL SUPPLEMENTAL LABELING FOR AERIAL APPLICATION OF THIS PRODUCT 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.

Only 2,4-D amine formulations may be used with aerial application in California. Tank mixtures of this product 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.

Do not allow the herbicide solution to mist, drip, drift, or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended.

### AERIAL SPRAY DRIFT MANAGEMENT

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

1. The distance of the outermost nozzles on the boom must not exceed  $\frac{3}{4}$  the length of the wingspan or rotor.
2. Nozzles must always point backward, parallel with the airstream and never be pointed downwards more than 45 degrees. Comply with all State regulations where applicable.

### 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 (read the following sections on “**Wind**”, “**Temperature and Humidity**”, and “**Temperature Inversions**”).

### 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 listed 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 spray pressure.

**Number of nozzles:** Use the minimum number of nozzles that will provide uniform coverage.

**Nozzle orientation:** Orienting nozzles so that the spray is released backwards, parallel to the airstream, will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.

**Nozzle type:** Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.

**Boom length:** For some use patterns, reducing the effective boom length to less than  $\frac{3}{4}$  of the wingspan or rotor length may further reduce drift without reducing swath width.

**Application height:** Applications must 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. Increase the swath adjustment distance with increasing drift potential (higher wind speed, 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 wind speed. Application must be avoided when wind speeds are below 2 miles per hour due to variable wind direction and high inversion potential. **NOTE:** Local terrain can influence wind patterns. Every applicator must 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 must 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, the movement of smoke produced by a ground source or an aircraft smoke generator can also identify temperature inversions. 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

Apply this product only 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.** Maintaining an organic coating (paint) that meets aerospace specification MIL-C-38413 may help prevent corrosion.

## 8.2 Ground Broadcast Equipment

Apply this product at the appropriate rate in 3 to 40 gallons of water per acre when making a broadcast application using ground application equipment unless otherwise directed on this label or on supplemental labeling or Fact Sheets for this product. As the weed density increases, increase the spray volume towards the upper end of this 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. For best results, spray coverage must 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 appropriate spray concentrations 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 using a shielded sprayer, hooded sprayer, wiper applicator or sponge bar to weeds listed on this label growing in any non-crop site listed on this label.

In cropping systems, a shielded sprayer, hooded sprayer, or wiper applicator may be used in-between rows of crop plants (row middles). A wiper applicator may be used over the top of crops only when specifically directed on this label. Selective equipment must be capable of preventing all contact of the herbicide solution with the crop and operated without spray-mist escape, leakage, or dripping of the herbicide solution onto the crop.

AVOID CONTACT OF THIS HERBICIDE WITH DESIRABLE VEGETATION.

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

Crop injury may occur when the foliage of treated weeds comes into 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.

Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatment may be necessary.

#### Shielded and Hooded Sprayers

This product, when applied at rates specified on this label using a shielded or hooded sprayer according to the directions described in this section, 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 around 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 sprayer downward to reach the ground in deep furrows. USE EXTREME CARE 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 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 inside of the hood, such as 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, with a spray volume of 20-30 gallons per acre.

The following procedures can reduce the potential for crop injury when using a hooded sprayer:

- Spray hood 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, make the maximum width of the spray hood 30 inches.)
- Operate at ground speeds of no greater than 5 miles per hour to avoid bouncing of the spray hood.
- Apply when wind speed is 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 leaves of the crop 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 Applicator

A wiper applicator is a device that physically wipes this product directly onto the weed. Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation.

Adjust the height of the wiper applicator to ensure adequate contact with weeds and so that the wiper contact point is at least 2 inches above the desirable vegetation. Better results can be obtained when more of the weed is exposed to the herbicide solution and weeds are a minimum of 6 inches above the desirable vegetation. 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 situations, repeat treatments may be necessary.

Operate this equipment at a ground speed of 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 applicator 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 use of solutions held in storage. Clean wiper parts promptly by thoroughly flushing with water.

Do not add surfactant to the herbicide solution when using a wiper applicator.

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

**For Panel Applicator**—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 Controlled Droplet Applicator (CDA)

The amount of this product applied per acre using a vehicle-mounted controlled droplet applicator (CDA) must be no less than the amount

specified on this label for application using conventional broadcast application equipment. Apply the appropriate amount of this product in 2 to 15 gallons of water per acre when using a vehicle-mounted CDA.

For control of annual weeds using a hand-held CDA, 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 40-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 4 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 onto 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

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

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

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

**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 on this label, except where specifically limited. For any crop not listed on this label, application must be made at least 30 days prior to planting. Unless otherwise specified, apply this product 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. Application rates specified on



this label for the control of tough weeds, or those specified on separate supplemental labeling for this product, supersede the rates 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 for this product.

Repeat applications may be made up to a maximum of 8 quarts of this product per acre per year.

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. Wiper applicators may be used over the top of crops to control tall weeds only when specifically directed in the individual crop sections that follow. Refer to the "SELECTIVE EQUIPMENT" section of this label for essential precautions regarding crop injury. Crop injury is possible with these types of application, and shall be the sole responsibility of the applicator.

All treatments described in the sections that follow may be made using aerial application equipment where appropriate, provided that the applicator complies with the precautions and restrictions specified on this label and on all supplemental labeling published separately for this product. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional information on aerial application and 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.

**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 rates and timing specified on the label. Some tank-mix products have the potential to cause crop injury. 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 Company has not tested all tank-mix product formulations for compatibility, antagonism or performance. Buyer and all users are responsible for any and all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not specifically identified on this labeling, or in separate supplemental labeling or Fact Sheets for this product. See the "MIXING" section of this label for more information on tank mixtures.

**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, application must be made before crop emergence to avoid severe crop injury. Broadcast application 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 on this label, treatment with selective equipment, including wiper applicators and hooded sprayers, must be made at least 14 days prior to harvest. Post-harvest or fallow application must be made at least 30 days prior to planting any crops not listed on this label. See "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for additional information.

In crops where spot treatment is allowed, do not treat more than 10 percent of the total field to be harvested. Crop sprayed in 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.

Do not harvest or feed treated vegetation for 8 weeks following broadcast postemergence 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 "PRODUCT 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, Teff, Teosinte, Triticale, Wheat (all types), Wild Rice

**TYPES OF APPLICATION:** Those listed in Section 9.0 plus Red Rice Control Prior to Planting Rice, Spot Treatment (Except Rice), Wiper Applicator (Feed Barley and Wheat Only), Preharvest (Feed Barley and Wheat Only)

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

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

**TANK MIXTURES:** In wheat, a tank-mix with Aim may be used.

### **Red Rice Control Prior to Planting Rice**

**USE INSTRUCTIONS:** Apply 1.5 quarts 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, except rice. 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 to allow spray to drift outside target area in order to avoid unwanted crop destruction.

### **Wiper Applicator (Feed Barley and Wheat Only)**

**USE INSTRUCTIONS:** This product may be applied over the top of feed barley and wheat using a wiper applicator. 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 or wheat. For feed barley, apply after the hard dough stage when the grain contains 20 percent moisture or less. For wheat, apply after the hard dough stage when the grain contains 30 percent moisture or less. Stubble may be grazed immediately after harvest.

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

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 1 quart of this product per acre. Allow 7 days between application and harvest or grazing. Preharvest application on barley or wheat grown for seed could result in a reduction in germination or vigor. Buyer and all users are responsible for any and all loss or damage in connection with the preharvest use of this product on barley or wheat grown for seed.

### **Post-Harvest**

**USE INSTRUCTIONS:** This product may be applied for weed control after harvest of cereal crops. 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 is labeled for weed control following harvest of cereal crops. 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. Application must be made at least 30 days prior to planting any crop not listed on this label.

## 9.2 Corn

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

TYPES OF APPLICATION: Those listed in Section 9.0 plus Spot Treatment, Preharvest

For use directions with corn hybrids with Roundup Ready 2 Technology (including Roundup Ready Corn 2 and products displaying the Roundup Ready 2 Technology logo), 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-mix before, during or after planting corn, but prior to crop emergence.

TANK MIXTURES: This product may be tank-mixed with the following products to provide residual weed control, a broader weed control spectrum or an alternate mode of action. Ensure that the specific product being used is labeled for application prior to the planting or 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, Leadoff, Guardsman MAX, Hornet, Linex, Lorox, Marksman, pendimethalin, Python, Python II, Radius, Resolve, Resource

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 2 pints per acre in these tank mixtures. For other annual weeds listed on this label, apply 1.5 to 2 pints of this product per acre when weeds are less than 6 inches tall, and 2 to 3 pints per acre when weeds are over 6 inches

tall. When using nitrogen solutions as the carrier, application rate may need to be increased for acceptable weed control.

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

In Southern states, do not apply this product in nitrogen solutions to tough-to-control grasses such as barnyardgrass, fall panicum, broadleaf signalgrass, annual ryegrass and any perennial weeds. This area 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 using a hooded sprayer for weed control in-between rows of corn. Only hooded sprayers that completely enclose the spray pattern may be used. See additional instructions for 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 1 quart of this product per acre for each hooded sprayer application and no more than 3 quarts per acre per year total.

### 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 to allow spray to drift outside target area to avoid unwanted crop destruction.

**Preharvest**

USE INSTRUCTIONS: Make application 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 application, apply up to 3 quarts of this product per acre. For aerial application, apply up to 2 quarts of this product per acre.

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 7 days between application and harvest. Preharvest application on corn grown for seed could result in a reduction in germination or vigor. Buyer and all users are responsible for any and all loss or damage in connection with the preharvest use of this product on corn grown for seed.

**Post-Harvest**

USE INSTRUCTIONS: This product may be applied for weed control 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 is labeled 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. Application of this product must be made at least 30 days prior to planting any crop not listed on this label. Refer to individual tank-mix 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 APPLICATION: Those listed in Section 9.0 plus 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, but prior to crop emergence.

TANK MIXTURES: This product may be tank-mixed with 2,4-D and Clarity and applied prior to planting only. This product may also be tank-mixed with the following products and applied prior to crop emergence. Ensure that the specific product being used is labeled for application prior to planting or the emergence of 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.

Caparol, Command, Cotoran, Cotton Pro, Direx, Dual MAGNUM, Dual II MAGNUM, Karmex, Meturon, PARRLAY®, Reflex, Stalwart, Staple, Valor, Zorial, diuron, metolachlor, pendimethalin

PRECAUTIONS, RESTRICTIONS: Refer to individual tank-mix 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 a hooded sprayer, a shielded sprayer or a wiper applicator 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 to allow spray to drift outside target area to avoid unwanted crop destruction.

**Preharvest**

USE INSTRUCTIONS: This product provides weed control and cotton re-growth inhibition when applied prior to harvest of cotton. For weed control, apply at rates given in the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label. For cotton re-growth inhibition, apply 1 pint to 2 quarts of this product per acre.

Do not apply more than 2 quarts of this product for preharvest application. Apply after sufficient bolls have developed to produce the desired yield. Application made prior to this time could affect maximum yield potential.

**TANK MIXTURES:** This product may be tank mixed with DEF 6, 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 on cotton grown for seed could result in a reduction in germination or vigor. Buyer and all users are responsible for any and all loss or damage in connection with the preharvest use of this product on cotton grown for seed. Refer to individual tank-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture. **DO NOT ADD ADDITIONAL SURFACTANT OR ADDITIVES CONTAINING SURFACTANT TO THIS PRODUCT FOR PREHARVEST APPLICATION TO COTTON.**

## 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, application must be made at least 30 days prior to planting.

**TYPES OF APPLICATION:** 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. Broadcast or spot treatment application will also 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. Aerial application of up to 2 quarts per acre may be made onto fallow sites where there is sufficient buffer to prevent injury due to drift onto adjacent crops.

**PRECAUTIONS, RESTRICTIONS:** Refer to individual tank-mix 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 12 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 16 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, mare’s tail (*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 12 fluid ounces of this product in 3 to 10 gallons of water per acre before weeds are 6 inches in height. Application must be followed by conventional tillage practices no later than 15 days after treatment and before re-growth 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 APPLICATION:** Those listed in Section 9.0 plus Spot Treatment, Wiper Applicator, Preharvest

### Preplant, At-Planting, Preemergence

**USE INSTRUCTIONS:** This product may be applied alone or in a tank mixture before, during or after planting grain sorghum, but 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 or emergence of 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.

Bicep II MAGNUM, Bullet, Dual II MAGNUM, INTRRO<sup>®</sup>, Lariat, Micro-Tech, atrazine, metolachlor, s-metolachlor

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 2 pints of this product per acre in a tank mixture with one of the products listed above.

