100-1282

8/18/2008



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C. 20460

> OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

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8-18-08

John Abbott Syngenta Crop Protection, Inc. P.O. Box 18300 Greensboro, NC 27419-8300

Subject: EPA Reg. 100-1282 Halex GT Label Amendment

Dear Mr. Abbott:

The labeling referred to above is acceptable.

A stamped copy of the label is enclosed for your records. Amended labeling will supercede all previous accepted ones.

If you have any questions please call Erik Kraft at 703-308-9358 or email at Kraft.Erik@epa.gov.

Sincerely,

Jim Tompkins Product Manager 25 Herbicide Branch Registration Division (7505P) **Booklet** 

**Note:** It is illegal to sell, use or distribute this product within, or into, Nassau County or Suffolk County, New York.

GROUP 15 9 27 HERBICIDES

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Halex™ GT

Herbicide

A Postemergence Herbicide for Weed Control in Glyphosate Tolerant (GT) Corn

Active Ingredients:	
S-metolachlor*	
Glyphosate, N-(phosphonomethyl) glycine	
Mesotrione**	
Other Ingredients:	56.95%
Total:	100.00%

Active ingredients per U.S. gallon: S-metolachlor 2.09 pounds, glyphosate acid 2.09 pounds and mesotrione 0.209 pounds.

\*CAS No. 87392-12-9 \*\*CAS No. 104206-82-8

#### **KEEP OUT OF REACH OF CHILDREN.**

# CAUTION

See additional precautionary statements and directions for use inside booklet.

EPA Reg. No. 100-1282

EPA Est. No. 100-LA-001 EPA Est. No.

\_\_\_\_ gallons Net Contents

ACCEPTED 8-13.00 Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under 23 EPA Reg. No. 1 00

FIRST AID				
If inhaled	<ul> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance, and then give artificial respiration, preferably mouth-to mouth, if possible.</li> <li>Call a poison control center or doctor for further treatment advice.</li> </ul>			
If in eyes	<ul> <li>Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>			
If swallowed	<ul> <li>Call a poison control center or doctor immediately for treatment advice.</li> <li>Have person sip a glass of water if able to swallow.</li> <li>Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul>			
If on skin or clothing	<ul> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>			
doctor, or going	ct container or label with you when calling a poison control center or for treatment.			
	HOTLINE NUMBER 24-Hour Medical Emergency Assistance (Human or Animal), emical Emergency Assistance (Spill, Leak, Fire, or Accident) Call 1-800-888-8372			

# PRECAUTIONARY STATEMENTS

# HAZARDS TO HUMANS AND DOMESTIC ANIMALS

# CAUTION

Harmful if inhaled. Causes moderate eye irritation. Avoid breathing spray mist. Avoid contact with eyes or clothing. This product may cause skin sensitization reactions in some people.

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# Personal Protective Equipment (PPE)

# Applicators and other handlers must wear:

- Coveralls over short-sleeved shirt and short pants
- Chemical-resistant gloves
- Chemical-resistant footwear plus socks
- Chemical-resistant headgear for overhead exposure
- Chemical-resistant apron when cleaning equipment, mixing, or loading

Follow manufacturer's instructions for cleaning and/or maintaining PPE. If there are no such instructions for washables, clean with detergent and hot water. Keep and wash PPE separately from other laundry.

# **Engineering Control Statements**

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

# User Safety Recommendations Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE 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

For terrestrial uses, do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash water or rinsate.

#### **Ground Water Advisory**

The active ingredient, S-metolachlor, has the potential to leach through soil into ground water under certain conditions as a result of agricultural use. Ground water may be contaminated if this product is used in areas where soils are permeable, particularly where the water table is shallow.

#### Surface Water Advisory

The active ingredients in this product have the potential to contaminate surface water through ground spray drift. Under some conditions, the active ingredients may also

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have a potential for runoff into surface water (primarily via dissolution in runoff water) for several months post-application. These include poorly drained or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, and areas overlaying extremely shallow ground water, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas overlaying tile drainage systems that drain to surface water.

A level, well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. Sound erosion control practices will reduce this product's contribution to surface water contamination.

# **Mixing and Loading Instructions**

Care must be taken when using this product to prevent back siphoning into wells, spills, or improper disposal of excess pesticide, spray mixtures, or rinsates.

Check valves or anti-siphoning devices must be used on mixing equipment.

