



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

January 26, 2023

Matt Granahan
U.S. Regulatory Leader
HELM Agro US, Inc.
401 E. Jackson St., Suite 1400
Tampa, FL 33602

Subject: Registration Review Label Amendments Incorporating Mitigation Measures from the Interim Decisions for Metolachlor and Atrazine; the Technical Registrants' Commitments for the Endangered Species Act (ESA) Biological Evaluation for Atrazine; and the National Marine Fisheries Services' (NMFS) Biological Opinion on the Effects of Metolachlor on Pacific Salmonids
Product Name: HAI Xtra Herbicide
EPA Registration Number: 74530-100
Application Date: 5/12/2021, 9/7/2021, and 1/10/2023
Decision Number: 575624, 588741, 589468, and 589474

Dear Matt Granahan:

The Agency, in accordance with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, has completed reviewing all the information submitted with your application to support the Registration Review of the above referenced product in connection with the Metolachlor and Atrazine Interim Decisions and the atrazine technical registrants' commitments for the ESA Biological Evaluation. The Agency has concluded that your submission is acceptable.

This letter also addresses the label mitigation resulting from the NMFS' Biological Opinion on the effects of Metolachlor on Pacific salmonids. The Agency has concluded that your submission is also acceptable. The label referred to above, submitted in connection with registration under FIFRA, as amended, is acceptable.

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.

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 12 months from the date of this letter. After 12 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.

If you have any questions about this letter, please contact Carolyn Smith at smith.carolyn@epa.gov.

Sincerely,



Linda Arrington, Branch Chief
Risk Management and Implementation Branch 4
Pesticide Re-Evaluation Division
Office of Pesticide Programs

Enclosure

RESTRICTED USE PESTICIDE
DUE TO GROUND AND SURFACE WATER CONCERNS
FOR RETAIL SALE TO AND USE ONLY BY CERTIFIED APPLICATORS OR PERSONS UNDER THEIR DIRECT SUPERVISION, AND ONLY FOR THOSE USES COVERED BY THE CERTIFIED APPLICATOR'S CERTIFICATION.
THIS PRODUCT IS A RESTRICTED-USE HERBICIDE DUE TO GROUND AND SURFACE WATER CONCERNS. USERS MUST READ AND FOLLOW ALL PRECAUTIONARY STATEMENTS AND INSTRUCTIONS FOR USE IN ORDER TO MINIMIZE POTENTIAL FOR ATRAZINE TO REACH GROUND AND SURFACE WATER.



METOLACHLOR	GROUP	15	HERBICIDE
ATRAZINE	GROUP	5	HERBICIDE

HAI Xtra Herbicide

FOR WEED CONTROL IN CORN (ALL TYPES) AND SORGHUM

Active Ingredients:

Atrazine (2-chloro-4-ethylamino-6-isopropylamino-s-triazine)	33.0%
Atrazine Related Compounds	0.7%
Metolachlor: 2-chloro- N-(2-ethyl-6-methylphenyl)-N-(2-methoxy-1-methylethyl) acetamide	26.1%
Other Ingredients:	40.2%
TOTAL:	100.0%

This product contains 3.1 lbs. atrazine + related compounds per gallon and 2.4 lbs. of metolachlor active ingredient per gallon.

KEEP OUT OF REACH OF CHILDREN CAUTION

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

SEE [BACK PANEL] [NEXT PAGE] [INSIDE LABEL] [INSIDE BOOKLET] [BELOW] FOR ADDITIONAL PRECAUTIONARY STATEMENTS [STORAGE AND DISPOSAL] [AND] [DIRECTIONS FOR USE]

EPA Reg. No.: 74530-100

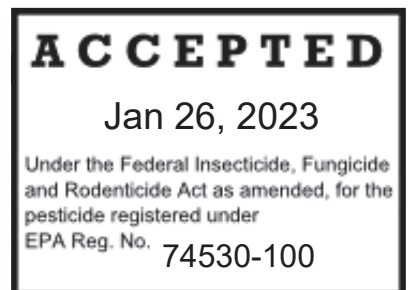
Net Contents: _____ [gallons] [gal.] [(liters)]
[label date/lot code]

EPA Est. No.: _____
[Lot number begins with xx]

Read the [entire] label [carefully] before [using this product.] [opening the container].

Not for sale, use, or distribution in Nassau County or Suffolk County, New York

Manufactured for:
HELM Agro US, Inc.
401 E. Jackson St., Suite 1400
Tampa, FL 33602
Tel. 813-621-8846



FIRST AID	
IF SWALLOWED:	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have affected person sip a glass of water if able to swallow. • Do not induce vomiting unless told by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
IF INHALED:	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth to mouth if possible. • Call a poison control center or doctor for further treatment advice.
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
IF IN EYES:	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
Emergency phone number	(800) 424-9300 CHEMTREC (transportation and spills)
Note to Physician: If ingested, induce emesis or lavage stomach. Administration of an aqueous slurry of activated charcoal can be considered. Treat symptomatically.	

PRECAUTIONARY STATEMENT

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Harmful if swallowed, inhaled, or absorbed through skin. Do not breathe vapors or spray mist. Avoid contact with eyes, skin, or clothing. Causes moderate eye irritation. Prolonged or frequent skin contact may cause allergic reactions in some individuals.

PERSONAL PROTECTIVE EQUIPMENT:

Mixers, loaders, applicators, flaggers, and other handlers must wear:

- Coveralls over long-sleeved shirt and long pants,
- Waterproof gloves, except wear:
 - 1) chemical-resistant gloves (Barrier Laminate, Nitrile Rubber \geq 14 mils, Neoprene Rubber \geq 14 mils, or Viton \geq 14 mils gloves) when mixed with oil, or
 - 2) chemical-resistant gloves (Barrier Laminate or Viton \geq 14 mils) when mixed with Aromatic solvent.
- Chemical-resistant footwear plus socks,
- Chemical-resistant headgear (if overhead exposure), and
- A chemical-resistant apron, when mixing/loading, cleaning up spills, or cleaning equipment, or otherwise exposed to the concentrate.

See **Engineering Controls** for additional requirements.

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

ENGINEERING CONTROLS

Mixers and loaders supporting aerial applications must use a closed system that meets the requirements for dermal protection listed in the Worker Protection Standard (WPS) for Agricultural Pesticides [40 CFR 170.240(d)(4)] and must:

- Wear the long-sleeved shirt and long pants, chemical resistant gloves made of Barrier Laminate or Viton \geq 14 mils, shoes and socks,
- Wear protective eyewear if the system operates under pressure, and
- Be provided and have immediately available for use in an emergency, such as a spill or equipment breakdown: coveralls, chemical resistant footwear, and chemical resistant apron.

Pilots must use an enclosed cockpit in a manner that is consistent with the WPS for Agricultural Pesticides [40 CFR 170.240 (d)(6)]. Pilots must wear the PPE required on this labeling for applicators, however, they need not wear chemical-resistant gloves when using an enclosed cockpit.

Flaggers supporting aerial applications must use an enclosed cab that meets the definition on the Worker Protection Standard for Agricultural Pesticides [40 CFR 170.240 (d)(5)] for dermal protection. In addition, flaggers must:

- Wear the PPE required on this labeling for flaggers.
- Be provided, have immediately available, and use in an emergency when they must exit the cab in the treated area: Coveralls, chemical resistant gloves made of Barrier Laminate or Viton \geq 14 mils, chemical resistant footwear, and chemical resistant headgear (if overhead exposure);
- Take off any PPE that was worn in the treated area before reentering the cab;
- Store all such PPE in a chemical resistant container, such as a plastic bag, to prevent contamination of the cab.

