



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

June 27, 2018

Keeva Shultz
Agent for Sharda USA, LLC
c/o Wagner Regulatory Associates, Inc.
P.O. Box 640
Hockessin, DE 19707

Subject: Label Amendment – add uses on fallow and pre-plant burndown for wheat and barley
Product Name: Quizalofop EC
EPA Registration Number: 83529-15
Application Date: October 27, 2017
Decision Number: 535799

Dear Ms. Shultz:

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is acceptable. 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.

A stamped copy of your labeling 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 CFR 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 CFR 152.3.

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 is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product’s label, claims made on the website may not substantially differ from those claims approved through the registration process. 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 website will be referred to the EPA’s Office of Enforcement and Compliance.

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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.

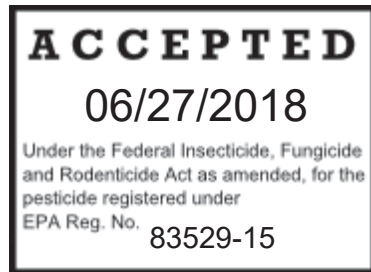
If you have any questions, please contact Mindy Ondish by phone at 703-605-0723, or via email at ondish.mindy@epa.gov.

Sincerely,

A handwritten signature in blue ink that reads "Reuben Baris". The signature is written in a cursive style with a large, stylized "R" and "B".

Reuben Baris, Product Manager 25
Herbicide Branch
Registration Division (7505P)
Office of Pesticide Programs

Enclosure



QUIZALOFOP	GROUP	1	HERBICIDE
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QUIZALOFOP EC ABN: SE-CURE EC

HERBICIDE
EMULSIFIABLE CONCENTRATE

Active Ingredient:

Quizalofop P-Ethyl

Ethyl(R)-2-[4-(6-chloroquinoxalin-2-yl oxy)-phenoxy]propionate

Other Ingredients:**TOTAL:**

Contains petroleum-based distillates.

*Equivalent to 0.88 lb. a.i. per gallon.

By Weight

10.3%*

89.7%

100.0%

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 style="list-style-type: none"> Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"> Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
IF SWALLOWED:	<ul style="list-style-type: none"> Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.
IF INHALED:	<ul style="list-style-type: none"> Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage. Contains petroleum distillate. Vomiting may cause aspiration pneumonia.

EMERGENCY NUMBERS

For 24-hour medical emergency assistance (human or animal), call toll free at **1-800-222-1222**. For chemical emergency assistance (spill, leak, fire, or accident), call CHEMTREC at **1-800-424-9300**.

[Optional referral statements when booklets and container labels are used:

See label booklet for complete Precautionary Statements, Directions For Use, and Storage and Disposal.

See label booklet for additional Precautionary Statements, Directions For Use, and Storage and Disposal.

See label booklet for complete Directions For Use.]

EPA Reg. No. 83529-15

EPA Est. No. _____

Net Contents: _____ [Gallons/Liters]

Manufactured for:

Sharda USA LLC 

7217 Lancaster Pike, Suite A
Hockessin, Delaware 19707

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
DANGER!

Causes irreversible eye damage. Harmful if swallowed, inhaled, or absorbed through the skin. Avoid contact with eyes, skin, or clothing. Avoid breathing vapor or spray mist.

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 ≥ 14 mils
- 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:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE 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. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters 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 drained 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 the product is applied and surface water features such as 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 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. Quizalofop EC must be used only in accordance with directions on this label. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

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

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

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves

contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Chemical-resistant gloves made of barrier laminate or Viton \geq 14 mils
- Shoes plus socks
- Protective eyewear

NON-AGRICULTURAL USE REQUIREMENTS

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

Quizalofop EC is a systemic herbicide that is rapidly absorbed by treated foliage and translated 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 Quizalofop EC 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 Quizalofop EC.

Unacceptable control may occur if Quizalofop EC 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 Quizalofop EC to crops previously under stress, or injured from other pesticide applications, the crop needs to be fully recovered and growing vigorously. Quizalofop EC is rainfast 1 hour after application.

APPLICATION INFORMATION

USE PRECAUTIONS

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

- Take all necessary precautions to avoid all direct or indirect contact (such as spray drift) with non-target plants or areas. Most grass crops, including wheat, barley, rye, oats, sorghum, rice, and corn are highly sensitive to Quizalofop EC.
- 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.

USE RESTRICTIONS

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

- Do not use on lawns, walks, driveways, tennis courts, or similar areas.
- Prevent drift of spray to desirable plants.
- Do not contaminate any body of water.
- Do not apply this product through any type of irrigation system.

WEED RESISTANCE MANAGEMENT

Quizalofop EC contains quizalofop-p-ethyl, a group 1 herbicide based on the mode of action classification system of the Weed Science Society of America. Quizalofop-p-ethyl is in the class of herbicides known as aryloxyphenoxypropionates (FOPs) within the Group 1 herbicides that inhibit the enzyme acetyl-CoA carboxylase (ACCase) in weeds.

