



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

February 4, 2015

Ms. Rebecca Hargadine
Registration Specialist
Orion GFS, LLC
11230 E. Del Norte
Yuma, AZ 85367-7355

Subject: Label Amendment – Adding Post Emergence Broadcast Uses (Canola, Corn, Cotton, & Soybean)
Product Name: Glufosinate 280 Herbicide
EPA Registration Number: 88685-2
Application Date: October 20, 2014
Decision Number: 497122

Dear Ms. Hargadine:

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, 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 the Federal Insecticide Fungicide and Rodenticide Act 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 BeWanda Alexander by phone at (703)305-7460, or via email at alexander.bewanda@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Shaja Joyner".

Shaja Joyner, Product Manager 20
Fungicide and Herbicide Branch
Registration Division (7505P)
Office of Pesticide Programs

Enclosure

GROUP 10 HERBICIDE

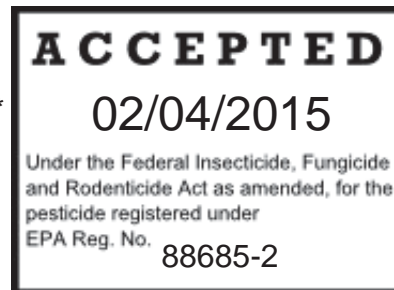
GLUFOSINATE 280 HERBICIDE

A non-selective herbicide for post emergence broadcast use on canola, corn, cotton and soybean designated as LibertyLink®. Glufosinate 280 Herbicide may be used for weed control in non-LibertyLink® cotton when applied with a hooded sprayer. Glufosinate 280 Herbicide may also be applied as a broadcast burndown application before planting or prior to emergence of any conventional or transgenic variety of canola, corn, sweet corn, cotton, olive, rice, soybean or sugar beet. Glufosinate 280 Herbicide may be used for post emergence weed control in listed tree, vine and berry crops and rice. Glufosinate 280 Herbicide may also be applied for potato vine desiccation.

ACTIVE INGREDIENT:

Glufosinate-ammonium (CAS No. 77182-82-2).....	24.5%**
OTHER INGREDIENTS.....	75.5%
TOTAL	100.0%

**Equivalent to 2.34 pounds of active ingredient per U.S. gallon.



**KEEP OUT OF REACH OF CHILDREN
WARNING – AVISO**

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

FOR ADDITIONAL PRECAUTIONARY STATEMENTS: See Inside Booklet. **For MEDICAL emergencies call the National Poison Control Center at 1-800-222-1222 and for TRANSPORTATION emergencies call Chemtrec at 1-800-424-9300.**

FIRST AID

IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"> •Take off contaminated clothing. •Wash skin immediately with plenty of soap and water. •Get medical attention.
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. •Get medical attention if irritation develops or persists.
IF SWALLOWED:	<ul style="list-style-type: none"> •Rinse mouth thoroughly with plenty of water. •Do not induce vomiting. •Get medical attention immediately.

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or when going for treatment. For MEDICAL emergencies call the National Poison Control Center at 1-800-222-1222.

NOTE TO PHYSICIAN

If this product is ingested, endotracheal intubation and gastric lavage should be performed as soon as possible, followed by charcoal and sodium sulfate administration.

**Orion GFS, LLC
12230 E. Del Norte
Yuma, AZ 85367-7355
tel. 928-342-3489**

**EPA Reg. No. 88685-2
EPA Est. No.
Net Contents:
Product of China**

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
WARNING**

May be fatal if absorbed through skin. Causes substantial but temporary eye injury. Harmful if swallowed. Do not get in eyes, on skin, or on clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Personal Protective Equipment (PPE)

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

Applicators and other handlers must wear:

- Coveralls worn over short-sleeved shirt and short pants;
- Chemical-resistant gloves such as barrier laminate, butyl rubber ≥14 mils, nitrile rubber ≥14 mils, neoprene rubber ≥14 mils, polyvinyl chloride (PVC) ≥14 mils, or Viton® ≥14 mils
- Chemical resistant footwear plus socks;
- Protective eyewear (goggles, face shield or safety glasses).
- Wear a chemical resistant apron when mixing/loading and cleaning equipment.

Discard clothing and 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.

Mixers/loaders supporting aerial applications must wear a dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C), or a NIOSH approved respirator with any N, R, P or HE filter.

When mixing and loading wear a chemical-resistant apron. For overhead exposure wear chemical-resistant headgear. When cleaning equipment wear a chemical-resistant apron.

Engineering Control Statement:

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

USER SAFETY RECOMMENDATIONS

Users should:

Wash 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.

Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Remove PPE 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

Do not apply directly to water or to areas where surface water is present. Do not apply to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of equipment wash waters.

This pesticide is toxic to vascular plants and should be used strictly in accordance with the drift and run-off precautions on this label in order to minimize off-site exposures.

Under some conditions, this product may have a potential to run-off to surface water or adjacent land. Where possible, use methods which reduce soil erosion, such as no till, limited till and contour plowing; these methods also reduce pesticide run-off. Use of vegetation filter strips along rivers, creeks, streams, wetlands, etc. or on the downhill side of fields where run-off could occur to minimize water runoff is recommended.

PHYSICAL OR CHEMICAL HAZARDS

Do not use with or store near oxidizing agents since hazardous chemical reaction may occur.

DIRECTIONS FOR USE

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

Do not use this product until you have read the entire 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.

In the State of New York Only: Not For Use in Nassau and Suffolk Counties.

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 intervals. 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 with the exception of sweet corn irrigation activities which have a 4 day REI. 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 worn over short-sleeved shirt and short pants; chemical resistant gloves such as barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, polyvinyl chloride (PVC) ≥ 14 mils, or Viton® ≥ 14 mils; chemical resistant footwear plus socks; protective eyewear (goggles, face shield or safety glasses).

**IMPORTANT CROP SAFETY INFORMATION
READ BEFORE USING THIS PRODUCT**

Glufosinate 280 may be applied as a **burndown treatment prior to planting or prior to emergence** of any conventional or transgenic variety of canola, corn, sweet corn, cotton, olive, rice, soybean or sugar beet. Glufosinate 280 may be applied to conventional cotton not tolerant to the active ingredient in Glufosinate 280 using a hooded sprayer.

Post emergence row crop applications of Glufosinate 280 may be made only to crops tolerant to the active ingredient in this product. Orion GFS, LLC does not warrant the use of this product on crops other than those designated as LibertyLink[®] to safely withstand the application of Glufosinate 280.

The basis of selectivity of Glufosinate 280 in crops is the presence of a gene in LibertyLink[®] crops which results in a plant that is tolerant to the active ingredient in Glufosinate 280. Crops not containing this gene will not be tolerant to Glufosinate 280, and severe crop injury and/or death may occur. Do not allow spray to contact foliage or green tissue of desirable vegetation other than crops tolerant to the active ingredient in this product.

Applications to trees, vines and berries should avoid contact of Glufosinate 280 solution, spray, drift or mist with green bark, stems, or foliage, as injury may occur to trees, berries and vines. Only trunks with callused, mature brown bark should be sprayed unless protected from spray contact by nonporous wraps, grow tubes or waxed containers. Contact of Glufosinate 280 with parts of trees, berries or vines other than mature brown bark can result in serious damage.

INFORMATION

Glufosinate 280 is a water-soluble herbicide for application as a foliar spray for the control of a broad spectrum of emerged annual and perennial grass and broadleaf weeds in LibertyLink[®] canola, corn, cotton and soybean, and in trees, vines and berries. Glufosinate 280 may also be applied for potato vine desiccation. Glufosinate 280 may also be applied as a broadcast burndown application before planting or prior to emergence of any conventional or transgenic variety of canola, corn, sweet corn, cotton, olive, rice, soybean or sugar beet.

Glufosinate 280 is only foliar-active with little or no activity in soil. Weeds that emerge after application will not be controlled. Apply Glufosinate 280 to actively growing weeds as described in the Weed Control Recommendations for Row Crops section to get maximum weed control. Uniform, thorough spray coverage is necessary to achieve consistent weed control. Necrosis of leaves and young shoots occur within 2 to 4 days after application under good growing conditions.

- Glufosinate 280 is rainfast four (4) hours after application to most weed species; therefore, rainfall within four (4) hours may necessitate retreatment or may result in reduced weed control.
- Applications should be made between dawn and 2 hours before sunset to avoid the possibility of reduced lambsquarters and velvetleaf control.

Consult your local Cooperative Extension Service or Orion GFS Representative for guidelines on the optimum application timing for Glufosinate 280 in your region.

- Weed control may be reduced if application is made when heavy dew, fog and mist/rain are present; or when weeds are under stress due to environmental conditions such as drought, cool temperatures or extended periods of cloudiness.
- To maximize weed control, do not cultivate from 5 days before an application to 7 days after an application.

ROTATIONAL CROP RESTRICTIONS*

Rotational crop planting intervals following application of Glufosinate 280 are listed below. Failure to comply with these restrictions may result in illegal residues in rotated crops.

Rotational Crop	Plant Back Interval (Minimum Rotational Crop Planting Interval from Last Application)
Canola, Corn, Sweet Corn, Cotton, Rice, Soybean and Sugar Beet	May be planted at any time
Root and Tuber Vegetables, Leafy Vegetables, Brassica Leafy Vegetables and Small Grains (barley, buckwheat, oats, rye, teosinte, triticale, and wheat)	70 Days
All Other Crops	180 Days

*See Application Directions for Potato Vine Desiccation for Rotational Crop Restrictions specifically after Glufosinate 280 applications to potatoes.

Integrated Weed Management

The active ingredient in Glufosinate 280 is glufosinate-ammonium, which is a glutamine synthetase inhibitor (Group 10). Integrated weed management guidelines promote an economically viable, environmentally sustainable and socially acceptable weed control program regardless of the herbicide(s) used. The highlights of a successful integrated weed management program include:

1. Correctly identify weeds and look for trouble areas within field to identify resistance indicators.
2. Rotate crops.
3. Start the growing season with clean fields.
4. Rotate herbicide modes of action by using multiple modes of action during the growing season and apply no more than two applications of a single herbicide mode of action to the same field in a two-year period. One method to accomplish this is to rotate herbicide tolerant trait systems.
5. Apply listed rates of herbicides to actively growing weeds at the correct time with the right application techniques.
6. Control any weeds that may have escaped the herbicide application.
7. Thoroughly clean field equipment between fields.

Contact your local agronomic advisor for more specific information on integrated weed management for your area.

WEED CONTROL FOR ROW CROPS

Rates in ounces of formulated product per acre for the control of weeds at selected heights are shown in the weed control tables. In weed populations with mixed species, apply at a rate needed for the species that requires the highest rate.