When applicators use enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(5)], 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

This pesticide contains atrazine, which is toxic to aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not apply when weather conditions favor drift from treated areas. Runoff and drift from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment wash water and rinsate.

Reporting Ecological Incidents:

To report ecological incidents, including mortality, injury, or harm to plants and animals, call 1 (813) 621-8846.

Ground Water Advisory

HAI Xtra Herbicide contains both the active ingredients atrazine and metolachlor.

Atrazine can travel (seep or leach) through soil and can enter groundwater which may be used as drinking water. Atrazine has been found in groundwater. Users are advised not to apply atrazine to sand and loamy sand soils where the water table (groundwater) is close to the surface and where these soils are very permeable, i.e., well-drained. Your local agricultural agencies can provide further information on the type of soil in your area and the location of groundwater.

Metolachlor is known to leach through soil into ground water under certain conditions as a result of label use. This chemical may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.

Surface Water Advisory

This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having high potential for reaching surface water via runoff for several weeks or months after application. 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 loading of metolachlor from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall or irrigation is expected to occur within 48 hours.

NON-TARGET ORGANISM ADVISORY

This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated site. Protect the forage and habitat of non-target organisms by following label directions intended to minimize spray drift.

Mixing/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 antisiphoning devices must be used on all mixing and/or irrigation equipment.

This product must not be mixed or loaded, or used within 50 ft. of all 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 washwater, and rainwater 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 sites.

Additional State imposed requirements regarding well-head setbacks and operational area containment must be observed.

This product must not be mixed or loaded within 50 ft. of perennial or intermittent streams and rivers, natural or impounded lakes and reservoirs. This product must not be applied aerially or by ground within 66 ft. of points where field surface water runoff enters perennial or intermittent streams and rivers or within 200 ft. around natural or impounded lakes and reservoirs. If this product is applied to highly erodible land, the 66-ft. buffer or setback from runoff entry points must be planted to crop, or seeded with grass or other suitable crop.

One of the following restrictions must be used in applying atrazine to tile-outletted terraced fields containing standpipes:

1. DO NOT apply this product within 66 feet of standpipes in tile-outletted terraced fields.
2. Apply this product to the entire tile-outletted terraced field and immediately incorporate it to a depth of 2-3 inches in the entire field.
3. Apply this product to the entire tile-outletted terraced field under a no-till practice only when a high crop residue management practice is practiced. High crop residue management is described as a crop management practice where little or no crop residue is removed from the field during and after crop harvest.

DIRECTIONS FOR USE

Endangered Species Protection Requirements:

It is a Federal offense to use any pesticide in a manner that results in an unauthorized "take" (e.g., kill or otherwise harm) of an endangered species and certain threatened species, under the Endangered Species Act section 9. When using this product, you must follow the measures contained in the Endangered Species Protection Bulletin for the area in which you are applying the product. You must obtain a Bulletin no earlier than six months before using this product. To obtain Bulletins, consult <http://www.epa.gov/espp/>, call 1-844-447-3813, or email ESPP@epa.gov. You must use the Bulletin valid for the month in which you will apply the product.

Restricted Use Pesticide

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

ANY USE OF THIS PRODUCT IN AN AREA WHERE USE IS PROHIBITED IS A VIOLATION OF FEDERAL LAW. Before using this product, you must consult the Atrazine Watershed Information Center (AWIC) to determine whether the use of this product is prohibited in your watershed. AWIC can be accessed through [www.atrazine-watershed.info], or [1-866-365-3014]. If use of this product is prohibited in your watershed, you may return this product to your point of purchase or contact HELM Agro USA, Inc. for a refund.

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

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

Note: Not for sale, use, or distribution in Nassau County or Suffolk County, New York.

PRODUCT INFORMATION

HAI Xtra Herbicide is a selective herbicide that may be used before planting, before or after emergence (see directions) for control of most annual grasses and broadleaf weeds in corn (all types). **HAI Xtra Herbicide** can also be used before crop emergence for control of most annual grasses and broadleaf weeds in sorghum, only if the sorghum seed has been properly treated with Concep[®] or Screen[®]. This product may be tank mixed with other herbicides specified on this label for weed control in conventional, minimum-till, and no-till corn, or sorghum.

Note: Tank mixtures are permitted only in those states where the tank mix partner is registered. Refer to and follow the label for each tank mix product used for precautionary statements, directions for use, geographic and other restrictions.

When tank-mixing or sequentially applying atrazine or products containing atrazine to corn, the total pounds of atrazine applied (lbs ai/A) must not exceed 2.5 pounds active ingredient per year.

When tank mixing or sequentially applying products containing either atrazine or atrazine plus simazine, do not exceed an application rate of 2 pounds of active ingredients (either an active ingredient alone or a combination of both active ingredients) per acre for any single application. The total pounds of atrazine and/or simazine applied (lbs./A) must not exceed 2.5 pounds of the combined active ingredients per year. Where there are state or local requirements regarding atrazine use that are different from the label, the more restrictive requirements must be followed. Consult your state pesticide control agency for additional information.

For corn, **HAI Xtra Herbicide** alone or in tank mixture with atrazine, isoxaflutole, metolachlor, or simazine may be applied early preplant, preplant surface, preplant incorporated, or preemergence, in water or fluid fertilizer. Apply post-emergence treatments of **HAI Xtra Herbicide** on corn using water only as the carrier. **HAI Xtra Herbicide** may be applied on corn in tank mix combination with paraquat, 2,4-D + glyphosate, or glyphosate with or without the above herbicides preplant surface or preemergence.

For sorghum, **HAI Xtra Herbicide** alone or in tank mixtures may be applied early preplant, preplant surface, preplant incorporated, or preemergence, in water or fluid fertilizer. **HAI Xtra Herbicide** may be applied on sorghum in tank mix combination with paraquat, 2,4-D + glyphosate, or glyphosate with or without the above herbicides preplant surface or preemergence.

WEED RESISTANCE MANAGEMENT

Atrazine and Metolachlor, the active ingredients in this product, are Group 4 and Group 15 herbicides, respectively, based on the mechanism of action classification system of the Weed Science Society of America. Any weed population may contain plants naturally resistant to Group 4 or Group 15 herbicides. The resistant individuals may dominate the weed population if these herbicides are used repeatedly in the same fields. Appropriate resistance management strategies should be followed.

Consult your local company representative, state cooperative extension agent, professional consultant or other qualified authority to determine appropriate actions for controlling specific resistant weeds.

Weed Management Practices

Resistant populations arise when rare individual plants are uncontrolled by a normal dose of a given herbicide under normal environmental conditions. In the absence of other control measures these individuals survive, produce seed, and eventually become the dominant biotype in the field through continuous selection.

To delay herbicide resistance take one of the following steps:

- Rotate the use of **HAI Xtra Herbicide** or other Group 4 or Group 15 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds in a field.
- Use tank mixtures with herbicides from a different group if such use is permitted; where information on resistance in target weed species is available, use the less resistance-prone partner at a rate that will control the target weed(s) equally as well as the more resistance-prone partner. Consult your local extension service or certified crop advisor if you are unsure as to which active ingredient is currently less prone to resistance.
- Adopt an integrated weed-management program for herbicide use that includes scouting and uses historical information related to herbicide use and crop rotation, and that considers tillage (or

other mechanical control methods), cultural (e.g., higher crop seeding rates; precision fertilizer application method and timing to favor the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.