Herbicide resistance is defined as the inherited ability of a plant to survive and reproduce following exposure to a dose of herbicide normally lethal to the wild type. In a plant, resistance may be naturally occurring or induced by such techniques as genetic engineering or selection of variants produced by tissue culture or mutagenesis. Any weed population may contain or develop plants that are naturally resistant to Quizalofop EC and other Group 1 herbicides. Weed species with acquired resistance to Group 1 herbicides may eventually dominate the weed population if Group 1 herbicides are used repeatedly in the same field or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species by Quizalofop EC or other Group 1 herbicides.

To delay herbicide resistance, consider the below best practices for resistance management:

- Plant into weed-free fields and keep fields as weed-free as possible.
- To the extent possible, use a diversified approach toward weed management. Whenever possible incorporate multiple weed-control practices such as mechanical cultivation, biological management practices, and crop rotation.
- Fields with difficult to control weeds should be rotated to crops that allow the use of herbicides with alternative mechanisms of action or different management practices.
- To the extent possible do not allow weed escapes to produce seeds, roots or tubers. Manage weed seeds at harvest and post-harvest to prevent a buildup of the weed seed-bank.
- Prevent field-to-field and within-field movement of weed seed or vegetative propagules. Thoroughly clean plant residues from equipment before leaving fields.
- Prevent an influx of weeds into the field by managing field borders.
- Identify weeds present in the field through scouting and field history and understand their biology. The weed-control program should consider all of the weeds present.
- Difficult to control weeds may require sequential applications of herbicides with differing mechanisms of action.
- Apply this herbicide at the correct timing and rate needed to control the most difficult weed in the field.
- Use a broad-spectrum soil-applied herbicide with a mechanism of action that differs from this product as a foundation in a weed-control program. Do not make more than two applications of Quizalofop EC or any other herbicide with the same mechanism of action within a single growing season unless mixed with an herbicide with another mechanism of action with an overlapping spectrum for the difficult-to-control weeds.
- If resistance is suspected, treat weed escapes with an herbicide with a different MOA or use non-chemical methods to remove escapes.
- Monitor treated weed populations for loss of field efficacy.
- Scout field(s) before and after application.
- Report lack of performance to Sharda USA LLC.

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.

Contact your local sales representative, extension agent, or certified crop advisors to find out if suspected resistant weeds to this MOA have been found in your region. If resistant biotypes of target weeds have been reported, use the application rates of this product specified for your local conditions. Tank mix products so that there are multiple effective mechanisms of action for each target weed.

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.

TANK MIXES

Refer to the labels of all tank mix products for information regarding use information (such as rates, timing, application information, and sprayer clean-up) and product precautions and restrictions (especially adjuvants, Quizalofop EC requires the use of an adjuvant). 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. If those instructions conflict with this label, do not tank mix the herbicide with Quizalofop EC. Sharda USA LLC also recommends that you consult your State experiment station, university, or extension agent, or agricultural dealer 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 initial use of Quizalofop EC and the new herbicide, insecticide, or fungicide product to a small area.

Tank Mix Compatibility

Always conduct a jar test to evaluate physical compatibility before applying a particular mixture to crops for the first time. Use a clear quart size glass jar with a lid; mix the tank mix ingredients in their relative proportions. Invert the jar containing the mixture several times and observe the mixture for 30 minutes. If the mixture balls-up, forms flakes, sludges, gels, oily film or layers, or other precipitates, it is not compatible.

Application With Insecticides and Fungicides

Quizalofop EC may be tank mixed with post-emergence insecticides, fungicides or bactericides registered for use in the specific crop.

Application With Broadleaf Herbicides

For best results, apply Quizalofop EC alone or in sequence with a broadleaf herbicide. Tank mixtures of Quizalofop EC with chlorimuron-ethyl or with cloransulam-methyl containing herbicides may fail to control certain grass species normally controlled by Quizalofop EC when applied alone. *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 post-emergence broadleaf herbicide in the tank mixture is not affected.*

Split Applications with Post-Emergence Broadleaf Herbicides

Applying Quizalofop EC immediately prior to or following an application of a post-emergence broadleaf herbicide may reduce control of some grasses.

For best results, follow these directions when making split applications:

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

Fallow Systems - Chemical fallow

Quizalofop EC may be applied during the fallow period prior to planting or emergence of any crop listed on this label. For any crop not listed on this label, applications must be made at least 120 days prior to planting.

For broad spectrum weed control, including volunteer [Roundup Ready] [glyphosate] [ready] [resistant] wheat in fallow fields, Quizalofop EC should be used in combination with a [Roundup brand agricultural herbicide] [glyphosate] as a substitute for tillage.