Broadleaf Weed Control					
Weed Species	Maximum Weed Height or Diameter (Inches)		Weed Species	Maximum Weed Height or Diameter (Inches)	
	22 fl oz/A	29 fl oz/A ^{ab}		22 fl oz/A	29 fl oz/A ^{ab}
Amaranth, Palmer ³	NR	4	Morningglory, sharppod ³	2	4
Anoda, spurred	3	5	Morningglory, smallflower ³	4	6
Beggarweed, Florida	4	5	Morningglory, tall ³	6	8
Black medic	5	7	Mustard, wild	4	6
Blueweed, Texas	5	7	Nightshade, black	4	6
Buckwheat, wild	6	7	Nightshade, eastern black	6	8
Buffalobur	6	7	Nightshade, hairy	6	8
Burcucumber	6	10	Pennycress (stinkweed)	4	6
Catchweed bedstraw (cleavers)	2	4	Pigweed, redroot ³	3	4
Carpetweed	4	6	Pigweed, prostrate ³	3	4
Chickweed, common	6	8	Pigweed, spiny ³	3	4
Cocklebur, common	6	14	Pigweed, smooth ³	3	4
Copperleaf, hophornbeam	4	6	Pigweed, tumble ³	3	4
Cotton, volunteer ¹	6	8	Puncturevine	4	6
Croton, tropic	3	5	Purslane, common	2	4
Croton, woolly	2	4	Pusley, Florida	S	3
Eclipta	4	6	Ragweed, common	6	10
Devil's claw	2	4	Ragweed, giant	6	12
Fleabane, annual	6	8	Senna coffee	4	6
Galinsoga, hairy	6	8	Sesbania, hemp	6	8
Galinsoga, smallflower	6	7	Shepherd's-purse	6	8
Groundcherry, cutleaf	4	5	Sicklepod (java bean)	4	6
Geranium, cutleaf	4	6	Sida, prickly	4	5
Hempnettle	4	6	Smartweed, Pennsylvania	6	14
Horsenettle, Carolina ²	2	4	Smellmelon	4	6
Jimsonweed	6	10	Sowthistle, annual	6	8
Knotweed	3	5	Soybeans, volunteer ¹	6	8
Kochia	4	6	Spurge, prostrate	2	4
Ladysthumb	6	14	Spurge, spotted	2	4
Lambsquarters, common ³	4	6	Starbur, bristly	4	6
Mallow, common	4	6	Sunflower, common	6	14
Mallow, Venice	6	8	Sunflower, prairie	3	5
Marestail	S	6-12	Sunflower, volunteer	6	10
Marshelder, annual	4	6	Thistle, Russian ²	S	6-12
Morningglory, entireleaf ³	6	8	Velvetleaf	3	4
Morningglory, ivyleaf ³	6	8	Waterhemp, common ³	NR	5
Morningglory, pitted ³	6	8	Waterhemp, tall ³	NR	5

^aIn cotton, Glufosinate 280 may be applied at 29 fl oz/A three times per season.

^bDo not apply more than 22 fl oz/A of Glufosinate 280 post emergence in a single application to canola and corn.

S Indicates suppression

¹ Volunteer LibertyLink[®] crops from the previous season will not be controlled.

² May require sequential applications for control.

³ For applications to corn, tank mixing with atrazine may enhance weed control of this species.

NR Not Recommended

Grass Weed Control					
Weed Species	Maximum Weed Height or Diameter (Inches)		Weed Species	Maximum Weed Height or Diameter (Inches)	
	22 fl oz/A	29 fl oz/A ^{ab}		22 fl oz/A	29 fl oz/A ^{ab}
Barley, volunteer ³	3	4	Millet, wild proso	6	7
Barnyardgrass	3	5	Millet, proso volunteer	6	7
Bluegrass, annual	3	5	Oat, wild ²	3	4
Corn, volunteer ¹	10	12	Panicum, fall	3	5
Crabgrass, large ²	3	5	Panicum, Texas	4	6
Crabgrass, smooth ²	3	5	Rice, red	4	6
Cupgrass, woolly	6	12	Rice, volunteer ¹	4	6
Foxtail, bristly	6	8	Sandbur, field ²	S	2
Foxtail, giant	6	12	Shattercane	6	8
Foxtail, green	6	12	Signalgrass, broadleaf	3	5
Foxtail, robust purple	6	8	Sprangletop	4	6
Foxtail, yellow ²	3	4	Sorghum, volunteer	6	8
Goosegrass ³	2	3	Stinkgrass	4	6
Johnsongrass, seedling	3	5	Wheat, volunteer ²	4	5
Junglerice	3	5	Witchgrass	4	6

^a In cotton, Glufosinate 280 may be applied at 29 fl oz/A three times per season.

^b Do not apply more than 22 fl oz/A of Glufosinate 280 post emergence in a single application to canola and corn.

S Indicates suppression

¹ Volunteer LibertyLink[®] crops from the previous season will not be controlled. A timely cultivation 7 to 10 days after an application and/or retreatment 10-21 days after the first application for controlling dense clumps of volunteer LibertyLink[®] crops.

² For best control of yellow foxtail, field sandbur, crabgrass, and wild oats, treat prior to tiller initiation.

³ A sequential application may be necessary for control.

Biennial and Perennial Weeds			
For control of the biennial and perennial weeds listed below, apply tank mix partners or sequential applications of Glufosinate 280 (22 fl oz/A followed by 22 fl oz/A).			
Alfalfa	Burdock	Goldenrod, gray*	Orchardgrass
Artichoke, Jerusalem	Bursage, woolyleaf	Johnsongrass, rhizome	Poinsettia, wild
Bermudagrass	Chickweed, mouse-ear	Milkweed, common*	Pokeweed
Bindweed, field	Clover, Alsike	Milkweed, honeyvine*	Quackgrass*
Bindweed, hedge	Clover, red	Muhly, wirestem*	Sowthistle, perennial
Bluegrass, Kentucky	Dandelion	Nightshade, silverleaf	Thistle, bull
Blueweed, Texas	Dock, smooth	Nutsedge, purple*	Thistle, Canada
Bromegrass, smooth	Dogbane, hemp*	Nutsedge, yellow*	Timothy*
			Wormwood, biennial

*Suppression Only

**See the *Application Directions for Use on Cotton* section of this label for additional use rates.

APPLICATION AND MIXING PROCEDURES

Do not use flood jet nozzles, controlled droplet application equipment or air-assisted spray equipment. Uniform thorough spray coverage is important to achieve consistent weed control.

Ground Application: Refer to the Rate Tables for proper application rates. DO NOT apply when winds are gusty or when conditions will favor movement of spray particles off the desired spray target. To avoid drift and insure consistent weed control, apply Glufosinate 280 with the spray boom as low as possible while maintaining a uniform spray pattern. Glufosinate 280 should be applied broadcast in a minimum of 15 gallons of water per acre using a minimum spray pressure of 40 psi and a maximum ground speed of 10 mph. The use of 80 degree or 110 degree flat fan nozzles is highly recommended for optimum spray coverage and canopy penetration. Application of the spray at a 45-degree angle forward will result in better spray coverage. Under dense weed/crop canopies, 20 to 40 gallons of water per acre should be used so that thorough spray coverage will be obtained. Apply Glufosinate 280 using nozzles and pressures that generate MEDIUM (about 250 to 350 microns) spray droplets category as reported by the nozzle manufacturer and in accordance to ASABE S 572. Do not use nozzles and pressures that result in COARSE sprays. FINE sprays should also be avoided to minimize spray drift risk. Boom height should be based on nozzle manufacturer recommendations. See the Spray Drift Management section of this label for additional information on proper application of Glufosinate 280.

Aerial Application: Poor coverage will result in reduced weed control. For optimal weed control, apply Glufosinate 280 in a minimum of 10 gallons per acre. Apply Glufosinate 280 using nozzles and pressures that generate MEDIUM (about 300 to 400 microns) spray droplets category as reported by the nozzle manufacturer and in accordance to ASABE S 572 based upon the selected air speed. Do not use nozzles and pressures that result in COARSE sprays. FINE sprays should also be avoided to minimize spray drift risk. See the Spray Drift Management section of this label for additional information on proper application of Glufosinate 280.

COMPATIBILITY TESTING

If Glufosinate 280 is to be mixed with pesticide products not listed on this label, test the compatibility of the intended tank mixture prior to mixing the products in the spray tank. The following procedure assumes a spray volume of 25 gallons per acre. For other spray volumes, adjust the amount of the water used accordingly. Check compatibility as follows:

1. Place 1.0 pint of water from the source that will be used to prepare the spray solution in a clear 1-quart jar.
2. For each pound of a dry tank mix partner to be applied per acre, add 1.5 teaspoons to the jar.
3. For each 16 fl oz of a liquid tank mix partner to be applied per acre, add 0.5 teaspoon to the jar.
4. For each 16 fl oz of Glufosinate 280 to be applied per acre, add 0.5 teaspoon to the jar.
5. After adding all the ingredients, place a lid on the jar and tighten. Invert 10 times to mix.
6. Let the mixture stand for 15 minutes, and evaluate the solution for uniformity and stability. Look for separation, large flakes, precipitates, gels, heavy oily film on the jar, or other signs of incompatibility. If the tank mix partners are not compatible, do not use the mixture in a spray tank.
7. After compatibility testing is complete, dispose of any pesticide wastes in accordance with the Storage and Disposal section of this label.

MIXING INSTRUCTIONS

Tank Mix: Glufosinate 280 may be applied in tank mix combinations with labeled rates of other products provided these other products are labeled for the timing and method of application for the crop to be treated. The tank mix partner must be used in accordance with the label limitations and precautions. No label dosage rates may be exceeded. Glufosinate 280 cannot be mixed with any product containing a label prohibition against such mixing. Refer to the specific crop section for rate recommendations and other restrictions.

Glufosinate 280 must be applied with properly calibrated and clean equipment. Glufosinate 280 is formulated to mix readily in water. Prior to adding Glufosinate 280 to the spray tank, ensure that the spray tank is thoroughly clean, particularly if a herbicide with the potential to injure crops was previously used (see Cleaning Instructions).

Mix Glufosinate 280 with water to make a finished spray solution as follows:

1. Fill the spray tank half full with water.
2. Start agitation.
3. If mixing with a flowable/wettable powder tank mix partner. Prepare a slurry of the proper amount of the product in a small amount of water. Add the slurry to the spray tank.
4. Add the appropriate amount of ammonium sulfate (AMS) to the spray tank.
5. If mixing with a liquid tank mix partner, add the liquid mix partner next.
6. Complete filling the spray tank with water.
7. Add the proper amount of Glufosinate 280 and continue agitation.
8. If foaming occurs, use a silicone-based antifoam agent.

Ensure that all spray system lines including pipes, booms, etc. have the correct concentration of spray solution by flushing out the spray system lines before starting the crop application.

If tank mix partners recommended on this label are added, maintain good agitation at all times until contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to resuspend the mixture before spraying is resumed. Keep bypass line on or near bottom of tank to minimize foaming. Screen size in nozzles or line strainers must be 50 mesh or larger.

CLEANING INSTRUCTIONS

Before using Glufosinate 280, thoroughly clean bulk storage tank, refillable tank, nurse tanks, spray tank, lines, and filter, particularly if a herbicide with the potential to injure crops was previously used. Equipment must be thoroughly rinsed using a commercial tank cleaner.

After using Glufosinate 280, triple rinse the spray equipment and clean with a commercial tank cleaner before using for crops not labeled LibertyLink[®]. Make sure any rinsate or foam is thoroughly removed from spray tank and boom. Rinsate may be disposed following the pesticide disposal directions on this label.