- Scout for weeds before **HAI Xtra Herbicide** application for identification and growth stage
- Scout after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method such as hoeing or tillage. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields, and planting clean seed.
- If weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.
- Contact your local extension specialist or certified crop advisors for additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.
- For further information or to report suspected resistance, contact your HELM Agro US, Inc. representative at 813-621-8846.

RESTRICTIONS

1. **HAI Xtra Herbicide** may be applied in water by aircraft. Applications in fluid fertilizer should be only by ground equipment.
2. Not for use in the states of Hawaii or Alaska, or in the U.S. territories (Puerto Rico, Guam, American Samoa, the U.S. Virgin Islands, and the North Mariana Islands).
3. Use on roadsides; Conservation Reserve Program (CRP) land; conifers, including Christmas Tree plantings; timber; forestry; and, Miscanthus and other perennial bioenergy crops is prohibited.
4. To avoid spray drift, do not apply under windy conditions. Avoid spray overlap, as crop injury may result.
5. DO NOT apply this product through any type of irrigation system.
6. DO NOT apply this product in a greenhouse.
7. DO NOT graze or feed forage from treated areas for 60-days following application for corn (all types) and sorghum. (60-day PHI)
8. Post-emergent applications to corn must be made before the crop reaches 12 inches in height.
9. DO NOT apply under conditions, which favor runoff or wind erosion of soil containing this product to nontarget areas.
10. To prevent off-site movement due to runoff or wind erosion:
 - a. Avoid treating powdery dry or light sand soils when conditions are favorable for wind erosion. Under these conditions, the soil surface should first be settled by rainfall or irrigation.
 - b. Do not apply to impervious substrates, such as paved or highly compacted surfaces.
 - c. Do not use tailwater from the first flood or furrow irrigation of treated fields to treat nontarget crops, unless at least 1/2 inch of rainfall has occurred between application and the first irrigation.
11. Where reference is made to weeds partially controlled, partial control can either mean erratic control from good to poor, or consistent control at a level below that generally considered acceptable for commercial weed control.
12. Dry weather following preemergence application of **HAI Xtra Herbicide** or a tank mixture may reduce effectiveness. Cultivate if weeds develop.

13. Thoroughly clean sprayer or other application device before using. Dispose of cleaning solution in a responsible manner. Do not use a sprayer or applicator contaminated with other materials, or crop damage or sprayer clogging of the application device may occur.

MIXING PROCEDURES

Shake 2.5 gallon jugs well or thoroughly recirculate larger containers and bulk tanks before using. **HAI Xtra Herbicide** is a liquid that may be mixed with water or fluid fertilizer and applied as a spray. **HAI Xtra Herbicide** may also be sprayed onto dry bulk granular fertilizer and applied with the granular fertilizer.

Dry Bulk Granular Fertilizers

Many dry bulk granular fertilizers may be impregnated or coated with **HAI Xtra Herbicide** and used to control weeds in corn and Screen[®]-treated or Concep[®]-treated sorghum. When applying **HAI Xtra Herbicide** with dry bulk granular fertilizers, follow all directions for use and precautions on the **HAI Xtra Herbicide** label regarding target crops, rates per acre, soil texture, application methods (including timing of application), and rotational crops.

All individual state regulations relating to dry bulk granular fertilizer blending, registration, labeling, and application are the responsibility of the individual and/or company selling the herbicide/fertilizer mixture.

Impregnation of bulk fertilizer is restricted to commercial facilities. On-farm fertilizer impregnation is prohibited. No more than 340 tons of dry bulk fertilizer can be impregnated per day for no more than 30 days per calendar year for use on corn and sorghum. The commercial facility impregnating the dry bulk fertilizer must inform, in writing, the user (applicator) of the dry bulk fertilizer that:

- Applicators must wear long-sleeved shirt, long pants, shoes, and socks.
- The restricted-entry interval is 24 hours.

Prepare the herbicide/fertilizer mixture by using any closed drum, belt, ribbon, or other commonly used dry bulk fertilizer blender. Nozzles used to spray **HAI Xtra Herbicide** onto the fertilizer must be placed to provide uniform spray coverage. Care should be taken to aim the spray directly onto the fertilizer only and to avoid spraying the walls of the blender.

If the herbicide/fertilizer mixture is too wet, add a highly absorptive material, such as Agsorb[®] or Celatom MP-79[®], or similar granular clay or diatomaceous earth materials, to obtain a dry, free-flowing mixture. Absorptive materials should be added only after the herbicide has been thoroughly blended into the fertilizer mixture. Best application results will be obtained by using a granule of 6/30 particle size or of a size similar to that of the fertilizer material being used. Generally, less than 2% by weight of absorptive material will be needed. Avoid using more than 5% absorptive material by weight.

Calculate the amount of **HAI Xtra Herbicide** to be used by the following formula:

$$\frac{2000}{\text{lbs. of fertilizer per acre}} \times \text{pts./A of liquid or flowable product} = \text{pts. of liquid or flowable product per ton of fertilizer}$$

$$\frac{2000}{\text{lbs. of fertilizer per acre}} \times \text{lbs./A of dry product} = \text{lbs. of dry product per ton of fertilizer}$$

Pneumatic (Compressed Air) Application

High humidity, high urea concentrations, low fertilizer use rates, and dusty fertilizer may cause fertilizer mixtures to build up or plug the distributor head, air tubes, or nozzle deflector plates. To minimize buildup, premix **HAI Xtra Herbicide** with Exxon Aromatic 200 at a rate of 2.0-2.5 pts./gal. of **HAI Xtra Herbicide**. Aromatic 200 may be used in either a fertilizer blender or through direct injection systems. Drying agents should not be used when using Aromatic 200. Consult the manufacturer's MSDS for information relating to the flammability of this solvent.

RESTRICTIONS:

1. Mixtures of **HAI Xtra Herbicide** and Aromatic 200 must be used on dry fertilizer only. Poor results or crop injury may result if these mixtures are used in water or liquid fertilizer solutions for spraying applications.
2. When impregnating **HAI Xtra Herbicide** in a blender before application, a drier mixture can be attained by substituting a drying agent for Aromatic 200. The use of Agsorb FG or drying agents of 6/30 particle size is recommended.
3. Do not impregnate more than 340 tons per worker per day for dry bulk commercial fertilizer.
4. Drying agents are not recommended for use with On-The-Go impregnation equipment.
5. Do not impregnate **HAI Xtra Herbicide** on ammonium nitrate, potassium nitrate, or sodium nitrate, either alone or in blends with other fertilizers.
6. Do not combine **HAI Xtra Herbicide** with a single superphosphate (0-20-0) or treble superphosphate (0-46-0).
7. Do not use **HAI Xtra Herbicide** on straight limestone, since absorption will not be achieved. Fertilizer blends containing limestone can be impregnated.
8. Sorghum- Do not apply atrazine and propazine products to the same sorghum acre.

Application

Apply 200-700 lbs. of the herbicide/fertilizer mixture per acre. For best results, apply the mixture uniformly to the soil with properly calibrated equipment immediately after blending. Uniform application of the herbicide/fertilizer mixture is essential in order to prevent possible crop injury or injury to subsequent rotational crops. Nonuniform application may also result in unsatisfactory weed control. In areas where conventional tillage is practiced, a shallow incorporation of the mixture into the soil is recommended to obtain satisfactory weed control. On *fine-* or *medium-textured soils* in areas where soil incorporation is not planned, i.e., reduced tillage situations or in some conventional till situations, make applications approximately 30 days before planting to allow moisture to move the herbicide/fertilizer mixture into the soil. On *coarse-textured soils*, make applications approximately 14 days prior to planting.