This product may not be mixed/loaded or used within 50 ft. of wells, including abandoned wells, drainage wells, and sink holes. Operations that involve mixing, loading, rinsing, or washing of this product into or from pesticide handling or application equipment or containers within 50 ft. of any well are prohibited, unless conducted on an impervious pad constructed to withstand the weight of the heaviest load that may be positioned on or moved across the pad. Such a pad shall be designed and maintained to contain any product spills or equipment leaks, container or equipment rinse or wash water, and rain water that may fall on the pad. Surface water shall not be allowed to either flow over or from the pad, which means the pad must be self-contained. The pad shall be sloped to facilitate material removal. An unroofed pad shall be of sufficient capacity to contain at a minimum 110% of the capacity of the largest pesticide container or application equipment on the pad. A pad that is covered by a roof of sufficient size to completely exclude precipitation from contact with the pad shall have a minimum containment capacity of 100% of the capacity of the largest pesticide container or application equipment on the pad. Containment capacities as described above shall be maintained at all times. The above-specified minimum containment capacities do not apply to vehicles when delivering pesticide shipments to the mixing/loading site.

# **Physical and Chemical Hazards**

Do not use or store near heat or open flame.

Do not store, mix or apply this product or spray solutions of this product in unlined steel (except stainless steel), galvanized steel containers, or sprayer tanks. This product or spray solutions of this product will react with these containers and tanks and produce

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hydrogen gas which may form a highly combustible mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by spark, open flame, lighted cigarette, welder torch, or other ignition source.

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

# DIRECTIONS FOR USE

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

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

# AGRICULTURAL USE REQUIREMENTS

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

**Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours.** Exception: If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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 over short-sleeved shirt and short pants
- Chemical-resistant gloves
- Chemical-resistant footwear plus socks
- Chemical-resistant headgear for overhead exposure

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FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN POOR WEED CONTROL, CROP INJURY, OR ILLEGAL RESIDUES.

# **GENERAL INFORMATION**

Halex GT Herbicide is a systemic, postemergence herbicide for contact followed by residual control of weeds in Glyphosate Tolerant (GT) corn. Following a postemergence application of Halex GT Herbicide, susceptible weeds take up the herbicide through the treated foliage and cease growth soon after application. Halex GT Herbicide is also absorbed through the soil and/or by the foliage of emerged weeds. Complete death of the weeds may take up to 2 weeks.

Halex GT Herbicide provides 3-4 weeks of residual control of newly emerging susceptible weeds (see Table 1) through root and shoot absorption.

Do not apply under conditions which favor runoff or wind erosion of soil containing this product to nontarget areas. To prevent off-site movement due to runoff or wind erosion, avoid treating powdery dry or light soils when conditions are favorable for wind erosion. Under these conditions, the soil surface should first be settled by rainfall or irrigation. Do not apply to impervious substrates such as paved or highly compacted surfaces. Do not use tailwater from the first flood or furrow irrigation of treated fields to treat nontarget crops unless at least ½ inch of rainfall has occurred between application and the first irrigation.

# **USE PRECAUTIONS**

- Halex GT Herbicide can be applied postemergence to Glyphosate Tolerant (e.g. Roundup Ready®, Agrisure<sup>™</sup> GT) corn only. An application of Halex GT Herbicide to a corn hybrid that is not Glyphosate Tolerant will result in crop death.
- 2. When weeds are stressed due to drought, heat, lack of fertility, flooding, or prolonged cool temperatures, control can be reduced or delayed since the weeds are not actively growing. Weed escapes or re-growth may occur when application is made under prolonged stress conditions. Optimum weed control will be obtained if an application of Halex GT Herbicide is made following label directions when weeds are actively growing.
- 3. If an activating rain (0.25 inches) is not received within 7-10 days after the postemergence application, residual weed control will be reduced.
- 4. Avoid drift onto adjacent crops. Severe damage or destruction may be caused by contact of Halex GT Herbicide to any vegetation (including leaves, green

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stems, exposed non-woody roots, or fruit) of crops, trees, and other desirable plants to which treatment is not intended.