SPRAY DRIFT MANAGEMENT

Spray drift may result in injury to non target crops or vegetation. To avoid spray drift, do not apply when wind speed is greater than 10 MPH or during periods of temperature inversions. Do not apply when weather conditions, wind speed, or wind direction may cause spray drift to non-target areas. **AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR.**

- All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers.
- For all non-aerial applications, wind speed must be measured adjacent to the application site, on the upwind side, immediately prior to application.

Sensitive Areas: The pesticide must only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitats for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

Do not apply under circumstances where possible drift to unprotected persons or to food, forage, or other plantings that might be damaged or crops thereof rendered unfit for sale, use or consumption can occur.

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

1. The distance of the outer most nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

Where states have more stringent regulations, they must be observed. The applicator must be familiar with and take into account the information covered in the Aerial Drift Reduction Advisory Information.

AERIAL DRIFT REDUCTION ADVISORY INFORMATION

Information on Droplet Size: The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions on next page). **AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR.**

Controlling Droplet Size:

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

Pressure: Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.

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

Nozzle Orientation: Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.

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

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

Application Height: Applications must not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

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

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

Temperature and Humidity: When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry. Avoid spraying during conditions of low humidity and/or high temperatures.

Temperature Inversions: Do not make aerial or ground applications into areas of temperature inversions. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

APPLICATION DIRECTIONS FOR BURNDOWN USE

Glufosinate 280 may be applied as a **burndown treatment prior to planting or prior to emergence** of any conventional or transgenic variety of canola, corn, sweet corn, cotton, rice, soybean, or sugar beet. Apply a minimum of 29 fl oz/A of Glufosinate 280 for burndown of existing weeds just prior to planting or prior to emergence of canola, corn, sweet corn, cotton, rice, soybean, or sugar beet. For best results, apply to emerged, young, actively growing weeds. Warm temperatures, high humidity, and bright sunlight improve the performance of Glufosinate 280. Weed control may be reduced when applications are made to weeds under stress due to drought or cool temperatures.

In cotton, if environmental conditions prevent timely application, a single application may be made of up to 43 fl oz/A of Glufosinate 280. **If more than 29 fl oz/A are used in any single application, the season total may not exceed 72 fl oz/A, including all application timings.**

In soybean, if environmental conditions prevent timely applications, a single application may be made of up to 36 oz/A of Glufosinate 280. **If 29-36 fl oz/A are used in a single burndown application, one additional in-season application may be made at up to 29 fl oz/A. The season total may not exceed 65 fl oz/A, including all application timings.**

In canola, corn, rice, and sugar beet, if environmental conditions prevent timely applications, a single application may be made of up to 36 fl oz/A. **No additional applications of Glufosinate 280 may be made post emergence to the crop during the growing season.**

	Burndown	In-Season Applications (LibertyLink® Varieties Only)	Season Maximum
Cotton Use Pattern 1	29 fl oz/A	2 applications at 22-29 fl oz/A*	87 fl oz/A
Cotton Use Pattern 2	30-43 fl oz/A	1 application at 22-29 fl oz/A*	72 fl oz/A
Soybean Use Pattern	29-36 fl oz/A	1 application at 22-29 fl oz/A**	65 fl oz/A
Canola, Corn, Rice, Sugar Beet	29-36 fl oz/A	None	36 fl oz/A

* LibertyLink® cotton OR with hooded sprayer for non-LibertyLink varieties (see Cotton use directions)

** LibertyLink® soybean only (See Soybean use directions)

APPLICATION DIRECTIONS FOR USE ON SUGAR BEET

THOROUGH SPRAY COVERAGE IS VERY IMPORTANT. Glufosinate 280 works best when weeds are actively growing. A cultivation may be made at least 5 days before a Glufosinate 280 application or 5 days after a Glufosinate 280 application.

APPLICATION TIMING

Applications of Glufosinate 280 on sugar beet may be made from the cotyledon stage up to the 10-leaf stage of the sugar beet. Glufosinate 280 is a foliar-active material with no soil-residual activity. For best results, apply to emerged, young actively growing weeds. Weeds that emerge after application will not be controlled. Glufosinate 280 will have an effect on weeds that are larger than the recommended leaf stage; however, speed of activity and control may be reduced. Weed control may be reduced if application is made when heavy dew, fog, and mist/rain are present; or when weeds are under stress due to drought, cool temperatures, or extended periods of cloudiness. Glufosinate 280 is rainfast 4 hours after application, therefore, rainfall within 4 hours may necessitate retreatment.

For best weed control and sugar beet yield, Glufosinate 280 applications should begin when weeds are up to 1 inch in height or diameter. Repeat applications should be made when newly germinated weeds again reach 1 inch in height or diameter. Refer

to the Rate Tables for Weed Control In Sugar Beets for selection of the proper rate dependent upon the weed species present and size.

A repeat application of Glufosinate 280 or a tank mix application with a residual herbicide selected from the tank mix partners listed on this label will be needed to control weeds that have not yet emerged at the time of application.

RESTRICTIONS TO THE DIRECTIONS FOR USE ON SUGAR BEETS

1. **DO NOT** apply more than 30 fl oz/A of Glufosinate 280 in one application and **DO NOT** apply more than 60 fl oz/A of Glufosinate 280 on the sugar beet crop per growing season.
2. **DO NOT** apply Glufosinate 280 within 60 days of harvesting sugar beets.
3. **DO NOT** plant rotation crops in a field treated with Glufosinate 280 within 120 days after the last application of this product with the exception of wheat, barley, buckwheat, millet, oats, rye, sorghum, and triticale, which may be planted 70 days after the last application of this product. Corn, soybeans, canola, and sugar beets tolerant to the active ingredient of Glufosinate 280 may be planted at any time.
4. **DO NOT** graze the treated crop or cut for hay.
5. **DO NOT** add surfactants. Anti-foams or drift control agents may be added if needed.
6. **DO NOT** apply Glufosinate 280 if sugar beets show injury from prior herbicide applications or environmental stress (drought, excessive rainfall, etc.).
7. **DO NOT** apply this product through any type of irrigation system.

RATE TABLES FOR WEED CONTROL IN SUGAR BEETS

The rates of Glufosinate 280 in fluid ounces (pints) of formulated product per acre to be used for the control of weeds at selected heights are shown in the following tables. In weed populations with mixed species, apply the rate needed for all species present.

Grass Weeds Controlled with Glufosinate 280

Weed Species	Growth Stage of Weed* (Maximum Height)		Comments on Weed Growth Stage/ Application Timing/ Number of Applications
	15 fl oz/A (0.9 pt/A)	20 fl oz/A (1.25 pt/A)	
Barley, volunteer	1 - 2 leaf (2")	3 leaf (3")	Multiple applications may be required
Barnyardgrass	1 - 3 leaf (2")	4 - 5 leaf (3")	Maximum of 1 tiller
Corn, volunteer	1 - 2 leaf (3")	3 - 4 leaf (6")	—
Crabgrass, large	1 - 3 leaf (2")	4 - 5 leaf (3")	Maximum of 1 tiller
Crabgrass, smooth	1 - 3 leaf (2")	4 - 5 leaf (3")	Maximum of 1 tiller
Cupgrass, woolly	1 - 5 leaf (4")	(8")	—
Foxtail, giant	1 - 4 leaf (3")	5 - 6 leaf (4")	Maximum of 2 tillers
Foxtail, green	1 - 4 leaf (3")	5 - 6 leaf (4")	Maximum of 2 tillers
Foxtail, yellow	1 - 3 leaf (2")	4 leaf (2")	Apply prior to tillering
Millet, volunteer proso	1 - 3 leaf (1")	4 - 5 leaf (3")	Maximum of 1 tiller
Millet, wild proso	1 - 3 leaf (2")	4 - 5 leaf (3")	Maximum of 1 tiller
Oat, wild	1 - 2 leaf (2")	3 leaf (3")	Maximum of 1 tiller
Panicum, fall	1 - 3 leaf (2")	4 - 5 leaf (3")	Maximum of 1 tiller
Panicum, Texas	1 - 3 leaf (2")	4 - 5 leaf (3")	Maximum of 1 tiller
Sandbur, field	-	1 - 4 leaf (2")	Apply prior to tillering
Wheat, volunteer	1 - 2 leaf (2")	3 leaf (3")	Maximum of 1 tiller

* **Apply up to 30 fl oz/A (1.88 pt/A) if weeds exceed the growth stage shown in the table.**

For improved control of heavy populations or larger than recommended volunteer wheat, volunteer barley, yellow foxtail, and wild oats, Glufosinate 280 can be tank mixed with Assure® II Herbicide, Poast® Herbicide, Prism* Herbicide or Select® 2EC Herbicide.

Perennial Weeds Controlled by Glufosinate 280

Weed Species	Growth Stage of Weed* (Maximum Height/Diameter)		Comments on Number of Applications
	15 fl oz/A (0.9 pt/A)	20 fl oz/A (1.25 pt/A)	
Quackgrass	-	1 - 3 leaf (3")	Multiple applications required
Sowthistle, perennial	-	1 - 4 leaf (3")	Multiple applications required
Thistle, Canada	-	1 - 4 leaf (3")	Multiple applications required

* Apply up to 30 fl oz/A (1.88 pt/A) if weeds exceed the growth stage shown in the table.

Broadleaf Weeds Controlled by Glufosinate 280

Weed Species	Growth Stage of Weed* (Maximum Diameter)	
	15 fl oz/A (0.9 pt/A)	20 fl oz/A (1.25 pt/A)
Buckwheat, wild	1 - 4 leaf (2")	5 - 6 leaf (3")
Buffalobur	1 - 4 leaf (2")	5 - 6 leaf (3")
Carpetweed	—	1 - 4 leaf (2")
Chickweed, common	1 - 4 leaf (2")	5 - 6 leaf (3")
Cocklebur, common	1 - 6 leaf (3")	7 - 8 leaf (5")
Kochia	(1")	(2")
Ladysthumb	1 - 2 leaf (1")	3 - 4 leaf (3")
Lambsquarter, common	1 - 2 leaf (1")	4 - 5 leaf (3")
Mallow, Venice	1 - 4 leaf (2")	5 - 6 leaf (3")
Marshelder	1 - 2 leaf (1")	3 - 4 leaf (2")
Mustard, wild	1 - 4 leaf (2")	5 - 6 leaf (3")
Nightshade, eastern black	1 - 4 leaf (2")	5 - 6 leaf (3")
Pigweed, prostrate	(1")	(3")
Pigweed, redroot	1 - 2 leaf (1")	3 - 4 leaf (3")
Pigweed, smooth	1 - 2 leaf (1")	3 - 4 leaf (3")
Pigweed, spiny	1 - 2 leaf (1")	3 - 4 leaf (3")
Purslane, common	(1")	(2")
Ragweed, common	1 - 6 leaf (3")	7 - 8 leaf (5")
Ragweed, giant	1 - 4 leaf (2")	5 - 6 leaf (3")
Shepherd's purse	1 - 4 leaf (2")	5 - 6 leaf (3")
Smartweed, Pennsylvania	1 - 2 leaf (1")	3 - 4 leaf (3")
Sowthistle, annual	1 - 4 leaf (2")	5 - 6 leaf (3")
Sunflower, common	1 - 6 leaf (3")	7 - 8 leaf (5")
Thistle, Russian	(1")	(2")
Velvetleaf	1 - 2 leaf (1")	3 - 4 leaf (3")

*Apply up to 30 fl oz/A (1.88 pt/A) if weeds exceed the growth stage shown in the table.

