

# OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

WASHINGTON, D.C. 20460

February 13, 2024

E. David Lewis Agent for Nissan Chemical Industries, Ltd. c/o Lewis & Harrison, LLC 122 C St., NW, Suite 505 Washington, DC 20001

Subject: Approval of Label Amendment; Only Indicated Changes Reviewed – Adding language to exclude application to pome fruits, stone fruits, and small vine climbing fruits in state of New York Product Name: Targa Herbicide EPA Registration Number: 33906-9 Application Date: December 13, 2023 Case Number: 00493811

Dear E. David Lewis:

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is acceptable. However, EPA reviewed only the label changes highlighted, marked, or otherwise indicated on the submitted label. Any other changes to the previously approved label that were not clearly highlighted, marked, or otherwise indicated in your submission were not reviewed and may form the basis of regulatory and/or enforcement action if later discovered by the Agency. Further, submission of a label amendment application with unidentified changes may be considered a knowing submission of false information to the Agency. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

The label submitted with the application has been stamped "Accepted Only Indicated Revisions Reviewed" and is enclosed for your records.

This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 C.F.R. § 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 C.F.R. § 152.3.

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Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the Agency. If the website contains any false or misleading statement, design, or graphic, the product may be misbranded and unlawful to sell or distribute under FIFRA Sections 2(q)(1)(A) and 12(a)(1)(E). 40 C.F.R. § 156.10(a)(5) lists examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on the product label, claims made as part of the product's sale or distribution may not substantially differ from those claims approved through the registration process under FIFRA Section 12(a)(1)(B). Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the product will be referred to the EPA's Office of Enforcement and Compliance Assurance.

Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6.

If you have any questions, please contact Lindsay DeMers at demers.lindsay@epa.gov.

Sincerely,

Shaga Blogner

Shaja B. Joyner, Product Manager 20 Fungicide-Herbicide Branch Registration Division 7505T Office of Pesticide Programs

Enclosure: stamped "accepted" label

Sublabel A: General Agricultural Use Label without Provisia® Rice Use

QUIZALOFOP-P-ETHYL GROUP

HERBICIDE

1

# TARGA®

# Herbicide

#### Emulsifiable Concentrate

Active Ingredient	By Weight
Quizalofop-P-ethyl	
Ethyl (R)-2-[4-(6-chloroquinoxalin-2-yl	
oxy)phenoxy]propionate	10.3%*
Other Ingredients	89.7%
TOTAL	100.0%

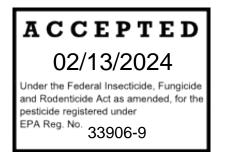
Contains petroleum-based distillates.

\* Equivalent to 0.88 lb ai per gallon

Net Contents: XXXXXXX

EPA Reg. No. 33906-9

EPA Est. No. XXXXXX



# KEEP OUT OF REACH OF CHILDREN DANGER / PELIGRO

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

	FIRST AID
If in eyes	Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.
	• Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye.
	Call a poison control center or doctor for treatment advice.
If on skin or	• Take off contaminated clothing.
clothing	• Rinse skin immediately with plenty of water for 15 to 20 minutes.
	Call a poison control center or doctor for treatment advice.
If swallowed	• Immediately call a poison control center or doctor.
	• DO NOT induce vomiting unless told to do so by a poison control center or doctor.
	• DO NOT give any liquid to the person.
	• DO NOT give anything by mouth to an unconscious person.
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.
	Call a poison control center or doctor for further treatment advice.
	HOTLINE NUMBER
Have the produc	t container or label with you when calling a poison control center or doctor, or going for treatment. For emergencies involving
this product, c	all toll free 1-800-982-1215.
	ian: Probable mucosal damage may contraindicate the use of gastric lavage. Contains petroleum distillate.
Vomiting may	cause aspiration pneumonia.

# PRECAUTIONARY STATEMENT HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER! Corrosive. Causes irreversible eye damage. Harmful if swallowed, inhaled or absorbed through the skin. **DO NOT** get in eyes, on skin, or on clothing. Avoid breathing vapors or spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

# PERSONAL PROTECTIVE EQUIPMENT (PPE)

#### Applicators and other handlers must wear:

- Long sleeved shirt and long pants
- Chemical-resistant gloves made of barrier laminate or Viton.
- Shoes plus socks.
- Protective eyewear.

Discard clothing or other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. **DO NOT** reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washable exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

# ENGINEERING CONTROL STATEMENTS

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

# USER SAFETY RECOMMENDATIONS

**USERS SHOULD:** Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove personal protective equipment immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

# **ENVIRONMENTAL HAZARDS**

This pesticide is toxic to fish and invertebrates. For terrestrial uses, **DO NOT** apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. **DO NOT** contaminate water when disposing of equipment wash waters or rinsate.

This product may contaminate water through drift of spray in wind. This product has a potential for runoff for several months or more after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. A level, well maintained vegetative buffer strip between areas to which this product is applied and surface water features (e.g., ponds, streams, and springs) will reduce the potential for contamination of water from rainfall-runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. Sound erosion control practices will reduce this product's contribution to surface water contamination.

# PHYSICAL AND CHEMICAL HAZARDS

Combustible. Keep away from heat, sparks, and open flames. Keep container closed.

# **DIRECTIONS FOR USE**

It is a violation of federal law to use this product in a manner inconsistent with its labeling. TARGA must be used only in accordance with instructions on this label or in separate published Nissan instructions.

**DO NOT** apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation. Refer to sections on Agricultural Uses and Crop Specific Use Directions Table for crops excluded for use of Targa in New York State.

# 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, including plants, soil, or water, is:

Coveralls.

Chemical-resistant gloves made of barrier laminate or Viton.

Shoes plus socks.

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 Part170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Weed control in "Non-Agricultural Uses" is not within the scope of WPS. Keep unprotected persons out of treated areas until sprays have dried.

# ENVIRONMENTAL CONDITIONS AND BIOLOGICAL ACTIVITY

TARGA is a systemic herbicide that is rapidly absorbed by treated foliage and translocated to the roots and other growing points of the plant. When affected, younger plant tissues become chlorotic/necrotic and eventually die, leaving treated plants stunted and noncompetitive. In general, these symptoms are first observed within 7 to 14 days after application depending on the grass species treated and the environmental conditions.

The degree of control and duration of the effect of TARGA depend upon the rate used, weed spectrum, weed size and variability, growing conditions at and following treatment, soil moisture, precipitation, tank mixtures, and spray adjuvant used.

Conditions conducive to healthy, actively growing plants optimize the performance of TARGA. Unacceptable control may occur if TARGA is applied to grasses stressed from:

- abnormal weather (excessive heat or cold, or widely fluctuating temperatures),
- hail damage,
- drought,
- water saturated soils,
- mechanical injury, or
- prior herbicide injury.

Grasses under these conditions are often less sensitive to herbicide activity. Delay application until the stress passes and weeds and crop resume growth.

Before making applications of TARGA to crops previously under stress, or injured from other pesticide applications, the crop needs to be fully recovered and growing vigorously.

TARGA is rainfast 1 hour after application.

# **APPLICATION INFORMATION**

#### **USE RESTRICTIONS**

- The following use directions apply to all crops except Provisia<sup>®</sup> Rice. See ProvisiaRice sublabel for applicable specific use directions and precautions.
- DO NOT feed forage, hay, or straw from treated areas to livestock.
- DO NOT apply TARGA through any type of irrigation equipment.
- **DO NOT** apply to any body of water.
- DO NOT use on lawns, walks, driveways, tennis courts or similar areas.

#### **IMPORTANT PRECAUTIONS**

Injury to or loss of desirable trees, vegetation or adjacent sensitive crops may result from failure to observe the following:

- Prevent spray drift to desirable plants (refer to SPRAY DRIFT MANAGEMENT section of this label).
- Take all necessary precautions to avoid all or direct contact (including spray drift) with non-target plants or areas. Most grass crops, including wheat, barley, rye, oats, sorghum, rice, and corn are highly sensitive to TARGA.
- Carefully observe all sprayer clean-up instructions both prior to and after using this product, as spray tank residue may damage crops other than those included in the crop rotation section.

#### Agricultural Uses

TARGA Herbicide is a selective postemergence herbicide that controls annual and perennial grasses in canola, carinata, crambe, cotton (cottonseed subgroup 20C), crops grown for seed, eucalyptus, dry beans (including Chickpea), dry and succulent peas, flax (flaxseed), fruit, pome crop group 11-10 (except New York State), fruit, fruit, small vine climbing, except fuzzy kiwifruit crop subgroup 13-07F (except New York State), fruit, stone crop group 12-12 (except New York State), hybrid poplar plantings, lentils, mint (spearmint and peppermint), pennycress, pineapple, rapeseed subgroup 20A (includes borage, canola, crambe, gold of pleasure [camelina], cuphea, echium, Hare's ear mustard, oil radish, poppy seed, rapeseed, sesame, sweet rocket, cultivars, varieties, and/or hybrids of these), ryegrass grown for seed, snap beans, INZEN<sup>TM</sup> A II grain sorghum, soybeans, sugarbeets, sunflower (subgroup 20B). TARGA is also registered for preplant applications to barley and wheat, perennial ryegrass grown for seed, fallow, and non-crop areas. TARGA is also registered for control of annual and perennial grasses in alfalfa, onion, carrot, garlic, Swiss chard, spinach, radish, Chinese cabbage, and red beets grown specifically under contract as non-food/nonfeed crops for seed production only TARGA does not control sedges or broadleaf weeds. Applied at specified rates and timings, TARGA controls the grasses listed in the "Weeds Controlled and Rate Selection" chart. Follow all use directions and restrictions listed for the specific crop.

# Pre-plant Burndown

TARGA herbicide may be applied as an early preplant burndown treatment for the control of small foxtails, fall panicum, barnyardgrass, volunteer barley, volunteer corn, volunteer wheat, shattercane, and wild proso millet prior to planting all crops included in this label. Apply TARGA as directed below using 2.5 to 5.0 fluid ounces per acre. Applications must be made before grasses begin to tiller. **DO NOT** exceed the maximum application rate per acre per crop season for the crop that is going to be planted when additional applications are made as preplant burn down.

<b>Grass Height</b>	TARGA
(Inches)	<u>fl. ounces per acre</u>
Up to 3"	2.5
4" - 5"	5.0

Early preplant burndown applications of TARGA, including applications made with tank mixes, must include a petroleum based crop oil concentrate at a rate of 1 gallon per 100 gallons of spray solution (1.0% v/v), unless otherwise directed within the specific use directions on this label.

# Non-Agricultural Uses

#### Non-Crop Areas

TARGA is for post emergence control of certain grasses on noncrop sites including fence rows, roadsides, equipment storage areas, and other similar areas. Make a single application of TARGA at a rate of 12 to 16 fluid ounces per acre to actively growing grasses. Apply by ground equipment only. **DO NOT** apply by air. For paved areas, apply spot/small area treatments only (see Spot/Small Area

#### Spray Instructions section).

#### Non-Crop Areas - to aid in establishment of Wildflowers

Since TARGA controls many grasses but not most broadleaf plants, it may be used to enhance establishment and growth of certain broadleaf plants on non-crop sites (that is, plants identified as "wildflowers" including indian blanket, cone flowers, bachelor button, dwarf cornflower, coreopsis, white yarrow, oxeye daisy, dames-rocket, blue flax, evening primrose, blackeyed-susan, marigolds, impatiens, bluebonnet, indian paintbrush, verbena, gaillardia, chrysanthemum, catchfly and scarlet pimpernel).