- 5. Severe corn injury resulting in yield loss may occur if Halex GT Herbicide is applied postemergence to corn crops that were treated with Counter®, Lorsban® or other organophosphate containing soil insecticides.
- 6. Severe corn injury resulting in yield loss may occur if Halex GT Herbicide is applied foliar postemergence in a tank mix with any organophosphate or carbamate insecticide.
- 7. Severe corn injury resulting in yield loss may occur if any foliar organophosphate or carbamate insecticide is applied postemergence within 7 days before or 7 days after Halex GT Herbicide application.
- 8. Severe corn injury resulting in yield loss may occur if Halex GT Herbicide is applied postemergence in a tank mix with emulsifiable concentrate grass herbicides.
- 9. **Do not** cultivate corn within 7 days before or after an Halex GT Herbicide application as weed control from the Halex GT Herbicide application may be reduced.
- 10. **Do not** apply Halex GT Herbicide through any type of irrigation system.
- 11. **Do not** apply Halex GT Herbicide with suspension fertilizers or urea ammonium nitrate (UAN) as the carrier.
- 12. Halex GT Herbicide may be applied with pyrethroid insecticides such as Warrior®.
- 13. Do not apply more than 4 pts. of Halex GT Herbicide per acre per growing season. Do not apply Halex GT Herbicide to ground that has been or will be treated with Callisto® in the same season.
- 14. Circulation before dispensing is required.
- 15. To avoid contamination, it is recommended that the spray system be thoroughly cleaned with water and a commercial tank cleaner before and after each use.

# WEED RESISTANCE MANAGEMENT

To reduce the risk of weeds developing resistance to HPPD inhibitors, do not apply other postemergence HPPD inhibitor herbicides (Callisto, Impact®, or Laudis®) in the same season or on the same field where Halex GT Herbicide has been applied. A good weed resistance management strategy includes a herbicide program that contains two

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or more modes of action. Halex GT Herbicide contains three herbicide active ingredients and three modes of action and can be an effective component of a weed resistance management strategy.

## Triazine and Acetolactate Synthase (ALS) Resistance

Naturally occurring biotypes of certain broadleaf and grass weed species with resistance to triazine or ALS herbicides are known to exist. If weed biotypes resistant to triazine or ALS inhibitors are present in the field, Halex GT Herbicide will control them if they are listed in Table 1.

# **Glyphosate Resistance**

Some naturally occurring weed biotypes resistant to glyphosate may exist through normal genetic variability in any weed population. The repeated use of herbicides with the same mode of action is known to lead, under certain conditions, to a selection of resistant weeds. Certain agronomic practices reduce the likelihood that resistant weed populations will develop and integrated strategies are known to manage such problem weeds.

Glyphosate is one of the active ingredients in Halex GT Herbicide, so glyphosate resistance management is critical. Halex GT Herbicide will control broadleaf weeds that are showing increased tolerance or resistance to glyphosate. When applying Halex GT Herbicide to broadleaf weeds that are suspected or known resistant to glyphosate, it is recommended that atrazine be tank mixed to provide an additional mode of action. Follow all label directions and restrictions for the atrazine product tank mixed with Halex GT Herbicide.

Halex GT Herbicide will not provide control of emerged grasses that are resistant to glyphosate. For control of glyphosate resistant grass weeds, a weed control program that includes a preemergence grass herbicide will reduce the dependence on glyphosate.

The Best Weed Management practice includes the diversification of glyphosatedependent weed control programs with alternative mode of action herbicides or cultural practices.

- a. In Roundup Ready (RR<sup>™</sup>) corn and RR soybean systems do not use more than two applications of a glyphosate based herbicide over a two-year period. Diversify with alternative mode of action herbicides and/or cultural practices.
- b. In RR cotton, a maximum of three applications of a glyphosate based herbicide may be used if employing in-crop cultivation and/or residual herbicides.
- c. Use alternative (non-glyphosate) burndown and/or residual herbicides for RR crops likely to require more than one application of glyphosate.
- d. To help manage RR resistant volunteers rotate RR crops with conventional or non-RR crops.

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- e. Use full labeled rates of glyphosate and tank mix partners. Minimize weed escapes.
- f. Monitor treated weed populations for any loss of field efficacy.
- g. Contact your local extension specialist, certified crop advisor, and/or Syngenta Crop Protection representative for herbicide resistance management and/or integrated weed management recommendations for specific crops and resistant weed biotypes.

# WEEDS CONTROLLED

For best results, apply Halex GT Herbicide to actively growing weeds. For the best protection of the corn crop's yield potential, apply Halex GT Herbicide before the weeds exceed 4 inches in height or length. Susceptible weeds which emerge soon after an application of Halex GT Herbicide will be controlled for an additional 3-4 weeks.