APPLICATION DIRECTIONS FOR USE ON CANOLA

Apply Glufosinate 280 only to canola labeled as LibertyLink[®]. Uniform, thorough spray coverage is necessary to achieve consistent weed control.

APPLICATION RATE AND TIMING

For best results, apply to emerged, young, actively growing weeds. Warm temperatures, high humidity, and bright sunlight improve the performance of Glufosinate 280. Weed control may be reduced when applications are made to weeds under stress due to drought or cool temperatures. For optimal yield, early season weed removal is important.

Applications of Glufosinate 280 on canola may be made from the cotyledon stage up to the early bolting stage of the canola. Slight discoloration of the canola may be visible after application. This effect is temporary and will not influence crop growth, maturity, or yield. Apply Glufosinate 280 at 22 fl oz/A per application. A second application of Glufosinate 280 may be needed to control weeds that have not yet emerged at the time of application.

RESTRICTIONS TO THE DIRECTIONS FOR USE ON CANOLA

- **DO NOT** use on canola in the states of Alabama, Delaware, Georgia, Kentucky, Maryland, New Jersey, North Carolina, South Carolina, Tennessee, Virginia and West Virginia.
- **DO NOT** apply more than two applications of Glufosinate 280 per growing season. Sequential applications must be at least 10 days apart.
- **DO NOT** apply Glufosinate 280 within 65 days of harvesting canola.
- **DO NOT** apply more than 44 fl oz/A of Glufosinate 280 per growing season. If Glufosinate 280 was used in a burndown application, no post emergence applications may be applied to the crop.
- **DO NOT** graze the treated crop or cut for hay.
- **DO NOT** apply Glufosinate 280 if canola shows injury from prior herbicide applications or environmental stress (drought, excessive rainfall, etc.).
- **DO NOT** apply this product through any type of irrigation system.
- Refer to the "**Rotational Crop Restrictions**" section under the "**Information**" heading of this label for the appropriate rotational crop plant back intervals.

SPRAY ADDITIVES

Glufosinate 280 must be applied with ammonium sulfate (AMS). Use only fine feed grade or spray grade AMS at 3 pounds per acre. Anti-foams or drift control agents may be added if needed. Use of additional surfactants or crop oils may increase risk of crop response.

CANOLA TANK MIX INSTRUCTIONS

Glufosinate 280 at 22 fl oz/A plus AMS may be used in tank-mix combination with certain herbicides for improved control of larger than labeled grasses. Glufosinate 280 may be applied in tank mix combinations with labeled rates of other products provided these other products are labeled for the timing and method of application for the canola to be treated. The tank mix partner must be used in accordance with the label limitations and precautions. No label dosage rates may be exceeded. Glufosinate 280 cannot be mixed with any product containing a label prohibition against such mixing. The AMS rate may be reduced to 1.5 lb/A when Glufosinate 280 is tank mixed with a reduced rate of one of the grass herbicides specified below.

TANKMIX PARTNERS FOR GLUFOSINATE 280 ON INVIGOR LIBERTYLINK® CANOLA

Tank Mix Partner	Rate (fl oz/A)
Assure® II	4 - 5 fl oz/A
Poast®	6 - 8 fl oz/A
Select® 2EC	2 - 3 fl oz/A
Select Max™	4 - 6 fl oz/A

APPLICATION RATE AND TIMING FOR CANOLA FOR TRANSGENIC SEED PROPAGATION

Up to three applications of Glufosinate 280 at up to 22 fl oz/A per application may be made to canola for transgenic seed propagation. Applications may be made from the cotyledon stage up to the early bolting stage (e.g., BBCH 18-30, between just prior to stem elongation/bolting, eight or more leaves and beginning of stem elongation, no internodes).

RESTRICTIONS TO THE DIRECTIONS FOR CANOLA FOR TRANSGENIC SEED PROPAGATION

- **DO NOT** apply than three applications of Glufosinate 280 at up to 22 fl oz/A per application per growing season.
- **DO NOT** apply more than 66 fl oz/A of Glufosinate 280 per growing season.
- **DO NOT** apply Glufosinate 280 beyond the early bolting stage or within 65 days of harvesting canola seed.
- **DO NOT** use treated canola seed for food, feed or oil purposes.
- **DO NOT** apply Glufosinate 280 if canola shows injury from prior herbicide applications or environmental stress (drought, excessive rainfall, etc.).
- **DO NOT** apply this product through any type of irrigation system.

APPLICATION DIRECTIONS FOR USE ON FIELD CORN AND SILAGE CORN

Apply Glufosinate 280 only to corn labeled as LibertyLink[®]. Uniform, thorough spray coverage is necessary to achieve consistent weed control.

APPLICATION RATE AND TIMING

For best results, apply to emerged, young, actively growing weeds. Warm temperatures, high humidity, and bright sunlight improve the performance of Glufosinate 280. Weed control may be reduced when applications are made to weeds under stress due to drought or cool temperatures. For optimal yield, early season weed removal is important.

Applications of Glufosinate 280 on corn may be made with over-the-top broadcast or drop nozzles from emergence until corn is 24 inches tall or in the V-7 stage of growth, i.e., 7 developed collars, whichever comes first. For corn 24 inches to 36 inches tall, only apply Glufosinate 280 using ground application and drop nozzles and avoid spraying into the whorl or leaf axils of the corn stalks. Applications of Glufosinate 280 following the use of soil-applied insecticides will not injure corn.

Apply Glufosinate 280 at 22 fl oz/A per application. A second application of Glufosinate 280 or a tank mix application with a residual herbicide will be needed to control weeds that have not yet emerged at the time of application.

TANKMIX PARTNERS FOR GLUFOSINATE 280 ON INVIGOR LIBERTYLINK® CANOLA

Tank Mix Partner	Rate (fl oz/A)
Assure® II	4 - 5 fl oz/A
Poast®	6 - 8 fl oz/A
Select® 2EC	2 – 3 fl oz/A
Select Max™	4 - 6 fl oz/A

RESTRICTIONS TO THE DIRECTIONS FOR USE ON FIELD CORN, AND SILAGE CORN

- **DO NOT** apply Glufosinate 280 within 60 days of harvesting corn forage and within 70 days of harvesting corn grain and corn fodder.
- **DO NOT** apply more than two applications of Glufosinate 280 to the corn crop. Sequential applications must be at least 10 days apart.
- **DO NOT** apply more than 44 fl oz/A of Glufosinate 280 on corn per growing season. If Glufosinate 280 was used in a burndown application, no post emergence applications may be applied to the crop.
- **DO NOT** use nitrogen solutions as spray carriers. A silicone-based antifoam agent may be added if needed.
- **DO NOT** apply Glufosinate 280 if corn shows injury from prior herbicide applications or environmental stress (drought, excessive rainfall, etc.).
- **DO NOT** apply this product through any type of irrigation system.
- Refer to the "**Rotational Crop Restrictions**" section under the "**Information**" heading of this label for the appropriate rotational crop plant back intervals.

SPRAY ADDITIVES

For corn, Glufosinate 280 must be applied with ammonium sulfate (AMS). It is recommended to use only fine feed grade or spray grade AMS at 3 lbs per acre (17 lbs/100 gallons). When temperatures exceed 85°F, the rate of AMS can be reduced to 1.5 lbs per acre (8.5 lbs/100 gallons) to reduce potential leaf burn. Use of additional surfactants or crop oils may increase risk of crop response.

CORN TANK MIX INSTRUCTIONS

Certain herbicide tank mixes may aid in the performance of Glufosinate 280. No additional surfactant is needed with any tank mix partner. Glufosinate 280 may be applied in tank mix combinations with labeled rates of other products provided these other products are labeled for the timing and method of application for the corn to be treated. The tank mix partner must be used in accordance with the label limitations and precautions. No label dosage rates may be exceeded. Glufosinate 280 cannot be mixed with any product containing a label prohibition against such mixing.

TANKMIX PARTNERS FOR GLUFOSINATE 280 ON LIBERTY LINK® CORN:

2,4-D	Halex GT	Pendimethalin ¹
acetochlor	Hornet® WDG	Permit®
Aim™ ²	Impact®	Python®WDG
Atrazine	Laudis®	s-metolachlor ²
Callisto™	Lexar® ²	Spirit®
Camix® ²	Lumax® ²	Status®
Capreno®	Metolachlor ²	Yukon®
Dlstrict®	nicosulfuron	Zemax
Guardsman Max®	NorthStar™	

¹Tankmixing with pendimethalin may result in reduced control of barnyardgrass, fall panicum, field sandbur, yellow foxtail, and volunteer corn.

²It is recommended that these products are tankmixed at half the use rate with Glufosinate 280 to reduce risk of crop response. It is recommended that these products are tank mixed at ½ the use rate with Glufosinate 280 to reduce risk of crop response.

CORN INSECTICIDE TANK MIX PARTNERS FOR GLUFOSINATE 280:

To provide weed and insect control in corn, Glufosinate 280 may be mixed with the following insecticides:

Ambush® Insecticide	Tombstone™ Helios®	Pounce® 3.2EC Insecticide
Asana® XL Insecticide	Lorsban® 4E Insecticide	Warrior™ Insecticide
Baythroid® XL Insecticide	Tombstone™	

APPLICATION DIRECTIONS FOR USE ON COTTON

Uniform, thorough spray coverage is necessary to achieve consistent weed control. Glufosinate 280 may be applied as a broadcast, over-the-top, post-emergence spray or as a directed spray only to LibertyLink® cotton. This product may be applied post-emergence to non-LibertyLink® cotton varieties or cultivars by using equipment designed to minimize contact of the spray with the cotton foliage. See the Application Methods on Non- LibertyLink® Cotton section for selection of shielding equipment. Severe injury or death may result if the Glufosinate 280 contacts the foliage or stems of cotton NOT labeled as LibertyLink®.

APPLICATION RATE AND TIMING

For best results, apply to emerged, young, actively growing weeds. Warm temperatures, high humidity, and bright sunlight improve the performance of Glufosinate 280. Weed control may be reduced when applications are made to weeds under stress due to drought or cool temperatures. For optimal yield, early season weed removal is important.

Apply Glufosinate 280 to cotton from emergence up to the early bloom stage at 22 to 29 fl oz/A. Should environmental conditions prevent a timely herbicide application, a single application of up to 43 fl oz/A of Glufosinate280 may be made to cotton. If more than 29 fl oz/A are used in any single application, the seasonal total may not exceed 72 fl oz/A, including all application timings. See Restrictions to the Directions for use on Cotton below for additional information.

Refer to the Weed Control Table for Row Crops section of this label for selection of the proper rate dependent upon weed species present and size. In weed populations with mixed species, select the highest rate required to control all the species. Volunteer LibertyLink[®] crop plants (corn, cotton, soybean, sugar beet) from the previous season will not be controlled by applications of Glufosinate 280.

A repeat application of Glufosinate 280 or tank mixes with a residual herbicide will be needed to control weeds that have not emerged at the time of application. See the Tank Mix Instructions for Use on Cotton to select suitable tank mix partners.