Make a single application of TARGA at a rate of 5 to 12 fluid ounces per acre. Refer to the Weeds Controlled and Rate Selection table for specific application rates. **DO NOT** apply more than 12 fluid ounces per acre per year.

# **Application Timing**

#### Crop and Non-Crop Uses

Apply TARGA to young, actively growing grasses according to the rate chart that follows. If a field is to be irrigated, apply TARGA after the irrigation. Applications made to grasses that are larger than the sizes listed in the rate charts or to grasses under stress may result in unsatisfactory control.

#### Pre-Plant Burndown

TARGA Alone: Application of TARGA may be made at any time after emergence of grasses up to planting.

TARGA + VIDA<sup>®</sup> A tank mix of TARGA plus VIDA may be applied after emergence of grasses, up to and including the planting of soybeans (refer to VIDA labeling for application timing).

TARGA + CANOPY EX + 2, 4-D (LVE): This three-way tank mix must be applied a minimum of 7 to 30 days prior to soybean planting. The rate of 2,4-D (LVE) will determine the minimum interval prior to planting. Refer to the 2,4-D (LVE), and CANOPY EX labeling for application information.

TARGA + 2,4-D (LVE): A tank mix of TARGA plus 2,4-D (LVE) may be made any time after emergence of grasses, but must be applied a minimum of 7 to 30 days prior to planting of soybeans. The rate of 2,4-D (LVE) will determine the minimum interval prior to planting. Refer to the 2,4-D (LVE) label for information on the preplant interval.

TARGA + a [Roundup<sup>®</sup> brand agricultural herbicide] [glyphosate] may be used for the purpose of broad spectrum weed control, including volunteer [Roundup Ready<sup>®</sup>][glyphosate] [ready] [resistant] corn control, prior to or after planting soybean. Applications made after soybean emergence must only be made to soybean varieties designated as [Roundup Ready] [glyphosate] [ready] [resistant].

# Pre-Plant Burndown; Wheat and Barley (not for use on wheat and barley in the state of New York)

A tankmix of TARGA + a [Roundup<sup>®3</sup> brand agricultural herbicide] [glyphosate] may be used for the purpose of broad spectrum weed control, including volunteer [Roundup Ready<sup>®3</sup>] [glyphosate][ready] [resistant] wheat control, prior to planting wheat or barley. Applications must be made prior to emergence of the crop. Applications made within 7 days of planting may result in crop injury.

#### **Sequential Applications**

DO NOT exceed the maximum seasonal use rates listed under the directions for each specific crop.

#### Annual Grasses

In the event of a subsequent flush of grass, or regrowth of previously treated grass occurs, a second application of TARGA may be applied. Select the appropriate rate for the grassy weed from the "Weeds Controlled and Rate selection" chart.

# Perennial Grasses

If perennial grasses regrow, reapply TARGA at 6-7 fluid ounces of product per acre. Time applications as follows: bermudagrass (3" tall or up to 6" runners), rhizome johnsongrass (6"-10"), quackgrass (4"-8"), wirestem muhly (4"-8").

#### Sequential Applications with Post Broadleaf Herbicides

NOTE: Reduction in grass control is possible when TARGA is applied immediately prior to or sequentially after an application of a post broadleaf herbicide. Observe the following instructions:

After applying TARGA, wait a minimum of 24 hours before applying a post broadleaf herbicide.

In fields treated with a post broadleaf herbicide, wait for grass plants to begin developing new leaves, (generally 5-7 days after the post broadleaf herbicide application), before applications of TARGA are made.

# **Spray Adjuvants**

Applications of TARGA must include either a crop oil concentrate or a nonionic surfactant. For optimal performance, always mix TARGA with a high quality Crop Oil Concentrate. Consult local Nissan fact sheets, technical bulletins, and service policies prior to using other adjuvant systems. If another herbicide is tank mixed with TARGA to increase the weed spectrum, select adjuvants authorized for use with both products. Products must contain only EPA-exempt ingredients.

#### Petroleum Crop Oil Concentrates (COC) or Modified Seed Oil (MSO)

- Apply petroleum-based crop oil concentrate at 1.0% v/v (1 gal of product per 100 gal of spray solution) or 2% under arid conditions.
- Petroleum-based crop oil concentrates are the preferred adjuvant system in arid areas.
- Note-In Soybeans up to 2.0 % v/v may be used based on local guidance.
- Oil adjuvants must contain at least 80% high quality, petroleum (mineral) or modified vegetable seed oil with at least 15% surfactant emulsifiers.
- When tank mixing TARGA with dicamba or 2,4-D products the use of high quality COC is required.
- For aerial application, apply 0.5 % v/v (2 qts of product per 100 gal of spray solution).

#### Nonionic surfactants (NIS)

- Apply at 0.25% v/v (1 qt of product per 100 gal of spray solution).
- Surfactant products must contain at least 60% nonionic surfactant with a hydrophillic/lipophillic balance (HLB) greater than 12.

#### Ammonium Nitrate Fertilizer

- An ammonium nitrogen fertilizer may be added to the spray mixture, in addition to crop oil concentrate or nonionic surfactant, but is not required to optimize performance of this product.
- Use 2 qt/acre of a high-quality urea ammonium nitrate (UAN), including 28%N or 32%N, or 2 lb/acre of a spray-grade ammonium sulfate (AMS). Use 4 qt/acre UAN or 4 lb/acre AMS under arid conditions.
- **DO NOT** use liquid nitrogen fertilizer as the total carrier solution.

#### **Special Adjuvant Types**

- Combination adjuvant products may be used at doses that provide the required amount of NIS, COC, MSO and/or ammonium nitrogen fertilizer. Consult product literature for use rates and restrictions.
- In addition to the adjuvants specified above, other adjuvant types may be used if they provide the same functionality and have been evaluated and approved by Nissan Product Management. Consult separate Nissan technical bulletins for detailed information before using adjuvant types not specified on this label.

WEEDS CONTROLLED AND RATE SH	ELECTION		
Annual Grasses**	Size at Application (in)	TARGA Applied Alone (fl oz product/A)	TARGA* Broadleaf Herbicide Tank Mixes. For 2,4-D or Dicamba based products see Tank Mix section (fl oz product/A)
	6-30		8 - 12
Corn, Volunteer (Zea mays)***			8 - 12
Foxtail, Giant (Setaria faberi)	2-4 (pretiller)	5 0	0.10
Johnsongrass, Seedling (Sorghum halepense)	2-8	5 - 8	8 - 12
Shattercane (Sorghum bicolor)	6-12		
Wild Proso Millet (Panicum miliaceum)	2-6		7 - 12
Crowfootgrass (Dactyloctenium aegyptium)	2-6		
Fall Panicum (Panicum dichtomiflorum)	2-6		8 - 12
Field Sandbur (Cenchrus incertus)	2-6		
Foxtail, Bristly (Setaria verticillata)	2-4		
Foxtail, Giant (Setaria faberi)	2-8		7 - 12
Foxtail, Green (Setaria viridis)	2-4		8 - 12
Foxtail, Yellow (Setaria lutescens)	2-4		Split†
Goosegrass (Eleusine indica)	2-6‡	7 - 8	
Itchgrass (Rottboellia exaltata)	2-8		
Sprangletop (Leptochloa filiformis)	2-6		
Volunteer Barley (Hordeum vulgare)	2-6		8 - 12
Volunteer Oats (Avena sativa)	2-6		8 - 12
Volunteer Rye (Secale cereale)	2-6		
Wild Oat (Avena fatua)	2-6		
Witchgrass (Panicum capillare)	2-6		
Volunteer Wheat ****(Triticum aestivum)	2-3 leaf	4-5^	5 - 12
Volunteer Wheat ****(Triticum aestivum)	4-6 leaf (before jointing)	5-8 <sup>^</sup>	8 - 12
Barnyardgrass (Echinochloa crus-galli)	2-6		
Crabgrass, Large (Digitaria sanguinalis)	2-6‡		Split†
Crabgrass, Smooth (Digitaria ischaemum)	2-6‡	8 - 10	
Junglerice (Echinochloa colonum)	2-6		10 - 12
Texas Panicum (Panicum texanum)∞	2-4		Split†
Red Rice (Oryza sativa)	1-4	9 - 10	Split†
Woolly Cupgrass (Eriochloa villosa)	2-4§	7-10	Spirt
Broadleaf Signalgrass (Brachiaria platyphylla)	2-6	10	Split

Perennial Grasses**			
Wirestem Muhly (Muhlenbergia frondosa)	4-8	8 - 10	Split†
Bermudagrass (Cynodon dactylon)	3" tall (or up to 6" runners)		Split†
Johnsongrass, Rhizome (Sorghum halepense)	10-24	10 - 12	10 - 12
Quackgrass (Agropyron repens)	6-10		Split†

For annual and perennial grasses, up to 12 fl oz per acre may be applied, based on local guidance. Under arid conditions use the higher use rate. Controls all volunteer corn excluding  $Enlist^{TM 9}$  traited volunteer corn. \*\*\*

\*\*\*\* Including [Roundup Ready][glyphosate] [ready] [resistant] volunteers.

 <sup>1</sup> Use the higher rate when wheat is under stress from cool and/or dry growing conditions.
 <sup>2</sup> Split = Split Application. May not be controlled adequately using a tank mix with broadleaf herbicides. For best results, alternate applications of TARGA with a broadleaf herbicide, ensuring that TARGA is applied either 24 hours before or 7 days after the broadleaf herbicide. Length of lateral growth.

‡

Size in height or diameter, whichever is more restrictive. Applications to plants with more than three tillers may result in unsatisfactory control. In Texas and other areas of the arid west, 10 fl oz is the specified use rate for control of Texas panicum, use of lower rates may result in unsatisfactory ş

œ control.

Crops	Use rate/A <sup>1,2</sup> (fl oz)	No. of applications /crop year <sup>3</sup>	PHI (days)	Maximu m rate/acre/ crop year fl oz (lb ai)	Instructions and restrictions
Canola Crambe Rapeseed Crop subgroup 20A (except Flax)* Carinata	4 -12	2	60	18 (0.124)	Apply in a minimum of 3 gallons of water per acre. Chemigation not allowed. <b>DO NOT</b> apply TARGA within 14 days of anticipated bloom of crop.
Pennycress (subgroup 20B)	lunaria, mea		veed mustard	seed, oil radish,	nea, echium, hare's ear mustard, lequesrella, poppy seed, rapeseed, sesame, sweet rocket,
Quizalofop- Tolerant Provisia Rice	11-15.5	1-3	?	15.5	See Provisia Rice sublabel and follow all sublabel precautions, restrictions, and directions for use. A sequential application program is necessary for complete control of red and volunteer rice due to extended emergence. Separate applications by at least 10 days. Apply petroleum-based crop oil concentrate (COC) at 1% v/v (1 gallon per 100 gallons of spray solution) by ground or air. <b>DO NOT</b> use less than 1 pint per acre of COC with low volume (less than 12.5 gallons/acre) ground or areal applications.
Wheat (not for use on wheat in the state of New York)	4-8	1-2	?	10	Application interval must be greater than 7 days. Applications will vary depending on the leaf size at time of application.
Cotton (Cottonseed subgroup 20C)	4 - 12	2	80	18 (0.124)	Apply in a minimum of 3 gallons of water per acre. Chemigation not permitted. <b>DO NOT</b> apply TARGA within 14 days of anticipated bloom of crop.