Table 1. Weeds Controlled with Post	emergence Applications of Halex GT
Herbicide	

			3.6-4.0 pt./A plus NIS plus AMS Apply to weeds less	3.6-4.0 pt./A plus AAtrex 4L (or equivalent) plus NIS plus AMS
Common Name	Weed Type <sup>1</sup>	Scientific Name	than 4" in height or length	Apply to weeds 4-10" in height or length
Amaranth, palmer	В	Amaranthus palmeri	C <sup>2,3</sup>	С
Amaranth, Powell	В	Amaranthus powellii	С	С
Amaranth, spiny	В	Amaranthus spinosus	с	С
Anoda, spurred	В	Anoda cristata	с	с
Atriplex	B	Chenopodium orach	с	с
Barnyardgrass	G	Echinochloa crus-galli	с	с
Beggarweed, Florida	В	Desmodium tortuosum	с	с
Bluegrass, annual	G	Poa annua	с	с
Brome, downy	G	Bromus tectorum	c	с
Buckwheat, wild	В	Polygonum convolvulus	C <sup>4</sup>	PC <sup>2</sup>
Buffalobur	В	Solanum rostratium	с	сс
Burcucumber	В	Sicyos angulatus	с	PC
Carpetweed	В	Mollugo verticillata	C	с
Cheat	G	Bromus secalinus	с	с
Chickweed, common	В	Stellaria media	.C	с

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			3.6-4.0 pt./A plus NIS plus AMS	3.6-4.0 pt./A plus AAtrex 4L (or equivalent) plus NIS plus AMS
Common Name	Weed Type <sup>1</sup>	Scientific Name	Apply to weeds less than 4" in height or length	Apply to weeds 4-10" in height or length
Chickweed, mouseear	В	Cerastium vulgatum	с	с
Cocklebur, common	В	Xanthium strumarium	c ·	с
Copperleaf, hophornbeam	В	Acalypha ostryifolia	с	С
Corn, volunteer (non-GT)	G	Zea mays	. C <sup>5</sup>	C <sup>5</sup>
Crabgrass, large	G	Digitaria sanguinalis	с	с
Crabgrass, smooth	G	Digitaria ischaemum	с	с
Crotalaria, showy	В	Crotalaria spectabilis	с	с
Croton, tropic	В	Croton glandulosus	с	с
Crowfootgrass	G	Dactyloctenium aegyptium	с	с
Cupgrass, woolly	G	Eriochloa villosa	C <sup>6</sup>	C <sup>6</sup>
Dandelion, common	В	Taraxacum officinale	C <sup>7</sup>	PC
Dock, curly	В	Rumex crispus	с	PC
Eclipta	В	Eclipta prostrata	с	с
Foxtail, bristly	G	Setaria verticillata	с	С
Foxtail, giant	G	Setaria faberii	с	с
Foxtail, green	G	Setaria viridis	с	с
Foxtail, yellow	G	Setaria pumila	с	<u> </u>
Galinsoga	в	Galinsoga parviflora	с	с
Goosegrass	G	Eleusine indica	с	с
Groundcherry, smooth	В	Physalis longifolia	С	РС
Groundsel, common	B ·	Senecio vulgaris	с	с
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· · ·			3.6-4.0 pt./A plus NIS plus AMS	3.6-4.0 pt./A plus AAtrex 4L (or equivalent) plus NIS plus AMS
Common Name	Weed Type <sup>1</sup>	Scientific Name	Apply to weeds less than 4" in height or length	Apply to weeds 4-10" in height or length
Hemp	В	Cannabis sativa	с	с
Henbit	В	Lamium amplexicaule	с	с
Horseweed (marestail)	В	Conyza canadensis	C <sup>3</sup>	<u> </u>
Jimsonweed	В	Datura stramonium	с	с
Johnsongrass	В	Sorghum halepense	с	С
Knotweed, prostrate	В	Polygonum aviculare	С	с
Kochia	В	Kochia scoparia	C <sup>8</sup>	PC
Lambsquarters, common	В	Chenopodium album	с	С
Mallow, Venice	В	Hibiscus trionum	с	C
Marsheider	В	Iva xanthifolia	с	C
Millet, wild-proso	G	Panicum miliaceum	с	с
Morningglory, entireleaf	B	Ipomoea hederacea	C <sup>4</sup>	PC
Morningglory, ivyleaf	В	Ipomoea hederacea	C <sup>4</sup>	PC
Morningglory, pitted	В	) Ipomoea lacunose	C <sup>4</sup>	PC
Morningglory, tall	В	Ipomoea purpurea	C⁴	PC
Mustard, wild	В	Brassica kaber	С	с
Nightshade, black	В	Solanum nigrum	с	с
Nightshade, Eastern black	В	Solanum ptycanthum	с	С
Nightshade, hairy	В	Solanum sarrachoides	с	с
Nutsedge, yellow	S	Cyperus esculentus	с	PC
Nutsedge, purple	s	Cyperus rotundus	с	PC