For control of other annual weeds listed on this label, apply 1.5 to 2 pints of this product per acre when weeds are less than 6 inches tall, and 2 to 3 pints 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-mix product label for restrictions and precautions; use according to the most restrictive precautionary statements for each product in the tank mixture.

### Spot Treatment, Wiper Applicator

**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 a wiper applicator to control or suppress 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 treated area will be killed. Take care not to spray or to allow spray to drift outside target area to avoid unwanted crop destruction.

When applied using a wiper applicator, 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 using a hooded sprayer for weed control in-between rows of grain sorghum. Only hooded sprayers that completely enclose the spray pattern may be used. See additional instruction for 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 application of this product with a hooded sprayer. Do not apply more than 1 quart of this product per acre per hooded sprayer application and no more than 3 quarts per acre per year total.

### Preharvest

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

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 2 quarts of this product per acre. As with other herbicides that cause sudden plant death, avoid preharvest application 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 on sorghum grown for seed could result in a reduction in germination or vigor. Buyer and all users are responsible for any and all loss or damage in connection with the preharvest use of this product on sorghum grown for seed. Preharvest application of this product on grain sorghum (milo) is not registered for use in California.

### Post-Harvest

**USE INSTRUCTIONS:** This product may be applied for weed control 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. Ensure that the specific product being

used is registered for post-harvest application in grain sorghum (milo). Read and follow label directions of all products in the tank mixture.

This product may be applied to grain sorghum (milo) stubble following harvest to suppress or control re-growth. Apply 1 quart of this product per acre for control, or 1.5 pints of this product per acre for suppression.

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

## 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 APPLICATION:** Those listed in Section 9.0 plus Spot Treatment (Peppermint and Spearmint Only), Wiper Applicator (Peppermint and Spearmint Only)

**PRECAUTIONS, RESTRICTIONS:** This product could cause crop injury when applied prior to transplanting or direct-seeding crops into plastic mulch. Remove residual product from the plastic prior to planting with a single 0.5-inch application of water, either by natural rainfall or by irrigation.

Ensure that the wash water flushes off the plastic mulch and does not enter transplant holes.

### Spot Treatment, Wiper Applicator (Peppermint and Spearmint Only)

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in peppermint or spearmint, or over the top of peppermint and spearmint with a wiper applicator. Apply spot treatment on a spray-to-wet basis using hand-held equipment, such as a backpack sprayer, pump-up pressure sprayer, a handgun, handwand 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:** Application may be repeated on the same area at 30-day intervals. Allow at least 7 days between application and harvest. For spot treatment application, 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 the target area in order to avoid unwanted crop destruction. With wiper application, 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 APPLICATION:** Those listed in Section 9.0 plus Preharvest (Safflower and Sunflower Only)

**USE INSTRUCTIONS:** Refer to the following table for maximum application rates of this product for use in canola, safflower and sunflower. See the "PRODUCT INFORMATION" section of this label for more information on Maximum Application Rates.

Maximum Application Rates	
<b>Canola</b>	
Combined total for all preemergence and shielded sprayer applications	2 quarts per acre
<b>Safflower</b>	
Combined total for all preemergence and shielded sprayer applications	3 quarts per acre
Preharvest application	3 quarts per acre
<b>Sunflower</b>	
Combined total for all preemergence and shielded sprayer applications	1 quart per acre
Preharvest application	1 quart per acre

### Preplant, At-Planting, Preemergence

**USE INSTRUCTIONS:** This product may be applied before, during or after planting oil seed crops listed in this section. Observe the maximum application rates for canola, safflower and sunflower listed at the beginning of this section.

**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.

### Selective Equipment

**USE INSTRUCTIONS:** This product may be applied using a wiper applicator or shielded sprayer in-between the rows once the crop is established. See additional instructions on the use of wiper applicators and hooded sprayers in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of

this label. Observe the maximum application rates for canola, safflower and sunflower listed at the beginning of this section.

### Preharvest (Safflower and Sunflower Only)

**USE INSTRUCTIONS:** This product provides weed control as a harvest aid when applied to a physiologically mature crop of safflower and sunflower prior to harvest. For safflower, apply a maximum of 3 quarts of this product when seed has lost its opaque character, approximately 20 to 30 days after the end of flowering of the secondary branches. For sunflower, apply a maximum of 1 quart of this product when the backsides of sunflower heads are yellow and bracts are turning brown, and seed moisture content is less than 35 percent.

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

## 9.8 Soybean

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

For use directions with Roundup Ready soybean, and Roundup Ready 2 Yield soybean, 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 soybean, but 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 planting or the emergence of soybean. 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.

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

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 2 pints per acre in these tank mixtures. For other labeled annual weeds, apply 1.5 to 2 pints of this product per acre when weeds are less than 6 inches tall, and 2 to 3 pints per acre when weeds are over 6 inches tall.

**PRECAUTIONS, RESTRICTIONS:** Refer to individual tank-mix 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 soybean.

**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 the target area to avoid unwanted crop destruction.

#### Selective Equipment

**USE INSTRUCTIONS:** This product may be applied in soybean using a shielded applicator, hooded sprayer, wiper applicator or sponge bar. See additional instructions on the use of selective equipment in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

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

#### Preharvest

**USE INSTRUCTIONS:** This product may be applied to soybean 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". Take care to avoid excessive seed shatter loss due to ground application equipment.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 5 quarts of this product per acre for preharvest application. Do not apply more than 2 quarts of this product per acre by air. Allow a minimum of 7 days between application and harvest of soybeans. If the preharvest application rate is greater than 1 quart per acre, do not graze or harvest treated hay or fodder for livestock feed within 25 days of application. If the application rate is 1 quart per acre or less, the grazing restriction is reduced to 14 days after application. Preharvest application on soybean grown for seed could result in a reduction in germination or vigor. Buyer and all users are responsible for any and all loss or damage in connection with the preharvest use of this product on soybean grown for seed.

## 9.9 Sugarcane

**TYPES OF APPLICATION:** Those listed in Section 9.0 plus Spot Treatment, Sugarcane Ripening

#### 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, apply a 1-percent solution of this product in water using a spray-to-wet technique.

Best results are obtained on volunteer or diseased sugarcane with at least 7 new leaves.

**PRECAUTIONS, RESTRICTIONS:** Avoid spray contact with healthy sugarcane plants as 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 4 to 5 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. Aerial application of up to 3 quarts per acre may be made 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. Ensure that the specific product being used is labeled for these applications in sugarcane. Read and follow label directions of all products in the tank mixture.

#### Hooded Sprayer

**USE INSTRUCTIONS:** This product may be applied using a hooded sprayer for weed control in-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 on the crop may result in discoloration, stunting or destruction. Such damage shall be the sole responsibility of the applicator.

#### Sugarcane Ripening

**USE INSTRUCTIONS:** 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.

**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 given range when treating sugarcane under adverse ripening conditions or when less responsive varieties are to be treated.

**FLORIDA**—Apply 7 to 16 fluid ounces of this product per acre 3 to 5 weeks before harvest of LAST RATOON CANE ONLY.

**HAWAII**—Apply 12 to 28 fluid ounces of this product per acre 4 to 10 weeks before harvest.

**LOUISIANA**—Apply 5 to 16 fluid ounces of this product per acre 3 to 7 weeks before harvest of RATOON CANE ONLY.

**PUERTO RICO**—Apply 7 fluid ounces of this product per acre 3 to 5 weeks before harvest of RATOON CANE ONLY.

**TEXAS**—Apply 7 to 16 fluid ounces of this product per acre 3 to 5 weeks before harvest of RATOON CANE ONLY.

**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 a 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 to sugarcane grown for seed could result in a reduction in germination or vigor. Buyer and all users are responsible for any and all loss or damage in connection with the preharvest use of this product on sugarcane grown for seed.

Do not feed or graze treated sugarcane forage following application. Do not plant subsequent crops in treated fields other than the following for 30 days after application: 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.

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.

## 9.10 Vegetable Crops

**NOTE:** THIS “VEGETABLE CROPS” SECTION GIVES 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 APPLICATION:** Chemical Fallow, Preplant Fallow Beds, Preplant, At-Planting, Preemergence, Prior to Transplanting Vegetables, Hooded Sprayer in Row Middles, Shielded Sprayer in Row Middles, Wiper Applicator in Row Middles, Post-Harvest

**PRECAUTIONS, RESTRICTIONS:** This product could cause crop injury when applied prior to transplanting or direct-seeding crops into plastic mulch. Remove product residues from the plastic prior to planting with a single 0.5-inch application of water, either by natural rainfall or by irrigation. Ensure that the wash water flushes off the plastic mulch and does not enter transplant holes. Application of this product at crop emergence will result in injury or death to emerged seedlings.

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 a preemergence or at-planting application, the application 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, make hooded sprayer, shielded sprayer and

wiper applicator treatments in row middles prior to vine development, otherwise severe crop injury or destruction may result. Unless otherwise specified on this label, treatment with selective equipment including wiper applicators or hooded sprayers must be made at least 14 days prior to harvest. Post-harvest or fallow application 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

**LABELLED 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

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

### 9.10.3 Cucurbit Vegetables and Fruits

**LABELLED 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, Celtnuce, 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 application 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 tomatillos grown on sandy soil, do not apply using hooded sprayer, shielded sprayer or wiper applicator 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

### 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, peas, lentils and chickpeas. Apply up to 1 quart of this product per acre in dry beans, or up to 3 quarts per acre in dry peas, lentils and chickpeas, in 10 to 20 gallons of water using ground application equipment, or use a 2-percent solution in a hand-held sprayer. For best results, apply 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 treatment with a preharvest broadcast spray on the same crop area. Observe at least a 30-day plant-back interval between treatment and replanting of any crop not listed on 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.

### 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 prior to harvest. Apply up to 1 quart of

this product per acre in dry beans, or up to 3 quarts per acre in dry peas, lentils, and 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 prior to harvest. Only one preharvest application may be made per year. Do not combine a preharvest spray with spot treatment on the same crop area. Observe at least a 30-day plant-back interval between treatment and replanting of any crop not listed on this label. Do not feed treated vines and hay to livestock. Preharvest application on legumes grown for seed could result in a reduction in germination or vigor. Buyer and all users are responsible for any and all loss or damage in connection with the preharvest use of this product on legumes grown for seed. Do not treat cowpeas or field (feed) peas, since these crops are considered to be grown as livestock feed.

## 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 weed control in established non-bearing ginseng. Application may be made with boom equipment, CDA, a shielded sprayer, a wiper applicator, a hand-held or backpack wand, lance, or orchard gun. See additional use instructions for selective equipment in the “APPLICATION EQUIPMENT AND TECHNIQUES” section of this label.

**PRECAUTIONS, RESTRICTIONS:** Application must be made at least one year prior to harvest. Control the application so as not to allow any contact of this product with the ginseng plant. Droplets, mist, foam or

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

### Wiper Applicator (Rutabagas Only)

**USE INSTRUCTIONS:** A wiper applicator 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. Droplets, mist, foam or splatter of the herbicide solution settling onto desirable vegetation may result in discoloration, stunting or destruction.

## 9.11 Miscellaneous Crops

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

**TYPES OF APPLICATION:** Those listed in Section 9.0 plus Weed Control, Site Preparation, Spot Treatment (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, application 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, make hooded sprayer, shielded sprayer and wiper applicator treatments in row middles prior to vine development, otherwise severe injury or destruction may result. Unless otherwise specified in this product’s labeling, treatment using 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 additional information in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

#### **Weed Control, Site Preparation**

**USE INSTRUCTIONS:** This product may be applied for 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. Remove residues of this product from the plastic prior to planting with a single 0.5-inch application of water, either by natural rainfall or by irrigation. 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. Application of this product at crop 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 for weed control after the last harvest and all spears have been removed. If spears are allowed to re-grow, delay application until ferns have developed and make the application 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.

## 10.0 TREE, VINE, AND SHRUB CROPS

**NOTE:** THIS SECTION GIVES 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 APPLICATION:** Preplant (site preparation), Broadcast Sprays, Weed Control, Middles (in-between rows of trees, vines or bushes), Strips (within rows of trees, vines or bushes), Selective Equipment (shielded sprayers, wiper applicators), Directed Spray, Spot Treatment, Perennial Grass Suppression, Cut Stump

This product may be applied using boom spray equipment, CDA, a shielded sprayer, a wiper applicator, a hand-held or backpack wand, lance, or orchard gun, unless prohibited in the specific crop sections that follow.