Precautions:

1. To help avoid rotational crop injury, make applications as early as possible, since **HAI Xtra Herbicide** impregnated onto dry bulk granular fertilizers can be expected to last longer in the soil than when **HAI Xtra Herbicide** is applied as a spray in water or fluid fertilizer.
2. To avoid potential crop injury, do not use the herbicide/fertilizer mixture on crops where planting beds are to be formed.

Application in Water or Fluid Fertilizers

HAI Xtra Herbicide Alone: Fill the spray tank 1/2-3/4 full with water or fluid fertilizer, add the proper amount of **HAI Xtra Herbicide**, then add the rest of the water or fluid fertilizer. Provide sufficient agitation during mixing and application to maintain a uniform suspension.

Tank Mixtures: Fill the spray tank 1/2-3/4 full with water or fluid fertilizer, add the proper amount of **HAI Xtra Herbicide**, then add atrazine, dicamba, isoxaflutole, linuron, or simazine; next add metolachlor; then add paraquat, 2,4-D + glyphosate, or glyphosate, depending on the tank mix combination desired; and finally, add the rest of the water or fluid fertilizer. Only water may be used

with **HAI Xtra Herbicide** + glufosinate when applied postemergence to corn designated as tolerant to glufosinate; and with glyphosate when applied postemergence to corn designated as tolerant to glyphosate. Provide sufficient agitation during mixing and application to maintain a uniform suspension.

Note: Always refer to the labels of the tank mix partner products for maximum use rates, directions for use, precautionary statements, geographic and other restrictions.

Compatibility Test

A jar test is recommended before tank mixing to ensure compatibility of **HAI Xtra Herbicide** with other pesticides. The following test assumes a spray volume of 25 gals./A. For other spray volumes, make appropriate changes in the ingredients.

Note: Nitrogen solutions or complete fluid fertilizers may replace all or part of the water in the spray. Since liquid fertilizers vary, even within the same analysis, **always check compatibility with pesticide(s) each time before use.** Incompatibility of tank mixtures is more common with suspensions of fertilizer and pesticides. Commercial application equipment may improve compatibility in some instances.

Check compatibility using this procedure:

1. Add 1.0 pt. of carrier (fertilizer or water) to each of 2 one-qt. jars with tight lids. **Note:** Use the same source of water that will be used for the tank mix and conduct the test at the temperature the tank mix will be applied.
2. To **one** of the jars, add 1 /4 tsp. or 1.2 milliliters of a compatibility agent approved for this use (1 /4 tsp. is equivalent to 2.0 pts./100 gals. spray). Shake or stir gently to mix. When an adjuvant is to be used with this product, HELM Agro US, Inc. recommends the use of Compex[®], Unite[®] or a Chemical Producers and Distributors Association (CPDA) certified adjuvant.
3. To **both** jars, add the appropriate amount of pesticide(s) in their relative proportions based on specified label rates. If more than one pesticide is used, add them separately with dry herbicides first, flowables next, and emulsifiable concentrates last. After each addition, shake or stir gently to thoroughly mix. The appropriate amount of herbicides for this test follows:
Dry herbicides: For each pound to be applied per acre, add 1.5 level teaspoons to each jar.
Liquid herbicides: For each pint to be applied per acre, add 0.5 teaspoon or 2.5 milliliters to each jar.
4. After adding all ingredients, put lids on and tighten, and invert each jar 10 times to mix. Let the mixtures stand 15-30 minutes and then look for separation, large flakes, precipitates, gels, heavy oily film on the jar, or other signs of incompatibility. Determine if the compatibility agent is needed in the spray mixture by comparing the 2 jars. If either mixture separates, but can be remixed readily, the mixture can be sprayed as long as good agitation is used. If the mixtures are incompatible, test the following methods of improving compatibility: (A) slurry the dry pesticide(s) in water before addition, or (B) add 1/2 of the compatibility agent to the fertilizer or water and the other 1/2 to the emulsifiable concentrate or flowable pesticide before addition to the mixture. If incompatibility is still observed, do not use the mixture.
5. After compatibility testing is complete, dispose of any pesticide wastes in accordance with the **Storage and Disposal** section in this label.

SOIL TEXTURE INFORMATION

Within rate ranges in all tables on this label, use the lower rate on soils relatively coarse-textured or low in organic matter; use the higher rate on soils relatively fine-textured or high in organic matter.

Directions are based upon soil textural classes, generally categorized as follows:

Coarse	Medium	Fine	
Sand	Loam	Sandy clay loam	Sandy clay
Loamy sand	Silt loam	Silty clay loam	Silty clay
Sandy loam	Silt	Clay loam	Clay

APPLICATION INFORMATION

Ground Application: Use sprayers that provide accurate and uniform application. Screens in nozzles and in suction and in-line strainers should be no finer than 50-mesh. Use a pump with capacity to: (1) maintain 35-40 psi at the nozzles, and (2) provide sufficient agitation in tank to keep mixture in suspension. Unless otherwise specified, use a minimum of 10 gals. of spray mixture per acre. Rinse sprayer thoroughly with clean water immediately after use.

For band applications, calculate amount to be applied per acre as follows:

$$\frac{\text{band width in inches}}{\text{row width in inches}} \times \text{broadcast rate per acre} = \text{amount needed per acre of field}$$

Low Carrier Application (Broadcast Ground Application Only): Use sprayers that provide accurate and uniform application. **Only water may be used as a carrier.** Screens in suction and in-line strainers should be 50-mesh. Manufacturers may require that tip screens as fine as 100-mesh be used with some nozzles. Use a pump with capacity to: (1) maintain up to 35-40 psi at the nozzles, and (2) provide sufficient agitation in tank to keep mixture in suspension. Use a minimum of 5.0 gals. of spray mixture per acre. Maximum recommended sprayer speed is 15 mph. Maintain uniform travel speed while spraying. Rinse sprayer thoroughly with clean water immediately after each use.

Note: Low pressure nozzles are recommended to reduce drift and increase application accuracy. Care should be taken when using automatic rate-controlling devices to spray the material within the rated working pressure and flow ranges of the nozzle selected. Nozzle screens should be used when recommended by the manufacturer. All nozzles should be placed on 20-inch centers, except flooding types which should be placed on 40-inch centers. When Flat Fan-type nozzles are used, angles of 80° or 110° are recommended. Always read and follow the manufacturer's directions for optimum setup and performance of their nozzles or tips.

Aerial Application (for HAI Xtra Herbicide alone): Use aerial application only where broadcast applications are specified. Apply a minimum of 1.0 gal. of water for each 1.0 gal. of this product applied per acre, but for rates below 1.0 gal./A, use in sufficient water to equal 2.0 gals./A of total spray. Avoid applications under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur. In order to assure that spray will be controllable within the target area when used according to label directions. Apply **HAI Xtra Herbicide** by aircraft at a minimum upwind distance of 400 ft. from sensitive plants.

Avoid application to humans or animals. Flagmen and loaders should avoid inhalation of spray mist and prolonged contact with skin.

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

The applicator should be familiar with and take into account the information covered in the **SPRAY DRIFT ADVISORIES** section below.