Dry Beans, Dry and Succulent Peas in Idaho, Montana, Oregon and Washington

Quizalofop EC can be tank mixed with "Basagran" herbicide for selective post-emergence weed control of annual and perennial grasses and broadleaf weeds in dry beans, dry peas and succulent peas. When tank mixing Quizalofop EC with "Basagran," annual grass antagonism can be minimized by increasing the specified use rate of Quizalofop EC by 2 ounces per acre. Refer to the "Seasonal Use Rates and Harvest Intervals" section of this label for seasonal maximum use rates. Quizalofop EC herbicide requires the use of a spray adjuvant (surfactant, crop oils, etc.). Refer to the "Basagran" label for application information and restrictions regarding rates, weeds controlled, crop size, use of adjuvants (adjuvant type, temperature and geography), rotational crop intervals, sprayer clean-up, use precautions, and other information. The most restrictive provisions on either label will apply. Do not use the tank mix if any restrictions on the "Basagran" label conflict with instructions on the Quizalofop EC label. Do not tank mix Quizalofop EC and adjuvants with "Basagran" when temperatures exceed 80°F, as excessive leaf burn may occur.

Soybeans: Tank Mixes with Post-Emergence Broadleaf Herbicides

Quizalofop EC can be tank mixed with post-emergence soybean broadleaf herbicides, such as CLASSIC® and SYNCHRONY® XP herbicide, "Flexstar," or "Basagran" 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:

Quizalofop EC Tank Mix Partner	Ground		Aerial	
	COC	or NIS	COC	or NIS
CLASSIC	8	2	4	2
HARMONY® GT	--*	1 - 2†	--*	1 - 2†
SYNCHRONY® XP	--*	1 - 2†	--*	1 - 2†
"Basagran"	8	--	4	--
"Flexstar"	8	--	4	--

* Do not use "Dash or crop oil concentrate when tank mixing Quizalofop EC with HARMONY® GT, CLASSIC® + HARMONY® GT or SYNCHRONY® XP.
† 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 Quizalofop EC and water.

SPRAY VOLUMES FOR SMALL AREAS				
Spray Volume (gallon)	Quizalofop EC (fl. oz. of product)	+	Crop Oil Concentrate (fluid ounces)	OR Nonionic Surfactant (fluid ounces)
1	0.5 (1 Tbsp.)		1.25 (2.5 Tbsp.)	0.3 (2 tsp.)
25	12 (3/4 pint)		32 (1 quart)	8 (1 cup)
50	24 (1.5 pints)		64 (2 quarts)	16 (1 pint)
100	48 (3 pints)		128 (1 gallon)	32 (1 quart)

Do not spot treat grasses using a tank mix of Quizalofop EC and broadleaf herbicides.

- Include a nonphytotoxic crop oil concentrate at 1 gallon per 100 gallons of spray solution (1% v/v) or a nonionic surfactant at 1 qt. per 100 gallons of spray solution (0.25% v/v).

- Treat plants on a spray-to-wet basis to ensure good coverage.
- Do not treat >10% of the total treated area as spot/small area treatment. Do not exceed the maximum rate/acre/season for the crop that is going to be planted when additional applications are made as spot treatment or small area treatment.

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 Quizalofop EC.

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

To allow Quizalofop EC to fully control weeds, cultivation is not recommended within 7 days **before or after** application. Optimum timing for cultivation is 7-14 days after a post-emergence application of Quizalofop EC.

Agricultural Uses

Quizalofop EC is a selective herbicide that controls annual and perennial grasses in canola, crambe, cotton, crops grown for seed, eucalyptus, dry beans, including Chickpea, dry and succulent peas, flax, hybrid poplar plantings, lentils, mint (spearmint and peppermint), pineapple, ryegrass grown for seed, snap beans, soybeans, sugar beets, sunflowers, pre-plant applications to barley and wheat, fallow and non-crop areas. Quizalofop EC does not control sedges or broadleaf weeds. Applied at specified rates and timings, Quizalofop EC controls the grasses listed in the chart labeled, "Weeds Controlled and Rate Selection." See the section titled, "Seasonal Use Limits and Harvest Intervals" for the specific crop. Quizalofop EC is a selective post-emergence herbicide 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/non-feed crops for seed production only. See "Restrictions" portion of label before using. Applied at specified rates and timings, Quizalofop EC will control emerged grasses. Subsequent flushes of grasses require additional treatment.

Pre-Plant Burndown

Quizalofop EC may be applied as an early pre-plant 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 crops included in this label.

Apply Quizalofop EC 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 pre-plant burn down.

Grass Height (Inches)	Quizalofop EC fl. Ounces per acre
Up to 3"	2.5
4" - 5"	5.0

Early pre-plant burndown applications of Quizalofop EC, 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

Quizalofop EC is registered for post-emergence control of certain grasses on non-crop sites including fence rows, roadsides, and equipment storage areas. Make a single application of Quizalofop EC at a rate of 12 to 16 fluid ounces per acre to actively growing grasses.

Apply using ground application equipment only. Do not apply by air. For paved areas, make spot treatments only (see Spot/Small Area Spray instructions section).