**USE INSTRUCTIONS:** This product may be applied in middles (in-between rows of trees or vines), strips (within rows of trees or vines), and for 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 1 pint to 5 quarts per acre according to the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label. Use the higher rates in the given 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 10.6 quarts per acre per year. See the "PRODUCT INFORMATION" section of this label for more information on Maximum Application Rates.

**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 application 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 application in strips (within rows of trees), only use selective equipment (directed spray, hooded sprayer, shielded sprayer, or wiper applicator) 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 wiper applicators or shielded sprayers capable of preventing all contact with the crop may be used. See additional instructions and precautions in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

Allow a minimum of 3 days between application and transplanting.

#### Middles (in-between rows)

**USE INSTRUCTIONS:** This product will control or suppress annual and perennial weeds and ground covers growing in-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 with 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 16 to 32 fluid ounces of this product per acre plus 3 to 12 fluid ounces of Goal 2XL per acre will control annual weeds with a maximum height or length 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 (*Conyza canadensis*), stinging nettle and common purslane (suppression). This tank mixture will also control common cheeseweed (malva) or hairy fleabane (*Conyza bonariensis*) with a maximum height or length of 3 inches. Read and follow all labels and directions for use of all products being used in the tank mixture.

This product may also be applied to row middles in tank mixtures with the following products. Ensure that the specific product being used is labeled for application to the crop to be treated. Read and follow label directions of all products in the tank mixture.

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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

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#### Strips (within 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 is labeled for this use and with the crop being grown. Read and follow label directions of all products in the tank mixture.

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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

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**PRECAUTIONS, RESTRICTIONS:** Do not apply these tank mixtures in Puerto Rico. Refer to the individual tank-mix 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 8 fluid ounces of this product in 10 to 20 gallons of water per acre.

For suppression of Kentucky bluegrass covers, apply 6 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 6 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 4 fluid ounces of this product per acre, followed by an application of 2 to 4 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

For burndown of bermudagrass, apply 1 to 2 quarts 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, apply at least 21 days prior to harvest to allow sufficient time for burndown to occur.

For suppression of bermudagrass, apply 6 to 16 fluid ounces of this product per acre east of the Rocky Mountains and 16 fluid ounces of this product per acre west of the Rocky Mountains in a 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 re-growth occurs and bermudagrass injury and stand reduction can be tolerated. East of the Rocky Mountains, use 6 to 10 fluid ounces of this product per acre in shaded conditions or where a lesser degree of suppression is desired.

### Cut Stump (Tree Crops)

USE INSTRUCTIONS: Application of this product to freshly cut tree stumps may be made during site preparation or site renovation prior to transplanting tree crops. This product will control re-growth of cut stumps and re-sprouts 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 re-sprouts 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 can result in reduced

performance. For best results, make application during periods of active growth and full leaf expansion.

PRECAUTIONS, RESTRICTIONS: DO NOT MAKE CUT STUMP APPLICATION 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 APPLICATION: Those listed in Section 10.0, plus Spot Treatment in Cranberry Production, Post-Harvest in Cranberry Production

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 treatment may be used to control weeds growing in dry ditches (interior and perimeter) of cranberry production areas. A hand-held sprayer or other appropriate application equipment listed in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label may be used. Drop water level to remove standing water in ditches prior



to application. With a hand-held sprayer, use a 1 to 2-percent solution of this product, and 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 apply by air. Do not apply directly to water. Use nozzles that emit medium- to large-sized droplets in order to minimize spray drift and avoid crop injury.

**Post-Harvest Treatments 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, wiper applicators, or other appropriate application equipment listed in the “APPLICATION EQUIPMENT AND TECHNIQUES” section of this label may be used for this use. With hand-held sprayers, use a 0.5 to 1-percent solution of this product and spray adequately to wet the vegetation only; do not spray to the point of run-off. With hand-held boom sprayers, apply 2 to 4 quarts of this product per acre.

**PRECAUTIONS, RESTRICTIONS:** Apply this product only after cranberries have been harvested. Do not treat more than 10 percent of the total bog. Allow a minimum of 6 months between last application and next harvest of cranberries. Do not apply 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 APPLICATION:** 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 a directed spray only.

**USE INSTRUCTIONS:** The following use instructions pertain to application in Florida and Texas only.

For burndown or control of the weeds listed below, apply this product at the specified rate 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 2 to 3 quarts of this product in 20 to 30 gallons of water per acre when plants are actively growing. Use 2 quarts per acre when plants are less than 8 inches tall, and 3 quarts per acre when plants are greater than 8 inches tall. If goatweed is greater than 8 inches tall, use of this product in a tank mixture with Krovar I or Karmex may improve weed control. Refer to the individual product labels for a listing of specific crops, rates, geographic restrictions and precautionary statements.

**Perennial weeds:**

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

WEED SPECIES	HONCHO PLUS Herbicide			
	RATE PER ACRE			
	1 QT	2 QT	3 QT	5 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 APPLICATION:** 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 APPLICATION:** Those listed in Section 10.0

**NOTE:** Unless otherwise directed, do not apply this product as an over-the-top broadcast spray in plantations or tree crops.

### Site Preparation

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

**PRECAUTIONS, RESTRICTIONS:** Protect non-target plants from being sprayed with this product during site preparation application.

### Directed Spray, Spot Treatment, Wiper Applicator

**USE INSTRUCTIONS:** This product may be used as a post-directed spray and spot treatment or applied with a wiper applicator around established poplar, eucalyptus, Christmas trees and 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 made of impermeable materials.

## 10.5 Pome Fruit

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

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

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

## 10.6 Stone Fruit

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

**TYPES OF APPLICATION:** Those listed in Section 10.0. For olive groves, apply only as a 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 application 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 APPLICATION:** 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 of 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, Ilima, Imbe, Imbu, Jaboticaba, Jackfruit, Longan, Lychee, Mamey apple, Mango, Mangosteen,

Marmaladebox (genip), Mountain papaya, Noni (Indian Mulberry), 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 APPLICATION:** 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, coffee, 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. In coffee and banana, delay application 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 1/25 of a fluid ounce (1 milliliter) of this concentrated product (undiluted) for every 2 to 3 inches of pseudostem diameter of the banana plant. Make the injection at least one foot above the ground, except for very small plants, which can be injected vertically into the top. Any subsequent re-growth must also be destroyed. Mechanically destroy all plants and mats (or units) within a 4-foot radius around a treated mat.

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 milliliters) 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 weed control.

## 10.9 Vine Crops

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

**TYPES OF APPLICATION:** 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 a shielded sprayer or wiper applicator.

**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

**USE INSTRUCTIONS:** Refer to the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label for application rates of this product for specific weeds. When applied as directed, this product will control those annual and perennial grasses and broadleaf weeds. Application rates specified on this label for the control of tough weeds, or those specified on separate supplemental labeling for this product, supersede rates listed 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 for this product.

# 11.1 Alfalfa, Clover, and Other Forage Legumes

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

**TYPES OF APPLICATION:** Preplant, At-Planting, Preemergence, Spot Treatment, Wiper Applicator, 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, but prior to crop emergence.

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

### Spot Treatment, Wiper Applicator

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

**PRECAUTIONS, RESTRICTIONS:** For spot treatment and use with a wiper applicator, apply in areas where the movement of domestic livestock can be controlled. Remove domestic livestock before application and wait 3 days after application before grazing livestock or harvesting. Do not treat more than 10 percent of the total field area at any one time.

### 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 any stand where severe crop injury or destruction is acceptable, or to remove established stands of any forage legumes listed in this section. Application 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. Treatment 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 2 quarts per acre in alfalfa and up to 3 pints per acre in all other legumes listed on this label. For complete removal of established stands of clover, it may be necessary to use a higher application rate, 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 crops such as clover. Remove domestic livestock before application. Make only one application to an existing stand of crop 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.

Crop	Maximum Single Preharvest Application Rate (per acre)	Minimum Interval Between Application and Harvest or Livestock Grazing
Alfalfa	2 quarts	36 hours
All other legumes listed	3 pints	3 days

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. Preharvest application on alfalfa grown for seed could result in a reduction in germination or vigor. Buyer and all users are responsible for any and all loss or damage in connection with the preharvest use of this product on alfalfa grown for seed.

# 11.2 Conservation Reserve Program (CRP)

**TYPES OF APPLICATION:** Renovation (Rotating Out of CRP), Site Preparation, Postemergence Weed Control in Dormant CRP Grasses, Wiper Applicator

**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 information.

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 Applicator**

USE INSTRUCTIONS: Apply this product to suppress competitive growth and seed production of undesirable vegetation on CRP land. Application may be made using a wiper applicator to control tall weeds or as a broadcast or spot treatment to dormant CRP grasses. For selective weed control using broadcast spray equipment, apply 12 to 16 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 application can be made after desirable perennial grasses have reached dormancy.

PRECAUTIONS, RESTRICTIONS: Some stunting of CRP perennial grasses will occur if broadcast application is made when plants are not dormant. No waiting period is required between application and grazing or harvesting for feed. Do not apply more than 3 quarts of this product per acre per year onto CRP land.

**11.3 Grass Seed and 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 APPLICATION: Preplant, At-Planting, Preemergence, Renovation, Removal of Established Stand, Site Preparation, Shielded Sprayer, Wiper Applicator, Spot Treatment, Creating Rows in Annual Ryegrass

**Preplant, At-Planting, Preemergence, Renovation, Removal of Established Stand, Site Preparation**

USE INSTRUCTIONS: This product controls most existing vegetation for purposes of renovating turf or forage grass seed production areas, or for establishing turfgrass grown for sod. It may be used to destroy undesirable grass vegetation when production fields are converted to alternate species or crops. Apply before, during, or after planting, or for renovation purposes. For maximum control of existing vegetation, delay planting to determine if any re-growth of underground plant parts occurs. Where existing vegetation is growing under mowed turf 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 re-growth must be attained prior to application. For warm-season grasses, such as bermudagrass, summer or fall application provides the best control. Broadcast equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested. Application rates of up to 5 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. Delay tillage or renovation techniques, including vertical mowing, coring or slicing, for 7 days after application to allow for herbicide translocation into underground plant parts. If application rate is 3 quarts per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 3 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting. 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. Application must be made prior to the crop emergence in order to avoid crop injury.

**Shielded Sprayer**

USE INSTRUCTIONS: Apply 1 to 3 quarts of this product in 10 to 20 gallons of water per acre to control weeds between grass seed rows. Uniform planting in straight rows will aid shielded sprayer application. Best results are obtained when the grass seed crop is small enough to easily pass by or through 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 Applicator**

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

**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 to 1.5-percent solution of this product using a hand-held sprayer to control weeds within established vegetation prior to heading of grasses grown for seed or to control sod remnants or other unwanted vegetation after sod is harvested.

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

**Creating Rows in Annual Ryegrass**

**USE INSTRUCTIONS:** Apply 16 to 32 fluid ounces of this product per acre. Best results are obtained when application is made before ryegrass reaches 6 inches in height. Use the higher rate within this range when the ryegrass is greater than 6 inches in height. Set nozzle heights to allow the establishment of the desired row spacing. Use low-pressure nozzles, or drop nozzles designed to target the application over a narrow band.

**PRECAUTIONS, RESTRICTIONS:** Take care not to spray or allow droplets, spray fines, or drift to settle outside the treatment area to avoid unwanted crop destruction.

Grower assumes all responsibility for crop losses from misapplication.

# 11.4 Pastures

**LABELLED CROPS:** Any grass (*Gramineae* family) except Corn, Sorghum, Sugarcane and those listed in the “CEREAL AND GRAIN CROPS” section of this label, but including Bahiagrass, Bermudagrass, Bluegrass, Bromegrass, Fescue, Guineagrass, Kikuya grass, Orchardgrass, Pangola grass, Ryegrass, Timothy, Wheatgrass

**TYPES OF APPLICATION:** Preplant, Preemergence, Pasture Renovation, Spot Treatment, Wiper Applicator, 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 used to control perennial pasture species listed on this label prior to re-planting.

**PRECAUTIONS, RESTRICTIONS:** If application rates total 3 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 3 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 Applicator**

**USE INSTRUCTIONS:** This product may be applied in pastures as a spot treatment or over the top of desired grasses using a wiper applicator to control tall weeds. Application 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 treatment or use with a wiper applicator at rates of 3 quarts of this product per acre or less, the entire field or any portion of it may be treated. For spot treatment or wiper applicator use at rates above 3 quarts of this product per acre, no more than 10 percent of the field may be treated at any one time. To achieve

maximum performance, remove domestic livestock before application and wait 7 days after application before grazing or harvesting for feed.