**Table 1. Crop Specific Use Directions** 

D 1	4 10	2			
Dry and succulent	4 - 12	2	Dry peas: 60	14 (0.096)	
peas			Succulent	(0.020)	
-			peas: 30		
Dry beans	4 - 12	2	30	24	
including				(0.165)	
chickpea					
Dry Beans,					erbicide for selective postemergence weed
Dry and		-	•	ind broadleaf wee	
Succulent Peas		-		-	antagonism can be reduced by increasing the o specific crop use directions for maximum use
ID	TARGA re	equires the use of	f crop oil con	centrate or nonio	nic surfactant adjuvants. Refer to bentazon
MT	labels for a	application inform	nation and res	strictions. The mo	ost restrictive provisions on either label apply.
OR					azon label conflict with instructions on the
WA				GA and adjuvant	s with bentazon when temperatures exceed 80
	<sup>o</sup> F, as exce	essive leaf burn n	nay occur.		
Flax (flaxseed)	4 - 12	2	70	24	
× /				(0.165)	
Fruit,	12	2	14	24	Apply TARGA as a directed spray in a band
Pome				(0.165)	extending out a minimum of 3 feet on each side
(crop group					of the tree row in 10-40 gallons of water/acre to
11-10)* (Except NY)					control labelled grass weeds. <b>DO NOT</b> apply by
(Except N I)					aerial application.
					Application intervals must be at least 14 days
					apart to allow regrowth to occur. <b>DO NOT</b> apply Targa within 14 days of anticipated bloom
					of crop.
	* 4 1 4				
			-	•	ear; Pear, Asian; Quince; Quince, Chinese;
Fruit, Small	Quilice, Jap	2	15	ieties, and/or hyb	
Vine	3	2	1.5	(0.068)	Apply TARGA as a directed spray in a
Climbing,				(0.000)	band extending out a minimum of 3 feet on
except Fuzzy					each side of the row in 10-40 gallons of water/acre to control labelled grass weeds.
Kiwifruit					<b>DO NOT</b> allow the spray solution to contact
(subgroup 13-					the vines. <b>DO NOT</b> apply by aerial
07F)*					application. Application intervals must be at
(Except NY)					least 14 days apart to allow regrowth to occur.
					<b>DO NOT</b> apply TARGA within 14 days of
					anticipated bloom of crop.
	* Amur D	iver Grane: Gaa	seherry: Gron	- A. Kiwifmit Uan	dy; Maypop; Schisandra Berry;
		s, varieties, and/c	• •		ay, maypop, semsanara beny,
		s, varieties, anu/e	n nyonus ol t	11030	

Fruit, Stone (crop Group 12-12)* (Except NY)	Jujube, Plum, C	Chinese; Nectarii	ne; Peach; Plu Damson; Plu	ım, American; Pl m, Japanese; Plu	Apply TARGA as a directed spray in a band extending out a minimum of 3 feet on each side of the tree row in 10-40 gallons of water/acre to control labelled grass weeds. <b>DO NOT</b> apply by aerial application. Application intervals must be at least 14 days apart to allow regrowth to occur. <b>DO NOT</b> apply TARGA within 14 days of anticipated bloom of crop. erry, Nanking; Cherry, Sweet; Cherry, Tart; lum, Beach; Plum, Canada; Plum, Cherry; m, Klamath; Plum, Prune; Plumcot; Sloe;
Lentils	4 - 12	2	60	14 (0.096)	
Mint Peppermint spearmint	4 - 12	2	30	24 (0.165)	
Pineapple HI Puerto Rico	Foliar and directed spot treatment : 15 – 30	4	160	60 (0.41)	<ul> <li>Subsequent flushes of grasses will require additional applications of TARGA.</li> <li>Use a properly calibrated sprayer and add the proper amount of TARGA in water.</li> <li>Directed spot treatments for perennial grasses postemergence to wet (50-100 gallons per acre depending on size) with 15 to 30 fluid ounces product per 100 gallons of water.</li> <li>DO NOT graze treated fields or harvest for forage or hay.</li> <li>Apply by ground application equipment only.</li> <li>DO NOT apply more than 4 applications per harvest.</li> <li>DO NOT apply more than 60 fl. oz. (0.41 lb ai) of product per acre per harvest.</li> <li>Weeds Controlled: Sour grass (<i>Tricachne insularis</i>), Crabgrass (<i>Digitaria</i> spp.), Natal red Top (Agrostis alba)</li> <li>Weeds partially controlled: Guineagrass (Panicum maximum), Wiregrass (Eleusine indica), Molasses grass (Melinis minutiflora)</li> </ul>
Snap beans	4 - 12	2	15	14 (0.096)	

Soybean	4 - 12	2	80	18 (0.124)	Refer to Application with Broadleaf Herbicides and Split Applications with Postemergence Broadleaf Herbicides sections in this label before tank-mixing TARGA with labeled postemergent soybean broadleaf herbicides. Include ammonium nitrogen fertilizer if allowed on the tank-mix partner label.			
Sugarbeet	4 - 12	4	45	25 (0.17)	<b>DO NOT</b> feed beet tops within 60 days of last application.			
Sunflowe r (subgroup 20B)*	4 - 12	2	60	18 (0.124)	<b>DO NOT</b> apply by chemigation. <b>DO NOT</b> apply TARGA within 14 days of anticipated bloom of crop.			
200)	Hip; Safflov	<ul> <li>Calendula; Caster Oil Plant; Chinese Tallowtree; Euphorbia; Evening Primrose; Jojoba; Niger Seed; Rose</li> <li>Hip; Safflower; Stokes Aster; Sunflower; Tallowwood; Tea Oil Plant; Vernonia; cultivars, varieties, and/or hybrids of these</li> </ul>						

N/A = Not Applicable

1. Refer to Weeds Controlled and Rate Selection Table for specific use rates.

2. All applications of TARGA must include either a crop oil concentrate or a nonionic surfactant. Refer to the Spray Adjuvants section in this label for adjuvant preference, rates, and additional use information.

3. Sequential application intervals must be greater than 7 days apart to allow regrowth to occur except where noted in the instructions and restrictions section in the table for specific crops.

Crops	Use rate/A <sup>1,2</sup> (fl oz)	No. of applications /crop year <sup>3</sup>	PHI (days)	Maximum rate/acre/ crop year fl oz (lb ai)	Instructions and restrictions	
Crops grown under contract for	4 -12	2	N/A	25 (0.17)	DO NOT apply by aerial application.	
seed production: Alfalfa				(0.17)	<b>DO NOT</b> apply TARGA within 14 days of anticipated bloom of crop.	
Carrot Chinese Cabbage Garlic Onion Red beets Swiss Chard					Grass crops, including wheat, barley, rye, oats, sorghum, rice, and corn are highly susceptible to TARGA herbicide. Avoid direct or indirect contact.	
Spinach	Application of TARGA is for seed propagation only as a nonfood/nonfeed use. No portion treated plants may be used for human or animal consumption and cannot be used or p for food or feed.					
	Seed fro	om treated plants	must only b	e used for breedi	ng purposes or seed production.	
	Seed fro purpose		ed plants mu	ast be labeled as t	follows " <b>DO NOT</b> use for feed, food or oil	
Eucalyptus Plantations	15 - 30	4	N/A	60 (0.41)	Apply TARGA as a broadcast spray through accurately calibrated ground application equipment only.	
HI					<b>DO NOT</b> apply by aerial application.	
					Weeds controlled: Para grass (Panicum muticum), Crabgrass (Digitaria spp.)	
					Weeds partially controlled: Torpedograss (panicum repens)	

Table 2. Non-Food/Non Feed Crop Specific Use Directions

Hybrid Poplar establishment planting	5 - 10	2	N/A	10 (0.064)	TARGA may be applied over hybrid poplar following planting.
ME MN					<b>DO NOT</b> apply by aerial application.

ID MT OR WA WY	Animal Con crop that ha	sumption". It	shall be the gro with TARGA®	wers' respon	e tagged at the processing facility, "Not for Human or sibility to notify the processing facility of any seed			
Ryegrass (non-food/ non-feed TARGA tolerant perennial	Season 1 10	2	N/A	20 (0.138)	<ul> <li>Apply the first season of ryegrass growth anytime from planting until the end of August for quackgrass control.</li> <li>DO NOT apply after August.</li> <li>DO NOT apply by aerial application.</li> </ul>			
ryegrass grown for seed)	Season 2 10	2	N/A	20 (0.138)	Apply prior to the boot stage in the spring of the second year of ryegrass growth for quackgrass suppression and seed prevention. <b>DO NOT</b> apply by aerial application.			
MN	animal consu	<b>DO NOT</b> use or allow any portion of crop (seed, sprouts, screenings, forage, hay, stover, etc.) for human or animal consumption. Grazing of treated crop is prohibited.						

N/A = Not Applicable

1 Refer to Weeds Controlled and Rate Selection Table for specific use rates.

2 All applications of TARGA® must include either a crop oil concentrate or a nonionic surfactant. Refer to the Spray Adjuvants

section in this label for adjuvant preference, rates, and additional use information.

3 Sequential application intervals must be greater than 7 days apart to allow regrowth to occur.

# TANK MIXES

DO NOT use tank mixtures of TARGA with any pesticide or spray adjuvant except as directed on this label.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Refer to the labels of all tank mix products for information regarding use information (including rates, timing, application information, and sprayer cleanup) and product precautions and restrictions (especially adjuvants – TARGA requires the use of an adjuvant). The most restrictive provisions apply. If those instructions conflict with this label, **DO NOT** tank mix the herbicide with TARGA.

A tank mix of TARGA plus a [Roundup<sup>®</sup> brand agricultural herbicide] [glyphosate] may be used for the purpose of volunteer [Roundup Ready][glyphosate][ready] [resistant] corn control or volunteer [Roundup Ready] [glyphosate] [ready] [resistant] wheat control. Applications may be made to [Roundup Ready] [glyphosate] [ready] [resistant] soybean, [Roundup Ready] [glyphosate][ready] [resistant] canola, [Roundup Ready] [glyphosate] [ready] [resistant] sugarbeet or [Roundup Ready] [glyphosate] [ready] [resistant] cotton crops. Refer to the [Roundup brand agricultural herbicide] [glyphosate] label for application instructions in [Roundup Ready] [glyphosate] [ready] [resistant] crop varieties.

Nissan also advises that you first consult your state experiment station, university, or extension agent, Agricultural dealer or Nissan representative as to the potential for any adverse interactions (resulting in unacceptable grass control and/or crop injury) before using new herbicide, insecticide and fungicide mixtures. If no information is available, limit the initial use of TARGA and the new herbicide, insecticide or fungicide product to a small area.

Always conduct a jar test to evaluate physical compatibility before applying a particular mixture to crops for the first time.

Tank mixes of TARGA with postemergence broadleaf herbicides may result in reduced grass control. If grass control is reduced, an additional application of TARGA may be required after grass plants begin to develop new leaves.

For tank mixing with glyphosate-containing products, spray grade ammonium sulfate may be used. Follow the [Roundup brand agricultural herbicide][glyphosate] label directions regarding the addition of ammonium sulfate.

#### Application With 2,4-D or Dicamba Herbicides

Volunteer Corn <18"	Volunteer Corn >18"	Annual Grasses <6"	Annual Grasses >6"	Perennial Grasses
10 fl oz/A	12 fl oz/A	10 fl oz/A	12 fl oz/A	12 fl oz/A

Tank mixes of TARGA with 2,4-D or Dicamba type products require the addition of an approved high quality crop oil concentrate for adequate control. The addition of an approved AMS is strongly advised with 2,4-D tank mixtures.

#### Application With Broadleaf Herbicides

Under arid or stressful environmental conditions, tank mixtures with other broadleaf herbicides may show a small reduction in control of some grass species. Activity of the postemergence broadleaf herbicide in the tank mixture is not affected.