Non-Crop Areas - To aid in establishment of Wildflowers

- Since Quizalofop EC 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" such as indian blanket, cone flowers, bachelor button, dwarf cornflower, coreopsis, white yarrow, oxeye daisy, dames-rocket, blue flax, evening primrose, black-eyed susan, marigolds, impatiens, bluebonnet, indian paintbrush, verbena, gaillardia, chrysanthemum, catchfly, and scarlet pimpernel).
- Make a single application of Quizalofop EC 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 Quizalofop EC to young, actively growing grasses according to the rate chart that follows. If a field is to be irrigated, apply Quizalofop EC 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

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

Quizalofop EC + VIDA®7 A tank mix of Quizalofop EC plus VIDA®7 may be applied after emergence of grasses, up to and including the planting of soybeans (refer to VIDA®7 labeling for application timing).

Quizalofop EC + CANOPY XL + 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 XL labeling for application information.

Quizalofop EC + 2,4-D (LVE): A tank mix of Quizalofop EC 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 pre-plant interval.

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

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

A tank mix of Quizalofop EC + a [Roundup brand agricultural herbicide] [glyphosate] may be used for the purpose of broad spectrum weed control, including volunteer [Roundup Ready][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 of regrowth of previously treated grass, a second application of Quizalofop EC 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 Quizalofop EC at 6 - 7 fluid ounces of product per acre. Application timing should be as follows: bermudagrass (3" tall or up to 6" runners), rhizome johnsongrass (6" - 10"), quackgrass (4" - 8"), wirestem muhly (4" - 8").

Spray Adjuvants

Applications of Quizalofop EC must include either a crop oil concentrate or a nonionic surfactant. Consult local Sharda USA LLC fact sheets, technical bulletins, and service policies prior to using other adjuvant systems. If another herbicide is tank mixed with Quizalofop EC to increase the weed spectrum, select adjuvants authorized for use with both products. Products must contain only EPA-exempt ingredients. 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.

Petroleum Crop Oil Concentrate (COC)

- Petroleum-based crop oil concentrates are the preferred adjuvant system in arid areas.
- Apply petroleum-based crop oil concentrate at 1% v/v (1 gallon per 100 gallons spray solution) or 2% under arid conditions. Note - in soybeans and sunflowers, up to 2% v/v may be used based on local conditions.
- Oil adjuvants must contain at least 80% high quality, petroleum (mineral) or modified vegetable seed oil with at least 15% surfactant emulsifiers.
- For aerial applications apply 0.5% v/v (2 quarts product per 100 gallons spray solution).

Nonionic Surfactant (NIS)

- Apply at 0.25% v/v (1 quart of product per 100 gallons spray solution).

- Surfactant products must contain at least 60% nonionic surfactant with a hydrophilic/lipophilic balance (HLB) greater than 12.

Ammonium Nitrogen 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 quart/acre of a high-quality urea ammonium nitrate (UAN), such as 28%N or 32%N, or 2 lbs./acre of a spray-grade ammonium sulfate (AMS).
- Use 4 quart/acre UAN or 4 lbs./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.

WEEDS CONTROLLED AND RATE SELECTION				
	Size at Application (inches)	Quizalofop EC Applied Alone (fluid ounces product per acre)	Quizalofop EC Tank Mixed with Broadleaf Herbicide (fluid ounces product per acre ¹)	
Annual Grasses²				
Volunteer Corn (<i>Zea mays</i>) ³	6 - 30	5 - 8	4 - 8	
Foxtail, Giant (<i>Setaria faberi</i>)	2 - 4 (pre-tiller)		5	
Johnsongrass, Seedling (<i>Sorghum halepense</i>)	2 - 8			
Shattercane (<i>Sorghum bicolor</i>)	6 - 12			
Wild Proso Millet (<i>Panicum miliaceum</i>)	2 - 6			7
Foxtail, Green (<i>Setaria viridis</i>)	2 - 4	7 - 8	8	
Foxtail, Yellow (<i>Setaria lutescens</i>)			Split†	
Goosegrass (<i>Eleusine indica</i>)	2 - 6‡		8	
Crowfootgrass (<i>Dactyloctenium aegyptium</i>)	2 - 6		8	
Fall Panicum (<i>Panicum dichotomiflorum</i>)			8	
Field Sandbur (<i>Cenchrus incertus</i>)			8	
Foxtail, Bristly (<i>Setaria verticillata</i>)			8	
Foxtail, Giant (<i>Setaria faberi</i>)			2 - 8	7
Sprangletop (<i>Leptochloa filiformis</i>)			2 - 6	8
Volunteer Barley (<i>Hordeum vulgare</i>)				
Volunteer Oats (<i>Avena sativa</i>)				
Volunteer Rye (<i>Secale cereale</i>)				
Volunteer Wheat (<i>Triticum aestivum</i>)				
Wild Oat (<i>Avena fatua</i>)				
Witchgrass (<i>Panicum capillare</i>)				
Itchgrass (<i>Rottboellia exaltata</i>)	2 - 8			
Barnyardgrass (<i>Echinochloa crus-galli</i>)	2 - 6	8 - 10	Split†	
Junglerice (<i>Echinochloa colonum</i>)			10	
Crabgrass, Large (<i>Digitaria sanguinalis</i>)	2 - 6‡		Split†	
Crabgrass, Smooth (<i>Digitaria ischaemum</i>)				
Texas Panicum (<i>Panicum texanum</i>)††	2 - 4			
Red Rice (<i>Oryza sativa</i>)	1 - 4	9 - 10	Split†	
Woolly Cupgrass (<i>Eriochloa villosa</i>)	2 - 4§			
Broadleaf Signalgrass (<i>Brachiaria platyphylla</i>)	2 - 6	10	Split†	
Downy Brome (<i>Bromus tectorum</i>)		10 - 12	12	
Italian Ryegrass (<i>Lolium multiflorum</i>)				
Jointed Goatgrass (<i>Aegilops cylindrical</i>)				
Windgrass (<i>Bromus mollis</i>)				
Perennial Grasses²				
Wirestem Muhly (<i>Muhlenbergia frondosa</i>)	4 - 8	8 - 10	Split†	
Bermudagrass (<i>Cynodon dactylon</i>)	3" tall, or up to 6" runners	10 - 12	Split†	
Johnsongrass, Rhizome (<i>Sorghum halepense</i>)	10 - 24		10	
Quackgrass (<i>Agropyron repens</i>)	6 - 10		Split†	