MANDATORY SPRAY DRIFT MANAGEMENT

Aerial Applications:

- **DO NOT** release spray at a height greater than 10 ft above the ground or vegetative canopy, unless a greater application height is necessary for pilot safety.
- Applicators are required to select the nozzle and pressure that deliver coarse or coarser droplets (ASABE S641).
- If the windspeed is 10 miles per hour or less, applicators must use $\frac{1}{2}$ swath displacement upwind at the downwind edge of the field. When the windspeed is between 11-15 miles per hour, applicators must use $\frac{3}{4}$ swath displacement upwind at the downwind edge of the field.
- **DO NOT** apply when wind speeds exceed 15 mph at the application site. If the windspeed is greater than 10 mph, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters.
- **DO NOT** apply during temperature inversions.
- User must maintain a 150 foot (46 meter) in-field downwind buffer (in the direction in which the wind is blowing) from the edge of streams and rivers, as well as high-tide line for all estuarine/marine environments.

Ground Boom Applications:

- User must only apply with the release height recommended by the manufacturer, but no more than 4 feet above the ground or crop canopy.
- Applicators are required to select the nozzles and pressure that deliver coarse or coarser droplets (ASABE S572).
- **DO NOT** apply when wind speeds exceed 10 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.
- User must maintain a 15 foot (4.6 meter) in-field downwind buffer (in the direction in which the wind is blowing) from the edge of streams and rivers, as well as high-tide line for all estuarine/marine environments.

Boomless Ground Applications:

- Applicators are required to select the nozzles and pressure that deliver coarse or coarser droplets (ASABE S572).
- **DO NOT** apply when wind speeds exceed 10 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.
- User must maintain a 15 foot (4.6 meter) in-field downwind buffer (in the direction in which the wind is blowing) from the edge of streams and rivers, as well as high-tide line for all estuarine/marine environments.

SPRAY DRIFT ADVISORIES

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.
BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

Boomless Ground Applications:

- Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.

Handheld Technology Applications

- Take precautions to minimize spray drift.

IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

Controlling Droplet Size – Ground Boom

- Volume - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

Controlling Droplet Size – Aircraft

- Adjust Nozzles - Follow nozzle manufacturers' recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

BOOM HEIGHT – Ground Boom

For ground equipment, the boom should remain level with the crop and have minimal bounce.

RELEASE HEIGHT - Aircraft

Higher release heights increase the potential for spray drift.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or 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.

WIND

Drift potential generally increases with wind speed. **AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.**

Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

Boomless Ground Applications:

Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.

Handheld Technology Applications:

Take precautions to minimize spray drift.

Sensitive Areas

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, nontarget crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

Rate Limitations

When tank mixing or sequentially applying products containing either atrazine or atrazine plus simazine, do not exceed an application rate of 2 pounds of active ingredients (either an active ingredient alone or a combination of both active ingredients) per acre for any single application. The total pounds of atrazine and/or simazine applied (lbs./A) must not exceed 2.5 pounds of the combined active ingredients per year. Where there are state or local requirements regarding atrazine use that are different from the label, the more restrictive requirements must be followed. Consult your state pesticide control agency for additional information.

Where there are state/local requirements regarding atrazine use (including lower maximum rates and/or greater setbacks), which are different from the label, the more restrictive/protective requirements must be followed. Certain states may have established rate limitations within specific geographical areas. Consult your state lead pesticide control agency for additional information. It is a violation of this label to deviate from state use regulations.

Note: For purposes of calculating total atrazine active ingredient applied, **HAI Xtra Herbicide** contains 3.1 lbs. a.i. atrazine + related compounds per gal. (0.775 lb. ai/qt.).

FOR ALL SOIL APPLICATIONS

Apply a maximum of 2.0 lbs. a.i./A (2.6 qts. of product/A) as a single preemergent broadcast application on soils that are not highly erodible or on highly erodible soils (as defined by the Natural Resources Conservation Service) if practicing conservation tillage and at least 30% of the soil surface is covered with plant residues at planting; or apply a maximum of 1.6 lbs. a.i./A (2.1 qts. of product/A) as a single preemergent broadcast application on highly erodible soils (as defined by the Natural Resources Conservation Service) if less than 30% of the soil surface is covered with plant residues at planting; or 2.0 lbs. a.i./A (2.6 qts. of product/A) if only applied postemergent

FOR POSTEMERGENCE APPLICATION TO CORN

If no atrazine was applied prior to corn emergence, apply a maximum of 2 lb ai/A (2.6 qts./A) broadcast. If a postemergence treatment is required following an earlier herbicide application, the total atrazine applied may not exceed 2.5 lb ai/A (3.2 qts. of **HAI Xtra Herbicide**) per calendar year

ROTATIONAL CROPS

Do not rotate to food or feed crops other than those listed below:

- (1) If treated crop is lost due to poor germination, hail, flood, insects, etc., corn or sorghum may be replanted immediately. DO NOT make a second broadcast application. If the original application was banded and the second crop is planted in the untreated row middles, a second banded treatment may be applied.
- (2) Corn, sorghum, soybeans, cotton, or peanuts may be planted the spring following treatment. Do not graze or feed forage or fodder from cotton to livestock, or illegal residues may result.
- (3) Injury may occur to soybeans planted the year following application on soils having a calcareous surface layer.
- (4) If this product is registered in any of the following states, this restriction applies. In eastern parts of the Dakotas, KS, western MN, and NE, do not rotate to soybeans for 18 months

following application if the rate applied to corn or sorghum was more than 2.0 lbs. a.i. of atrazine or equivalent band application rate, or soybean injury may occur.

- (5) If applied after June 10, do not rotate with crops other than corn or sorghum the next year, or crop injury may occur.
- (6) If this product is registered in any of the following states, this restriction applies. In the High Plains and Inter-mountain areas of the West, where rainfall is sparse and erratic or where irrigation is required, use only when corn or sorghum is to follow corn or sorghum, or a crop of untreated corn or sorghum is to precede other rotational crops.
- (7) Do not plant sugar beets, tobacco, vegetables (including dry beans), spring-seeded small grains, or small-seeded legumes the year following application, or injury may occur.

WEED CONTROL INFORMATION

HAI Xtra Herbicide is effective for the control of grassy and broadleaf weed plants that can infest agricultural fields. The spectrum of effective weed control may differ depending upon the application pattern and timing of application(s) of this product. The following table is a partial illustration of the potential usefulness of this product to mitigate the growth of weeds.

Weeds Controlled – Preplant and Preemergence Applications			
barnyardgrass (watergrass)	green foxtail	carpetweed	jimsonweed
browntop panicum	prairie cupgrass	chickweed	lambsquarters
crabgrass	red rice	cocklebur*	morningglory
crowfootgrass	signalgrass	common ragweed	mustards
fall panicum	(<i>Brachiaria</i>)*	Florida pusley	nightshades
foxtail millet	southwestern cupgrass	galinsoga	pigweed
giant foxtail	witchgrass	giant ragweed*	smartweed
goosegrass	yellow foxtail	henbit	velvetleaf*
	yellow nutsedge*		waterhemp
Weeds Controlled – Postemergence Applications			
barnyardgrass (watergrass)	fall panicum	jimsonweed	prickly sida
cocklebur	flixweed	kochia	purslane
common ragweed	giant foxtail	lambsquarters	ragweed
crabgrass	green foxtail	morningglory	smartweed
crowfootgrass	yellow foxtail	mustard	velvetleaf
		pigweed	waterhemp
Weeds Partially Controlled**			
sandbur	shattercane	volunteer sorghum	yellow nutsedge
seedling johnsongrass	sicklepod	woolly cupgrass	common purslane

* Control of these weeds can be erratic, especially under dry weather conditions. Control escaped weeds with cultivation or application of an appropriate EPA-registered postemergence herbicide. On fine-textured soils, only partial control can be expected.