#### **Postemergence Weed Control (Broadcast Treatments)**

**USE INSTRUCTIONS:** This product may be applied to pastures to suppress competitive growth and seed production of annual weeds and undesirable vegetation. For selective weed control using broadcast spray equipment, apply 12 to 16 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 application can be made after perennial grasses have reached dormancy.

**PRECAUTIONS, RESTRICTIONS:** Some stunting of perennial grasses will occur if broadcast application is made when plants are not dormant. 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 3 quarts per acre per year onto pasture grasses except for renovation use described on this label. If replanting is needed due to severe stand reduction, wait at least 30 days after treatment prior to planting any crop not listed on this label.

## **11.5 Rangelands**

**TYPES OF APPLICATION:** Postemergence

**USE INSTRUCTIONS:** This product will control or suppress many annual weeds growing in perennial cool- and warm-season grass rangelands. Preventing viable seed production is critical to the successful control and invasion of annual grassy weeds in rangelands. Follow-up applications in sequential years can be used to eliminate most of the viable seeds. Delay grazing of treated areas to allow desirable perennials to grow, flower and re-seed in the treated area.

Apply 12 to 16 fluid ounces of this product to control or suppress many weeds, including downy brome, cheatgrass, cereal rye and jointed goatgrass in rangelands. Apply when most mature 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. Apply in the fall to areas where spring moisture is usually limited and fall germination allows for good weed growth.

For medusahead, apply 16 fluid ounces of this product at the 3-leaf stage. Delaying application beyond this stage will result in reduced or unacceptable control. Controlled burning prior to application may be useful in eliminating the thatch layer produced by slowly decaying culms. Allow new growth to occur after burning before spraying. Repeat applications in subsequent years may be necessary to eliminate the seed bank before reestablishing desirable perennial grasses on medusahead-dominated rangeland.

**PRECAUTIONS, RESTRICTIONS:** Slight discoloration of the desirable grasses may occur, but they will re-green and re-grow 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 3 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, AS 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 supplemental labeling for this product include all applications of this product that can be made onto the specified Roundup Ready crop

during the complete cropping season. DO NOT combine these treatment instructions with those for crops in the "ANNUAL AND PERENNIAL CROPS" 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 the Roundup Ready trait cannot be saved for replanting or transferred to others for replanting. Contact your Authorized Monsanto Retailer for information on obtaining a limited use license.

**USE INSTRUCTIONS:** Refer to "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label for application rates for specific weeds. When applied as directed, this product will control the annual and perennial grasses and broadleaf weeds listed. Observe the maximum application rates and crop stage timings specified for individual Roundup Ready crops in the sections that follow.

**Ground broadcast application**—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.

**Aerial application**—All treatments described in this section may be made using aerial application equipment, where appropriate, provided that the applicator complies with the precautions and restrictions specified on this label and on all supplemental labeling published separately for this product. Apply this product in 3 to 15 gallons of water per acre. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for important information on aerial application and procedures for 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.

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

**TANK MIXTURE:** Tank mixtures of this product with other herbicides, insecticides, fungicides, micronutrients or foliar fertilizers could result in reduced weed control or injury to Roundup Ready crops when applied over the top of Roundup Ready crops. Read all labels for products used in the tank mixture prior to use to determine the potential for crop injury. Always read and follow label directions for all products in the tank mixture. Use all products according to rates and timing specified on the product labeling. Always predetermine the compatibility of tank-mix products together in the carrier by mixing small proportional quantities in advance. Monsanto has not tested all tank-mix product formulations for compatibility, antagonism or product performance. Buyer and all users are responsible for any and all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not specifically identified on this label or in separate supplemental labeling or Fact Sheets for this product. See the "MIXING" section of this label for more information on tank mixtures.

Unless otherwise directed, nonionic surfactant may be added to the spray solution for application to Roundup Ready crops. The addition of certain surfactants to this product may result in some crop response including leaf speckling or leaf necrosis due to the surfactant added to the spray mixture. Refer to the individual Roundup Ready crop sections that follow, or separately published supplemental labeling, for additional precautions or restrictions. Refer to the "MIXING" section of this label for additional information on the use of surfactants.

Ammonium sulfate may be added to spray solutions of this product for application to Roundup Ready crops. Refer to the "MIXING" section 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 being used to apply 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 use directions 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, apply this product as a preplant burn-down treatment 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. Make second application after some re-growth has occurred and at least 10 days after a previous application of this product.

Application 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 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 on Fact Sheets published for this product.

**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 “PRODUCT INFORMATION” section of this label for more information on Maximum Application Rates.

## 12.1 Roundup Ready Alfalfa

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

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

<b>Maximum Application Rates</b>	
Combined total per year for all applications, including preplant during year of establishment	8 quarts per acre
Combined total per year for in-crop applications on newly established and established stands	6 quarts per acre

**PRECAUTIONS AND RESTRICTIONS:** See the “ROUNDUP READY CROPS” section of this label for precautionary instructions regarding the use of this product in Roundup Ready crops. See the “PRODUCT 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:** This product may be applied 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 the forage and hay, apply this product 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” of this label for application rates for specific weeds. When applied as directed, this product will control these annual and perennial grasses and broadleaf weeds. This product will also suppress 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, make a single application of at

least 1 quart of this product per acre at or before the 4-trifoliolate growth stage. Refer to the following tables for application rates during stand establishment (seeding year).

<b>NEW STAND ESTABLISHMENT (Seeding Year)</b>	
<b>Application Rates</b>	
<b>Prior to First Cutting</b>	
From emergence up to 4 trifoliolate leaves	1 to 2 quarts per acre
From 5 trifoliolate leaves up to 5 days before <i>first</i> cutting	Up to 2 quarts per acre
<b>After First Cutting</b>	
In-crop application, per cutting, up to 5 days before cutting	Up to 2 quarts per acre

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

<b>ESTABLISHED STANDS (Non-seeding Year)</b>	
<b>Application Rates</b>	
In-crop applications, per cutting, up to 5 days before cutting	Up to 2 quarts per acre

**PRECAUTIONS, RESTRICTIONS:** Where Roundup Ready alfalfa is grown with a companion or cover crop, or is over-seeded with a second species, in-crop (over-the-top) application of this product will eliminate the non-glyphosate tolerant species. Do not exceed 2 quarts per acre for any single in-crop application of this product. Sequential applications of this product must 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 6 quarts per acre. Remove domestic livestock before application. Wait a minimum of 5 days after application before grazing, 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 APPLICATION:** Preplant, At-Planting, Preemergence, Postemergence (In-crop)

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

<b>Maximum Application Rates</b>	
Total of all Preplant, At-Planting, Preemergence applications	2 quarts per acre
Total of all In-crop applications from emergence to 6-leaf stage	1 quart per acre

**PRECAUTIONS AND RESTRICTIONS:** See the “ROUNDUP READY CROPS” section of this label for precautionary instructions regarding the use of this product in Roundup Ready crops. See the “PRODUCT 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 canola.

**PRECAUTIONS, RESTRICTIONS:** Maximum quantity of this product that may be applied for all preplant, at-planting and preemergence applications combined is 2 quarts per acre per season.

### **Postemergence (In-crop)**

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

**Single Application**—Apply 16 to 24 fluid ounces per acre no later than the 6-leaf stage for the control of annual weeds. Avoid overlapping applications, which could result in temporary yellowing, delayed flowering, and/or growth reduction. Similar crop injury could result when more than 16 fluid ounces per acre is applied after the 4-leaf stage.

**Sequential Application**—Apply 16 fluid ounces 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 application works best for control of early emerging annual weeds and perennial weeds such as Canada thistle and quackgrass, or when more than one application is 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 in-crop application must not exceed 32 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 APPLICATION:** Preplant, At-Planting, Preemergence, Postemergence (In-crop)

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

<b>Maximum Application Rates</b>	
Total of all Preplant, At-Planting, Preemergence applications	2 quarts per acre
Total of all In-crop applications from emergence to canopy closure or prior to bolting in the spring	2 quarts per acre

**PRECAUTIONS, RESTRICTIONS:** See the “ROUNDUP READY CROPS” section of this label for precautionary instructions regarding the use of this product in Roundup Ready crops. See the “PRODUCT 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 canola.

### **Postemergence (In-crop)**

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

Some weeds with multiple germination times, or suppressed (stunted) weeds, or weeds that have overwintered may require a sequential application of this product for control. Make second application after some weed re-growth has occurred and at least 60 days after a previous application of this product.

**Single Application**—Apply 24 to 32 fluid ounces of this product per acre in the fall when weeds are small and actively growing. Use the higher rate within this range when weed densities are high, when weeds have overwintered or when weeds become large and well established. Application of greater than 24 fluid ounces per acre prior to the 6-leaf stage may result in reduced crop growth in the fall. Avoid spray overlaps. Spray overlaps could result in temporary yellowing and/or growth reduction.

**Sequential Application**—Apply 16 to 32 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 application works best for control of 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 application 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 64 fluid ounces of this product per acre. Application of greater than 24 fluid ounces per acre prior to the 6-leaf stage could 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 Corn Hybrids with Roundup Ready 2 Technology

Corn hybrids with Roundup Ready 2 Technology include Roundup Ready Corn 2 and seed products displaying the Roundup Ready 2 Technology logo.

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

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

Maximum Application Rates	
Combined total per year for all applications	8 quarts per acre
Total of all Preplant, At-Planting, Preemergence applications	5 quarts per acre
Total of all In-crop applications from emergence through 48-inch corn	3 quarts per acre
Maximum Preharvest application rate after maximum kernel fill is complete and the crop is physiologically mature (black layer formed) until 7 days before harvest*	1 quart per acre

\*See PRECAUTIONS, RESTRICTIONS section for Preharvest application.

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

The use of the in-crop (over-the-top) rates described in these instructions on other than corn hybrids with Roundup Ready 2 Technology 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.

**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 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, FulTime, 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, Leadoff, Guardsman MAX, Hornet, 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 5 quarts per acre per season. Refer to individual tank-mix 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, make a postemergence (in-crop) application of this product following the use of the preemergence residual products listed above.

### Postemergence (In-crop)

**USE INSTRUCTIONS:** This product may be applied alone or in a tank mixture over the top of corn hybrids with Roundup Ready 2 Technology from emergence through the V8 stage (8 leaves with collars), or until corn height reaches 30 inches (free standing), whichever comes first. Use drop nozzles 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 using only ground application equipped with drop nozzles aligned to avoid spraying into the whorls of the corn plants. Single in-crop application of this product up to 48-inch corn must not exceed 3 pints per acre. Sequential in-crop applications of this product from emergence through 48 inches in height must not exceed 3 quarts 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. Make a postemergence application of 24 to 32 fluid ounces of this product per acre before weeds exceed 4 inches in height (before they become competitive with the crop). Repeat this application before new flushes of 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 is labeled 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, Impact, Marksman, Option, Resolve, Resource, Status

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.

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

**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 in-crop and harvest of corn forage or grain. Refer to individual tank-mix 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 at use rates of up to 32 fluid ounces per acre. Make application 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:** A preharvest application of this product may only be made if the combined total of previously applied over-the-top or drop nozzle applications does not exceed 64 fluid ounces of this product per acre. Allow a minimum of 7 days between a preharvest application and harvest or feeding of corn stover or grain.

**Post-Harvest**

**USE INSTRUCTIONS:** This product may be applied for weed control after corn 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. Ensure that the specific product being used is labeled 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.

## 12.5 Roundup Ready Cotton

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

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	8 quarts per acre
Total of all Preplant, At-Planting, Preemergence applications	5 quarts per acre
Total of all In-crop applications from ground cracking to layby	4 quarts per acre
Maximum Preharvest application rate	2 quarts per acre
Combined total of all In-crop applications from emergence through harvest	6 quarts per acre

PRECAUTIONS, RESTRICTIONS: See the "ROUNDUP READY CROPS" section of this label for precautionary instructions regarding the use of this product in Roundup Ready crops. The combined total application of this product from cotton emergence through harvest must not exceed 6 quarts per acre. Allow a minimum of 7 days between application and harvest. See the "PRODUCT 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 is labeled for application prior to the emergence of cotton. Read and follow label directions of all products in the tank mixture.

Caparol, Command, Cotoran, Cotton Pro, Direx, Dual MAGNUM, Dual II MAGNUM, Karmex, Meturon, PARRLAY, Reflex, Stalwart, Staple, Valor, Zorial, diuron, metolachlor, pendimethalin

PRECAUTIONS, RESTRICTIONS: Maximum quantity of this product that may be applied for all preplant, at-planting and preemergence applications combined is 5 quarts per acre per season. Refer to individual tank-mix 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 1 quart per acre per application from the ground cracking stage 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 application made after the 4-leaf (node) stage of development could result in boll loss, delayed maturity and/or yield loss.**

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 is labeled for application postemergence (in-crop) to cotton. Read and follow label directions of all products in the tank mixture.