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Common Name		Scientific Name	3.6-4.0 pt./A plus NIS plus AMS Apply to weeds less than 4" in height or length	3.6-4.0 pt./A plus AAtrex 4L (or equivalent) plus NIS plus AMS Apply to weeds 4-10" in height or length
	Weed Type <sup>1</sup>			
Oat, wild	G	Avena fatua	с	с
Panicum, fall	G	Panicum dichotomiflorum	с	<u> </u>
Panicum, Texas	G	Panicum texanum	с	с
Pennycress, field	В	Thlaspi arvense	. C	с
Pigweed, prostrate	В	Amaranthus blitoides	с	С
Pigweed, redroot	В	Amaranthus retroflexus	с	с
Pigweed, smooth	В	Amaranthus hybridus	с	с
Pigweed, tumble	В	Amaranthus albus	с	с
Pokeweed, common	В	Phytolacca americana	с	<u> </u>
Potato, volunteer	В	Solanum spp.	с	с
Puncturevine	В	Tribulus terrestris	с	PC
Purslane, common	В	Portulaca oleracea	с	с
Pusley, Florida	В	Richardia scabra	с	PC
Ragweed, common	В	Ambrosia artemisiifolia	C <sup>3</sup>	с
Ragweed, giant	В	Ambrosia trifida	C <sup>3</sup>	С
Sandbur, field	G	Cenchrus incertus	с	с
Sandbur, southern	G	Cenchrus echinatus	С	C
Senna, coffee	В	Cassia occidentalis	С	С
Sesbania, hemp	В	Sesbania exaltata	С	с
Shattercane	G	Sorghum bicolor	С	C
Shepherdspurse	В	Capsella bursa-pastoris	С	С

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			3.6-4.0 pt./A plus NIS plus AMS	3.6-4.0 pt./A plus AAtrex 4L (or equivalent) plus NIS plus AMS
Common Name	Weed Type <sup>1</sup>	Scientific Name	Apply to weeds less than 4" in height or length	Apply to weeds 4-10" in height or length
Sicklepod	В	Cassia obtusifolia	C <sup>6</sup>	C <sup>6</sup>
Sida, prickly (teaweed)	В	Sida spinosa	с	PC
Signalgrass, broadleaf	G	Brachiaria platyphylla	с	с
Smartweed, ladysthumb	В	Polygonum persicaria	c	с
Smartweed, pale	В	Polygonum lapathifolium	с	C
Smartweed, Pennsylvania	В	Polygonum pensylvanicum	с	<u> </u>
Sorghum, grain (milo)	G	Sorghum bicolor	с	с
Spurge, prostrate	В	Euphorbia humistrata	с	c
Spurge, spotted	В	Euphorbia maculata	с	c
Starbur, bristly	G	Ancanthospornum hispidum	с	с
Stinkgrass	G	Eragrostis cilianensis	c	с
Sunflower, common	В	Helianthus annuus	с	.C .
Thistle, Canada	. В	Circium arvense	с	с
Thistle, Russian	В	Salsola iberica	C <sup>8</sup>	С
Velvetleaf	В	Abutilon theophrasti	с	с
Waterhemp, common	В	Amaranthus rudis	C <sup>3</sup>	с
Waterhemp, tall	В	Amaranthus tuberculatus	<u>C<sup>3</sup></u>	C
Witchgrass	G	Panicum capillare	с	С

<sup>1</sup> B = Broadleaf, G = Grass, S = Sedge
 <sup>2</sup> C = Control, PC = Partial Control
 <sup>3</sup> For glyphosate resistant weeds such as common ragweed, giant ragweed, horseweed (marestail), Palmer amaranth and waterhemp, the addition of atrazine will improve control
 <sup>4</sup> Maximum runner length of <4"</li>
 <sup>5</sup> Will not control Televature Control

<sup>5</sup> Will not control Glyphosate-Tolerant volunteer corn

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<sup>6</sup> Will not provide residual control

<sup>7</sup> Plant diameter of <4" for control

<sup>8</sup> Control may be reduced at the button stage or when less than 2 inches in height

# ROTATIONAL CROPS

If the corn crop is lost or destroyed following an application of Halex GT Herbicide, follow the rotational guidelines below. If Halex GT Herbicide is applied sequentially or in a tank mix with other herbicides, refer to the rotational guidelines on all other herbicide labels and follow the most restrictive guidelines.

Corn (all types) and grain sorghum (Concep<sup>®</sup> treated only), may be replanted immediately.

Barley, oats, rye and wheat may be planted 120 days after application.