¹ See "Applications With Broadleaf Herbicides."

- ² For annual and perennial grasses, up to 12 fl. oz./acre may be applied, based on local recommendations. **Under arid conditions the higher rate is to be used.**
- ³ Control includes "Roundup" Ready (glyphosate-resistant), Liberty Link, and IMI-Corn. Apply 4 fl. oz./acre Quizalofop EC for up to 12 inch tall corn. Apply 5 fl. oz./acre Quizalofop EC for 12 - 18 inch volunteer corn; use 8 fl. oz./acre for 18 - 30 inch volunteer corn.
- † Split = Split Application. May not be controlled adequately using a tank mix with broadleaf herbicides. For best results, alternate applications of Quizalofop EC with a broadleaf herbicide, ensuring that Quizalofop EC 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, apply at 10 fl. oz. per acre for control of Texas panicum. Use of lower rates may result in unsatisfactory control.**

Specific Weed Problems

Volunteer Glyphosate-Resistant Corn

For Control of volunteer glyphosate-resistant corn in other glyphosate-resistant crops, Quizalofop EC may be used in a tank mix with glyphosate as follows:

- Apply Quizalofop EC at a rate of 4 fl. oz./acre for up to 12 inch volunteer corn, 5 fl. oz./acre for 12 - 18 inch volunteer corn, and 8 fl. oz./acre for 18 - 30 inch volunteer corn, tank mixed with a labeled rate of glyphosate.
- Quizalofop EC may be used in a tank mix with glyphosate as follows:
- If the glyphosate formulation does not include a built-in adjuvant system, a nonionic surfactant or petroleum based crop oil concentrate must be included, per directions on this label.
- If the glyphosate formulation contains a built-in adjuvant system (i.e., "Roundup WeatherMax"), additional adjuvant is still required. Add nonionic surfactant at a rate of 0.125% v/v (1 pt. per 100 gals. spray solution). Under arid conditions consider adding a petroleum based crop oil concentrate at 1% v/v (1 gallon per 100 gallons spray solution) instead of a nonionic surfactant.

Rhizome Johnsongrass - South East States

For control of rhizome johnsongrass in the states of Alabama, Arkansas, Florida, Georgia, Louisiana, Maryland, Mississippi, Tennessee, Virginia, and West Virginia, a reduced rate of Quizalofop EC may be used if applied in a sequential application program as follows:

1. Apply Quizalofop EC at 5 fl. oz./acre when johnsongrass is 10 - 24 inches tall.
2. Apply Quizalofop EC a second time at 5 fl. oz./acre when johnsongrass regrowth is 6 - 10 inches tall.

Do not apply Quizalofop EC in a tank mix with post-emergence broadleaf herbicides when using this reduced rate, sequential program. Do not exceed the maximum specified rate/acre/season for the crop that is going to be planted when additional applications are made to control rhizome johnsongrass.

Rhizome Johnsongrass

Quizalofop EC will provide control of weeds in Fallow, including emerged Rhizome and Seedling Johnsongrass. Note that, when applied at specific rates and timings to control grass weeds, Quizalofop EC will provide control of emerged grasses only. Subsequent flushes of grasses require additional treatment.

1. Apply Quizalofop EC at 8 oz./acre when seedling johnsongrass is 2 - 6 inches tall.
2. Apply Quizalofop EC at 12 oz./acre when rhizome johnsongrass is 12 - 16 inches tall.
3. If rhizome johnsongrass regrows, reapply Quizalofop EC at 8 oz./acre. Application timing should be when johnsongrass regrowth is 6 - 10 inches tall.