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

Staple may cause leaf yellowing and/or leaf crinkling when applied postemergence (in-crop) to Roundup Ready cotton. 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 only where weeds threaten to cause the loss of the crop. Apply 1 quart 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 TREATMENT WILL RESULT IN SIGNIFICANT BOLL LOSS, DELAYED MATURITY AND/OR YIELD LOSS. NO MORE THAN ONE SALVAGE TREATMENT MAY BE USED PER GROWING SEASON.**

**PRECAUTIONS, RESTRICTIONS:** The maximum quantity of this product that may be applied for all in-crop applications from ground-cracking to layby combined is 4 quarts per acre per 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.**

#### **Selective Equipment (In-crop)**

**USE INSTRUCTIONS:** This product may be applied using precision post-directed or hooded sprayers at rates up to 1 quart per acre per application to Roundup Ready cotton through layby. At this stage, use post-directed equipment to direct the spray to the base of the cotton plants. Avoid contact of the herbicide spray with the cotton leaves to the maximum extent possible. To minimize spray contact maintain low spray pressure (less than 30 pounds per square inch) and place nozzles in a low position, directing a horizontal spray pattern under the cotton leaves and onto weeds in the row. For best results, apply this product while weeds are small (less than 3 inches). 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 is labeled for application postemergence (in-crop) to cotton. Read and follow label directions of all products in the tank mixture.

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

Staple may cause leaf yellowing and/or leaf crinkling when applied postemergence (in-crop) 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 4 quarts per acre per season. **NO MORE THAN TWO APPLICATIONS OF THIS PRODUCT MAY 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-mix 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 2 quarts 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 Roundup Ready cotton grown for seed, as a reduction in germination or vigor may occur. Buyer and all users are responsible for any and all loss or damage in connection with the preharvest use of this product on Roundup Ready cotton grown for seed. **DO NOT ADD ADDITIONAL SURFACTANT OR ADDITIVES CONTAINING SURFACTANT TO THIS PRODUCT FOR PREHARVEST APPLICATION 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 Soybean

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

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

Maximum Application Rates	
Combined total per year for all applications	8 quarts per acre
Total of all Preplant, At-Planting, Preemergence applications	5 quarts per acre
Total of all In-crop applications from cracking through flowering (R2 stage soybean)	3 quarts per acre
Maximum Preharvest application rate	1 quart per acre

**PRECAUTIONS, RESTRICTIONS:** See the "ROUNDUP READY CROPS" section of this label for precautionary instructions regarding the use of this product in Roundup Ready crops. The maximum combined total quantity of this product for all applications in a season is 8 quarts per acre. See the "PRODUCT 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 soybean.

**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 is labeled for application prior to planting or the emergence of soybean. Read and follow label directions of all products in the tank mixture.

INTRRO, Micro-Tech, PARRLAY, Aim, Assure II, Authority First, Authority MTZ, Axiom, Blanket, Boundary, Canopy, Classic, Cobra, Command, Command Xtra, Domain, Dual MAGNUM, Dual II MAGNUM, FirstRate, Flexstar, Frontier, Fusion, Gangster, Gauntlet, Lexone, Linex, linuron,

Lorox, Lorox Plus, metolachlor, s-metolachlor, Me-Too-Lachlor, Outlook, Pendimax, pendimethalin, Pursuit, Pursuit Plus, Python, Reflex, Resource, Scepter, Select, Select MAX, Sencor, Spartan, Squadron, Steel, Treflan, Valor, Valor XLT

**PRECAUTIONS, RESTRICTIONS:** Maximum quantity of this product that may be applied for all preplant, at-planting and preemergence applications combined is 5 quarts per acre per season. Refer to individual tank-mix 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 soybean. This product can be applied from emergence (cracking) through flowering (R2 stage soybean). R2 stage soybean 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 application rates for specific annual weeds. An initial application rate of 1 quart per acre can be used to control or suppress most 2 to 8 inch tall weeds. Weeds will be 2 to 8 inches tall approximately 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 used up to 2 quarts per acre in any single, in-crop application for control of annual weeds and where dense weed populations exist.

A 1 to 2-quarts per acre rate (single or multiple applications) of this product will control or suppress perennial weeds, including 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, including 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, apply 1 quart of this product per acre 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 soybean. Ensure that the specific product being used is labeled for application postemergence (in-crop) to soybean. 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 of this product from crop emergence through harvest must not exceed 3 quarts per acre. The maximum rate for any single in-crop application is 2 quarts per acre. The maximum combined total of this product that can be applied during flowering (R2 stage soybean) is 2 quarts per acre. Refer to individual tank-mix 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 soybean for weed control prior to harvest. Apply up to 1 quart of this product per acre after pods have set and lost all green color.

PRECAUTIONS, RESTRICTIONS: Take care 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 soybean. 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. Ensure that the specific product being used is labeled for weed control application after harvest of soybean. Read and follow label directions of all products in the tank mixture.

# 12.7 Roundup Ready 2 Yield Soybean

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

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

<b>Maximum Application Rates</b>	
Combined total per year for all applications	8 quarts per acre
Total of all Preplant, At-Planting, Preemergence applications	5 quarts per acre
Total of all In-crop applications from cracking through flowering (R2 stage soybean)	3 quarts per acre
Maximum Preharvest application rate	1 quart per acre

PRECAUTIONS, RESTRICTIONS: See the "ROUNDUP READY CROPS" section of this label for precautionary instructions regarding the use of this product in Roundup Ready crops. The maximum combined total quantity of this product for all applications in a season is 8 quarts per acre. See the "PRODUCT 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 2 Yield soybean.

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 is labeled for application prior to planting or the emergence of soybean. Read and follow label directions of all products in the tank mixture.

INTRRO, Micro-Tech, PARRLAY, Aim, Assure II, Authority First, Authority MTZ, Axiom, Blanket, Boundary, Canopy, Classic, Cobra, Command, Command Xtra, Domain, Dual MAGNUM, Dual II MAGNUM, FirstRate, Flexstar, Frontier, Fusion, Gangster, Gauntlet, Lexone, Linex, linuron, Lorox, Lorox Plus, metolachlor, s-metolachlor, Me-Too-Lachlor, Outlook, Pendimax, pendimethalin, Pursuit, Pursuit Plus, Python, Reflex, Resource, Scepter, Select, Select MAX, Sencor, Spartan, Squadron, Steel, Treflan, Valor, Valor XLT

**PRECAUTIONS, RESTRICTIONS:** Maximum quantity of this product that may be applied for all preplant, at-planting and preemergence applications combined is 5 quarts per acre per season. Refer to individual tank-mix 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 2 Yield soybean. This product can be applied from emergence (cracking) through flowering (R2 stage soybean). R2 stage soybean 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 application rates for specific annual weeds. An initial application rate of 1 quart per acre can be used to control or suppress most 2 to 8 inch tall weeds. Weeds will be 2 to 8 inches tall approximately 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 used up to 2 quarts per acre in any single, in-crop application for control of annual weeds and where dense weed populations exist.

A 1 to 2-quarts per acre rate (single or multiple applications) of this product will control or suppress perennial weeds, including bermudagrass, Canada thistle, common milkweed, field bindweed, hemp dogbane, horsenettle, marestail (horseweed), nutsedge, quackgrass, rhizome johnsongrass, redivine, 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, including 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 2 YIELD SOYBEAN CROP. To control giant ragweed, apply 1 quart of this product per acre 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 2 Yield soybean. Ensure that the specific product being used is labeled for application postemergence (in-crop) to soybean. 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 of this product from crop emergence through harvest must not exceed 3 quarts per acre. The maximum rate for any single, in-crop application is 2 quarts per acre. The maximum combined total of this product that can be applied during flowering (R2 stage soybean) is 2 quarts per acre. Refer to individual tank-mix 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 2 Yield soybean for weed control prior to harvest. Apply up to 1 quart of this product per acre after pods have set and lost all green color.

**PRECAUTIONS, RESTRICTIONS:** Take care 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 2 Yield soybean. 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. Ensure that the specific product being used is labeled for weed control application after harvest of soybean. Read and follow label directions of all products in the tank mixture.

# 12.8 Roundup Ready Sugar Beet

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

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	8 quarts per acre
Total of all Preplant, At-Planting, Preemergence applications	5 quarts per acre
Total of all applications made from emergence to 8-leaf stage	2.5 quarts per acre
Total of all applications made between 8-leaf stage and up to canopy closure	2 quarts per acre

PRECAUTIONS, RESTRICTIONS: See the “ROUNDUP READY CROPS” section of this label for precautionary instructions regarding the use of this product in Roundup Ready crops. The maximum combined total quantity of this product for all applications in a season is 8 quarts per acre. See the “PRODUCT 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 sugar beet.

**Postemergence (In-crop)**

USE INSTRUCTIONS: This product may be applied over the top of Roundup Ready sugar beet for control of annual grasses and broadleaf weeds from emergence to 30 days prior to harvest. To maximize yield potential eliminate competing weeds early. 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. Refer to the “ANNUAL WEEDS RATE SECTION” and “PERENNIAL WEEDS RATE SECTION” of this label for application rates for specific weeds.

PRECAUTIONS, RESTRICTIONS: The combined total application of this product from crop emergence through harvest must not exceed 4.5 quarts per acre. The maximum rate for any single application from crop emergence until the 8-leaf stage is 1.5 quarts per acre. The maximum rate for any single application between the 8-leaf stage and canopy closure is 1 quart 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: Farmstead Weed Control, Trim-and-Edge, Greenhouse/Shadehouse, Chemical Mowing, Cut Stump, Habitat Management

USE INSTRUCTIONS: Refer to the “ANNUAL WEEDS RATE SECTION” and “PERENNIAL WEEDS RATE SECTION” of this label for application rates for specific weeds. When applied as directed, this product will control those annual and perennial grasses and broadleaf weeds. Application rates of this product specified in the following sections, or on separate supplemental labeling or Fact Sheets published for this product, on how

to control tough weeds, supersede rates in the “ANNUAL WEEDS RATE SECTION” and “PERENNIAL WEEDS RATE SECTION” of this label.

## 13.1 Farmstead Weed Control, 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 ditch banks, driveways, farm roads, farmyards, fencerows, parking areas, rangeland, rights-of-way, shelterbelts, storage areas 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 labeled 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.

Arsenal, Banvel, Barricade 65WG, Clarity, Endurance, Escort XP, Karmex DF, Krovar 1 DF, Oust, Pendulum 3.3 EC, Pendulum WDG, Plateau, Princep DF, Princep 4L, Ronstar, Sahara DG, Surflan AS Specialty, Telar DF, Vanquish, 2,4-D, diuron, simazine

For annual weeds, use 1 quart of this product per acre when weeds are less than 6 inches tall, 1.5 quarts per acre when weeds are 6 to 12 inches tall and 2 quarts per acre when weeds are greater than 12 inches tall. For perennial weeds, apply 2 to 5 quarts per acre in these tank mixes. For application of these tank mixtures using backpack sprayers, handguns or other hand-held applicators, see the “ANNUAL WEEDS—HAND-HELD OR BACKPACK EQUIPMENT” section of this label for the required concentration of this product in the mix.

**PRECAUTIONS, RESTRICTIONS:** Refer to individual tank-mix 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. Apply 6 fluid ounces of this product per acre when treating Kentucky bluegrass. Apply 8 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass, bahiagrass or quackgrass covers. Apply 16 fluid ounces of this product per acre when treating bermudagrass. Apply 64 fluid ounces of this product per acre when treating torpedograss or paragrass. Make all applications in 10 to 20 gallons of spray solution per acre. Chemical mowing application 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 re-growth of cut stumps and re-sprouts 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 re-sprouts 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 could result

in reduced performance. For best results, apply 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 a 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. Application 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 treatment can be used 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 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:** 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 INDUSTRIAL, TURF AND ORNAMENTAL USE SITES AND INSTRUCTIONS

This product may be used in non-crop areas including airports, apartment complexes, commercial sites, ditch banks, driveways, dry ditches, dry canals, fencerows, golf courses, greenhouses, industrial sites, landscape areas, lumber yards, manufacturing sites, municipal sites, natural areas, office complexes, ornamentals, parks, parking areas, pastures, petroleum tank farms and pumping installations, public areas, railroads, rangeland, recreation areas, residential areas, rights-of-way, roadsides, schools, shadehouses, sports complexes, storage areas, substations, turfgrass areas, utility sites, warehouse areas and wildlife management areas.