#### Split Applications with Postemergence Broadleaf Herbicides

Applying TARGA immediately prior to or following an application of a postemergence broadleaf herbicide may reduce control of some grasses. For best results, follow these instructions when making split applications:

- Apply postemergence broadleaf herbicides at least 24 hours after applying TARGA.
- Apply TARGA when grass begins to develop new leaves (generally 7 days after the postemergence broadleaf herbicide application) in fields treated with a postemergence broadleaf herbicide.

#### Application With Insecticides and Fungicides

TARGA may be tank mixed with postemergence insecticides registered for use in the specific crop (including Justice®).

TARGA may be tank mixed with postemergence fungicides and bactericides (including Affiance<sup>®</sup> or Domark<sup>®</sup> registered for use in the specific crop.

#### Fallow Systems - Chemical fallow

TARGA 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, with the exception of Provisia Rice, applications must be made at least 120 days prior to planting. For broad spectrum weed control, including volunteer [Roundup Ready] [glyphosate] [ready] [resistant] wheat in fallow fields, use TARGA in combination with a [Roundup brand agricultural herbicide] [glyphosate] as a substitute for tillage.

#### Dry Beans - Tank Mixes Basagran

When tank mixing TARGA with Basagran, annual grass antagonism can be minimized by increasing the specified rate of TARGA by 2 fluid ounces. Refer to the specific crop use directions and restrictions section for seasonal maximum use rates. Perennial grasses may require a sequential application for acceptable control.

#### Glyphosate-Resistant Crops – Tank Mixes with Glyphosate

TARGA may be used in a tank mix with glyphosate as follows:

- 1. If the glyphosate formulation does not include a built-in adjuvant system, nonionic surfactant must be included, per directions on this label.
- 2. If the glyphosate formulation contains a built-in adjuvant system (i.e. Roundup UltraMax<sup>3</sup>), additional adjuvant is still required. Add nonionic surfactant at a rate of 0.125% v/v (1 pt per 100 gal spray solution).

#### Soybeans - Tank Mixes with Postemergence Broadleaf Herbicides

TARGA can be tank mixed with postemergent soybean broadleaf herbicides including CLASSIC<sup>®</sup> Herbicide, CLASSIC + HARMONY®GT herbicides, HARMONYGT, Flexstar<sup>®</sup>, Basagran, or [Roundup brand agricultural herbicide] [glyphosate] [Note: Tankmixes with Roundup or glyphosate based herbicides are only for use on glyphosate tolerant soybean varieties] for use on soybeans to control broadleaf weeds and selected grasses.

Include ammonium nitrogen fertilizer if specified on the tank mix partner label. Include either a crop oil concentrate or a nonionic surfactant as specified in the following table:

(Pints per 100 gal of spray solution)				
TARGA	<u>Ground</u>		<u>Aerial</u>	
Tank mix partner	COC or NIS		COC or NIS	
CLASSIC	8	2	4	2
HARMONY GT	_*	1-2†	_*	1-2†
CLASSIC	_*	1-2†	_*	1-2†
+HARMONY GT				
Basagran	8	—	4	_
Flexstar	8	_	4	_

\* **DO NOT** use Dash<sup>1</sup> or crop oil concentrate when tank mixing TARGA with HARMONY GT, or CLASSIC + HARMONY GT. †Using the higher rate of nonionic surfactant, particularly under hot, humid conditions, may increase temporary crop injury.

# SPOT/SMALL AREA SPRAY INSTRUCTIONS

To spot treat small areas of annuals (i.e., volunteer corn) or perennials (i.e., rhizome johnsongrass) use a 0.375% v/v solution of TARGA® and water.

Spray Volume (gal)	TARGA (fl oz product)	Crop Oil Concentrate + (fl oz) OR	Nonionic Surfactant (fl oz)
1	0.5 (1 tbsp)	1.25 (2.5 tbsp)	0.3 (2 tsp)
25	12 (3/4 pt)	32 (1 qt)	8 (1 cup)
50	24 (1.5 pt)	64 (2 qt)	16 (1 pt)
100	48 (3 pt)	128 (1 gal)	32 1 qt)

#### SPRAY VOLUMES FOR SMALL AREAS

**DO NOT** spot treat grasses using a tank mix of TARGA and broadleaf herbicides. **DO NOT** treat more than 10% of the total treated area as spot/small area treatment. **DO NOT** exceed the maximum specified rate/acre/season for the crop that is going to be planted when additional applications are made as spot or small area treatment. Include a nonphytotoxic crop oil concentrate at 1 gallon per 100 gal of spray solution (1% v/v) or a nonionic surfactant at 1 qt per 100 gal of spray solution (0.25% v/v). Treat plants on a spray-to-wet basis to ensure good coverage.

# **CULTIVATION**

A timely cultivation may be necessary to control suppressed weeds, weeds that were beyond the maximum size at application, or weeds that emerge after an application of TARGA.

Cultivation up to 7 days before the postemergence application of TARGA may decrease weed control by pruning weed roots, placing the weeds under stress, or covering the weeds with soil and preventing coverage by TARGA.

To allow TARGA to fully control treated weeds, **DO NOT** cultivate for 7 days after application. Optimum timing for cultivation is 7 - 14 days after a postemergence application of TARGA.

# **CROP ROTATION**

**DO NOT** rotate to crops other than Barley, [Canola, Crambe,] [Rapeseed Subgroup 20A], Cotton, Dry Beans, Flax, Lentils, Mint (Spearmint and Peppermint), Peas (Dry and Succulent Peas), Snap Beans, Soybeans, Sugarbeets, Sunflowers or Wheat within 120 days after application.

# **APPLICATION EQUIPMENT**

• See SPRAY DRIFT MANAGEMENT section for additional information and precautions.

#### **Ground Application**

#### **Broadcast Application**

- When applying by ground, use spray nozzles that will deliver medium or larger spray droplets as defined in the American Society of Agricultural and Biological Engineers (ASABE) standard ANSI/ASAE S572.1 (March 2009). (see Spray Drift Management section for additional information).
- Use flat fan or hollow cone nozzles at 25-60 psi.
- DO NOT use flood, rain drop, whirl chamber, or any other nozzle types that produce coarse, large spray droplets. In addition, DO NOT use controlled droplet applicator (CDA) type nozzles as poor weed control or excessive spray drift may result.
- Use a minimum of 10 gal of water per acre in nonarid areas.
- Use a minimum of 15 gal of water per acre in arid areas.
- DO NOT exceed 40 gal of water per acre.
- Increase spray volume and pressure as weed or crop density and size increase.

#### **Band** Application

- Because band application equipment sprays a narrower area than broadcast application equipment, calibrate equipment to use proportionately less spray solution.
- To avoid crop injury, carefully calibrate the band applicator not to exceed the labeled rate.
- Carefully follow the manufacturer's instructions for nozzle type, nozzle orientation, distance of the nozzles from the crop and weeds, spray volumes, calibration, and spray pressure.
- For additional information on row banders see Nissan informational bulletin.

#### Aerial Application

- When applying by air, use spray nozzles that will deliver coarse or larger spray droplets as defined in the American Society of Agricultural and Biological Engineers (ASABE) standard ANSI/ASAE S572.1 (March 2009). (see Spray Drift Management section for additional information).
- Use nozzle types and arrangements that provide optimum spray distribution and maximum coverage.
- Use a minimum of 3 gal of water per acre in nonarid areas.
- Use a minimum of 5 gal of water per acre in arid areas.

# **MIXING INSTRUCTIONS**

- 1. Fill the tank 1/4 to 1/3 full of water.
- 2. While agitating, add the required amount of TARGA. If TARGA and a tank mix partner are to be applied together, consult the tank mix partner label for information on which to add first (normally granules and powders are added first).
- 3. Continue agitation until the TARGA is fully dispersed, at least 5 minutes.
- 4. Once the TARGA is fully dispersed, maintain agitation and continue filling tank with water.
- 5. As the tank is filling, add the required volume of spray additives, always add these to the spray tank last.
- 6. Apply TARGA spray mixture within a reasonable period of time of mixing to avoid product degradation (24 to 48 hrs.) If the spray mixture stands for any period of time, thoroughly re-agitate before using.

# **SPRAYER CLEANUP**

The spray equipment must be cleaned before TARGA is sprayed. Follow the cleanup procedures specified on the labels of the previously applied products. If no directions are provided, follow the six steps outlined in After Spraying TARGA. It is very important that any buildup of dried pesticide deposits which have accumulated in the application equipment be removed prior to spraying TARGA. Steam-cleaning spray tanks to facilitate the removal of any caked deposits of previously applied products will help prevent accidental crop injury.

# At the End of the Day

During periods when multiple loads of TARGA herbicide are applied, at the end of each day of spraying, rinse and partly fill the interior of the tank with fresh water and then partially filled, and the boom and hoses flushed. This will prevent the buildup of dried pesticide deposits which can accumulate in the application equipment.

# After Spraying TARGA and Before Spraying Crops Other Than Those Listed in the Crop Rotation Section

To avoid subsequent injury to desirable crops, thoroughly clean all mixing and spray equipment immediately following applications of TARGA as follows:

- 1. Drain tank; thoroughly rinse spray tanks, boom, and hoses with clean water. Loosen and physically remove any visible deposits.
- 2. Fill the tank with clean water and 1 gal of household ammonia\* (contains 3% active) for every 100 gal of water. Flush the hoses, boom, and nozzles with the cleaning solution. Then add more water to completely fill the tank. Circulate the cleaning solution through the tank and hoses for at least 15 min. Flush the hoses, boom, and nozzles again with the cleaning solution, and then drain the tank.
- 3. Remove the nozzles and screens and clean separately in a bucket containing cleaning agent and water.
- 4. Repeat step 2.
- 5. Rinse the tank, boom, and hoses with clean water.
- 6. If only Ammonia is used as a cleaner, the rinsate solution may be applied back to the crop(s) listed on this label. **DO NOT** exceed the maximum labeled use rate. If other cleaners are used, consult the cleaner label for rinsate disposal instructions. If no instructions are given, dispose of the rinsate on site or at an approved waste disposal facility.
- \* Equivalent amounts of an alternate-strength ammonia solution or Nissan approved cleaner can be used in the cleanout procedure. Carefully read and follow the individual cleaner instructions. Consult your Ag dealer, or applicator or Nissan representative for a listing of approved cleaners.

#### Notes:

- 1. CAUTION: **DO NOT** use chlorine bleach with ammonia as dangerous gases will form. **DO NOT** clean equipment in an enclosed area.
- 2. Steam-clean spray tanks prior to performing the above cleanout procedure to facilitate the removal of any cakeddeposits.
- 3. When TARGA is tank mixed with other pesticides, examine all cleanout procedures and follow the most rigorous procedure.
- 4. In addition to this cleanout procedure, follow all precleanout guidelines on the labels for subsequently applied products.
- 5. Where routine spraying practices include shared equipment frequently being switched between applications of TARGA and applications of other pesticides to TARGA-sensitive crops during the same spray season, Dedicate a sprayer to TARGA to further reduce the chance of crop injury.

# SPRAY DRIFT MANAGEMENT

The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions.

AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.

# **IMPORTANCE OF DROPLET SIZE**

The most effective way to reduce drift potential is to apply coarse or larger spray droplets as defined by the ASABE standard ANSI/ASAE S572.1 (March 2009). The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. APPLYING LARGER DROPLETS REDUCES DRIFT POTENTIAL, BUT WILL NOT PREVENT DRIFT IF APPLICATIONS ARE MADE IMPROPERLY OR UNDER UNFAVORABLE ENVIRONMENTAL CONDITIONS! See **Wind**, **Temperature and Humidity**, and **Temperature Inversions** sections of this label.