Use Pattern	1st Application	2nd Application	3rd Application	Season Maximum
Option 1	22 - 29 fl oz/A	22 - 29 fl oz/A	22 - 29 fl oz/A	87 fl oz/A
Option 2	30 - 43 fl oz/ A	22 - 29 fl oz/A	None	72 fl oz/A

RESTRICTIONS TO THE DIRECTIONS FOR USE ON COTTON

- **DO NOT** apply Glufosinate 280 to cotton in Florida, South of Tampa (Florida Route 60), or in Hawaii, except for test plots or breeding nurseries.
- **DO NOT** apply Glufosinate 280 within 70 days prior to cotton harvest.
- Up to three applications of Glufosinate 280 may be made to cotton per season at a maximum application rate of 29 fl oz/A. **DO NOT** apply more than 87 fl oz (including all application timings) to cotton per season under this application scenario. Sequential applications must be at least 10 days apart.
- If environmental conditions prevent timely applications resulting in large weeds or heavy infestations, a single application of Glufosinate 280 at up to 43 fl oz/A may be made to cotton. **DO NOT** apply more than 43 fl oz of Glufosinate 280 in a single application under this use scenario. If a single application greater than 29 fl oz is made, a subsequent application not to exceed 29 fl oz may be made to cotton. The seasonal total use rate under this scenario may not exceed 72 fl oz of Glufosinate 280. Sequential applications must be at least 10 days apart.
- **DO NOT** apply this product through any type of irrigation system.
- Refer to the "**Rotational Crop Restrictions**" section under the "**Information**" heading of this label for the appropriate rotational crop plant back intervals.

APPLICATION METHODS TO LIBERTYLINK[®] COTTON

Refer to the Weed Control Table for Row Crops to select the proper application rate based upon the weeds present and their size. Uniform and thorough spray coverage is required to achieve consistent weed control. For ground application, apply Glufosinate 280 to LibertyLink[®] cotton as an over-the-top foliar spray or as a spray directed to the lower one-third of the cotton stand.

APPLICATION METHODS TO NON-LIBERTYLINK COTTON

Application of Glufosinate 280 to cotton varieties not labeled as LibertyLink[®] requires the use of hooded spray equipment designed to minimize exposure of the spray to the cotton stand. A hooded sprayer directs the spray onto weeds, while shielding the cotton stand from contact. Use nozzles that provide uniform coverage within the treated area. Keep hoods on these sprayers adjusted to protect desirable vegetation. Extreme care must be exercised to avoid exposure of the desirable vegetation to the spray.

With a hooded sprayer, the spray pattern is completely enclosed on the top and all 4 sides by a hood, thereby shielding the crop from the spray solution. This equipment must be set up and operated in a manner that avoids bouncing or raising the hoods off the ground in any way. The spray hoods must be operated on the ground or skimming across the ground. Tractor speed must be adjusted to avoid bouncing of the spray hoods. Avoid operation on rough or sloping ground where the spray hoods might be raised off the ground. If the hoods are raised, spray particles may escape and come into contact with the cotton, causing damage or destruction of the crop.

Herbicide rates and spray volume instructions are presented as broadcast equivalents and must be reduced in proportion to the area actually treated. Use the following formulas to calculate the correct rate and volume per planted (field) acre:

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Broadcast RATE per acre} = \text{Amount of banded product needed per acre}$$

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Broadcast spray VOLUME per acre} = \text{Banded Spray Volume needed per acre}$$

POST-HARVEST

Glufosinate 280 may be applied as a post-harvest burndown treatment to fields (after cotton harvest). Up to 43 fl oz/A of Glufosinate 280 may be applied in a single application to control larger weeds growing in the crop at the time of harvest. If more than 29 fl oz/A is used in a single application, the seasonal total may not exceed 72 fl oz/ A, including all application timings. Refer to the Rotational Crop Restrictions section of this label for appropriate rotational crop information.

COTTON TANK MIX INSTRUCTIONS

Certain tank mixes may aid in the performance of Glufosinate 280. No additional surfactant is needed with any tank mix partner. Glufosinate 280 may be applied in tank mix combinations with labeled rates of other products provided these other products are labeled for the timing and method of application for the cotton to be treated. The tank mix partner must be used in accordance with the label limitations and precautions. No label dosage rates may be exceeded. Glufosinate 280 cannot be mixed with any product containing a label prohibition against such mixing.

LibertyLink® Cotton: For cotton tolerant to Glufosinate 280, Dual Magnum® or Staple® Herbicide may be tank-mixed with Glufosinate 280 and applied over-the-top post-emergence to enhance weed control and/or provide residual control.

All Cotton Types: The following herbicides may be mixed with Glufosinate 280 for hooded-spray application to enhance weed control and/or provide residual weed control:

Aim™	Cotoran® DF	Dual Magnum®	Pendimax™ 3.3	Staple®
Caparol® 4L	Direx® 4L	Glyphosate	Prowl® 3.3EC	
Cotoran® 4L	Direx® 80DF	Karmex® DF	Select Max™	

POSTEMERGENCE OVER-THE-TOP TANKMIX PARTNERS FOR GLUFOSINATE 280 ON LIBERTYLINK® COTTON

Assure II	metolachlor	clethodim
Poast Plus	Fusilade DX	Select Max
Fusion	Staple	

APPLICATION DIRECTIONS FOR USE ON SOYBEANS

Apply Glufosinate 280 only to soybean designated as LibertyLink®. Uniform, thorough spray coverage is necessary to achieve consistent weed control.

APPLICATION RATE AND TIMING

For best results, apply to emerged, young, actively growing weeds. Warm temperatures, high humidity, and bright sunlight improve the performance of Glufosinate 280. Weed control may be reduced when applications are made to weeds under stress due to drought or cool temperatures. Adding ammonium sulfate with Glufosinate 280 may improve weed control if weeds are under stress. For optimal yield, early season weed removal is important.

Applications of Glufosinate 280 on soybeans may be made from emergence up to but not including the bloom growth stage.

Apply Glufosinate 280 to LibertyLink® soybeans from emergence up to but not including the bloom growth stage at 22 to 29 fl oz/A. See weed chart to determine rate. Should environmental conditions prevent a timely herbicide application, a single application of up to 36 fl oz/A of Glufosinate 280 may be made to soybeans followed by one additional application at a maximum of 29 fl oz/A with a seasonal maximum of 65 fl oz/A. Glufosinate 280 may be applied alone, or in a tank mix application with a residual herbicide to control weeds that have not yet emerged at the time of application.

Although timely post applications of Glufosinate 280 can provide complete weed control, residual herbicides at burndown, planting, or tank mixed with Glufosinate 280 help ensure optimal weed management, particularly if environmental conditions delay timely post applications. Residual herbicides can also reduce early season weed competition and are a key element of good weed resistance management practices.

Use Pattern Rate Ranges		
1 st Application	2 nd Application	Season Maximum
22 – 36 fl oz/A	22 – 29 fl oz/A	65 fl oz/A

RESTRICTIONS TO THE DIRECTIONS FOR USE ON SOYBEANS

- **DO NOT** apply Glufosinate 280 within 70 days of harvesting soybean seed.
- **DO NOT** apply more than 65 fl oz/A of Glufosinate 280 on soybeans per growing season.
- **DO NOT** apply more than 36 fl oz/A of Glufosinate 280 in a single application.
- **DO NOT** graze the treated crop or cut for hay.
- **DO NOT** use nitrogen solutions as spray carriers. A silicone-based antifoam agent may be added if needed.
- **DO NOT** apply Glufosinate 280 if soybeans show injury from prior herbicide applications or environmental stress (drought, excessive rainfall, etc.).
- **DO NOT** apply this product through any type of irrigation system.
- Refer to the "**Rotational Crop Restrictions**" section under the "**Information**" heading of this label for the appropriate rotational crop plant back intervals.
- Sequential applications must be at least 5 days apart.

SOYBEAN TANK MIX INSTRUCTIONS

Certain herbicide tank mixes may complement Glufosinate 280. No additional surfactant is needed with any tank mix partner. Glufosinate 280 may be applied in tank mix combinations with labeled rates of other products provided these other products are labeled for the timing and method of application for the soybean to be treated. The tank mix partner must be used in accordance with the label limitations and precautions. No label dosage rates may be exceeded. Glufosinate 280 cannot be mixed with any product containing a label prohibition against such mixing.

TANKMIX PARTNERS FOR GLUFOSINATE 280 IN LIBERTYLINK® SOYBEANS

Assure® II	Fusion®	Raptor™
Classic®	Harmony®	Reflex®
clethodim	Optill	Resource®
Cobra®	metolachlor	Select Max®
Fierce	Phoenix™	Sharpen
First Rate®	Poast Plus®	Synchrony®XP
Flexstar®	Prefix	Ultra Blazer®
Fusilade® DX	Pursuit®	

APPLICATION DIRECTIONS FOR CANOLA, CORN, COTTON, AND SOYBEAN SEED PROPAGATION

Glufosinate 280 may be applied to select out susceptible "segregates," i.e., canola, corn, cotton, and soybean plants that are not tolerant to glufosinate-ammonium during seed propagation.

- **Canola:** Glufosinate 280 may also be used in canola seed propagation as a foliar spray to selectively eliminate canola plants that do not carry a gene that imparts tolerance to glufosinate-ammonium and as such, can be applied to remove susceptible segregates during canola seed propagation. Breeding material not possessing the glufosinate-ammonium tolerance gene will be severely injured or killed if treated with this herbicide. See **Application Use Directions for Use on Canola** for use rates and application timing.
- **Corn:** Inbred lines, plants not possessing glufosinate-ammonium tolerance, will be severely injured or killed if treated with this herbicide. A hooded sprayer may be used to protect plants from coming into contact with the herbicide application. For the selection of tolerant corn "segregates", Glufosinate 280 may be applied at 22 fl oz/A plus AMS at 3 lb/A (17 lb/100 gallons) when corn is in the V-3 to V-4 stage of growth, i.e., 3 to 4 developed collars. A second treatment of 22 fl oz/A plus AMS at 3 lb/A may be applied when the corn is in the V-6 to V-7 stage of growth or up to 24" tall. Sequential applications must be at least 10 days apart. When temperatures exceed 85°F, the rate of AMS can be reduced to 1.5 lbs/A (8.5 lb/100 gallons) to reduce potential leaf burn.
- **Cotton:** Glufosinate 280 may also be used in cotton seed propagation as a foliar spray to selectively eliminate cotton plants that do not carry a gene that imparts tolerance to glufosinate-ammonium and as such, can be applied to remove susceptible segregates during cotton seed propagation. Breeding material not possessing the glufosinate-ammonium tolerance gene will be severely injured or killed if treated with this herbicide. See **Application Use Directions for Use on Cotton** for use rates and application timing.
- **Soybean:** For the selection of tolerant soybean "segregates", Glufosinate 280 may be applied at up to 22 to 36 fl oz/A when soybean is in the third trifoliate stage. A second treatment of 22 to

29 fl oz/A may be applied up to but not including the bloom growth stage of soybean. Sequential applications must be at least 5 days apart.