This product may also be used in non-food crops sites such as Christmas tree farms, plant nurseries, and sod or turf seed farms.

Unless otherwise specified, applications may be made to control any weeds listed in the "ANNUAL WEEDS RATE SECTION", "PERENNIAL WEEDS RATE SECTION" and "WOODY BRUSH AND TREES RATE SECTION" of this label.

## 14.1 Use Areas and Industrial Sites

### Weed Control, Trim-and-Edge, Bare Ground

This product may be used in non-crop and non-food areas. It may be applied with any application equipment described in this label. This product may be used to trim-and-edge around objects in these sites, for spot treatment of unwanted vegetation and to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting an area to ornamentals, flowers,

turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects.

Repeated applications of this product may be used, as weeds emerge, to maintain bare ground.

**TANK MIXTURES:** This product may be tank-mixed with the following products, provided that the specific product is labeled for application at the use site. Refer to the individual product labels for approved sites and application rates.

2,4-D <sup>1</sup>	Escort XP	Oust XP	Ronstar 50WP
Arsenal	Gallery 75 DF	Outrider®	Sahara
atrazine <sup>1</sup>	Garlon 4	Pendulum WDG	simazine <sup>1</sup>
Barricade 65WG	Garlon 3A	Pendulum 3.3 EC	Surflan AS
Certainty	Goal 2XL	pendimethalin <sup>1</sup>	Surflan WDG
Crossbow L	Karmex DF	Plateau	Telar
dicamba <sup>1</sup>	Krovax I DF	Poast	Transline
diuron <sup>1</sup>	Landmark MP	Landmark XP	Vanquish
Endurance	Landmark II MP	Princep 4L	Velpar DF
Escort	Milestone	Princep DF	Velpar L

<sup>1</sup> Tank mixtures with products containing this single active ingredient may be made provided the specific product is labeled for application at the use site.

This product plus dicamba tank mixtures may not be applied by air in California.

When applied as a tank mixture for bare ground, this product provides control of the emerged annual weeds and control or partial control of emerged perennial weeds, woody brush and trees.

For control or partial control of the following perennial weeds, apply 1 to 2 quarts of this product plus 2 to 4 ounces of Oust XP per acre.

Bahiagrass	Dallisgrass	Fescue, tall	Quackgrass
Bermudagrass	Dock, curly	Johnsongrass	Vaseygrass
Broomsedge	Dogfennel	Poorjoe	Vervain, blue

**Chemical Mowing—Perennials**

This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Use 8 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass, quackgrass or reed canarygrass covers. Use 6 fluid ounces of this product per acre when treating Kentucky bluegrass. Apply treatments in 10 to 40 gallons of spray solution per acre.

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

**Chemical Mowing—Annuals**

For growth suppression of some annual grasses, such as annual ryegrass, wild barley and wild oats growing in coarse turf on roadsides or other industrial areas, apply 4 to 5 fluid ounces of this product in 10 to 40 gallons of spray solution per acre. For best results, apply when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments may cause injury to the desired grasses.

**14.2 Turfgrass**

This product may be used to control or suppress many winter annual weeds and tall fescue for effective release of dormant bermudagrass and bahiagrass turf. Treat only when turf is dormant and prior to spring green-up.

Apply 8 to 64 fluid ounces of this product per acre. Apply the labeled rates in 10 to 40 gallons of water per acre. Use only in areas where bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated.

Treatments in excess of 16 fluid ounces per acre may result in injury or delayed green-up in highly maintained areas, such as golf courses and lawns. DO NOT apply tank mixtures of this product plus Oust XP in highly maintained turfgrass areas.

**Actively Growing Bermudagrass**

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. DO NOT apply more than 16 fluid ounces of this product per acre in highly maintained turfgrass areas. DO NOT apply tank mixtures of this product plus Dust XP in highly maintained turfgrass areas. Use only in areas where some temporary injury or discoloration can be tolerated.

**Turfgrass Renovation, Seed or Sod Production**

This product controls most existing vegetation prior to renovating turfgrass areas or establishing turfgrass grown for seed or sod. For maximum control of existing vegetation, delay planting or sodding to determine if any re-growth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient re-growth must be attained prior to application. For warm-season grasses such as bermudagrass, summer or fall applications provide the best control. 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 spray.

Desirable turfgrasses may be planted following the above procedures.

Hand-held equipment may be used for spot treatment of unwanted vegetation growing in existing turfgrass. Broadcast or hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

**PRECAUTIONS, RESTRICTIONS:** Do not disturb soil or underground plant parts before treatment. Delay tillage or renovation techniques such as vertical mowing, coring or slicing for 7 days after application to allow translocation into underground plant parts. If application rates total 3 quarts per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate was greater than 3 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

## 14.3 Injection and Frill (Woody Brush and Trees)

This product may be used to control woody brush and trees by injection or frill applications. Apply this product using suitable equipment that must penetrate into the living tissue. Apply the equivalent of 0.04 fluid ounce (1 milliliter) of this product for every 2 to 3 inches of trunk diameter at breast height (DBH). This is best achieved by applying a 50- to 100-percent concentration of this product either to a continuous frill around the tree or as cuts evenly spaced around the tree below all branches. As tree diameter increases in size, better results are achieved by applying diluted material to a continuous frill or more closely spaced cuttings. Avoid application techniques that allow runoff to occur from frilled or cut areas in species that exude sap freely. In species such as this, make the frill or cuts at an oblique angle to produce a cupping effect and use a 100-percent concentration of this product. For best results, apply during periods of active growth and after full leaf expansion.

## 14.4 Non-Food Tree, Shrub, and Vine Production Sites

This product may be used for weed control prior to planting or around established ornamentals, or any woody tree, shrub, or vine species, including arborvitae, azalea, boxwood, crabapple, eucalyptus, euonymus, fir, Douglas fir, jojoba, hollies, lilac, magnolia, maple, oak, poplar, privet, pine, spruce or yew, growing in plant nurseries, on Christmas tree farms, or on other non-food tree production sites.

**UNLESS OTHERWISE DIRECTED, DO NOT USE THIS PRODUCT AS AN OVER-THE-TOP BROADCAST SPRAY IN ORNAMENTALS AND CHRISTMAS TREES.** Care must be taken to avoid contact of spray, drift or mist with foliage or bark of desirable ornamental species.

This product may be used to control weeds growing in and around greenhouses and shadehouses. Desirable vegetation must not be present during application and air circulation fans must be turned off until after the application has dried.

**TYPES OF APPLICATION:** Site Preparation, Post-directed, Trim-and-edge, Wiper Application

### Site Preparation

This product may be used prior to planting any tree, shrub, or vine, including Christmas tree species, in a nursery or production setting.

### Post-directed, Trim-and-Edge

This product may be used as a post-directed spray around established woody ornamental species, or to trim and edge around trees, buildings, sidewalks, roads, potted plants and other objects in a production setting.

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

### Wiper Application

This product may be used through wick or other suitable wiper applicators to control or partially control undesirable vegetation around established trees, shrubs, or vines. See the "SELECTIVE EQUIPMENT" section of this label for further information about the proper use of wiper applicators.

## 14.5 Railroads

All of the instructions in the "USE AREAS AND INDUSTRIAL SITES" section may be made to railroads.

### Bare Ground, Ballast and Shoulders, Crossings, Spot Treatment

This product may be used to maintain bare ground on railroad ballast and shoulders. Repeat applications of this product may be used, as weeds emerge, to maintain bare ground. This product may be used to control tall-growing weeds to improve line-of-sight at railroad crossings and reduce the need for mowing along rights-of-way. For crossing applications, up to 80 gallons of spray solution per acre may be used.

**TANK MIXTURES:** This product may be tank mixed with the following products for ballast, shoulder, spot, bare ground and crossing treatments, provided that the specific product is labeled for use on these sites. Refer to the individual product labels for approved sites and application rates.

Arsenal atrazine <sup>1</sup>	Garlon 3A	Oust XP	Transline
dicamba <sup>1</sup>	Garlon 4	Outrider	Vanquish
diuron <sup>1</sup>	Hyvar X	Sahara DG	Velpar DF
Escort	Hyvar X-L	simazine <sup>1</sup>	Velpar L
Escort XP	Krovar I DF	Spike 80 DF	2,4-D <sup>1</sup>
	Oust	Telar DF	

<sup>1</sup> Tank mixtures with products containing this single generic active ingredient may be made provided the specific product is registered for this use.

### Brush Control

This product may be used to control woody brush and trees on railroad rights-of-way. Apply 4 to 10 quarts of this product per acre as a broadcast spray, using boom-type or boomless nozzles. Up to 80 gallons of spray solution per acre may be used. Apply a 0.75- to 2-percent solution of this product when using high-volume spray-to-wet applications. Apply a 5- to 10-percent solution of this product when using low-volume directed sprays for spot treatment.

**TANK MIXTURES:** This product may be mixed with the following products for ballast, shoulder, spot, bare ground and crossing treatments, as well as for enhanced control of woody brush and trees, provided that the specific product is labeled for use on these sites. Refer to the individual product labels for approved sites and application rates.

Arsenal atrazine <sup>1</sup>	Garlon 3A	Outrider	Vanquish
dicamba <sup>1</sup>	Garlon 4	Sahara DG	Velpar L
diuron <sup>1</sup>	Hyvar X	simazine <sup>1</sup>	Velpar DF
Escort	Hyvar X-L	Spike 80 DF	2,4-D <sup>1</sup>
Escort XP	Krovar I DF	Telar DF	
	Oust XP	Transline	

<sup>1</sup> Tank mixtures with products containing this single generic active ingredient may be made provided the specific product is registered for this use.

### Bermudagrass Release

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass.



Apply 1 to 3 pints of this product in up to 80 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species.

Bahiagrass	Fescue, tall	Trumpetcreeper
Bluestem, silver	Johnsongrass	Vaseygrass

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

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

Use only on well-established bermudagrass. Bermudagrass injury may result from the treatment, but re-growth will occur under moist conditions. Make only one application per growing season, as severe bermudagrass injury may occur with repeated application.

## 14.6 Roadsides

All of the applications in the “USE AREAS AND INDUSTRIAL SITES” section may be made along roadsides.

### Shoulder Treatments

This product may be used on road shoulders. It may be applied with boom sprayers, shielded boom sprayers, high-volume off-center nozzles, hand-held equipment, and similar equipment.

### Guardrails, Other Obstacles to Mowing

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

### Spot Treatment

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

**TANK MIXTURES:** This product may be tank-mixed with the following products for shoulder, guardrail, spot and bare ground treatments, provided that the specific product used is labeled for use on these sites. Refer to the individual product labels for approved sites and application rates.

atrazine <sup>1</sup>	Escort XP	Outrider	Sahara
Clarity	Gallery 75 DF	Pendulum 3.3 EC	siamazine <sup>1</sup>
Crossbow L	Krovair 1 DF	Pendulum WDG	Surflan
dicamba <sup>1</sup>	Landmark II MP	Plateau	Telar
diuron <sup>1</sup>	Landmark MP	Princep DF	Vanquish
Endurance	Landmark XP	Princep 4L	2,4-D <sup>1</sup>
Escort	Oust XP	Ronstar 50WP	

<sup>1</sup> Tank mixtures with products containing this single generic active ingredient may be made provided the specific product is registered for this use.

### Release of Bermudagrass or Bahiagrass

#### Dormant Applications

This product may be used to control or partially control many winter annual weeds and tall fescue for effective release of dormant bermudagrass or bahiagrass. Treat only when turf is dormant and prior to spring green-up. This product may also be tank-mixed with Outrider or Oust XP for residual control. Tank mixtures of this product with Oust or Oust XP may delay green-up.

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

Apply 8 to 64 fluid ounces of this product in a tank mix with 0.75 to 1.3 ounces of Outrider herbicide per acre. Read and follow all label directions for Outrider herbicide.

Apply 8 to 64 fluid ounces of this product per acre alone or in a tank mixture with 0.25 to 1 ounce per acre of Oust XP in 10 to 40 gallons of water per acre. Use only in areas where bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated. To avoid delays in green-up and minimize injury, add no more than 1 ounce of Oust XP per acre on bermudagrass and no more than 0.5 ounce of Oust XP per acre on bahiagrass and avoid treatments when these grasses are in a semi-dormant condition.

**Actively Growing Bermudagrass**

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. Apply 1 to 3 pints of this product in 10 to 40 gallons of water per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species.