Alfalfa, canola, cotton, flax, grasses grown for seed (Kentucky bluegrass, perennial ryegrass, and tall fescue), peanuts, potatoes, sunflowers, soybeans and tobacco can be planted back the following season but not less than 10 months after the last Halex GT Herbicide application.

Cucurbits, dry beans, peas, red clover, snap beans and sugar beets, and all other rotational crops may be replanted 18 months after application of Halex GT Herbicide. Planting unspecified rotational crops or those rotational crops that are specified at shorter than recommended intervals may result in injury to the rotational crop.

# APPLICATION PROCEDURES

Refer to the CROP USE DIRECTIONS section for specific crop recommendations.

#### **ADJUVANTS**

For postemergence applications to Glyphosate Tolerant (GT) corn, add a nonionic surfactant (NIS) at 1-2 qt./100 gallons of water (0.25-0.5% v/v) to the spray solution. Use the higher rate of NIS when weeds are growing under stress conditions (e.g. cool temperatures, dry weather, etc.).

In addition to NIS add spray grade ammonium sulfate (AMS) at 8.5-17.0 lbs./100 gallons of water. When using liquid AMS products, use a rate that delivers an AMS equivalent of 8.5-17.0 lbs./100 gallons of water.

The use of urea ammonium nitrate (UAN) instead of ammonium sulfate (AMS) will result in crop injury and reduced grass weed control and is not recommended with Halex GT Herbicide.

# **GROUND SPRAY EQUIPMENT**

Spray nozzles should be uniformly spaced, the same size and type, and should provide accurate and uniform application. Use spray nozzles that provide medium to coarse droplet size to provide good coverage and avoid drift. Good weed coverage is essential for optimum weed control. Boom height for broadcast over-the-top applications should be based on the height of the crop – at least 15 inches above the crop canopy.

Flat fan (of 80° or 110°) or Turbo Tee Jet nozzles are recommended for optimum coverage. Do not use flood jet nozzles or controlled droplet application equipment for applications of Halex GT Herbicide.

Nozzles may be angled forward or backward 45° to enhance penetration of the crop and provide better coverage. Ensure that all in-line strainer and nozzle screens in the sprayer are 50-mesh or coarser.

Apply Halex GT Herbicide in a spray volume of 10-30 gals./A. Use a pump that can maintain a pressure of at least 35-40 psi at the nozzles (check nozzle manufacturer's recommendations) and provide proper agitation within the tank to keep the product dispersed. Lower pressures may be used with extended range or drift reduction nozzles. When weed foliage is dense, use a minimum of 15 gals./A.

Always ensure that agitation is maintained until spraying is completed, even if spraying is stopped for brief periods. If the agitation is stopped for more than 5 minutes, resuspend the spray solution by running on full agitation prior to spraying.

## SPRAY DRIFT

The interaction of equipment and weather related factors determine the potential for spray drift. The applicator is responsible for considering all these factors when making a decision.

The pesticide should only be applied when the potential for drift to adjacent sensitive areas, (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas). Do not apply when weather conditions may cause drift to non-target areas.

The most effective way to reduce spray drift potential is to apply large 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.

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# CLEANING EQUIPMENT AFTER APPLICATION

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Special attention must be given to cleaning equipment before spraying a crop other than Glyphosate Tolerant corn. Mix only as much spray solution as needed.

Flush tank, hoses, boom, and nozzles with clean water.

- 1. Prepare a cleaning solution of 1 gallon of household ammonia per 25 gals. of water. Many commercial spray tank cleaners may be used.
- 2. Use a pressure washer to clean the inside of the spray tank with this solution. Take care to wash all parts of the tank, including the inside top surface. If a pressure washer is not available, completely fill the sprayer with the cleaning solution to ensure contact of the cleaning solution with all internal surfaces of the tank and plumbing. Start agitation in the sprayer and thoroughly re-circulate the cleaning solution for at least 15 minutes. All visible deposits must be removed from the spraying system.
- 3. Flush hoses, spray lines, and nozzles for at least 1 minute with the cleaning solution.
- 4. Dispose of rinsate from steps 1-3 in an appropriate manner.
- 5. Repeat steps 2-5.
- 6. Remove nozzles, screens, and strainers and clean separately in the ammonia solution after completing the above procedures.
- 7. Rinse the complete spraying system with clean water.

# MIXING PROCEDURES

Refer to the **CROP USE DIRECTIONS** section of this label for recommended tank mixes.