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

Specific Crop Uses

CROP	APPLICATION DIRECTIONS/RESTRICTIONS
Barley (not for use on barley in the state of New York)	<ul style="list-style-type: none"> • Applications must be made prior to emergence of the crop. • Applications made within 7 days of planting may result in crop injury. • Maximum use rate: 10 fl. oz./acre/season • Application Interval: >7 days apart • Do not make more than 2 applications per acre per season
Beans – Dry including Chickpeas	<ul style="list-style-type: none"> • Do not apply within 30 days of harvest. • Maximum use rate: 24 fl. oz./acre/season • Application Interval: >7 days apart • Do not make more than 5 applications per acre per season

Canola and Crambe	<ul style="list-style-type: none"> Do not apply within 60 days of harvest. Maximum use rate: 18 fl. oz./acre/season Application Interval: >7 days apart Do not make more than 3 applications per acre per season
Cotton	<ul style="list-style-type: none"> Do not apply within 80 days of harvest. Maximum use rate: 18 fl. oz./acre/season Application Interval: >7 days apart Do not make more than 2 applications per acre per season
Eucalyptus	<ul style="list-style-type: none"> Controls annual & perennial grasses in Eucalyptus plantations in Hawaii. Controls: Para grass (<i>Panicum muticum</i>) & Crab grass (<i>Digitaria</i> spp.) Partially controls: Torpedo grass (<i>Panicum repens</i>) Apply by ground application equipment only. Use a tractor sprayer properly calibrated to a constant speed and rate of delivery. Do not apply by air. Apply 15 - 30 fl. oz./acre/application as broadcast spray. Do not make more than 4 applications per year. Do not apply more than 60 fl. oz./acre/year. Application Interval: >7 days apart
Flax	<ul style="list-style-type: none"> Do not apply within 70 days of harvest. Maximum use rate: 24 fl. oz./acre/season Application Interval: >7 days apart Do not make more than 4 applications per acre per season
Hybrid Poplars	<ul style="list-style-type: none"> Controls grasses to aid in the establishment of hybrid poplar in the states of Maine and Minnesota. Apply over hybrid poplar following planting. Apply with ground application equipment only. Do not apply by air. Apply 5 - 10 fl. oz./acre. Refer to the table for the appropriate size or growth stage of the grasses to be controlled. Follow directions regarding the use of surfactants, spray additives and tank mix partners. Do not make more than 2 applications per acre per season
Lentils	<ul style="list-style-type: none"> Do not apply within 60 days of harvest. Maximum use rate: 14 fl. oz./acre/season Application Interval: >7 days apart Do not make more than 2 applications per acre per season
Mint (Spearmint and Peppermint)	<ul style="list-style-type: none"> Do not apply within 30 days of harvest. Maximum use rate: 24 fl. oz./acre/season Application Interval: >7 days apart Do not make more than 2 applications per season.
Non-Food/Non-Feed Crops Grown for Seed Production	<ul style="list-style-type: none"> Controls 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/non-feed crops for seed production only in the states of: Idaho, Montana, Oregon, Washington, and Wyoming. Apply with ground application equipment only. Do not apply by air. Applied at specific rates and timings, Quizalofop EC will control emerged grasses. Subsequent flushes of grasses require additional treatment. Do not apply within 14 days of anticipated bloom. All treated seed must be tagged at the processing facility, "Not For Human or Animal Consumption." It shall be the growers' responsibility to notify the processing facility of any seed crop that has been treated. Do not divert any portion of crop (seed, sprouts, screenings, forage, hay, etc.) to use for human or animal consumption after application. Do not graze treated crop areas. Most grass crops, including wheat, barley, rye, oats, sorghum, rice and corn are highly sensitive to Quizalofop EC, and all direct or indirect contact (such as spray drift) should be avoided. Always include a nonphytotoxic petroleum based crop oil concentrate at 1% v/v (1 gallon/100 gallons) or a nonionic surfactant at 0.25% v/v (1 quart/100 gallons). Crop oil concentrate is the preferred adjuvant in arid areas. Tank mixtures with any pesticide or spray adjuvant is not recommend except as directed on this label or on supplemental labels. Do not apply within 14 days of anticipated bloom. Maximum use rate: 25 fl. oz./acre/season Application Interval: >7 days apart Do not make more than 2 applications per season.
Peas Dry & Succulent	<ul style="list-style-type: none"> Dry Peas: Do not apply within 60 days of harvest. Succulent Peas: Do not apply within 30 days of harvest. Maximum use rate: 14 fl. oz./acre/season Application Interval: >7 days apart Do not make more than 2 applications per acre per season