Grass Weeds Controlled by Glufosinate 280

Weed Species	Growth Stage of Weed* (Maximum Height)		Comments on Weed Growth Stages/Application Timing/Number of Applications
	15 fl oz/A (0.9 pt/A)	20 fl oz/A (1.25 pt/A)	
Barley, volunteer	1 – 2 leaf (2")	3 leaf (3")	Multiple applications may be required
Barnyardgrass	1 – 3 leaf (2")	4 – 5 leaf (3")	Maximum of 1 tiller
Corn, volunteer	1 – 2 leaf (2")	3 – 4 leaf (6")	---
Crabgrass, large	1 – 3 leaf (2")	4 – 5 leaf (3")	Maximum of 1 tiller
Crabgrass, smooth	1 – 3 leaf (2")	4 – 5 leaf (3")	Maximum of 1 tiller
Cupgrass, woolly	1 – 5 leaf (4")	(8")	---
Foxtail, giant	1 – 4 leaf (4")	5 – 6 leaf (4")	Maximum of 2 tillers
Foxtail, green	1 – 4 leaf (4")	5 – 6 leaf (4")	Maximum of 2 tillers
Foxtail, yellow	1 – 3 leaf (2")	4 leaf (2")	Apply prior to tillering
Millet, volunteer proso	1 – 3 leaf (2")	4 – 5 leaf (3")	Maximum of 1 tiller
Millet, wild proso	1 – 3 leaf (2")	4 – 5 leaf (3")	Maximum of 1 tiller
Oat, wild	1 – 2 leaf (2")		Maximum of 1 tiller
Panicum, fall	1 – 3 leaf (2")	4 – 5 leaf (3")	Maximum of 1 tiller
Panicum, Texas	1 – 3 leaf (2")	4 – 5 leaf (3")	Maximum of 1 tiller
Sandbur, field	---	1 – 4 leaf (2")	Apply prior to tillering
Wheat, volunteer	1 – 2 leaf (2")	3 leaf (3")	Maximum of 1 tiller

***Apply up to 30 fl oz/A (1.88 pt/A) if weeds exceed the growth stage shown in the table.**

For improved control of heavy populations or larger than recommended volunteer wheat, volunteer barley, yellow foxtail and wild oats, Glufosinate 280 can be tank mixed with Assure® II Herbicide, Poast® Herbicide, Prism® Herbicide or Select® 2EC Herbicide.

Perennial Weeds Controlled by Glufosinate 280

Weed Species	Growth Stage of Weed* (Maximum Height/Diameter)		Comments on Weed Growth Stages/Application Timing/Number of Applications
	15 fl oz/A (0.9 pt/A)	20 fl oz/A (1.25 pt/A)	
Quackgrass	---	1 – 3 leaf (3")	Multiple applications required
Sowthistle, perennial	---	1 – 4 leaf (3")	Multiple applications required
Thistle, Canada	---	1 – 4 leaf (3")	Multiple applications required

***Apply up to 30 fl oz/A (1.88 pt/A) if weeds exceed the growth stage shown in the table.**

Broadleaf Weeds Controlled by Glufosinate 280

Weed Species	Growth Stage of Weed* (Maximum Diameter)	
	15 fl oz/A (0.9 pt/A)	20 fl oz/A (1.25 pt/A)
Buckwheat, wild	1 – 4 leaf (2")	5 – 6 leaf (3")
Buffalobur	1 – 4 leaf (2")	5 – 6 leaf (3")
Carpetweed	---	1 – 4 leaf (2")
Chickweed, common	1 – 4 leaf (2")	5 – 6 leaf (3")
Cocklebur, common	1 – 6 leaf (3")	7 – 8 leaf (5")
Kochia	(1")	(2")
Ladysthumb	1 – 2 leaf (1")	3 – 4 leaf (3")
Lambsquarter, common	1 – 2 leaf (1")	4 – 5 leaf (3")
Mallow, Venice	1 – 4 leaf (2")	5 – 6 leaf (3")
Marshelder	1 – 2 leaf (1")	3 – 4 leaf (2")
Mustard, wild	1 – 4 leaf (2")	5 – 6 leaf (3")
Nightshade, eastern black	1 – 4 leaf (2")	5 – 6 leaf (3")
Pigweed, prostrate	(1")	(3")
Pigweed, redroot	1 – 2 leaf (1")	3 – 4 leaf (3")
Pigweed, smooth	1 – 2 leaf (1")	3 – 4 leaf (3")
Pigweed, spiny	1 – 2 leaf (1")	3 – 4 leaf (3")
Purslane, common	(1")	(2")
Ragweed, giant	1 – 4 leaf (2")	5 – 6 leaf (3")
Shepherd's purse	1 – 4 leaf (2")	5 – 6 leaf (3")
Smartweed, Pennsylvania	1 – 2 leaf (1")	3 – 4 leaf (3")
Sowthistle, annual	1 – 4 leaf (2")	5 – 6 leaf (3")
Sunflower, common	1 – 6 leaf (3")	7 – 8 leaf (5")
Thistle, Russian	(1")	(2")
Velvetleaf	1 – 2 leaf (1")	3 – 4 leaf (3")

*Apply up to 30 fl oz/A (1.88 pt/A) if weeds exceed the growth stage shown in the table.

APPLICATION DIRECTIONS FOR USE ON SWEET CORN

Apply Glufosinate 280 only to corn labeled as LibertyLink®.

Application Timing for Sweet Corn:

Applications of Glufosinate 280 on sweet corn may be made from emergence until sweet corn is 24" tall or the V-7 stage of growth; i.e., 7 developed collars, whichever comes first. Apply at a rate of 20 fl oz/A. Glufosinate 280 must be applied with ammonium sulfate (AMS) for use on sweet corn. Two applications of Glufosinate 280 can be made to sweet corn in a growing season.

Restrictions to the Directions for Use on Sweet Corn:

- **DO NOT** apply Glufosinate 280 within 50 days of harvesting sweet corn ears and within 55 days of harvesting stover.
- **DO NOT** apply more than 40 fl oz/A of Glufosinate 280 on sweet corn per growing season.
- **DO NOT** apply more than two applications of Glufosinate 280 to the sweet corn crop. Sequential applications must be at least 10 days apart.
- If Glufosinate 280 was used in a burndown application, no postemergence applications may be made to the crop.
- **DO NOT** use nitrogen solutions as spray carriers. A silicone-based antifoam agent may be added if needed.

- **DO NOT** apply Glufosinate 280 if corn shows injury from prior herbicide applications or environmental stress (drought, excessive rainfall etc.).
- **DO NOT** apply this product through any type of irrigation system.
- Refer to the **Rotational Crop Restrictions** section under the **Product Information** heading of this label for the appropriate rotational crop plantback intervals.

See the **Application Methods for Broadcast Application, Mixing Instructions and Weed Control for Row Crops** tables on this label for further instruction.

Tank Mix Instructions for Use on Sweet Corn:

Glufosinate 280 may be tankmixed with Laudis® Herbicide, Callisto® Herbicide, Atrazine or Permit®. When using Glufosinate 280 in tankmix combinations, carefully follow the Directions for Use labeling of the selected partner.

APPLICATION DIRECTIONS FOR USE ON LISTED TREE, VINE, AND BERRY CROPS

Apply Glufosinate 280 to the tree, vine, and berry crops listed below. Uniform, thorough spray coverage is necessary to achieve consistent weed control.

REGISTERED CROPS

- Bushberries: blueberry, currant, elderberry, gooseberry and huckleberry
- Other Berries: Lingonberry, juneberry and salal
- Citrus: lemon, orange, grapefruit, lime, mandarin, tangerine, tangelo, calamondin, kumquat, pummelo, citron and tangor; cultivars, varieties and/or hybrids of these
- Olives
- Pome Fruits: apples, pears, crabapple, loquat, mayhaw, quince, azarole, medlar and tejocote; cultivars, varieties and/or hybrids of these
- Stone Fruits: apricot, cherry, peach, nectarine, plum, capulin, jujube and sloe; cultivars, varieties and/or hybrids of these
- Tree Nuts: almonds, filberts, hickory nuts, macadamia nuts (bush nuts), pecans, pistachios, and walnuts
- Vineyards: all grape varieties (table, wine, and raisins)

APPLICATION RATE AND TIMING

For best results, apply to emerged, young, actively growing weeds. Warm temperatures, high humidity, and bright sunlight improve the performance of Glufosinate 280. Refer to the Weed Control for Row Crops section of this label for selection of the proper rate dependent upon weed species present and size. Weeds under stress or in dense populations will require application at the highest specified label use rate. Stressed conditions also include prior treatments of other contact or systemic herbicides. Do not retreat these weeds with Glufosinate 280 until sufficient regrowth has occurred.

Apply Glufosinate 280 as a directed spray to control undesirable vegetation in tree, vine and berries listed on this label. Apply as a broadcast, banded, or spot treatment application depending on the situation to control weeds listed under the heading "Weeds Controlled in Tree, Vine and Berry crops". Avoid direct spray or drift to desirable vegetation. Regrowth may occur due to the weed stage of growth at application, low use rate, or environmental conditions. Repeat applications of Glufosinate 280 may be necessary to control plants generating from underground parts or seed.

Avoid contact of Glufosinate 280 solution, spray, drift or mist with green bark, stems, or foliage, as injury may occur to trees and vines. **Only trunks with callused, mature brown bark should be sprayed unless protected from spray contact by nonporous wraps, grow tubes or waxed containers. Contact of Glufosinate 280 with parts of trees or vines other than mature brown bark can result in serious damage.**

Application Methods for Broadcast Applications

Apply Glufosinate 280 at the rates listed below for broadcast applications based on weed size and stage of growth.

Weed Size and Stage	Glufosinate 280 Rate
Weeds < 3" in height	48 fl oz/A
Weeds < 6" in height pre-tiller grasses	56 fl oz/A
Weeds > 6" in height and/or grasses that have tillered	56-82 fl oz/A

Application Methods for Banded Spray Applications

Banded applications may be used using the following formula to calculate the amount of herbicide needed for orchard or vineyard strip sprays:

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Rate per acre broadcast} = \text{Amount of herbicide needed for treatment}$$

Application Methods for Spot or Directed-Spray Applications

For spot or directed spray application, mix Glufosinate 280 at 1.7 fl oz of product per gallon of water. Apply to undesirable vegetation foliage until wet but prior to runoff. Ensure uniform and complete coverage. Thoroughly clean the sprayer following use. DO NOT make spot or directed spray applications to tree or vine trunk as injury may occur.