Always refer to labels of other pesticide products for mixing directions and precautions which may differ from those outlined here. Use in accordance with the most restrictive of label limitations and precautions. No label dosage rates should be exceeded. This product cannot be mixed with any product containing a label prohibition against such mixing. Do not tank mix Halex GT Herbicide with any other insecticide, fungicide, fertilizer solution, or adjuvant not recommended on the label without testing compatibility, as poor mixing may result. It is recommended that the compatibility of any tank-mix combination be tested on a small scale such as a jar test before actual tank mixing.

Follow the mixing instructions for adding Halex GT Herbicide to the spray tank:

- 1. Only use sprayers in good running condition with good agitation. Ensure the sprayer is cleaned according to instructions on label of the product used prior to Halex GT Herbicide. Use only clean water for the spray solution. Ensure that all in-line strainer and nozzle screens in the sprayer are 50-mesh or coarser. Screens finer than 50-mesh should not be used.
- 2. Begin to fill sprayer tank or premix tank with clean water and engage agitator. Agitation must be continued throughout the entire mixing and spraying procedure.
- 3. When the sprayer or premix tank is half full of water, add Ammonium Sulfate (AMS) and agitate until completely dispersed.
- 4. Add Halex GT Herbicide slowly and agitate until completely dispersed. Wait at least 1 minute after the last of the Halex GT Herbicide has been added to the tank to allow for complete dispersion. A longer agitation period may be required to disperse Halex GT Herbicide when using cold water from sources such as deep drilled wells.
- 5. If tank mixing, add the tank mix product next.

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- 6. Finally, add adjuvant (NIS) and then continue to fill tank to desired level with water.
- 7. Fill remainder of the spray tank with water.

# **CROP USE DIRECTIONS – GLYPHOSATE TOLERANT CORN**

Halex GT Herbicide may be applied postemergence only in Glyphosate Tolerant (e.g. Roundup Ready, Agrisure GT) corn for control of the weeds listed in Table 1.

When Glyphosate Tolerant corn is grown under no-till conditions, control all emerged weeds at the time of corn planting with a glyphosate or paraquat based herbicide program. Following a burndown weed control application and after Glyphosate Tolerant corn emergence, Halex GT Herbicide can be applied postemergence to control the weeds listed in Table 1.

# PREEMERGENCE

Halex GT Herbicide is specifically formulated for postemergence in crop use and does not contain a corn safener. Therefore, Halex GT Herbicide is not recommended for early preplant or preemergence applications.

# POSTEMERGENCE – HALEX GT HERBICIDE ALONE

Halex GT Herbicide may be applied at a rate of 3.6-4.0 pt./A from corn emergence up to 30 inches in height or the 8-leaf stage of corn growth. Halex GT Herbicide should be applied to actively growing weeds listed in Table 1. For the best protection of the corn crops yield potential, apply Halex GT Herbicide before weeds exceed 4 inches in height,

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length or diameter. Use the higher end of the Halex GT Herbicide use rate range (4.0 pt./A) when weeds are stressed or weed populations are dense.

Halex GT Herbicide must be applied with a non-ionic surfactant (NIS) and ammonium sulfate (AMS). See the **ADJUVANTS** section for specific adjuvant recommendations.

Visible effects on annual weeds occur within 2-4 days after application; effects on perennial weeds may take 7 days or longer. Extremely cool or cloudy weather following treatment may slow activity.

Weeds susceptible to S-metolachlor or mesotrione which emerge soon after application of Halex GT Herbicide will be controlled after they absorb the herbicides from the soil. The active ingredients in Halex GT Herbicide are in adequate amounts to provide 3-4 weeks of residual weed control extending through crop canopy. If an activating rain (0.25 inches) is not received within 7-10 days after the postemergence application, residual weed control will be reduced.

Applying Halex GT Herbicide at rates less than 3.6 pt./A may result in incomplete weed control, as well as less residual weed control. Using reduced rates of Halex GT Herbicide also increases the risk for the development of weed resist biotypes. See the **WEED RESISTANCE MANAGEMENT** section of this label for specific instructions.

# HALEX GT HERBICIDE – SEQUENTIAL WEED CONTROL

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Halex GT Herbicide may be applied as the postemergence component of a two-pass weed control program. Apply Camix (1.6 qt./A maximum rate), Lexar (2.25 qt./A maximum rate) or Lumax (2 qt./A maximum rate) preemergence and follow with a postemergence application of Halex GT Herbicide at 3.6-4.0 pts./A. Do not reduce the rate of Halex GT Herbicide when applied in a sequential program with these mesotrione containing products.