Pineapple	<ul style="list-style-type: none"> • Controls annual and perennial grasses in pineapple in Hawaii and Puerto Rico. • Controls: Sour Grass (<i>Tricachne insularis</i>), Crabgrass (<i>Digitaria</i> spp.), Natal Red Top (<i>Agrostis alba</i>) • Partially Controls: Guineagrass (<i>Panicum maximum</i>), Wiregrass (<i>Eleusine Indica</i>), Molasses Grass (<i>Melinis Minutiflora</i>) • Apply with ground application equipment only. • Do not apply by air. • Apply at specified rates and timing, Quizalofop EC will control emerged grasses. Subsequent flushes of grasses require additional treatment. • Use a sprayer properly calibrated to a constant speed and rate of delivery. Mix the proper amount of Quizalofop EC in water. • Foliar applications: Apply 15 - 30 fl. oz./acre per application. • Directed spot treatments for perennial grasses: Spray perennial grasses post-emergence to wet (50 - 100 gallons per acre depending on size) with 15 - 30 fl. oz./100 gallons of water as a spot treatment. • Do not graze treated fields or harvest for forage or hay. • Do not make more than 4 applications per harvest. • Do not apply more than 60 fl. oz./acre/harvest • Do not harvest within 160 days of last application. • Application Interval: >7 days apart
Quizalofop-Tolerant Perennial Ryegrass (Non-Food/Non-Feed) Grown Only for Seed Production	<ul style="list-style-type: none"> • Controls annual and perennial grasses in non-food/non-feed Quizalofop-tolerant perennial ryegrass crops grown specifically for seed production in the state of Minnesota. • Controls emerged grasses when applied at specified rates and timings. Subsequent flushes of grasses require additional treatment. • Apply 10 fl. oz./acre prior to the boot stage in the spring of the second year of Quizalofop- tolerant perennial ryegrass growth. Application at this stage is for vegetative suppression of quackgrass growth and preventing quackgrass seed contamination during perennial ryegrass harvest. • Do not apply Quizalofop EC after boot stage of growth of quizalofop-tolerant perennial ryegrass. • Application of Quizalofop EC at 10 fl. oz./acre may be made in the first season of Quizalofop- tolerant perennial ryegrass growth for control of heavier quackgrass infestations. Such applications can be made anytime from planting until the end of August. • Fall application of Quizalofop EC should be avoided on Quizalofop-tolerant perennial ryegrass because seed production may be reduced. • After using Quizalofop EC, do not divert any portion of crop (seed, sprouts, screenings, forage, hay, etc.) to use for human or animal consumption. • Do not graze treated crop. • Apply by ground application equipment only. • Do not apply by air. • Maximum use rate: 20 fl. oz./acre/season • Do not make more than 2 applications per acre per season. • Application Interval: >7 days apart
Snap Beans	<ul style="list-style-type: none"> • Do not apply within 15 days of harvest. • Maximum use rate: 14 fl. oz./acre/season • Application Interval: >7 days apart • Do not make more than 2 applications per acre per season
Soybeans	<ul style="list-style-type: none"> • Do not apply within 80 days of harvest. • Do not apply to soybeans after pod set. • Maximum use rate: 18 fl. oz./acre/season • Application Interval: >7 days apart • Do not make more than 3 applications per acre per season
Sugar beets	<ul style="list-style-type: none"> • Do not apply within 45 days of harvest. • Maximum use rate: 25 fl. oz./acre/season • Do not feed beet tops within 60 days of last application. • Application Interval: >7 days apart • Do not make more than 4 applications/acre/season.
Sunflowers	<ul style="list-style-type: none"> • Do not apply within 60 days of harvest. • Maximum use rate: 18 fl. oz./acre/season • Application Interval: >7 days apart • Do not make more than 3 applications per acre per season
Wheat (not for the use on wheat in the state of New York)	<ul style="list-style-type: none"> • Applications must be made prior to emergence of the crop. • Maximum use rate: 10 fl. oz./acre/season • Application Interval: >7 days apart • Do not make more than 2 applications per acre per season

CROP ROTATION

Do not rotate crops other than Canola, Cotton, Crambe, Dry Beans (including Chickpea), Flax, Lentils, Mint (Spearmint and Peppermint), Peas (Dry and Succulent Peas), Snap Beans, Soybeans, Sunflowers, or Sugar beets within 120 days after application.

APPLICATION EQUIPMENT

See SPRAY DRIFT MANAGEMENT section for additional information and precautions.

Ground Application

Broadcast Application

- When making ground applications, 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 instructions).
- 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 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.

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 label 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.

Aerial Application

- When making aerial applications, 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 instructions.)
- Use nozzle types and arrangements that provide optimum spray distribution and maximum coverage.
- Use a minimum of 3 gallons of water per acre in non-arid areas.
- Use a minimum of 5 gallons 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 Quizalofop EC. If Quizalofop EC and a tank mix partner are to be applied together, consult the tank mix partner label for information on which should be added first (normally granules and powders are added first).
3. Continue agitation until the Quizalofop EC is fully dispersed, at least five minutes.
4. Once Quizalofop EC 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 Quizalofop EC spray mixture within a reasonable period of time of mixing to avoid product degradation (24-48 hours). If the spray mixture stands for any period of time, thoroughly re-agitate before using.