** Control may be improved by following these suggested procedures:

1. Apply up to the maximum single application rate in for your given soil texture and rate limitation based on your soil conservation practices (see individual crop sections).
2. **Thoroughly till moist soil** to destroy germinating and emerged weeds. If **HAI Xtra Herbicide** is to be applied preplant incorporated, this tillage may be used to incorporate **HAI Xtra Herbicide** if uniform 2-inch incorporation is achieved as recommended under **Application Procedures**.
3. Plant crop into moist soil **immediately after tillage**. If **HAI Xtra Herbicide** is to be used preemergence, apply at planting or immediately after planting.

4. If available, **sprinkler irrigate** within 2 days after application. Apply 1/2-1 inch of water. Use lower water volume (1/2 inch) on coarse-textured soils and higher volume (1 inch) on fine-textured soils.
5. If irrigation is not possible and rain does not occur within 2 days after planting and application, weed control may be decreased. Under these conditions, a uniform, shallow cultivation is recommended as soon as weeds emerge.

CORN APPLICATION PROCEDURES

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 24 hours

USE RESTRICTION:

- **MAXIMUM SINGLE APPLICATION RATE:** 2.65 qt./product/A (1.6 lbs. metolachlor AI/A and 2.1 lbs. atrazine AI/A) (Use 2.65 qt./product/A total if making a split application, use 2.6 qt./product/A if making a single one-time application.)
- **MAXIMUM ANNUAL APPLICATION RATE PER YEAR:** 2.65 qt./product/A (1.6 lbs. metolachlor AI/A and 2.1 lbs. atrazine AI/A) (Use 2.65 qt./product/A total if making a split application, use 2.6 qt./product/A if making a single one-time application.)
- **MAXIMUM NUMBER OF APPLICATIONS:** 1 (Two applications are allowed if using the split application program)
- **PRE-HARVEST INTERVAL (PHI):** 60 days
- For sweet corn, application via mechanically pressurized handguns is prohibited.

EARLY PREPLANT

If you apply this product early preplant, use the appropriate rate from Table 1.

Table 1: HAI Xtra Herbicide – Early Preplant Rates of Application (quarts/Acre)

Soil Texture	Single Application	Split Application*	
		30-45 Days Pre-planting	At Planting
COARSE Sand, loamy sand, sandy loam	2.1	DO NOT APPLY	
MEDIUM Loam, silt loam, silt	A. 2.1	1.4	0.7
	B. 2.1 - 2.6	1.4 – 1.75	0.7 - 0.9
FINE Sandy clay loam, silty clay loam, clay loam, sandy clay, silty clay, clay	A. 2.1	1.4	0.7 qt./A
	B. 2.6	1.75	0.9 qt./A

* Split applications can be made less than 30 days before planting if desired.

- A.** Do not exceed this rate on highly erodible land with less than 30% plant residue cover. Control of certain weeds may be reduced and a tank mix partner or an application of a postemergence herbicide may be needed.
- B.** Do not exceed this rate on soils that are not highly erodible or on highly erodible soils if at least 30% of the soil is covered with plant residue.

Applications made less than 30 days prior to planting may be as either a split or single treatment. Use the lower rate for light expected weed infestations and the higher rate for heavy expected weed infestations. On *coarse-textured soils*, apply 2.1 qts./A not more than 2 weeks prior to planting. The

above procedure may be followed if atrazine or metolachlor or simazine is used in tank mixtures with **HAI Xtra Herbicide**. Substitute a fluid fertilizer for some or all of the water carrier for burndown of existing annual weeds listed on this label up to the 2-leaf stage of development. The addition of crop oil concentrate to the spray mixture will enhance the burndown activity. If larger weeds are present at the time of treatment, apply in a tank mixture combination with a contact herbicide (for example, paraquat or glyphosate). Observe directions for use, precautions, and restrictions on the label of the contact herbicide.

Use on *medium-* and *fine-textured soils* with minimum-tillage or no-tillage systems in CO, IA, IL, IN, KS, KY, MN, MO, MT, ND, NE, SD, TN, WI, and WY.

On *medium-* and *fine-textured soils* with minimum- or no-tillage systems in DE, MD, MI, NY, OH, PA, VA, and WV, early preplant applications may be applied following the directions for use above. If the amount of rainfall results in unsatisfactory length of weed control following the earlier treatment, a postemergence application of an appropriately labeled broadleaf and/or grass weed herbicide may be used, i.e., atrazine, primisulfuron-methyl, dicamba, bentazone, bromoxynil, primisulfuron-methyl + prosulfuron, atrazine + dicamba, or 2,4-D. If the postemergence treatment includes the herbicide used early preplant, do not exceed the labeled rate for corn on a given soil texture. Observe all directions for use, precautions, and limitations on the label of the postemergent herbicide.

HAI Xtra Herbicide may be used according to the above directions to control winter wheat planted as a cover crop in IN, KY, and OH, in addition to providing residual weed control. The wheat must be less than 6 inches tall (preferably still in a dormant or semi-dormant state coming out of winter) at the time of application. Depending on rainfall, 10-20 days may be required to completely kill the wheat. In the event that adequate rainfall does not occur, control of the winter wheat may be unsatisfactory and the application of a contact herbicide (i.e., paraquat or glyphosate) may be required before planting the crop.

On *medium-* and *fine-textured soils* following final seedbed preparation in the Blacklands and Gulf Coast areas of TX, an early preplant application of **HAI Xtra Herbicide** at 1.6-1.9 qts./A may be made 30-45 days before planting. Grass suppression of 2-3 weeks after planting can be expected as a result of this application. Do not incorporate or disturb the soil before planting, and avoid moving the soil during the planting operation. A follow-up application of metolachlor may be needed in fields with a history of heavy grass pressure. Apply after planting, but before corn and grass weeds emerge.

Notes: (1) If a follow-up application of metolachlor is needed, do not exceed a total of 1.6 lbs. a.i. of metolachlor per acre, including the preplant **HAI Xtra Herbicide** application on *medium-* or *fine-textured soils*. On *fine-textured soils* with more than 3% organic matter, do not exceed 1.9 lbs. a.i. of metolachlor.

[To determine the total lbs. ai. of metolachlor per acre, use the following 2-step method:

A. Determine the lbs. of metolachlor applied as **HAI Xtra Herbicide** (1 qt. = 0.6 lb. ai. of metolachlor); then,

B. If metolachlor is to be used, add the lbs. ai. to be applied in these products to the lbs. in Step A above.]

(2) To the extent possible, do not move treated soil out of the row or move untreated soil to the surface during planting, or weed control will be diminished.

PREPLANT SURFACE, PREPLANT INCORPORATED, OR PREEMERGENCE

If you apply this product preplant surface, preplant incorporated, or preemergence, use the appropriate rate from Table 2.

Preplant Surface: Apply uniformly to the soil surface within 14 days before planting. Where applications are made to coarse soils more than 7 days before planting, use the rates in Table 1.

Preplant Incorporated: Apply to the soil and incorporate into the top 2 inches of the soil within 14 days before planting, using a finishing disk, finishing harrow, rolling cultivator, or similar implement capable of providing uniform 2-inch incorporation. Use the preplant incorporated method if furrow irrigation is used or when a period of dry weather after application is expected. If crop is to be planted on beds, apply and incorporate after bed formation.