Halex GT Herbicide can also be applied at a rate of 3.6-4.0 pt./A postemergence following a preemergence application of Expert®, Bicep II MAGNUM®, Bicep Lite II MAGNUM® and Dual II MAGNUM®.

Halex GT Herbicide must be applied with a non-ionic surfactant (NIS) and ammonium sulfate (AMS). See the **ADJUVANTS** section for specific adjuvant recommendations.

# HALEX GT HERBICIDE – TANK MIX WITH AATREX® 4L OR AATREX® NINE-O®

In tank mix with AAtrex, apply Halex GT Herbicide at 3.6-4.0 pt./A. If weeds are more than 4 inches tall, or for improved broadleaf weed control add AAtrex 4L at a rate of 0.5-4.0 pt./A (0.25-2.0 lb. ai/A). Alternatively, AAtrex Nine-O may be mixed with Halex GT Herbicide instead of AAtrex 4L at a rate that delivers 0.25-2.0 lb. ai/A. Atrazine rates above 0.5 lb. ai/A may result in glyphosate antagonism and reduced grass control.

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The tank mix of Halex GT Herbicide plus AAtrex must be applied with a non-ionic surfactant (NIS) and ammonium sulfate (AMS). See the **ADJUVANTS** section of this label for specific recommendations.

When tank mixing or sequentially applying atrazine or products containing atrazine with Halex GT Herbicide to Glyphosate Tolerant corn, do not exceed an application rate of 2.0 pounds active ingredient of atrazine per acre for any single application and the total pounds of atrazine applied (lb. a.i. per acre) must not exceed 2.5 pounds active ingredient per acre per year.

If no atrazine was applied prior to corn emergence, apply a maximum of 2.0 lbs. ai/A broadcast. If a postemergence treatment is required following an earlier herbicide application, the total atrazine applied may not exceed 2.5 lbs. ai/A per calendar year.

#### Do not apply any atrazine formulation if the corn is greater than 12 inches tall.

#### **GENERAL PRECAUTIONS**

- 1. Temporary crop response (transient bleaching) from postemergence applications to Glyphosate Tolerant corn may occur under extreme weather conditions or when the crop is suffering from stress. Corn quickly outgrows these effects and develops normally.
- 2. If additional glyphosate is tank mixed or applied sequentially with Halex GT Herbicide as a postemergence treatment in Glyphosate Tolerant corn, refer to the specific glyphosate label for in crop rate restrictions.
- 3. To avoid possible illegal residues, do not graze or feed forage from treated areas for 45 days following application.
- 4. Glyphosate Tolerant corn can be treated with Halex GT Herbicide up to 30 inches tall or the 8-leaf stage of growth. Do not harvest forage, grain, or stover within 45 days after application.

Refer to individual product labels for precautionary statements, restrictions, rates, approved uses, and a list of weeds controlled.

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# STORAGE AND DISPOSAL

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

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# **PESTICIDE STORAGE**

Keep container tightly closed when not in use. Product can be stored at temperatures as low as -10°F. Do not store near seeds, fertilizers, or food stuffs. Keep away from heat and flame.

# **PESTICIDE DISPOSAL**

Open dumping is prohibited. Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Thoroughly rinse the spray equipment after use. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of as described above, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

### **CONTAINER DISPOSAL**

Triple rinse (or equivalent) 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.

**For bulk and mini-bulk:** When this container is empty replace cap and seal all openings that have been opened during use, and return the container to the point of purchase or to a designated location named at time of purchase of this product. The container must only be refilled with this pesticide product. DO NOT REUSE THE CONTAINER FOR ANY OTHER PURPOSE. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices. Check for leaks after refilling and before transporting. Do not transport if this container is damaged or leaking. If the container is damaged, leaking or obsolete, contact Syngenta Crop Protection, Inc. at 1-800-888-8372. If not returned to the point of purchase or to a designated location, triple rinse emptied container and offer for recycling. Disposal of this container must be in compliance with state and local regulations.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire, or other emergency, call 1-800-888-8372, day or night.

# CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER.

# CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

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**NOTICE:** Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. 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 manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, Inc. or Seller. To the extent permitted by applicable law, Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of the product contrary to label instructions, or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and (2) Buyer and User assume the risk of any such use. TO THE EXTENT PERMITTED BY APPLICABLE LAW, SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.

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For non-emergency (e.g., current product information), call Syngenta Crop Protection at 1-800-334-9481.

Manufactured for: Syngenta Crop Protection, Inc. P.O. Box 18300 Greensboro, North Carolina 27419-8300 www.syngenta-us.com

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