# **Controlling Droplet Size - General Techniques**

- Flow Rate/Orifice Size Using the highest flow rate nozzles (largest orifice) that are consistent with pest control objectives reduces the potential for spray drift. Nozzles with higher rated flows produce coarser droplet spectra.
- **Pressure** The lowest spray pressures specified for the nozzle produce the largest droplets. Higher pressure reduces droplet size and does not improve canopy penetration. WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.
- Nozzle Type Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles.

# Controlling Droplet Size - Aircraft

- Number of Nozzles Using the minimum number of nozzles with the highest flow rate that provide uniform coverage will produce a coarser droplet spectrum.
- Nozzle Orientation Orienting nozzles in a manner that minimizes the effects of air shear will produce the coarsest droplet spectra. For some nozzles including solid stream, pointing the nozzles straight back parallel to the airstream will produce a coarser droplet spectrum than other orientations.
- Nozzle Type Solid stream nozzles (including disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types.
- **Pressure** Selecting the pressure that produces the coarsest droplet spectrum for a particular nozzle and airspeed reduces spray drift potential. For some nozzle types including solid streams, lower pressures can produce finer droplet spectra and increase drift potential.
- Boom Length The boom length must not exceed 3/4 of wing or rotor length longer booms increase driftpotential.
- Application Height Application more than 10 ft above the canopy increases the potential for spraydrift.

#### **BOOM HEIGHT**

Setting the boom at the lowest labelled height (if specified) which provides uniform coverage reduces the exposure of droplets to evaporation and wind. For ground equipment, keep boom level with the crop and having minimal bounce.

#### WIND

Apply when wind speeds are less than 15 mph. The wind speed range for optimum performance is between 3 and 10 mph. At wind speeds less than 3 mph temperature inversions may exist, and at wind speeds above 10 mph spray patterns may be compromised. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. AVOID GUSTY OR WINDLESS CONDITIONS.

**Note:** Local terrain can influence wind patterns. Every applicator needs to be familiar with local wind patterns and how they affect spray drift.

# TEMPERATURE AND HUMIDITY

Setting up equipment to produce larger droplets to compensate for droplet evaporation can reduce spray drift potential. Droplet evaporation is most severe when conditions are both hot and dry.

#### **TEMPERATURE INVERSIONS**

**DO NOT** apply during temperature inversions. Drift potential is high during a temperature inversion. Surface temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Surface temperature inversions are characterized by increasing temperature 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. Mist or fog may indicate the presence of an inversion in humid areas. Inversions may also be identified by producing smoke and observing its behavior. Smoke that remains close to the ground, or moves laterally in a concentrated cloud under low wind conditions indicates a surface inversion. Smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

# SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are minimizing drift potential and not interfering with uniform deposition of the product.

# AIR ASSISTED (AIR BLAST) FIELD CROP SPRAYERS

Air assisted field crop sprayers carry droplets to the target via a downward directed air stream. Some may reduce the potential for drift, but if a sprayer is unsuitable for the application and/or set up improperly, high drift potential can result. It is the responsibility of the applicator to determine that a sprayer is suitable for the intended application, is configured properly, and that drift potential has been minimized.

**Note:** Air assisted field sprayers can affect product performance by affecting spray coverage and canopy penetration. Read the specific crop use and application equipment instructions to determine if an air assisted field crop sprayer can be used.

#### SENSITIVE AREAS

Making applications when there is a sustained wind moving away from adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is an effective way to minimize the effect of spray drift.

#### **DRIFT CONTROL ADDITIVES**

Using product compatible drift control additives can reduce drift potential. When a drift control additive is used, read and carefully observe cautionary statements and all other information on the additive's label. If using an additive that increases viscosity, ensure that the nozzles and other application equipment will function properly with a viscous spray solution. Preferred drift control additives have been certified by the Council of Producers & Distributors of Agrotechnology (CPDA).

#### UPWIND SWATH DISPLACEMENT

When applications are made with a crosswind the swath will be displaced downwind. An adjustment for swath displacement is made on the downwind edge of the application site by shifting the path of the application equipment upwind.

#### SPRAY DRIFT CONTROL RESTRICTIONS

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

#### **AERIAL APPLICATIONS**

- When applying by air, use spray nozzles that will deliver coarse or larger spray droplets as defined in the American Society of Agricultural and Biological Engineers (ASABE) standard ANSI/ASAE S572.1 (March 2009).
- The boom length must not exceed 75% of the wing span or 80% of the rotor blade diameter.
- Applications with wind speeds greater than 15 miles per hour are prohibited.
- Applications into temperature inversions are prohibited.
- Spray must be released at the lowest height consistent with pest control objectives and flight safety.
- Applicators must consider the effects of nozzle orientation and flight speed when determining droplet size spectrum.

#### **GROUND APPLICATIONS**

- When applying by ground, use spray nozzles that will deliver medium or larger spray droplets as defined in the American
- Society of Agricultural and Biological Engineers (ASABE) standard ANSI/ASAE S572.1 (March 2009).
- Applications with wind speeds greater than 15 miles per hour are prohibited.
- Applications into temperature inversions are prohibited.
- Apply spray at the lowest height that is consistent with pest control objectives.

#### **RESISTANCE MANAGEMENT**

For resistance management, TARGA is a Group 1 herbicide. While weed resistance to Group 1 herbicides is common in a number of weed species, these herbicides remain an important component of successful weed control programs. Resistance management need to be part a diversified weed control strategy that integrates multiple options including chemical, cultural, mechanical, and biological control tactics. Cultural control tactics include agronomic practices that improve the competitive ability of the crop via rotation, variety/cultivar selection, precision fertilizer placement and optimum crop plant density. Agronomic practices need to also limit the development and spread of weeds by using clean crop seed (e.g. certified seed), prevent crop trait out-crossing, control weed influx from field borders, and manage weed seed at harvest / post-harvest to minimize the carryover weed seed-bank into the following crop. Mechanical control tactics include timely tillage where practical, equipment cleaning to avoid weed spread, and minimization of harvest crop seed losses in the field through close attention to timeliness of harvesting, correct setup of harvest equipment, and covering crop seed loads during harvest and transport to avoid dispersing seed. An example of a biological control tactic is field grazing during or after cropping to manage weeds and reduce weed seed production.

- To delay herbicide resistance, take one or more of the following measures:
- Rotate the use of TARGA (Group 1) within a growing season sequence or among growing seasons with different herbicide groups (non-Group 1 or non-ACCase herbicides) that control the same weeds in a field.
- Use tank mixtures with herbicides from a different group if such use is permitted; where information on resistance in target weed species is available, use the less resistance-prone partner at a rate that will control the target weed(s) equally as well as the more resistance-prone partner. Consult your local extension service or certified crop advisor if you are unsure as to which active ingredient is currently less prone to resistance.
- Adopt an integrated weed-management program for herbicide use that includes scouting and uses historical information related to herbicide use and crop rotation, and that considers tillage (or other mechanical control methods), cultural (e.g., higher crop seeding rates; precision fertilizer application method and timing to favor the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.
- Scout after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method including hoeing or tillage. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields and planting clean seed.
- If a weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.
- Contact your local extension specialist or certified crop advisors for additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.
- For further information or to report suspected resistance, contact your herbicide supplier and/or your local BASF representative if resistance is suspected.
- The following chemical control, scouting, and containment measures are also recommended. Chemical Control
- Start clean with tillage or an effective burndown herbicide program.
- Apply preemergence herbicides that provide soil residual control of broadleaf and grass weeds to reduce early season weed competition and allow for timely in-crop postemergence herbicide applications
- Follow labeled application rate and weed growth stage specifications.
- DO NOT rely on a single herbicide mode of action for weed control during the growing season.
- Avoid application of herbicides with the same mode of action more than twice a season.
- Use specified adjuvant, adequate spray volume, proper nozzle and pressure (see label) to ensure effective weed coverage for applications.
- Control weeds in field borders to prevent weeds from influx into field. Scouting and Containment
- Scout fields before application to ensure optimum herbicide selection, rates and timing for effective control of target weeds.
- Scout fields after herbicide application to identify areas where weed control was ineffective. Consider application and environmental factors that may have led to incomplete control.
- Control weed escapes with herbicides possessing a different mode of action or use a mechanical control measure. Weed escapes must not be allowed to reproduce by seed or to proliferate vegetatively.
- Clean equipment before moving to a different field to avoid spread of resistant weeds (especially harvest and tillage equipment).
- Prevent crop trait out-crossing to weeds and weed influx from border to field.

# INTEGRATED PEST MANAGEMENT

This product may be used as part of an Integrated Pest Management (IPM) program that can include biological, cultural, and genetic practices aimed at preventing economic pest damage. IPM principles and practices include field scouting or other detection methods, correct target pest identification, population monitoring, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop systems in your area.

# STORAGE AND DISPOSAL

DO NOT contaminate water, food or feed by storage and disposal.

**PESTICIDE STORAGE:** Store product in original container only. Store in a cool dry place.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

**CONTAINER HANDLING:** Nonrefillable container. **DO NOT** reuse or refill this container. Offer for recycling, if available. [*NOTE TO REVIEWER: The following language is for non-refillable plastic containers having a capacity equal to or less than 5 gallons*]

**For Plastic Containers:** Triple rinse container (or equivalent) promptly after emptying. Then offer the container for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.]

[(NOTE TO REVIEWER: The following language is for non-refillable plastic containers having a capacity greater than 5 gallons)

**For Plastic Containers:** Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container <sup>1</sup>/<sub>4</sub> full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.]

[For Fiber Sacks: Completely empty fiber sack by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into manufacturing or application equipment. Then dispose of sack in a sanitary landfill or by incineration if allowed by State and local authorities.]

[For Fiber Drums with Liners: Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then dispose of liner in a sanitary landfill or by incineration if allowed by State and local authorities. If drum is contaminated and cannot be reused, dispose of in the same manner.] [For Bags Containing Water Soluble Packets: DO NOT reuse the outer box or the resealable plastic bag. When all water- soluble packets are used, the outer packaging must be clean and may be disposed of in a sanitary landfill or by incineration, or if allowed by State and local authorities, by open burning. If burned, stay out of smoke. If the resealable plastic bag contacts the formulated product in any way, the bag must be triple-rinsed with clean water. Add the rinsate to the spray tank and dispose of the outer wrap as described above.]

[For Metal Containers (non-aerosol): Triple rinse container (or the equivalent) promptly after emptying. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.]

[For Paper and Plastic Bags: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.]

[(NOTE TO REVIEWER: The following language is for <u>refillable</u> containers having a capacity greater than 5

*gallons)* **CONTAINER DISPOSAL: For Bulk Containers -** Refillable container. Refill this container with pesticide only. **DO NOT** reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.]

#### **Rotational Partners:**

Outlook® Herbicide (dimethanimid-p) EPA Reg. No. 7969-156 Verdict® Powered by Kixor® Herbicide (dimethanimid-p and saflufenacil) EPA Reg. No. 7969-279 Zidua® SC herbicide (pyroxasulfone) EPA Reg. No. 7969-374

#### **Tank Mix Partners:**

Facet® L Herbicide (quinclorac) EPA Reg. No. 7969-315 Prowl® 3.3 EC Herbicide (pendimethalin) EPA Reg. No. 241-337 Prowl H2O Herbicide (pendimethalin) EPA Reg. No. 241-418 Basagran Herbicide (bentazon) EPA Reg. No. 7969-45 Command ME (clomazone) EPA Reg. No. 279-3158 Permit® Herbicide (halosulfuron) EPA Reg. No. 81880-2-10163, and Permit Plus® Herbicide (halosulfuron and thifensulfuron) EPA Reg. No. 81880-26-10163

**Notice to Buyer:** Purchase of this material does not confer any rights under patents of countries outside of the United States. Targa®, Permit® and Permit Plus® are registered trademarks of Nissan Chemical Corporation Vida® is a registered trademark of Gowan Company, L.L.C. All other brands are trademarks of their respective owners

In this label the company name of Nissan Chemical Industries, Ltd. is abbreviated to Nissan or NISSAN.

# LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read This Limitation of Warranty and Liability Before Buying or Using This Product. If the Terms Are Not Acceptable, Return the Product at Once, Unopened, and the Purchase Price Will Be Refunded.

It is impossible to eliminate all risks associated with the use of this product. Such risks arise from weather conditions, soil factors, off target movement, unconventional farming techniques, presence of other materials, the manner of use or application, or other unknown factors, all of which are beyond the control of Nissan. These risks can cause: ineffectiveness of the product; crop injury, or; injury to non-target crops or plants.

Nissan does not agree to be an insurer of these risks, beyond what is expressly warranted by this label. WHEN YOU BUY OR USE THIS PRODUCT, YOU AGREE TO ACCEPT THESE RISKS.

Nissan warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for the purpose stated in the Directions for Use, subject to the inherent risks described above, when used in accordance with the Directions for Use under normal conditions.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, NISSAN MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR OF MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO EVENT SHALL NISSAN OR SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT. BUYER'S OR USER'S BARGAINED-FOR EXPECTATION IS CROP PROTECTION. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER AND THE EXCLUSIVE LIABILITY OF NISSAN OR SELLER, FOR ANYAND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY OR CONTRACT, NEGLIGENCE, TORT OR STRICT LIABILITY), WHETHER FROM FAILURE TO PERFORM OR INJURYTO CROPS OR OTHER PLANTS, AND RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT, OR AT THE ELECTION OF NISSAN OR SELLER, THE REPLACEMENT OF THE PRODUCT.

Nissan or Nissan Chemical America Corporation (NCAC) must have prompt notice of any claim so that an immediate inspection of buyer's or user's growing crops can be made. Buyer and all users shall promptly notify Nissan or NCAC of any claims, whether based on contract, negligence, strict liability, other tort or otherwise or be barred from any remedy.

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

#### Nissan Chemical Corporation

5-1, Nihonbashi 2-chome, Chuo-Ku, Tokyo 103-6119, Japan

Or contact: Nissan Chemical America Corporation 10333 Richmond Avenue, Suite 1100 Houston, TX 77042 QUIZALOFOP-P-ETHYL GROUP

HERBICIDE

# TARGA®

# Herbicide

#### Emulsifiable Concentrate

Active Ingredient	By Weight
Quizalofop-P-ethyl	
Ethyl (R)-2-[4-(6-chloroquinoxalin-2-yl	
oxy)phenoxy]propionate	10.3%*
Other Ingredients	89.7%
TOTAL	100.0%

Contains petroleum-based distillates.

\* Equivalent to 0.88 lb ai per gallon

Net Contents: XXXXXXX

EPA Reg. No. 33906-9

EPA Est. No. XXXXXX

# KEEP OUT OF REACH OF CHILDREN DANGER / PELIGRO

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

	FIRST AID
If in eyes	<ul> <li>Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.</li> <li>Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
If on skin or clothing	<ul> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15 to 20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
If swallowed	<ul> <li>Immediately call a poison control center or doctor.</li> <li>DO NOT induce vomiting unless told to do so by a poison control center or doctor.</li> <li>DO NOT give any liquid to the person.</li> <li>DO NOT give anything by mouth to an unconscious person.</li> </ul>
If Inhaled	<ul> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth to mouth, if possible.</li> <li>Call a poison control center or doctor for further treatment advice.</li> </ul>
	HOTLINE NUMBER
	t container or label with you when calling a poison control center or doctor, or going for treatment. For emergencies involving all toll free 1-800-982-1215.
Note to Physici	<b>an</b> : Probable mucosal damage may contraindicate the use of gastric lavage. Contains petroleum distillate. cause aspiration pneumonia.

#### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER! Corrosive. Causes irreversible eye damage. Harmful if swallowed, inhaled, or absorbed through the skin. **DO NOT** get in eyes, on skin, or on clothing. Avoid breathing vapors or spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

#### Applicators and other handlers must wear:

- Long-sleeved shirt and long pants.
- Chemical-resistant gloves made of barrier laminate or Viton.
- Shoes plus socks.
- Protective eyewear.

Discard clothing or other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. **DO NOT** reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

#### ENGINEERING CONTROL STATEMENTS

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

#### USER SAFETY RECOMMENDATIONS

**Users should:** Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove personal protective equipment immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

#### ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and invertebrates. For terrestrial uses, **DO NOT** apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. **DO NOT** contaminate water when disposing of equipment wash waters or rinsate.

This product may contaminate water through drift of spray in wind. This product has a potential for runoff for several months or more after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. A level, well maintained vegetative buffer strip between areas to which this product is applied and surface water features (e.g., ponds, streams, and springs) will reduce the potential for contamination of water from rainfall-runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. Sound erosion control practices will reduce this product's contribution to surface water contamination.

#### PHYSICAL AND CHEMICAL HAZARDS

Combustible. Keep away from heat, sparks, and open flames. Keep container closed.

# **DIRECTIONS FOR USE**

It is a violation of federal law to use this product in a manner inconsistent with its labeling. TARGA $\mathbb{R}^4$  Herbicide must be used only in accordance with instructions on this label or in separate published Nissan instructions.

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

# AGRICULTURAL USE REQUIREMENTS

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

**DO NOT** enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours. PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, including plants, soil, or water, is:

- Coveralls.
- Chemical-resistant gloves made of barrier laminate or Viton.
- Shoes plus socks.
- Protective eyewear.

# **PRODUCT INFORMATION**

TARGA® is a systemic herbicide rapidly absorbed by treated foliage and translocated to the roots and other growing points of the plant. When affected, younger plant tissues become chlorotic/necrotic and eventually die, leaving treated plants stunted and non-competitive. In general, these symptoms are first observed within 7 to 14 days after application depending on the grass species treated and the environmental conditions.

The degree of control and duration of the effect of TARGA® depend upon the rate used, weed spectrum, weed size and variability, growing conditions at the time of and following application, soil moisture, precipitation, and tank mixtures and spray adjuvant used.

Conditions conducive to healthy, actively growing plants optimize the performance of TARGA®. Unacceptable control may occur if TARGA® is applied to grasses stressed from:

- abnormal weather (e.g., excessive heat or cold, widely fluctuating temperatures)
- hail damage
- drought
- water saturated soils
- mechanical injury
- prior herbicide injury

Grasses under these conditions are often less sensitive to herbicide activity. Delay application until the stress passes and weeds and crop resume growth.

Before making applications of TARGA® to crops previously under stress, or injured from other pesticide applications, the crop needs to be fully recovered and growing vigorously.

TARGA® is rainfast 1 hour after application.

#### **Important Precautions**

Injury to or loss of desirable trees, vegetation, or adjacent sensitive crops may result from failure to observe the following:

- Prevent spray drift to desirable plants. (Refer to SPRAY DRIFT MANAGEMENT section of this label.)
- Take all necessary precautions to avoid all or direct contact (e.g., spray drift) with non-target plants or areas. Most grass crops, including wheat, barley, rye, oats, sorghum, rice, and corn are highly sensitive to TARGA®.
- Carefully observe all sprayer cleanup instructions both prior to and after applying TARGA®. Spray tank residue may damage crops other than those included in the CROP ROTATION section of this label.

#### **PROVISIA®<sup>1</sup> RICE**

TARGA® is a selective postemergence herbicide that controls emerged annual and perennial grasses in Provisia® Rice. TARGA® does not control sedges or broadleaf weeds. When applied at specified rates and timings, TARGA® controls the grasses listed in the **PROVISIA® RICE – WEEDS CONTROLLED AND RATE SELECTION** section of this label. Use only in Provisia<sup>®</sup> Rice for the control of red rice, volunteer rice types (conventional, Clearfield<sup>®1</sup>, Fullpage<sup>TM2</sup>, or hybrid volunteer rice), and annual and perennial grasses in rice production.

- Apply TARGA® at 11 to 15.5 fl ozs per acre (0.08 to 0.11 lb ai/A) by ground or by air to Provisia® Rice at the 2 to 3-leaf stage (BBCH 12-13). Follow the initial TARGA® application with one or two applications at 10 to 15.5 fl ozs per acre each prior to panicle initiation (BBCH 30).
- A sequential application program is necessary for complete control of red and volunteer rice due to extended emergence. Separate sequential applications by at least 10 days.
- Apply petroleum-based crop oil concentrate (COC) at 1.0% v/v (1 gallon per 100 gallons of spray solution) by ground or by air.
- DO NOT use less than 1 pint per acre of COC with low-volume (less than 12.5 gallons/acre) ground or aerial applications.

#### Important Restrictions for Application to Provisia® Rice

- **DO NOT** apply more than 15.5 fl ozs of TARGA® per acre (0.11 lb ai/A) per application.
- DO NOT apply TARGA® earlier than the 2 to 3-leaf stage (BBCH 12-13) for the first application.
- **DO NOT** make more than three applications of TARGA® per growing season or per year. Applications must be at least 10 days apart.
- DO NOT make the last (i.e., second, third) TARGA® application once panicle initiation begins (BBCH 30).
- DO NOT apply more than a total of 31 fl ozs of TARGA® per acre (0.21 lb ai/A) per growing season or per year.
- **DO NOT** apply TARGA® through any type of irrigation equipment.
- **DO NOT** apply to any body of water except Provisia® Rice fields.
- DO NOT apply TARGA® to rice fields that will be used for mollusk production during the treatment year.
- **DO NOT** release flood water from treated fields for 7 days after the second or third TARGA® application.
- **DO NOT** use flood water from treated fields for irrigation purposes for any other food/feed crops.
- Take all necessary precautions to avoid all direct or indirect contact (e.g., spray drift) with non-target plants or areas. Most grass crops, including wheat, barley, rye, oats, sorghum, rice (conventional, Clearfield®, and Fullpage<sup>™</sup>), and corn are sensitive to TARGA®.
- **DO NOT** apply TARGA® or any other herbicide containing the active ingredient quizalofop-P-ethyl as a preplant burndown treatment prior to planting Provisia® Rice.

# **RESISTANCE MANAGEMENT**

For resistance management, TARGA® is a **Group 1** herbicide. While weed resistance to **Group 1** herbicides is common in several weed species, these herbicides remain an important component of successful weed control programs. Resistance management must be part a diversified weed control strategy integrating multiple options including chemical, cultural, mechanical, and biological control tactics. Cultural control tactics include agronomic practices that improve the competitive ability of the crop via rotation, variety/cultivar selection, precision fertilizer placement, and optimum crop plant density. Agronomic practices must limit the development and spread of weeds by using clean crop seed (e.g., certified seed), prevent crop trait out-crossing, control weed influx from field borders, and manage weed seed at harvest/post-harvest to minimize the carryover weed seed- bank into the following crop. Mechanical control tactics include: timely tillage, where practical; equipment cleaning to avoid weed spread; and minimization of harvest crop seed losses in the field through close attention to timeliness of harvesting, correct setup of harvest equipment, and covering crop seed loads during harvest and transport to avoid dispersing seed. An example of a biological control tactic is field grazing during or after cropping to manage weeds and reduce weed seed production.