Preemergence: Apply to the soil surface at planting (behind the planter) or after planting, but before weeds or crop emerge.

Table 2: HAI Xtra Herbicide – Preplant Surface, Preplant Incorporated, or Preemergence Rates of Application

Soil Texture	Broadcast Rate (quarts per acre)	
	Less Than 3% Organic Matter	3% Organic Matter or Greater
COARSE Sand, loamy sand, sandy loam	1.3 qts.	1.6 qts.
MEDIUM Loam, silt loam, silt	1.6 qts.	2.1 qts.
FINE Sandy clay loam, silty clay loam, clay loam, sandy clay, silty clay, clay	2.1 qts.	A. 2.1 qts.
		B. 2.1-2.6 qts.*
DO NOT USE on muck or peat soils (more than 20% organic matter)		

*For cocklebur, yellow nutsedge, and velvetleaf control on fine-textured soils above 3% organic matter: Apply 2.6 qts. of **HAI Xtra Herbicide** per acre.

- A.** Do not exceed this rate on highly erodible land with less than 30% plant residue cover. Control of certain weeds may be reduced and a tank mix partner or an application of a postemergence herbicide may be needed.
- B.** Do not exceed this rate on soils that are not highly erodible or on highly erodible soils if at least 30% of the soil is covered with plant residue.

Notes:

- (1) In the event of escape of annual weeds following an early preplant, preplant surface, preplant incorporated, or preemergence treatment of **HAI Xtra Herbicide** applied alone or in combination, follow with a post-emergence application of an appropriately labeled broadleaf and/or grass weed herbicide, i.e., atrazine, primisulfuron-methyl, nicosulfuron, dicamba, bentazone, bromoxynil, primisulfuron-methyl + prosulfuron, atrazine + dicamba, or 2,4-D. If the postemergence treatment includes the herbicide used in the earlier treatment, do not exceed the labeled rate for corn on a given soil texture.
- (2) Bromoxynil may be applied postemergence alone or in tank mix combination with atrazine. Do not exceed 1.2 lbs. a.i./A of atrazine in tank mix combination with bromoxynil postemergence. Refer to the atrazine, and bromoxynil labels for specific rates and precautions.
- (3) If atrazine or another product containing atrazine is used postemergence following application of **HAI Xtra Herbicide**, do not exceed a total of 2.5 lbs. a.i./A of atrazine per year.
- (4) Substitute a fluid fertilizer for some or all of the water carrier for burndown of existing annual weeds listed on this label up to the 2-leaf stage of development. The addition of crop oil concentrate to the spray mixture will enhance the burndown activity. If larger weeds are present, add a contact herbicide as noted in the **HAI Xtra Herbicide Combinations** section of this label.

Postemergence Broadcast

If you apply this product early postemergence, use the appropriate rate from Table 3. Apply post-emergence treatments of **HAI Xtra Herbicide** using water only as the carrier. Apply this treatment before grass and broadleaf weeds pass the 2-leaf stage and before corn exceeds 5 inches in height. Application to weeds larger than the 2-leaf stage will generally result in unsatisfactory control. Occasional corn leaf burn may result, but this should not affect later growth or yield. Do not apply postemergence in fluid fertilizer, or severe crop injury may occur.

Note: To avoid possible illegal residues, do not graze or feed forage from treated areas for 60 days following application.

Table 3: Postemergence Broadcast Rates

Soil Texture	Broadcast Rate (quarts per acre)
COARSE Sand, loamy sand, sandy loam	1.6
MEDIUM Loam, silt loam, silt	2.1
FINE Sandy clay loam, silty clay loam, clay loam, sandy clay, silty clay, clay	2.1 - 2.6*

* For better residual control of cocklebur, velvetleaf, and yellow nutsedge on *fine-textured soils* above 3% organic matter, apply 2.6 qts. of **HAI Xtra Herbicide** per acre.

RESTRICTIONS:

1. If no atrazine was applied prior to corn emergence, apply a maximum of 2 lbs ai/A broadcast post-emergence. If a postemergence treatment is required following an earlier herbicide application, the total atrazine applied must not exceed 2.5 lbs ai/A per calendar year.
2. If atrazine or atrazine plus metolachlor tank mixtures have been applied early preplant, preplant surface, preplant incorporated, or pre-emergence, limit the **HAI Xtra Herbicide** early post application not to exceed a total of 2.5 lbs. of active ingredient in atrazine or 3.75 lbs. of the active ingredient metolachlor per acre, or illegal residues may result.

When tank mixing or sequentially applying products containing either atrazine or atrazine plus simazine, do not exceed an application rate of 2 pounds of active ingredients (either an active ingredient alone or a combination of both active ingredients) per acre for any single application. The total pounds of atrazine and/or simazine applied (lbs./A) must not exceed 2.5 pounds of the combined active ingredients per year. Where there are state or local requirements regarding atrazine use that are different from the label, the more restrictive requirements must be followed. Consult your state pesticide control agency for additional information.

Postemergence-Directed

HAI Xtra Herbicide may be applied at 1.3-2.6 qts./A in a minimum of 15 gals. of water as a postemergence-directed treatment to corn to extend control of weeds. Apply using the appropriate rate from Table 4.

For best results, apply **HAI Xtra Herbicide** to weed-free soil following use of a preplant surface, preplant incorporated, or preemergence herbicide, or following a lay-by cultivation. If weeds have emerged at the time of **HAI Xtra Herbicide** application, apply before grass and broadleaf weeds exceed the 2-leaf stage. Application to weeds larger than the 2-leaf stage will generally give unsatisfactory control. Apply to corn not exceeding 12 inches in height. Minimize contact with corn leaves. Do not apply postemergence in fluid fertilizer, or severe crop injury may occur.

Note: To avoid possible illegal residues, do not graze or feed forage from treated areas for 60 days following application.

Table 4: Postemergence-Directed Rates of Application

Soil Texture	Broadcast Rate (quarts per acre)
COARSE Sand, loamy sand, sandy loam	1.3 qts.
MEDIUM Loam, silt loam, silt	2.1 qts.
FINE Sandy clay loam, silty clay loam, clay loam, sandy clay, silty clay, clay	2.1-2.6 qts.*

* For better residual control of cocklebur, velvetleaf, and yellow nutsedge on fine-textured soils above 3% organic matter, apply 2.6 qts. of **HAI Xtra Herbicide** per acre.

Notes:

(1) If no atrazine was applied prior to corn emergence, apply a maximum of 2 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.

(2) If atrazine plus metolachlor tank mixtures have been applied preplant surface, preplant incorporated, or preemergence, limit the **HAI Xtra Herbicide** post-directed application not to exceed a total of 2.5 lbs. of the active ingredient atrazine or 3.75 lbs. of the active ingredient metolachlor per acre on a corn crop, or illegal residues may result.

HAI XTRA HERBICIDE COMBINATIONS

Always follow label instructions for tank mix products when mixing with **HAI Xtra Herbicide**.

* When tank mixing **HAI Xtra Herbicide** with atrazine formulations, refer to the **HAI Xtra Herbicide Rate Limitations** section of this label. Do not exceed the following:

On highly erodible land with less than 30% plant residue cover prior to crop emergence	1.6 lbs. a.i. of atrazine
On other land prior to crop emergence	2.0 lbs. a.i. of atrazine
Postemergence applications only – any land	2.0 lbs. a.i. of atrazine
Preemergence + postemergence applications	2.5 lbs. a.i. of atrazine

1. Tank Mixture with Atrazine, Metolachlor, Simazine, or Isoxaflutole – Conventional Tillage

Note: Check the compatibility of **HAI Xtra Herbicide** tank mixtures with isoxaflutole before mixing in spray tank by using the procedure described under **Application in Water or Fluid Fertilizers**.