Weeds Controlled in Tree, Vine and Berry Crops

Broadleaf Weeds

Alkali sida	Fleabane, annual	Morningglory, entireleaf	Redmaids
Ammannia, purple	Goosefoot	Morningglory, ivyleaf	Shepherd's-Purse
Arrowhead, California	Gromwell, field	Morningglory, pitted	Smartweed, Pennsylvania
Buckwheat, wild	Groundcherry, cutleaf	Mullein, turkey	Sowthistle, annual
Buffalobur	Groundsel, common	Mustard, wild	Spurge, prostrate
Burclover, California	Henbit	Nettle	Starthistle, yellow
Carpetweed	Jimsonweed	Nightshade, black	Sunflower, common
Chickweed, common	Knotweed	Nightshade, eastern black	Sunflower, prairie
Chinese thornapple	Kochia	Nightshade, hairy	Sunflower, volunteer
Cocklebur, common	Lambsquarters, common	Pennycress	Swinecress
Cudweed	Lettuce, miner's	Pigweed, redroot	Thistle, Russian
Cutleaf eveningprimrose	Lettuce, prickly	Pineapple-weed	Turnip, wild
Dodder	London rocket	Puncturevine	Velvetleaf
Eclipta	Mallow, common	Purslane, common	Vervain
Fiddleneck	Malva (little mallow)	Radish, wild	Vetch
Filaree	Marestail	Ragweed, common	Virginia copperleaf
Filaree, redstem	Mayweed	Ragweed, giant	Willowherb, panicle

Grass Weeds

Barnyardgrass	Crabgrass, smooth	Junglerice	Shattercane
Bluegrass, annual	Cupgrass, woolly	Oat, wild	Sprangletop
Brome, ripgut	Foxtail, giant	Panicum, fall	Stinkgrass
Bromegrass, downy	Foxtail, green	Panicum, Texas	Wheat, volunteer
Canarygrass	Foxtail, yellow	Rush, toad**	Windgrass
Chess, soft	Goosegrass	Ryegrass, annual	Witchgrass
Crabgrass, large	Johnsongrass, seedling	Sandbur, field	

Biennial and Perennial Weeds

Aster, white heath	Dallisgrass	Mullein, common	Rocket, yellow
Bindweed, field	Dandelion	Mustard, tansy	Rose, wild
Bindweed, hedge	Dock, curly	Nutsedge, purple	<i>Rubus</i> spp.
Bluegrass, Kentucky	Dogbank (hemp)	Nutsedge, yellow	Spurge, leafy
Bromegrass, smooth	Fescue	Onion, wild	Thistle, bull
Bulrush**	Goldenrod, gray	Orchardgrass	Thistle, musk
Burdock	Guineagrass	Paragrass	Torpedograss
Canada thistle	Horsetail	Plantain	Vaseygrass
Clover, Alsike	Lovegrass	Poison ivy/oak	Woodsorrel
Clover, red	Mugwort	Quackgrass	Yarrow, common
Clover, white			

**indicates suppression

RESTRICTIONS TO THE DIRECTIONS FOR USE ON TREE, VINE, AND BERRY CROPS

1. **DO NOT** apply more than 164 fl oz of Glufosinate 280 per acre (3 lbs ai/A) to berry bushes in a 12-month period.
2. **DO NOT** apply more than 246 fl oz of this product per acre to tree nuts, vines, and tree fruits in any calendar year.
3. **DO NOT** graze, harvest, and/or feed treated orchard cover crops to livestock.
4. **DO NOT** apply this product through any type of irrigation system.
5. **DO NOT** apply this product aerially to tree, berry, or vine crops.
6. **DO NOT** apply this product within 14 days of nut, apple, berry or grape harvest.
7. **DO NOT** make spot spray applications to apple suckers, as tree injury may occur.

SUCKER CONTROL WITH GLUFOSINATE 280 HERBICIDE

Glufosinate 280 will reduce or eliminate sucker growth when applied to suckers that are young, green and uncallused. For sucker control, apply a split application approximately 4 weeks apart at 56 fl oz/A. Coverage of all sucker foliage is necessary for optimum control. Suckers should not exceed 12 inches in length.

TANK MIX PARTNER

Glufosinate 280 does not provide residual weed control or control of unexposed plant parts. Certain herbicide tank mixes may aid in the performance of Glufosinate 280 or be added to provide residual herbicide activity. No additional surfactant is needed with any tank mix partner. Glufosinate 280 may be applied in tank mix combinations with labeled rates of other products provided these other products are labeled for the timing and method of application for the crop to be treated. The tank mix partner must be used in accordance with the label limitations and precautions. No label dosage rates may be exceeded. Glufosinate 280 cannot be mixed with any product containing a label prohibition against such mixing.

Chateau	Karmex® DF	Simazine 80W	Solicam® DF
Devrinol® 50WP	Princep® 4L	Simazine 90	Surflan® A.S.
Goal® 1.6E	Simazine 4L	Sinbar® 80W	

APPLICATION DIRECTIONS FOR POTATO VINE DESICCATION

APPLICATION RATE AND TIMING

Apply Glufosinate 280 at the beginning of natural senescence of potato vines. Apply 21 fl oz/A. Do not split this application or apply more than one application per harvest. Potato varieties with heavy or dense vines may require an application of another desiccation product to complete vine desiccation.

Thorough coverage of the potato vines to be desiccated is essential. Use a sufficient volume of water (20 to 100 gpa) to obtain a thorough coverage of the potato vines. Vary the gallons of water per acre and the spray pressure as indicated by the density of the potato vines to assure thorough spray coverage. Increase the spray volume to at least 30 gallons of water per acre when the potato vine canopy is dense or under cool and dry conditions. Apply Glufosinate 280 with the spray boom as low as possible to achieve thorough coverage of the potato vines for best control and to minimize drift potential.

RESTRICTIONS TO THE DIRECTIONS FOR USE IN POTATO VINE DESICCATION

1. **DO NOT** apply more than 21 fl oz/A to potato vines per season.
2. **DO NOT** harvest potatoes until 9 days or more after application of Glufosinate 280.
3. **DO NOT** apply to potatoes grown for seed.
4. Sweet corn and cotton may be planted at any time after the application of Glufosinate 280 as a potato vine desiccant.
5. **DO NOT** plant treated areas to wheat, barley, buckwheat, millet, oats, rye, sorghum, and triticale until 30 or more days after an application of Glufosinate 280 as a potato vine desiccant.
6. **DO NOT** plant treated areas to crops other than those listed in this use precautions section until 120 or more days after an application of Glufosinate 280 as a potato vine desiccant.

APPLICATION DIRECTIONS FOR USE ON RICE

THOROUGH SPRAY COVERAGE IS VERY IMPORTANT. For best results, apply to emerged, young, actively growing weeds. Glufosinate 280 is a foliar active material with little or no soil residual activity. Weeds that emerge after application will not be controlled. Weed control may be reduced if application is made when heavy dew, fog, and mist/rain are present, or when weeds are under stress due to drought, cool temperatures, or extended periods of cloudiness. Glufosinate 280 is rainfast 4 hours after application to most weed species. Rainfall within 4 hours after application may necessitate retreatment or reduced weed control may result.

RESTRICTIONS TO THE DIRECTIONS FOR USE ON RICE

- **DO NOT** exceed 48 fl oz of Glufosinate 280 per growing season.
- **DO NOT** apply Glufosinate 280 within 70 days of harvesting rice.
- **DO NOT** plant rotation crops in a field treated with Glufosinate 280 within 120 days after the last application of this product with the exception of wheat, barley, buckwheat, millet, oats, rye, sorghum, and triticale, which may be planted 70 days after the last application of this product. The crops listed on this label may be planted at any time.
- **DO NOT** apply this product through any type of irrigation system.
- **DO NOT** use paddy water from a rice field treated with Glufosinate 280 for irrigation, or as a water source for livestock or for raising crayfish.
- **DO NOT** add surfactants or crop oils. A silicon-based anti-foam agent may be added if needed.

APPLICATION TIMING FOR THE SOUTHERN UNITED STATES (ARKANSAS, LOUISIANA, MISSISSIPPI, MISSOURI, TEXAS)

Applications of Glufosinate 280 on rice may be made from the 1-leaf stage through the mid-tillering stage of development. Refer to the **Rate Tables for Weed Control in Rice** to select the proper rate to use to control the weed species present. Glufosinate 280 will have an effect on weeds that are larger than the recommended leaf stage, however, speed of activity and control may be reduced.

Rice fields should be as level as possible and free of large clods to obtain uniform germination of rice and grassy weeds and to ensure uniform flood levels. If necessary, fields may be flushed prior to treatment so that the rice and grass/broad leaf weeds are actively growing at the time of treatment. If the rice field is flushed, allow sufficient time for germination of the weed species to occur prior to treatment.

Apply Glufosinate 280 prior to the permanent flood when weeds are in the 1- to 5-leaf stage. A second application is recommended after a new flush of weeds emerge. A second application may be made from 10 -14 days after the first application up to the mid-tillering growth stage of the rice. For optimum weed control, apply Glufosinate 280 before canopy closure to ensure thorough spray coverage of the weed species.

When applying Glufosinate 280 post flood, lower the water level so that 75% of the weed foliage is exposed. The water level may be brought back to normal 48 hours after the herbicide application.

APPLICATION TIMING FOR CALIFORNIA

1) Water Seeded Rice

Glufosinate 280 can be applied when the rice is in the 1 leaf stage to mid-tillering stage of development (but prior to panicle initiation). For optimum weed control, apply Glufosinate 280 when rice is in the 4 to 5 leaf stage. Lower the water in the field in order to expose small broad leaf weeds and sedges. The water level may be brought back to the normal level 24 hours after herbicide application. The water level must be controlled such that the rice is not completely covered. A second application is recommended at the 2 to 3 tiller stage of rice. For optimum weed control, apply Glufosinate 280 before canopy closure to ensure thorough spray coverage of the weed species.

- Minimum paddy depth of 8 inches.
- **DO NOT** exceed 24 fl oz (0.44 lb. ai/A) per single application.
- Maximum of two applications at 24 fl oz (0.44 lb. ai/A) with a minimum 10 day retreatment interval.
- **DO NOT** exceed 48 fl oz (0.89 lb. ai/A) per year.
- Minimum 7 day holding period after last application.

2) Drilled or Dry Seeded Rice

Rice fields should be as level as possible and free of large clods to obtain uniform germination of rice and grassy weeds and to ensure uniform flood levels. If necessary, fields may be flushed prior to treatment so that the rice and grass/broadleaf weeds are actively growing at the time of treatment. If the rice field is flushed, allow sufficient time for germination of the weed species to occur prior to treatment.

Apply Glufosinate 280 prior to the permanent flood when weeds are in the 1-5 leaf stage. A second

application is recommended after a new flush of weeds emerge. A second application may be made from 10 to 14 days after the first application up to the mid-tillering growth stage of the rice. For optimum weed control, apply Glufosinate 280 before canopy closure to ensure thorough spray coverage of the weed species.

- **DO NOT** exceed 48 fl oz (0.89 lb. ai/A) per single application.
- 2 applications can be made at 24 fl oz (0.44 lb. ai/A) with a minimum 10-day retreatment interval.
- **DO NOT** exceed 48 fl oz (0.89 lb. ai/A) per year.
- Minimum paddy depth of 4 inches.
- Minimum 7 day holding period after flooding of the field.

Rate Tables for Weed Control in Rice

1. *Southern United States (Arkansas, Louisiana, Mississippi, Missouri, Texas)*

Grass Weeds Controlled with Glufosinate 280 in Rice Grown in the Southern United States

Weed Species	Maximum Weed Growth Stage (leaf/tiller)	
	20 fl oz/A	24 fl oz/A
Barnyardgrass	4 leaf	2 tiller
Crabgrass, large	4 leaf	2 tiller
Fall Panicum	4 leaf	2 tiller
Johnsongrass	4 leaf	2 tiller
Rice, red*	4 leaf	2 tiller
Signalgrass, broadleaf	4 leaf	2 tiller
Sprangletop	4 leaf	2 tiller
Watergrass	6 leaf	2 tiller

*For optimum red rice control, make two applications of Glufosinate 280. The first application should be made when the red rice is in the 2 – 3 leaf stage. The second application should be made after the newly emerged red rice reaches the 2 – 3 leaf stage but before the white rice reaches the mid-tillering stage of development.