SPRAYER CLEAN-UP

The spray equipment must be cleaned before Quizalofop EC is sprayed. Follow the clean-up procedures specified on the labels of the previously applied products. If no directions are provided, follow the six steps outlined in After Spraying Quizalofop EC. It is very important that any buildup of dried pesticide deposits which have accumulated in the application equipment be removed prior to spraying Quizalofop EC. 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 Quizalofop EC are applied, at the end of each day, spray the interior of the tank be rinsed 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 Quizalofop EC 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 Quizalofop EC 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 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, 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. If only ammonia is used as a cleaner, the rinsate solution may be applied back to the crop(s) recommended 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 can be used in the cleanout procedure. Carefully read and follow the individual cleaner instructions. Consult your agricultural dealer or applicator 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-cleaning spray tanks is recommended prior to performing the above cleanout procedure to facilitate the removal of any caked deposits.
3. When Quizalofop EC is tank mixed with other pesticides, all cleanout procedures should be examined and the most rigorous procedure should be followed.
4. In addition to this cleanout procedure, all pre-cleanout guidelines on subsequently applied products should be followed as per the individual labels.
5. Where routine spraying practices include shared equipment frequently being switched between applications of Quizalofop EC and applications of other pesticides to Quizalofop EC-sensitive crops during the same spray season, it is recommended that a sprayer be dedicated to Quizalofop EC in order 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 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 CONDITIONS! See Wind, Temperature and Humidity, and Temperature Inversions sections of this label.

Controlling Droplet Size - Ground Techniques

Flow Rate/Orifice Size - Use the highest flow rate nozzles (largest orifice) that are consistent with pest control objectives to reduce the potential for spray drift. Nozzles with higher rate flows produce coarser droplet spectra.

Pressure - Use the lowest spray pressures recommended for the nozzle to 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. Use low-drift nozzles to reduce drift potential.

Controlling Droplet Size - Aircraft

Number of Nozzles - Use the minimum number of nozzles with the highest flow rate that provide uniform coverage to produce a coarser droplet spectrum.

Nozzle Orientation - Orient nozzles in a manner that minimizes the effects of air shear to produce the coarsest droplet spectra.

Nozzle Type - Solid stream nozzles (such as disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types. Point the nozzle straight back parallel to the airstream to produce a coarser droplet spectrum than other orientations.

Pressure - Select the pressure that produces the coarsest droplet spectrum for a specific nozzle and airspeed to reduce drift potential. Solid stream nozzles used with lower pressure will produce finer droplet spectra and increase drift potential.

Boom Length (aircraft) - The boom length should not exceed 3/4 of the wing or rotor length - longer booms increase drift potential.

Application Height (aircraft) - Application more than 10 feet above the canopy increases the potential for spray drift.

Application Height (ground) - 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, the boom should remain level with the crop and have minimal bounce.

Wind

Apply when wind speed is less than 15 mph. The wind speed range for optimum performance is between 3 - 10 mph. Drift potential increases at wind speeds of less than 3 mph (due to inversion potential). Speeds greater than 10 mph compromise spray patterns. 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 should be familiar with local wind patterns and how they affect spray drift.

Temperature and Humidity

When making applications in hot and dry conditions, set up equipment to produce larger droplets to reduce effects of evaporation.

Temperature Inversions

Do not apply this product during a temperature inversion. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. 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. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

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 preventing drift 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 is not occurring.

Note: Air assisted field sprayers can affect product performance by affecting spray coverage and canopy penetration. Consult the application equipment section of this label to determine if use of an air assisted sprayer is recommended.

SENSITIVE AREAS

Make applications when there is 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) to minimize spray drift.

DRIFT CONTROL ADDITIVES

Use product compatible drift control additives to reduce drift potential. If a drift control additive is used, read and follow all precautionary statements and other information on the additive 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 Chemical Producers and Distributors Association (CPDA).

UPWIND SWATH DISPLACEMENT

If application is made in a crosswind, the swath will displace downwind. An adjustment for swath displacement is made on the downwind edge of the application site by shifting the path of the application site by shifting the path of the application equipment upwind.

SPRAY DRIFT CONTROL RESTRICTIONS

Where states have more restrictive 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.
- Do not apply in conditions where wind speed is 15 mph or greater.
- Do not apply during a temperature inversion.
- Release spray 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).
- Do not apply in conditions where wind speed is 15 mph or greater.
- Do not apply during a temperature inversion.

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

STORAGE AND DISPOSAL

Pesticide Storage: Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Store in a cool, dry place.

Product Disposal: Do not contaminate water, food, or feed by disposal. Waste 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 by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative of the nearest EPA Regional Office for guidance.

Container Handling:

[Nonrefillable Container (five gallons or less):] Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Triple rinse container (or equivalent) promptly after emptying. 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 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by incineration.

[Nonrefillable Container (greater than five gallons):] Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. 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. Then offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by incineration.

[Refillable Container (greater than five gallons):] Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Triple rinsing 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. When this container is empty, replace the cap and seal all openings that have been opened during use; return the container to the point of purchase or to a designated location. This container must only be refilled with a pesticide product. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices. Check for leaks after refilling and before transport. DO NOT transport if this container is damaged or leaking. If the container is damaged, or leaking, or obsolete and not returned to the point of purchase or to a designated location, triple rinse emptied container and offer for recycling, if available, or dispose of container in compliance with state and local regulations.

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 Sharda USA LLC. These risks can cause: ineffectiveness of the product, crop injury, or injury to non-target crops or plants. WHEN YOU BUY OR USE THIS PRODUCT, YOU AGREE TO ACCEPT THESE RISKS.

Sharda USA LLC 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.

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