To delay herbicide resistance, take one or more of the following measures:

- Rotate the use of TARGA® (Group 1) within a growing season sequence or among growing seasons with different herbicide groups (i.e., non-Group 1 or non-ACCase herbicides) that control the same weeds in a field.
- Use tank mixtures with herbicides from a different group if such use is permitted. Where information on resistance in target weed species is available, use the less resistance-prone partner at a rate that will control the target weed(s) equally as well as the more resistance-prone partner. Consult your local extension service or certified crop advisor if you are unsure as to which active ingredient is currently less prone to resistance.
- Adopt an integrated weed-management program for herbicide use that includes: scouting; uses historical information related to herbicide use and crop rotation; and considers tillage (or other mechanical control methods), cultural (e.g., higher crop seeding rates; precision fertilizer application method and timing to favor the crop and not the weeds), biological (e.g., weed-competitive crops or varieties), and other management practices.
- Scout after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method (e.g., hoeing or

tillage). Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields and planting clean seed.

- If a weed pest population continues to progress after treatment with this product, discontinue use of this product and switch to another management strategy or herbicide with a different mode of action, if available.
- Contact your local extension specialist or certified crop advisor for additional pesticide resistance- management and/or integrated weed-management recommendations for specific crops and weed biotypes.
- For further information or to report suspected resistance, contact your herbicide supplier and/or your local Nissan representative.

#### **Additional Recommended Measures**

#### **Chemical Control**

- Start clean with tillage or an effective burndown herbicide program.
- Apply preemergence herbicides that provide soil residual control of broadleaf and grass weeds to reduce early season weed competition and allow for timely in-crop postemergence herbicide applications.
- Follow label application rate and weed growth stage specifications.
- **DO NOT** rely on a single herbicide mode of action for weed control during the growing season.
- Avoid application of herbicides with the same mode of action more than three times a season.
- Use specified adjuvant, adequate spray volume, and proper nozzle and pressure (refer to the **APPLICATION EQUIPMENT** section of this label) to ensure effective application weed coverage.
- Control weeds in field borders to prevent weeds from influx into field.

#### **Scouting and Containment**

- Scout fields before application to ensure optimum herbicide selection, rates, and timing for effective control of target weeds.
- Scout fields after herbicide application to identify areas where weed control was ineffective. Consider application and environmental factors that may have led to incomplete control.
- Control weed escapes with herbicides possessing a different mode of action or use a mechanical control measure. Weed escapes must not be allowed to reproduce by seed or to proliferate vegetatively.
- Clean equipment before moving to a different field to avoid spread of resistant weeds (especially harvest and tillage equipment).
- Prevent crop trait out-crossing to weeds and weed influx from border to field.

# **APPLICATION TIMING**

TARGA® will control emerged grasses when applied at specific rates and timings. Apply TARGA® to young, actively growing grasses according to the **PROVISIA® RICE – WEEDS CONTROLLED AND RATE SELECTION** section of this label. Grasses that emerge following the first TARGA® application will require an additional, sequential treatment. Applications made to grasses larger than the sizes listed in the rate chart or to grasses under stress may result in unsatisfactory control.

Flood rice field within 2 days following second or third TARGA® application, if not flooded prior to these applications.

# SPOT/SMALL AREA SPRAY INSTRUCTIONS

To spot treat small areas of grasses:

Use a 0.375% v/v solution of TARGA® and water.				
Spray Volume	TARGA®	Crop Oil Concentrate (COC)		
gallon(s)	fl ozs	fl ozs		
1	0.5	1.25		
1	(1 tbsp)	(2.5 tbsp)		
25	12	32		
23	(0.75 pint)	(1 quart)		
50	24	64		
50	(1.5 pints)	(2 quarts)		
100	48	128		
100	(3 pints)	(1 gallon)		

1. Use a 0.375% v/v solution of TARGA® and water.

2. DO NOT spot treat grasses using a tank mix of TARGA® and broadleafherbicides.

3. Include a non-phytotoxic COC at 1 gallon per 100 gallons of spray solution (1% v/v).

- 4. Treat plants on a spray-to-wet basis to ensure good coverage.
- 5. DO NOT treat >10% of the total treated area as spot/small area treatment.

- 6. **DO NOT** exceed the maximum specified rate/acre/season for the planted Provisia<sup>®</sup> Rice crop when additional applications are made as spot/small area treatment.
- 7. **DO NOT** exceed the maximum specified rate/acre/season for the crop that is going to be planted when additional applications are made as spot/small area treatment.

# TANK MIXES

It is the pesticide user's responsibility to ensure all tank mixture products are registered for the intended use. Read and follow the applicable label precautions, restrictions and limitations, and directions for use (e.g., rates, timing, application information, sprayer cleanup) for all product used in tank mixing. **The most restrictive provisions apply.** 

- TARGA® requires the use of an adjuvant.
- DO NOT use tank mixtures of TARGA® with any pesticide or spray adjuvant except as directed on this label.
- DO NOT tank mix any product with TARGA® if that product's instructions conflict with this label.

Nissan also advises to first consult your state experiment station, university, or extension agent; agricultural dealer, or Nissan representative as to the potential for any adverse interactions (e.g., unacceptable grass control and/or crop injury) before using new herbicide, insecticide, and fungicide mixtures. If no information is available, limit the initial use of TARGA® and the new herbicide, insecticide, or fungicide product to a small area. Always conduct a jar test to evaluate physical compatibility before applying a particular tank mixture to crops for the first time.

Tank mixes of TARGA® with postemergence broadleaf herbicides may result in reduced grass control. If grass control is reduced, additional applications of TARGA® may be required after grass plants begin to develop new leaves.

#### **Tank Mix Partners**

- Facet<sup>®1</sup> L Herbicide (quinclorac), EPA Reg. No. 7969-315
- Prowl<sup>®1</sup> 3.3 EC Herbicide (pendimethalin), EPA Reg. No. 241-337
- Prowl<sup>®1</sup> H2O Herbicide (pendimethalin), EPA Reg. No. 241-418
- Basagran<sup>®1</sup> Herbicide (bentazon), EPA Reg. No. 7969-45
- Command<sup>®3</sup> 3ME Microencapsulated Herbicide (clomazone), EPA Reg. No. 279-3158
- Permit<sup>®4</sup> Herbicide (halosulfuron-methyl), EPA Reg. No.81880-2-10163
- Permit Plus®<sup>4</sup> Herbicide (halosulfuron-methyl and thifensulfuron), EPA Reg. No. 81880-26-10163

#### **BROADLEAF WEED CONTROL**

For optimum control apply TARGA® separately from broadleaf herbicides.

- **DO NOT** tank mix broadleaf herbicides when TARGA® is applied at 10 to 11 fl ozs per acre.
- For tank mix applications of TARGA® and broadleaf herbicides, use the higher rate of TARGA® and follow the restrictions of the most restrictive herbicide. Potential tank mix partners are Facet<sup>®1</sup> L, Prowl<sup>®1</sup>, Prowl<sup>®1</sup> H2O, Basagran<sup>®1</sup>, Command<sup>®3</sup>, Permit<sup>®4</sup>, and PermitPlus®<sup>4</sup>.
- Due to potential weed control antagonism, **DO NOT** tank mix TARGA® with products containing Propanil, Triclopyr, or Penoxsulam.

#### **Application with Broadleaf Herbicides**

Under arid or stressful environmental conditions, tank mixtures with other broadleaf herbicides may show a small reduction in control of some grass species. Activity of the postemergence broadleaf herbicide in the tank mixture is not affected.

#### Split Applications with Postemergence Broadleaf Herbicides

Application of TARGA® immediately prior to or following an application of a postemergence broadleaf herbicide may reduce control of some grasses. For best results, when making split applications:

- Apply postemergence broadleaf herbicides at least 24 hours after applying TARGA®.
- Apply TARGA® when grass begins to develop new leaves (generally 7 days after the postemergence broadleaf herbicide application to the field).

#### **CROP ROTATION**

- **DO NOT** rotate to crops other than barley, canola, cotton, crambe, dry beans, flax, lentils, mint (spearmint and peppermint), peas (dry and succulent), snap beans, soybeans, sugarbeets, sunflowers, or wheat within 120 days after application.
- **DO NOT** plant Provisia® Rice in consecutive years in the same field except in the case of crop failure. In the case of crop failure, Provisia® Rice may be replanted in the same year; however, the 31 fl ozs per acre seasonal maximum still applies even if an application was made prior to crop failure.
- In other rotational crops use a residual herbicide for red rice and grass control. Some potential partners are listed below.

Rotational Partners				
Product	EPA Reg. No.	Active Ingredient(s)		
Outlook <sup>®1</sup> Herbicide	7969-156	dimethenamid-P		
Verdict <sup>®1</sup> Powered by Kixor <sup>®1</sup> Herbicide	7969-279	dimethanimid-P and saflufenacil		
Zidua® <sup>1</sup> SC Herbicide	7969-374	pyroxasulfone		
various	various	metolachlor		

- **DO NOT** fallow fields following Provisia® Rice without repeated field tillage or glyphosate treatments to control volunteer red rice.
- **DO NOT** allow any Provisia® Rice to go to seed in a non-rice year. This includes any fallow or crawfish productions fields.
- When practical, cultivate all rotational crops regardless of herbicide program.

# SPRAY ADJUVANT

Applications of TARGA® must include a high-quality crop oil concentrate (COC). If another herbicide is tank mixed with TARGA® to increase the weed spectrum, select adjuvants authorized for use with both products. Products must contain only EPA-exempt ingredients.

Apply a petroleum-based COC at 1.0% v/v (1 gallon per 100 gallons of spray solution) by ground or aerial application. **DO NOT** use less than 1 pint per acre of COC with low-volume (less than 12.5 gallons/acre) ground or aerial applications.

# **PROVISIA® RICE – WEEDS CONTROLLED AND RATE SELECTION**

	Maximum Leaf Size at Application (inches)	TARGA®* Applied Alone (fl ozs/acre)	TARGA®* Tank Mixed with Broadleaf Herbicide
Annual Grasses			
Barnyardgrass (Echinochloa crus-galli)	6		
Broadleaf Signalgrass (Brachiaria platyphylla)	6		
Corn, Volunteer (Zea mays)**	10		
Crabgrass, Large (Digitaria sanguinalis)	6‡		
Crabgrass, Smooth (Digitaria ischaemum)	6‡	11 to 15.5	
Goosegrass (Eleusine indica)	6‡	(initial)	
Johnsongrass, Seedling (Sorghum halepense)	8		The maximum use rate
Junglerice (Echinochloa colona)	6		of TARGA® is 31 fl
Panicum, Fall (Panicum dichtomiflorum)	6		ozs per acre per
Panicum, Texas (Panicum texanum)	4		growing season or per
Rice, Red (Oryza sativa)	4		year.
Rice, Volunteer (conventional, Clearfield®,	4	10 to 15.5	
Fullpage <sup>™</sup> , hybrids)		$(2^{nd} and/or 3^{rd})$	
Shattercane (Sorghum bicolor)	10		
Sprangletop (Leptochloa spp.)	6		
Witchgrass (Panicum capillare)	6		
Perennial Grasses			
Bermudagrass (Cynodon dactylon)	3" tall		
	(or up to 6"		
	runners)		
Johnsongrass, Rhizome (Sorghum halepense)	24		
*Apply sequential applications 10 to 21 days apa NOT exceed a total of 31 fl ozs per acre per gro			annual grasses. DO
**Control includes Roundup Ready® <sup>5</sup> (glyphosat			stant), and IMI- Corn
(imidazolinone resistant).	,,, ·· <b>,</b>	0	<i>,,</i>
‡Length of lateral growth.			