Broadleaf Weeds Suppressed or Controlled with Glufosinate 280 In Rice Grown in the Southern United States

Weed Species	Maximum Weed Height in Diameter (inches)	
	20 fl oz/A	24 fl oz/A
Ammania	2	4
California Arrowhead	**	4
Cocklebur, common		10
Curly Indigo	6	8
Dayflower	2	4
Eclipta	2	6
Morningglory, ivyleaf	4	8
Morningglory, pitted	4	8
Northern jointvetch	4	8
Pennsylvania Smartweed	4	8
Sesbania hemp	4	10

**indicates suppression

Glufosinate 280 applied at 24 fl oz/A may control or suppress the sedges shown in the following table. Control of sedges may be enhanced by using a second application or by a tank mix with other herbicides recommended on this label.

Sedges suppressed with Glufosinate 280 in Rice Grown in the Southern United States

Sedges	24 fl oz/A
Bulrushes	**
Flatsedge	**
Nutsedge	**
Smallflower Umbrellaplant	**

**indicates suppression

2. California

Grass Weeds Controlled with Glufosinate 280 at 20 fl oz/A in Rice Grown in California

Weed Species	Maximum Weed Growth Stage
Barnyardgrass	4 leaf
Sprangletop	4 leaf
Watergrass	4 leaf

Broadleaf Weeds Suppressed or Controlled with Glufosinate 280 in Rice Grown in California

Weed Species	Maximum Weed Height in Diameter (inches)	
	20 fl oz/A	24 fl oz/A
Ammania	2	4
California Arrowhead	2	4
Ducksalad	2	4

Sedges suppressed with Glufosinate 280 in Rice Grown in California

Weed Species	Maximum Weed Height (inches)	
	20 fl oz/A	24 fl oz/A
Ricefield bulrush	**	4
Smallflower Umbrellaplant	**	4

**indicates suppression

TANK MIX INSTRUCTIONS FOR USE IN RICE

When using Glufosinate 280 in tank mix combinations, follow the precautions and directions of the most restrictive label for the appropriate timing, rate and crop response information.

1. Southern United States (Arkansas, Louisiana, Mississippi, Missouri, Texas)

To enhance weed control and/or provide residual control in rice, Glufosinate 280 may be mixed with the following herbicides:

Arrosolo® 3.3E Herbicide

Basagran® Herbicide

Bolero® EC Herbicide

Londax® Herbicide

Prowl® 3.3EC Herbicide

Propanil

Stam® Herbicide

Permit® Herbicide

2. California

To enhance weed control and/or provide residual control in rice, Glufosinate 280 may be mixed with the following herbicides:

Londax® Herbicide

Stam® Herbicide

Super Wham® Herbicide

APPLICATION DIRECTIONS FOR USE IN RICE SEED PROPAGATION

Glufosinate 280 is to be applied as a foliar spray to selectively remove susceptible segregates (i.e., undesirable rice plants which are not tolerant to glufosinate-ammonium and to control a broad spectrum of emerged grass and broadleaf weeds in rice seed production fields). Inbred lines or breeding material not possessing the glufosinate-ammonium tolerance gene will be severely injured or killed if treated with this herbicide. Apply Glufosinate 280 exclusively to rice seed propagation fields in which the desired plants are glufosinate-ammonium tolerant.

THOROUGH SPRAY COVERAGE IS VERY IMPORTANT. Glufosinate 280 works best when weeds are small and the crops and weeds are actively growing. Visual effects and control of rice susceptible segregates from Glufosinate 280 applications occur within 2 to 4 days after application under good growing conditions. The ability of Glufosinate 280 to eliminate rice plants not tolerant to Glufosinate 280 may be reduced when heavy dew, fog, or mist/rain is present on the crop, or when crop is under stress due to drought, cool temperatures, or extended periods of cloudiness.

Rice fields should be as level as possible and free of large clods to obtain uniform germination on rice and grassy weeds and to ensure uniform flood levels. If necessary, fields may be flushed prior to treatment. If fields are flushed prior to treatment, flush in sufficient time so that the rice and grass/broadleaf weeds are actively growing at time of treatment.

Do not allow spray to contact foliage or green tissue of desirable vegetation other than rice lines in which the desired plants are glufosinate-ammonium tolerant. This product will injure any other green vegetation contacted by the spray.

INSTRUCTIONS FOR SEED HANDLING, STORAGE AND USE

Seed from treated plants must be held in secured storage until used for breeding of glufosinate-ammonium tolerant rice seed, or destroyed. Seed from treated plants must be labeled as follows: Do Not Use for Feed or Food Purposes. Store Away from Feed and Foodstuffs. In addition, label the seed with the "Seed Disposal" statements found in the "Storage and Disposal" section of this label.

RESTRICTIONS TO THE DIRECTIONS FOR USE

1. **DO NOT** use rice, any rice possessed commodities or rice straw treated with Glufosinate 280 for food or feed consumption.
2. **DO NOT** exceed 80 fl oz/A of Glufosinate 280 per growing season on rice being treated for segregate control in seed production fields.
3. **DO NOT** plant rotation crops in a field treated with Glufosinate 280 for 120 days after the last application of this product with the exception of wheat, barley, buckwheat, millet, oats, rye, sorghum, and triticale, which may be planted 70 days after the last application of this product.
4. **DO NOT** apply this product through any type of irrigation system.

Rate instructions and Timing for Seed Production

For the selection of susceptible rice (segregates) Glufosinate 280 must be applied at 40 fl oz/A when rice is in the 1 to 3 leaf stage of growth. A second treatment of 40 fl oz/A must be applied 10 days later or up until the rice is in the mid-tillering state of growth.

- **DO NOT** exceed 80 fl oz (1.46 lbs ai/A) per single application.
- 2 applications can be made at 40 fl oz (0.73 lb ai/A) with a minimum 10 day re-treatment interval.
- **DO NOT** exceed 80 fl oz (1.46 lbs ai/A) per year.
- Minimum paddy depth of 4 inches.
- If 1 application of 80 fl oz is made, the application must be made to a dry field. A minimum 7 day holding period after flooding of the field is required.
- If 2 applications are made, the first application must be made to a dry field.
- The second application may be made to a flooded field with a required 55 day holding period for a 4 inch paddy depth or a 30 day holding period for an 8 inch paddy depth.

WATER MANAGEMENT

A sufficient portion of the target grassy weed plant must be exposed to Glufosinate 280 for satisfactory control to be achieved. Therefore, if necessary, lower or allow water to recede so that at least 75 of the weed foliage is exposed above the water level. Do not increase the water level for at least 48 hours following the application of Glufosinate 280. The water level may be brought back to normal level following this period.

TANK MIX INSTRUCTIONS FOR GLUFOSINATE 280 USE IN RICE SEED PROPAGATION

When using Glufosinate 280 in tank mix combinations, follow the precautions and directions of the most restrictive label for the appropriate timing, rate, and crop response information.

1. Southern United States (Arkansas, Louisiana, Mississippi, Missouri, Texas)

To enhance weed control and/or provide residual control in rice, Glufosinate 280 may be mixed with the following herbicides:

Arrosolo® 3 3E Herbicide

Basagran® Herbicide

Bolero® 8EC Herbicide

Londax® Herbicide

Prowl® 3.3EC Herbicide

Stam® Herbicide

Permit® Herbicide

2. California

To enhance weed control and/or provide residual control in rice, Glufosinate 280 may be mixed with the following herbicides:

Bolero® BEC Herbicide

Londax" Herbicide

Stam® Herbicide

Super Wham® Herbicide

FALLOW FIELDS OR POST HARVEST

Glufosinate 280 may be used as a substitute for tillage in fallow fields to control or suppress weeds listed in the **Weed Control for Row Crops** section of this label. Applications may be made in fallow fields, post-harvest, prior to planting or emergence of any crop listed on this label. Apply Glufosinate 280 at 22 or 29 fl oz/A to fallow fields to control specific weeds. Glufosinate 280 must be applied with ammonium sulfate. Tank mixes with 2,4-D, glyphosate or atrazine are recommended with Glufosinate 280 to enhance total weed control. When using Glufosinate 280 in tank mix combinations, follow the precautions and directions of use of the most restrictive label. See the **Application and Mixing**

Procedures section of this label for additional information on how to apply this product. See the "**Information**" section of this label for rotational crop restrictions.

FARMSTEADS, RECREATIONAL AND PUBLIC AREAS

When applied as listed, Glufosinate 280 controls undesirable plant vegetation in non-crop areas around farmstead building foundations, shelter belts, along fences, airports, commercial plants, storage and lumber yards, educational facilities, fence lines, ditch banks, dry ditches, roadsides, schools, parking lots, tank farms, pumping stations, parks, other public areas and general nonselective farmstead weed control. Refer to the **Application Directions for Use on Listed Tree, Vine, and Berry Crops** section of this label for appropriate application broadcast and spot spray application rates and lists of weeds controlled.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE: Do not use or store near heat or open flame. Keep the container tightly closed and dry in a cool, well-ventilated place. Storage temperature should not exceed 125° F. If storage temperature for bulk Glufosinate 280 is below 32° F, the material should not be pumped until its temperature exceeds 32° F. Protect against direct sunlight.

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

CONTAINER HANDLING:

[Rigid, Non-refillable containers small enough to shake (i.e., with capacities equal to or less than 5 gallons)]

Non-refillable 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. Once container is rinsed, then offer for recycling or reconditioning; or puncture and dispose of in a sanitary landfill, or by incineration; or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

[All refillable container types (containers with capacities greater than 50 lbs)]

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning before refilling is the responsibility of the refiller. This is a sealed returnable container to be used only for Glufosinate 280. When this container is empty, it must not be opened, cleaned, or discarded. Empty containers must be returned to the original purchase location.

[Bottom discharge Intermediate Bulk Container (IBC) (containers with capacities greater than 50 lbs)]

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning before refilling is the responsibility of the refiller. Pressure rinsing the container before final disposal is the responsibility of the person disposing of the container. Empty the remaining contents from the Intermediate Bulk Container (IBC) into application equipment or mix tank. Raise the bottom of the IBC by 1.5 inch on the side which is opposite of the bottom discharge valve to promote more complete product removal. Completely remove the top lid of the IBC. Use water pressurized to at least 40 PSI to rinse all interior portions. Continuously pump or drain rinsate into application equipment or rinsate collection system

while pressure rinsing. Continue pressure rinsing for 2 minutes or until rinsate becomes clear. Replace the lid and close bottom valve. Contact your Ag retailer or Orion GFS for container return, disposal and recycling recommendations.

SEED DISPOSAL: To dispose of out-of date or otherwise unmarketable seed from plants which have been treated with Glufosinate 280, broadcast and lightly incorporate seed into field soils using disc or other suitable implement. Any resulting crop may be destroyed by chemical or mechanical means. Alternatively, seed may be destroyed by deep burial, incineration or landfill disposal.

CONDITIONS OF SALE AND LIMITED WARRANTY

The Directions for Use are believed to be reliable and must be followed carefully. However, it is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials or use of the product in a manner inconsistent with its labeling, all of which are beyond the control of Orion GFS, LLC or the SELLER. To the extent consistent with applicable law, all such risks shall be assumed by the buyer.

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