Bahiagrass	Fescue, tall	Trumpet creeper
Bluestem, silver	Johnsongrass	Vaseygrass

This product may be tank-mixed with Outrider herbicide for control or partial control of Johnsongrass and other weeds listed on the Outrider label. Use 9 to 32 fluid ounces of this product with 0.75 to 1.3 ounces of Outrider per acre. Use the higher rates of both products for control of perennial weeds or annual weeds greater than 6 inches in height.

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

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

Use only on well-established bermudagrass. Bermudagrass injury may result from the treatment, but re-growth will occur under moist conditions. Make only one application of this tank-mix per growing season, as severe bermudagrass injury may occur with repeated application.

**Actively Growing Bahiagrass**

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 6 fluid ounces of this product in 10 to 40 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 4 fluid ounces of this product per acre, followed by an application of 2 to 4 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

This product may be used for control or partial control of Johnsongrass and other weeds listed on the Outrider herbicide label. Use 6 fluid ounces of this product with 0.75 to 2 ounces of Outrider herbicide per acre. Use the higher rates for control of perennial weeds or annual weeds greater than 6 inches in height. Use only on well-established bahiagrass.

A tank mixture of this product plus Oust XP may be used. Apply 6 fluid ounces of this product plus 0.25 ounce of Oust XP per acre 1 to 2 weeks following an initial spring mowing. Make only one application per year.

# 15.0 ANNUAL WEEDS RATE SECTION

When water carrier volumes are between 16 and 40 gallons per acre for ground application and between 6 and 15 gallons per acre for aerial application, the following use rates will control the annual weeds listed in the "ANNUAL WEEDS RATE TABLE" that follows.

- 1 quart per acre—grass and broadleaf annual weeds less than 6 inches in height or circumference and vines less than 3 inches in length.

- 3 pints per acre—grass and broadleaf annual weeds 6 to 12 inches in height or circumference and vines 3 to 6 inches in length.
- 2 quarts 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 APPLICATION AND BETWEEN 3 AND 5 GALLONS PER ACRE FOR AERIAL APPLICATION, USE THE RATES SPECIFIED FOR INDIVIDUAL WEEDS AS FOLLOWS IN THE “ANNUAL WEEDS RATE TABLE”.**

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

Older, mature (hardened) annual weed species may require higher rates than specified in this table even if they meet the size requirements. This product may be used up to 64 fluid ounces per acre for tough-to-control annual weeds and where heavy weed densities exist. Follow all precautions and restrictions, including the 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.

For weeds that have been mowed, grazed or cut, allow re-growth to occur prior to treatment with this product.

**ANNUAL WEEDS RATE TABLE**

**RATE**

(fluid ounces per acre)

16 24 32 40 48

Maximum height/length (in inches)

WEED SPECIES	16	24	32	40	48
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	-	-
Bittercross	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	-	-
Dwarf dandelion	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	-	-	-

ANNUAL WEEDS RATE TABLE

WEED SPECIES	RATE (fluid ounces per acre)				
	16	24	32	40	48
	Maximum height/length (in inches)				
Filaree	-	-	6	-	12
Fleabane, annual	6	20	-	-	-
Fleabane, hairy ( <i>Coryza 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>Coryza 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	-	-
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, ladysthumb	-	-	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

ANNUAL WEEDS RATE TABLE

WEED SPECIES	RATE (fluid ounces per acre)				
	16	24	32	40	48
	Maximum height/length (in inches)				
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 24 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> Apply 24 fluid ounces of this product per acre to control wild buckwheat in the cotyledon to 2-leaf stage. Apply 32 fluid ounces per acre to control 2- to 4-leaf wild buckwheat. For better control of wild buckwheat over 2 inches in size, use sequential treatments of 32 fluid ounces followed by 32 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. If possible, use a tank mixture with 2,4-D as described below to 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.

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

Better control of certain tough weeds can be achieved by tank-mixing this product with 0.25 pound of dicamba, 0.5 pound of 2,4-D or 1 to 2 fluid ounces of Tordon 22K per acre. These other herbicides, combined with the rates of this product specified in the “ANNUAL WEEDS RATE TABLE” above, 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).

At rates given in the “ANNUAL WEEDS RATE SECTION”, this product 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 being used is labeled 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.

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

For control of weeds listed in the “ANNUAL WEEDS RATE TABLE” above, apply a 0.5-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 1-percent solution.

For best results, use a 2-percent solution on harder-to-control perennials, such as bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

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

## 15.3 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.

Application of 24 to 28 fluid ounces of this product plus 1 to 2 pounds of atrazine per acre will control the following weeds: barnyardgrass (requires 28 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 labeled for application at the desired site. Follow all precautions and limitations on the tank mix product's label, including application timing restrictions, soil restrictions, minimum re-cropping interval and rotational guidelines.

## 16.0 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 specified stage.

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 TABLE

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
Alfalfa	1 – 2	3 – 10	2%
Alligatorweed	4	3 – 20	1.5%
Anise (fennel) <sup>1</sup>	–	–	1 – 2%
Bahiagrass <sup>2</sup>	3 – 5	3 – 20	2%
Bentgrass	3 – 5	10 – 20	2%
Bermudagrass	3 – 5	3 – 20	2%

Apply after the last hay cutting in the fall. Allow alfalfa to re-grow to a height of 6 to 8 inches or more prior to treatment. Follow application with deep tillage at least 7 days after treatment, but before soil freeze-up.

For partial control, apply when most of the plants are in bloom. Repeat applications will be required to achieve control.

Apply as a spray-to-wet treatment.

For suppression in grass seed production areas. For ground application only. Ensure entire crown area has resumed growth prior to a fall application. Ensure that bentgrass has at least 3 inches of growth before application. Avoid tillage prior to treatment. Tillage 7 to 10 days after application provides best results.

For control, apply 5 quarts of this product per acre. For partial control, apply 3 quarts per acre. Apply when bermudagrass is actively growing and seedheads are present. Retreatment may be necessary to achieve control.

## PERENNIAL WEEDS RATE TABLE

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
<b>Bermudagrass, water (knotgrass)</b>	1 – 1.5	5 – 10	2%

Apply 3 pints of this product in 5 to 10 gallons of water per acre when water bermudagrass is 12 to 18 inches in length. Allow 7 or more days before tilling, flushing or flooding the field.

For fall application, apply 1 quart of this product in 5 to 10 gallons of water per acre. Till fallow fields 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.

<b>Bindweed, field</b>	0.5 – 5	3 – 20	2%
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Do not treat when weeds are under drought stress as good soil moisture is necessary for active growth.

For control, apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts per acre east of the Mississippi River when bindweed is at or beyond full bloom. For best results, apply in late summer or fall. Fall treatment must be applied before a killing frost.

Also for control, apply 2 quarts 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 1 to 2 quarts of this product plus 1 pound of 2,4-D in 10 to 20 gallons of water per acre with ground application equipment only. Application can be made following harvest or in fall fallow ground when 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 1 pint of this product plus 0.5 pound of 2,4-D, in 3 to 10 gallons of water per acre with ground application equipment, or in 3 to 5 gallons of water per acre for aerial application. Apply by air in fallow and reduced tillage systems only. Delay application until maximum emergence has occurred and when vines are between 6 to 18 inches in length.

**In California only,** apply 1 to 5 quarts of this product per acre. Actual rate needed for suppression or control will vary within this range depending on local conditions. For suppression on irrigated land where annual tillage is performed, apply 1 quart of this product in 3 to 10 gallons of water per acre when bindweed has reached a length of 12 inches or greater. Allow maximum weed emergence and runner growth before application. Allow 3 or more days after application before tillage.

<b>Bluegrass, Kentucky</b>	1 – 2	3 – 40	2%
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Apply 2 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached the boot to early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre to actively growing plants when most have reached 4 to 12 inches in height.

<b>Bluweed, Texas</b>	3 – 5	3 – 40	2%
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Apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts per acre east of the Mississippi River when plants are at or beyond full bloom. New leaf development indicates active growth. For best results, apply in late summer or fall. Fall treatment must be applied before a killing frost.

<b>Brackenfern</b>	3 – 4	3 – 40	1 – 1.5%
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Apply to fully expanded fronds that are at least 18 inches long.

<b>Bromegrass, smooth</b>	1 – 2	3 – 40	2%
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Apply 2 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached the boot to early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre to actively growing plants when most have reached 4 to 12 inches in height.

<b>Bursage, woolly-leaf</b>	–	3 – 20	2%
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For control, apply 2 quarts of this product plus 0.5 pound of dicamba per acre. For partial control, apply 1 quart of this product plus 0.5 pound of dicamba per acre. Apply when plants are producing new active growth that has been initiated by moisture for at least 2 weeks, and when plants are at or beyond flowering.

<b>Canarygrass, reed<sup>2</sup></b>	2 – 3	3 – 40	2%
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<b>Cattail<sup>2</sup></b>	3 – 5	3 – 40	2%
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<b>Clover, red or white<sup>1</sup></b>	3 – 5	3 – 20	2%
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Also for control, apply 16 to 32 fluid ounces of this product plus 0.5 to 1 pound of 2,4-D, in 3 to 10 gallons of water per acre.

<b>Cogongrass</b>	3 – 5	10 – 40	2%
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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.

<b>Dallisgrass<sup>2</sup></b>	3 – 5	3 – 20	2%
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**PERENNIAL WEEDS RATE TABLE**

<b>Weed Species</b>	<b>Rate (QT/A)</b>	<b>Water Volume (GPA)</b>	<b>Hand-Held % Solution</b>
<b>Dandelion<sup>1</sup></b>	3 – 5	3 – 40	2%
Also for control, apply 1 pint of this product plus 0.5 pound of 2,4-D, in 3 to 10 gallons of water per acre.			
<b>Dock, curly<sup>1</sup></b>	3 – 5	3 – 40	2%
Also for control, apply 1 to 2 pints of this product plus 0.5 to 1 pound of 2,4-D, in 3 to 10 gallons of water per acre.			
<b>Dogbane, hemp<sup>4</sup></b>	4	3 – 40	2%
Apply when most plants have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to re-grow to a mature stage prior to treatment. For best results, apply in late summer or fall.			
For suppression, apply 1 pint of this product plus 0.5 pound of 2,4-D, in 3 to 10 gallons of water per acre for ground application, and 3 to 5 gallons of water per acre for aerial application. Delay application until maximum emergence of dogbane has occurred.			
<b>Fescue (except tall)<sup>1</sup></b>	3 – 5	3 – 20	2%
<b>Fescue, tall</b>	1 – 3	3 – 40	2%
Apply 3 quarts of this product per acre when most plants have reached boot to early seedhead stage of development.			
For fall application, apply 1 quart of this product in 3 to 10 gallons of water per acre when plants have 6 to 12 inches of new growth. A sequential application of 1 pint of this product per acre will improve long-term control and control seedlings germinating after fall treatments or the following spring.			
<b>Guineagrass</b>	2 – 3	3 – 40	1%
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 2 quarts of this product per acre for control. In the flatwoods region of Florida, 3 quarts of this product per acre are required for control.			
<b>Horsenettle<sup>1</sup></b>	3 – 5	3 – 20	2%
<b>Horseradish</b>	4	3 – 40	2%
Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.			

<b>Iceland<sup>1</sup></b>	–	–	1.5 – 2%
Thorough coverage is necessary for best control.			
<b>Jerusalem artichoke<sup>1</sup></b>	3 – 5	3 – 20	2%
<b>Johnsongrass</b>	0.5 – 3	3 – 40	1%
In annual cropping systems, apply 1 to 2 quarts of this product in 3 to 10 gallons of water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre. In non-crop areas, or in areas where annual tillage is not practiced (no-till), apply 2 to 3 quarts 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 development or in the fall prior to frost. Allow 7 or more days after application before tillage. Do not tank-mix with residual herbicides when applying 1 quart of this product per acre.			
For burndown of Johnsongrass, apply 1 pint of this product in 3 to 10 gallons of water per acre before the plants reach a height of 12 inches. Allow at least 3 days after treatment before tillage.			
For partial control or suppression, apply a 1-percent solution of this product as a spot treatment when Johnsongrass is 12 to 18 inches in height. Ensure that coverage is uniform and complete.			
<b>Kikuyugrass</b>	2 – 3	3 – 40	2%
Apply 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.			
<b>Knapweed</b>	4	3 – 40	2%
Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.			
<b>Lantana</b>	–	–	1 – 1.25%
Apply at or beyond the bloom stage of growth.			
<b>Lespedeza<sup>1</sup></b>	3 – 5	3 – 20	2%
<b>Milkweed, common</b>	3	3 – 40	2%
Apply when most plants have reached the late bud to flower stage of growth.			
<b>Muhly, wirestem</b>	1 – 2	3 – 40	2%
Apply 1 quart of this product in 3 to 10 gallons of water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre or in pasture, sod, or non-crop areas. Apply when wirestem muhly is 8 inches or more in height. Do not till between harvest and fall application, or in the fall or spring prior to spring application. Allow 3 or more days after application before tillage.			