# **APPLICATION EQUIPMENT**

**NOTE**: Refer to the **SPRAY DRIFT MANAGEMENT** section for additional information and precautions, including information on spray nozzles and droplet size.

#### Ground Application

Broadcast Application

- When applying by ground, use spray nozzles that will deliver medium or larger spray droplets as defined in the American Society of Agricultural and Biological Engineers (ASABE) standard ANSI/ASAE S572.1 (March 2009).
- Use flat fan or hollow cone nozzles at 25 to 60 psi.
- **DO NOT** use flood, raindrop, whirl chamber, or any other nozzle types that produce coarse, large spray droplets. In addition, **DO NOT** use controlled droplet applicator (CDA) type nozzles as poor weed control or excessive spray drift may result.
- Use a minimum of 10 gallons of water per acre in non-arid areas.
- Use a minimum of 15 gallons of water per acre in arid areas.
- **DO NOT** exceed 40 gallons of water per acre.
- Increase spray volume and pressure as weed or crop density and size increase.

#### **Aerial Application**

- When applying by air, use spray nozzles that will deliver coarse or larger spray droplets as defined in the ASABE standard ANSI/ASAE S572.1 (March 2009).
- Use nozzle types and arrangements that provide optimum spray distribution and maximum coverage.
- Use a minimum of 10 gallons of water per acre.

#### MIXING INSTRUCTIONS

- 1. Fill the tank 1/4 to 1/3 full of water.
- 2. While agitating, add the required amount of TARGA®. If TARGA® and a tank mix partner are to be applied together, consult the tank mix partner label for information on which to add first (normally granules and powders are added first).
- 3. Continue agitation until TARGA® is fully dispersed, at least 5 minutes.
- 4. Once TARGA® is fully dispersed, maintain agitation and continue filling tank with water.
- 5. As the tank is filling, add the required volume of spray additives. Always add these to the spray tank last.
- 6. Apply TARGA® spray mixture soon after mixing to avoid product degradation (24 to 48 hours). If the spray mixture stands for any period, thoroughly re-agitate before using.

# SPRAYER CLEANUP AFTER SPRAYING TARGA®

The spray equipment must be cleaned before TARGA® is sprayed. Follow the cleanup procedures specified on the labels of the previously applied products. If no directions are provided, follow the six steps outlined immediately below. It is very important any buildup/accumulation of dried pesticide deposits in the application equipment be removed prior to spraying TARGA®. Steam-cleaning spray tanks to facilitate the removal of any caked pesticide deposits of previously applied products will help prevent accidental crop injury.

#### At the End of the Day

During periods when multiple loads of TARGA® are applied, at the end of the day rinse and partly fill the interior of the tank with fresh water and flush the boom and hoses. This will prevent the buildup of dried pesticide deposits which can accumulate in the application equipment.

#### Before Spraying Crops other than those Listed in the Crop Rotation Section

To avoid subsequent injury to desirable crops, thoroughly clean all mixing and spray equipment immediately after application of TARGA®.

Follow these cleanout steps:

- 1. Drain tank. Thoroughly rinse spray tanks, boom, and hoses with clean water. Loosen and physically remove any visible deposits.
- 2. Make a cleaning solution by filling the tank with clean water and 1 gallon of household ammonia\* (contains 3% active) for every 100 gallons of water. Flush the hoses, boom, and nozzles with the cleaning solution. Then, add more water to completely fill the tank. Circulate the cleaning solution through the tank and hoses for at least 15 minutes. Flush the hoses, boom, and nozzles again with the cleaning solution. Drain the tank.
- 3. Remove the nozzles and screens and clean them separately in a bucket containing cleaning agent and water.

- 4. Repeat Step 2.
- 5. Rinse the tank, boom, nozzles and screens, and hoses with clean water.
- 6. If only ammonia is used as a cleaner, the rinsate solution may be applied back to the crop(s) listed on this label. **DO NOT** exceed the maximum labeled use rate. If other cleaners are used, consult the cleaner label for rinsate disposal instructions. If no instructions are given, dispose of the rinsate on site or at an approved waste disposal facility.

\*Equivalent amounts of an alternate-strength ammonia solution or Nissan-approved cleaner can be used in the cleanout procedure. Carefully read and follow the individual cleaner instructions. Consult your ag dealer, applicator, or Nissan representative for a listing of approved cleaners.

#### Important Notes on Sprayer Cleanup:

- CAUTION. DO NOT use chlorine bleach with ammonia as dangerous gases will form. DO NOT clean equipment in an enclosed area.
- Steam-clean spray tanks prior to performing the above cleanout procedure to facilitate the removal of any caked deposits.
- When TARGA® is tank mixed with other pesticides, examine all cleanout procedures and follow the most rigorous.
- In addition to this cleanout procedure, follow all pre-cleanout guidelines on the labels for subsequently applied products.
- Where routine spraying practices include shared equipment frequently switched between applications of TARGA® and applications of other pesticides to TARGA®-sensitive crops during the same spray season, dedicate a sprayer to TARGA® to further reduce the chance of crop injury.

# SPRAY DRIFT MANAGEMENT

The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions.

#### AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.

#### IMPORTANCE OF DROPLET SIZE

The most effective way to reduce drift potential is to apply coarse or larger spray droplets as defined by the ASABE standard ANSI/ASAE S572.1 (March 2009). The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. APPLYING LARGER DROPLETS REDUCES DRIFT POTENTIAL BUT WILL NOT PREVENT DRIFT IF APPLICATIONS ARE MADE IMPROPERLY OR UNDER UNFAVORABLE ENVIRONMENTAL CONDITIONS! Refer to the **WIND**, **TEMPERATURE AND HUMIDITY**, and **TEMPERATURE INVERSIONS** portions in this **SPRAY DRIFT MANAGEMENT**.

#### **Controlling Droplet Size - General Techniques**

- Flow Rate/Orifice Size: Using the highest flow rate nozzles (largest orifice) consistent with pest control objectives reduces the potential for spray drift. Nozzles with higher rated flows produce coarser droplet spectra.
- **Pressure:** The lowest spray pressures recommended for the nozzle produce the largest droplets. Higher pressure reduces droplet size and does not improve canopy penetration. WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.
- **Nozzle Type:** Use a nozzle type designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles.

#### **Controlling Droplet Size - Aircraft**

- **Number of Nozzles:** Using the minimum number of nozzles with the highest flow rate that provide uniform coverage will produce a coarser droplet spectrum.
- **Nozzle Orientation:** Orienting nozzles in a manner that minimizes the effects of air shear will produce the coarsest droplet spectra. For some nozzles (e.g., solid stream), pointing the nozzles straight back parallel to the airstream will produce a coarser droplet spectrum than other orientations.
- Nozzle Type: Solid stream nozzles (e.g., disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types.
- **Pressure:** Selecting the pressure that produces the coarsest droplet spectrum for a particular nozzleand airspeed reduces spray drift potential. For some nozzle types (e.g., solid streams), lower pressures can produce finer droplet spectra and increase drift potential.
- Boom Length: The boom length must not exceed 3/4 of wing or rotor length. Longer booms increase drift potential.
- Application Height: Application more than 10 feet above the canopy increases the potential for spray drift.

#### **BOOM HEIGHT**

Setting the boom at the lowest labeled height (if specified) which provides uniform coverage reduces the exposure of droplets to evaporation and wind. For ground equipment, keep boom level with the crop and having minimal bounce.

#### WIND

Apply when wind speeds are less than 15 mph. The wind speed range for optimum performance is between 3 and 10 mph. At wind speeds less than 3 mph temperature inversions may exist, and at wind speeds above 10 mph spray patterns may be compromised. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. AVOID GUSTY OR WINDLESS CONDITIONS. **Note:** Local terrain can influence wind patterns. Every applicator needs to be familiar with local wind patterns and how they affect spray drift.

#### **TEMPERATURE AND HUMIDITY**

Setting up equipment to produce larger droplets to compensate for droplet evaporation can reduce spray drift potential. Droplet evaporation is most severe when conditions are both hot and dry.

#### **TEMPERATURE INVERSIONS**

**DO NOT** apply during temperature inversions. Drift potential is high during a temperature inversion. Surface temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Surface temperature inversions are characterized by increasing temperature 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. Mist or fog may indicate the presence of an inversion in humid areas. Inversions may also be identified by producing smoke and observing its behavior.

Smoke that remains close to the ground or moves laterally in a concentrated cloud under low wind conditions indicates a surface inversion. Smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

#### SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are minimizing drift potential and not interfering with uniform deposition of the product.

#### SENSITIVE AREAS

Making applications when there is a sustained wind moving away from adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is an effective way to minimize the effect of spray drift.

#### **DRIFT CONTROL ADDITIVES**

Using product compatible drift control additives can reduce drift potential. When a drift control additive is used, read and carefully observe cautionary statements and all other information on the additive's label. If using an additive that increases viscosity, ensure the nozzles and other application equipment will function properly with a viscous spray solution. Preferred drift control additives have been certified by the Council of Producers & Distributors of Agrotechnology (CPDA).

#### UPWIND SWATH DISPLACEMENT

When applications are made with a crosswind the swath will be displaced downwind. An adjustment for swath displacement is made on the downwind edge of the application site by shifting the path of the application equipment upwind.

#### SPRAY DRIFT CONTROL RESTRICTIONS

Where states have more stringent regulations they must be observed.

#### **Aerial Applications**

- When applying by air, use spray nozzles that will deliver coarse or larger spray droplets as defined in the ASABE standard ANSI/ASAE S572.1 (March 2009).
- The boom length must not exceed 75% of the wingspan or 80% of the rotor blade diameter.
- Applications with wind speeds greater than 15 mph are prohibited.
- Applications into temperature inversions are prohibited.
- Spray must be released at the lowest height consistent with pest control objectives and flightsafety.
- Applicators must consider the effects of nozzle orientation and flight speed when determining droplet size spectrum.

#### **Ground Applications**

- When applying by ground, use spray nozzles that will deliver medium or larger spray droplets as defined in the ASABE standard ANSI/ASAE S572.1 (March 2009).
- Applications with wind speeds greater than 15 mph are prohibited.
- Applications into temperature inversions are prohibited.

• Apply spray at the lowest height that is consistent with pest control objectives.

# STORAGE AND DISPOSAL

**DO NOT** contaminate water, food, or feed by storage and disposal.

**PESTICIDE STORAGE:** Store product in original container only. Store in a cool dry place. **DO NOT** store near food or feed.

# **PESTICIDE DISPOSAL:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility. If these wastes cannot be disposed of according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representatives at the nearest EPA Regional Office for guidance.

**CONTAINER HANDLING:** Nonrefillable container. **DO NOT** reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying; then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

# [NOTE TO REVIEWER: The following language is for nonrefillable, plastic containers having a capacity equal to or less than 5 gallons.]

Triple rinse containers small enough to shake (capacity  $\leq 5$  gallons) as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container <sup>1</sup>/<sub>4</sub> full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

# [NOTE TO REVIEWER: The following language is for nonrefillable, plastic containers having a capacity greater than 5 gallons.]

**Triple rinse containers too large to shake (capacity > 5 gallons) as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container <sup>1</sup>/<sub>4</sub> full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

**Pressure rinse as follows:** Empty the remaining contents into application equipment or 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.

# [NOTE TO REVIEWER: The following language is for <u>refillable</u> containers having a capacity greater than 5 gallons.]

**Refillable container.** Refill this container with pesticide only. **DO NOT** reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. **Triple rinse as follows:** To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

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<sup>2</sup> Fullpage<sup>TM</sup> is a trademark of RiceTec AG.

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