**PERENNIAL WEEDS RATE TABLE**

<b>Weed Species</b>	<b>Rate (QT/A)</b>	<b>Water Volume (GPA)</b>	<b>Hand-Held % Solution</b>
<b>Mullein, common<sup>1</sup></b>	3 – 5	3 – 20	2%
<b>Napiergrass<sup>2</sup></b>	3 – 5	3 – 20	2%

**Nightshade, silverleaf** 2 3 – 10 2%

For best results, apply when at least 60 percent of the plants have berries. Fall treatment must be made before a killing frost.

<b>Nutsedge, purple or yellow</b>	0.5 – 3	3 – 40	1 – 2%
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Apply 3 quarts of this product per acre, or as a 1 to 2-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 after treatment. Repeat treatments will be required for long-term control of ungerminated tubers.

Sequential application of 1 to 2 quarts of this product in 3 to 10 gallons of water per acre after a majority of the plants are in the 3- to 5-leaf stage (less than 6 inches tall) will also provide control. 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 1 pint to 2 quarts of this product in 3 to 40 gallons of water per acre 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 re-growth of existing plants.

<b>Orchardgrass</b>	1 – 2	3 – 40	2%
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Apply 2 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached the boot to early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre when plants are actively growing and most have reached 4 to 12 inches in height.

For orchardgrass sods going to no-till corn, apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre to orchardgrass that is a minimum of 12 inches tall for spring application, and 6 inches tall for fall application. Allow at least 3 days following application before planting. A sequential application of atrazine will be necessary for optimum results.

<b>Pampasgrass</b>	–	–	1.5 – 2%
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Apply when pampasgrass is at or beyond the boot stage of growth. Thorough coverage is necessary for best control.

<b>Paragrass<sup>2</sup></b>	3 – 5	3 – 20	2%
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<b>Phragmites</b>	3 – 5	10 – 40	1 – 2%
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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 could result in reduced control. Due to the dense nature of this vegetation, which may prevent good spray coverage, or uneven stages of growth, repeat treatments could be necessary to achieve control. Visual control symptoms will be slow to develop.

<b>Poison hemlock</b>	–	–	1 – 2%
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With hand-held sprayers, 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.

<b>Pokeweed, common</b>	1	3 – 40	2%
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Apply to actively growing plants up to 24 inches tall.

<b>Quackgrass</b>	1 – 3	3 – 40	2%
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In annual cropping systems, or in pastures and sods followed by deep tillage, apply 1 quart of this product in 3 to 10 gallons of water per acre, or 2 quarts in 10 to 40 gallons of water per acre. Do not tank-mix with residual herbicides when using the 1-quart rate. Spray when quackgrass is 6 to 8 inches in height. Do not till between harvest and fall application, or in the 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 2 to 3 quarts of this product in 10 to 40 gallons of water per acre when quackgrass is greater than 8 inches tall.

<b>Redvine</b>	0.75 – 2	5 – 10	2%
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For suppression, make two applications of 1.5 pints of this product per acre 7 to 14 days apart or a single application of 2 quarts per acre. Apply these 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 and at least 1 week before a killing frost.

<b>Reed, giant</b>	–	–	2%
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Best results are obtained when application is made in late summer or fall.

**PERENNIAL WEEDS RATE TABLE**

<b>Weed Species</b>	<b>Rate (QT/A)</b>	<b>Water Volume (GPA)</b>	<b>Hand-Held % Solution</b>
<b>Ryegrass, perennial</b>	1 – 3	3 – 40	1%
In annual cropping systems, apply 1 to 2 quarts of this product per acre in 3 to 10 gallons of water per acre, or 2 quarts of this product when applying 10 to 40 gallons of water per acre. In non-crop areas or areas where annual tillage is not practiced (no-till), apply 2 to 3 quarts 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 development or in the fall prior to frost. Do not tank-mix with residual herbicides when applying 1 quart of this product per acre.			
<b>Smartweed, swamp<sup>1</sup></b>	3 – 5	3 – 40	2%
Also for control, apply 1 pint 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.			
<b>Sowthistle, perennial</b>	2 – 3	3 – 40	2%
Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to application of this product. Fall treatment must be made before a killing frost. Allow 3 or more days after application before tillage.			
<b>Spurge, leafy</b>	–	3 – 10	2%
For suppression, apply 1 pint of this product plus 0.5 pound of 2,4-D in 3 to 10 gallons of water per acre in late summer or fall. If mowing has occurred prior to treatment, apply when most plants are 12 inches tall.			
<b>Starthistle, yellow</b>	2	10 – 40	2%
Best results are obtained when application is made during the rosette, bolting or early flower stages.			
<b>Sweet potato, wild</b>	–	–	2%
For partial control, apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.			
<b>Thistle, artichoke</b>	–	–	2%
For partial control, apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.			

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

For suppression in the spring, apply 1 quart of this product alone, or 1 pint of this product plus 0.5 pound of 2,4-D, in 3 to 10 gallons of water per acre. Allow rosette re-growth to a minimum of 6 inches in diameter before treating. Application 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.

<b>Timothy<sup>2</sup></b>	2 – 3	3 – 40	2%
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<b>Torpedograss</b>	4 – 5	3 – 40	2%
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For partial control, apply when most plants are at or beyond the seedhead stage of development. Repeat applications will be required to achieve control. Fall treatment must be applied before frost.

<b>Trumpet creeper</b>	2	5 – 10	2%
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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. Apply at least 1 week before a killing frost.

<b>Vaseygrass<sup>2</sup></b>	3 – 5	3 – 20	2%
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<b>Velvetgrass<sup>2</sup></b>	3 – 5	3 – 20	2%
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<b>Wheatgrass, western<sup>2</sup></b>	2 – 3	3 – 40	2%
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<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.

## **17.0 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 application is 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 treatment.

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 treatment is made following a frost.

### WOODY BRUSH AND TREES RATE TABLE

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
Alder	3 – 4	3 – 40	1 – 1.5%
Ash <sup>1</sup>	2 – 5	3 – 40	1 – 2%
Aspen, quaking	2 – 3	3 – 40	1 – 1.5%
Bearmat (Bearclover) <sup>1</sup>	2 – 5	3 – 40	1 – 2%
Beech <sup>1</sup>	2 – 5	3 – 40	1 – 2%
Birch	2 – 3	3 – 40	1 – 1.5%
Blackberry	3 – 4	10 – 40	1 – 1.5%
Apply after plants have reached full leaf maturity. Best results are obtained when application is made in late summer or fall. Application 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 0.75 percent solution of this product. For control of blackberries after leaf drop and until killing frost or as long as stems are green, apply 3 to 4 quarts of this product in 10 to 40 gallons of water per acre.			
Blackgum	2 – 5	3 – 40	1 – 2%
Bracken	2 – 5	3 – 40	1 – 2%
Broom; French, Scotch	–	–	1.5 – 2%
Buckwheat, California <sup>1,2</sup>	–	–	1 – 2%

Cascara <sup>1</sup>	2 – 5	3 – 40	1 – 2%
Catsclaw <sup>1</sup>	–	–	1 – 1.5%
Ceanothus <sup>1</sup>	2 – 5	3 – 40	1 – 2%
Chamise <sup>2</sup>	–	–	1%
Cherry, bitter, black, pin	2 – 3	3 – 40	1 – 1.5%
Coyote brush	–	–	1.5 – 2%
Apply when at least 50 percent of the new leaves are fully developed.			
Dogwood <sup>1</sup>	2 – 5	3 – 40	1 – 2%
Elderberry	2 – 3	3 – 40	1 – 1.5%
Elm <sup>1</sup>	2 – 5	3 – 40	1 – 2%
Eucalyptus	–	–	2%
For control of eucalyptus re-sprouts, apply when re-sprouts are 6 to 12 feet tall. Ensure complete coverage. Avoid application to drought-stressed plants.			
Florida holly (Brazilian Peppertree) <sup>1</sup>	2 – 5	3 – 40	1 – 2%
Gorse <sup>1</sup>	2 – 5	3 – 40	1 – 2%
Hasardia <sup>1,2</sup>	–	–	1 – 2%
Hawthorn	2 – 3	3 – 40	1 – 1.5%
Hazel	2 – 3	3 – 40	1 – 1.5%
Hickory <sup>1</sup>	2 – 5	3 – 40	1 – 2%
Honeysuckle	3 – 4	3 – 40	1 – 1.5%
Hornbeam, American <sup>1</sup>	2 – 5	3 – 40	1 – 2%
Kudzu	4 – 5	3 – 40	2%
Repeat applications may be required to achieve control.			
Locust, black <sup>1</sup>	2 – 4	3 – 40	1 – 2%
Madrone resprouts <sup>1</sup>	–	–	2%
Apply to re-sprouts that are 3 to 6 feet tall. Best results are obtained with spring/early summer treatment.			
Manzanita <sup>1</sup>	2 – 5	3 – 40	1 – 2%
Maple, red	2 – 4	3 – 40	1 – 1.5%
Apply a 1- to 1.5-percent solution when at least 50 percent of the new leaves are fully developed. For partial control, apply 2 to 4 quarts of this product per acre.			

**WOODY BRUSH AND TREES RATE TABLE**

<b>Weed Species</b>	<b>Rate (QT/A)</b>	<b>Water Volume (GPA)</b>	<b>Hand-Held % Solution</b>
Maple, sugar	—	—	1 – 1.5%
Apply when at least 50 percent of the new leaves are fully developed.			
Monkey flower <sup>1,2</sup>	—	—	1 – 2%
Oak, black, white <sup>1</sup>	2 – 4	3 – 40	1 – 2%
Oak, post	3 – 4	3 – 40	1 – 1.5%
Oak, northern	—	—	1 – 1.5%
Apply when at least 50 percent of the new pin leaves are fully developed.			
Oak, southern red	2 – 3	3 – 40	1 – 1.5%
Persimmon <sup>1</sup>	2 – 5	3 – 40	1 – 2%
Pine	2 – 5	3 – 40	1 – 2%
Poison ivy/Poison oak	4 – 5	3 – 40	2%
Repeat applications may be required to achieve control. Fall treatment must be applied before leaves lose green color.			
Poplar, yellow <sup>1</sup>	2 – 5	3 – 40	1 – 2%
Redbud, eastern	2 – 5	3 – 40	1 – 2%
Rose, multiflora	2	3 – 40	1%
Treat prior to leaf deterioration by leaf-eating insects.			
Russian olive <sup>1</sup>	2 – 5	3 – 40	1 – 2%
Sage, black <sup>1,2</sup>	—	—	1%
Sage, white <sup>1</sup>	2 – 5	3 – 40	1 – 2%
Sage brush, California <sup>2</sup>	—	—	1%
Salmonberry	2 – 3	3 – 40	1 – 1.5%
Salt-cedar	2 – 5	3 – 40	1 – 2%
Sassafras <sup>1</sup>	2 – 5	3 – 40	1 – 2%
Sourwood <sup>1</sup>	2 – 5	3 – 40	1 – 2%
Sumac, poison, smooth, winged <sup>1</sup>	2 – 4	3 – 40	1 – 2%
Sweetgum	2 – 3	3 – 40	1 – 1.5%
Swordfern <sup>1</sup>	2 – 5	3 – 40	1 – 2%
Tallowtree, Chinese <sup>2</sup>	—	—	1%

Tan oak resprouts <sup>1</sup>	—	—	2%
Apply to re-sprouts that are less than 3 to 6 feet tall. Best results are obtained with fall application.			
Thimbleberry	2 – 3	3 – 40	1 – 1.5%
Tobacco, tree <sup>1</sup>	—	—	1 – 2%
Trumpet creeper	2 – 3	3 – 40	1 – 1.5%
Vine maple <sup>1</sup>	2 – 5	3 – 40	1 – 2%
Virginia creeper	2 – 5	3 – 40	1 – 2%
Waxmyrtle, southern <sup>1</sup>	2 – 5	3 – 40	1 – 2%
Willow	3 – 4	3 – 40	1 – 1.5%

<sup>1</sup> Partial Control

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

## 18.0 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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range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

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For in-crop (over-the-top) uses on Roundup Ready crops, crop safety and weed control performance are not warranted by Monsanto Company when this product is used in conjunction with "brown bag" or "bin run" seed saved from previous year's production and replanted.

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