Atrazine: Add the labeled rate of atrazine per acre to the rate of **HAI Xtra Herbicide** specified in Table 3 in the southeastern U.S. where high rainfall can shorten the duration of control of broadleaf weeds, and in all areas where heavy infestations of cocklebur, morningglory, velvetleaf, or other broadleaf weeds claimed are expected.

Metolachlor Products: Add the labeled rate of metolachlor per acre to the rate of **HAI Xtra Herbicide** specified in Table 3 when heavy infestations of yellow nutsedge, sandbur, or seedling johnsongrass are expected.

Simazine: Add the labeled rate of simazine per acre to the rate of **HAI Xtra Herbicide** specified in Table 3 where heavy infestations of crabgrass or fall panicum are expected or additional control of certain broadleaves is desired.

Isoxaflutol (Field Corn Only): The tank mixture of HAI Xtra Herbicide + isoxaflutole provides control of weeds listed on the **HAI Xtra Herbicide** label, certain weed biotypes resistant to ALS-inhibitor herbicides and to triazine herbicides, velvetleaf, and others on the respective product labels. Isoxaflutole will contribute to the control of problem grass and other broadleaf species on its label. Application may be preplant (surface-applied up to 14 days before planting), preplant incorporated, or preemergence in conventional tillage, conservation tillage, and no-till systems. Refer to **Table 1: HAI Xtra Herbicide – Early Preplant** for the early preplant application rate (8-14 days before planting) or refer to **Table 2** for the appropriate rate for preplant (surface-applied 0-7 days before planting), preplant incorporated, or preemergence application. Refer to the **Application Procedures** and **Tank Mix Directions** on the isoxaflutole label, but to reduce the potential for injury from isoxaflutole contact with corn, use 1.0 oz./A of isoxaflutole on *coarsed-textured soils* and 1.0-1.5 oz./A on *medium- and fine-textured soils* in conventional, conservation, and no-tillage systems. For early preplant applications 8-14 days before planting, add 0.5 oz./A of isoxaflutole to the rates of isoxaflutole described above.

Observe all applicable directions, precautions, and limitations on the **HAI Xtra Herbicide** and isoxaflutole labels when applying these products in tank mix combination in states where isoxaflutole is registered. Where difficult species and/or severe weed populations are expected, use the maximum rates of **HAI Xtra Herbicide** and isoxaflutole where rate ranges are listed for the tank mixture.

2. Tank Mixture of HAI Xtra Herbicide Alone or HAI Xtra Herbicide + Atrazine, Isoxaflutole, Metolachlor, or Simazine, with Paraquat, 2,4-D + Glyphosate, or Glyphosate for Minimum-Tillage or No-Tillage Systems

In minimum-tillage or no-tillage systems where corn is planted directly into a cover crop, stale seedbed, established sod, or previous crop residues, the contact herbicides paraquat, 2,4-D + glyphosate, or glyphosate should be tank mixed with **HAI Xtra Herbicide** alone or with **HAI Xtra Herbicide** + atrazine, isoxaflutole, metolachlor, or simazine. When used as directed, the paraquat portion of the tank mixture controls most emerged annual weeds and suppresses many perennial weeds. 2,4-D + glyphosate or glyphosate combinations will control emerged annual and perennial weeds when applied as directed on its label. The **HAI Xtra Herbicide** portion of the tank mixture provides preemergence control of the weeds listed on this label in the **HAI Xtra Herbicide Alone** section for corn. The addition of atrazine, isoxaflutole, metolachlor, or simazine offers the advantage indicated for each under **Tank Mixture with Atrazine, Metolachlor, Simazine, or Isoxaflutole – Conventional Tillage** section.

Application: Apply before, during, or after planting, but before corn emerges, at the appropriate rate in Table 7. Use the labeled rate of tank mix partners with the rate of **HAI Xtra Herbicide** specified in Table 7. **Tank mixtures with isoxaflutole can only be used on field corn.**

Apply in 20-60 gals. of water per acre with conventional spray equipment.

3. Tank Mixture of HAI Xtra Herbicide Alone or HAI Xtra Herbicide + Atrazine, or Isoxaflutole, with 2,4-D or 2,4-D + Dicamba for Minimum-Tillage or No-Tillage Systems

In minimum-tillage or no-tillage systems where corn is planted directly into a cover crop, stale seedbed, established sod, or previous crop residues, **HAI Xtra Herbicide** may be applied in combination with atrazine or isoxaflutole. When used as directed, the **HAI Xtra Herbicide** portion of the tank mixture provides preemergence control of the weeds listed on this label in the **HAI Xtra Herbicide Alone** section for corn. The addition of atrazine or isoxaflutole offers the advantage

indicated for each under **Tank Mixture with Atrazine, Metolachlor, Simazine, or Isoxaflutole – Conventional Tillage** section.

Application: Apply **HAI Xtra Herbicide** before, during, or after planting, but before corn emerges, at the appropriate rate in Table 5. The labeled rate of atrazine or isoxaflutole may be added to the rate of **HAI Xtra Herbicide** specified in Table 5.

Where heavy crop residues exist, add an appropriately labeled 2,4-D amine or low volatile ester to the spray tank last and apply in a minimum of 25 gals. of carrier per acre.

As carriers, nitrogen solutions and complete liquid fertilizers, applied before corn emergence, enhance burndown of existing weeds, and therefore are recommended instead of water. Add X-77® surfactant at 1.0-2.0 qts./100 gals. of diluted spray, or another surfactant cleared for use on growing crops at its labeled rate. Apply before weeds exceed 3 inches in height. If alfalfa is present, add the labeled rate of dicamba to the spray mixture and apply before alfalfa exceeds 6 inches in height.

For fields with existing sod grasses (e.g., bromegrass, orchardgrass, rye, or timothy), when existing weeds exceed 3 inches in height or when very dry conditions exist, add paraquat at the labeled rate ~~of~~ in place of, or in addition to, 2,4-D, as indicated above. Do not apply paraquat in suspension-type liquid fertilizer (using clay suspending agents), as the activity of paraquat will be reduced. Observe all directions for use, precautions, restrictions, and limitations on the respective product labels when applying these products in tank mix combination.

Table 5: HAI Xtra Herbicide for Minimum-Tillage or No-Tillage Corn

Soil Texture	Broadcast Rate (quarts per acre)
COARSE Sand, loamy sand, sandy loam	1.6 qts.
MEDIUM Loam, silt loam, silt	2.1 qts.
FINE Sandy clay loam, silty clay loam, clay loam, sandy clay, silty clay, clay	A. 2.1 qts.
	B. 2.1-2.6 qts.*
DO NOT USE on muck or peat soils (more than 20% organic matter)	

*For cocklebur, yellow nutsedge, and velvetleaf control on fine-textured soils above 3% organic matter: Apply 2.6 qts. of **HAI Xtra Herbicide** per acre.

- A.** Do not exceed this rate on highly erodible land with less than 30% plant residue cover. Control of certain weeds may be reduced and a tank mix partner or an application of a postemergence herbicide may be needed.
- B.** Use this rate for all other applications.

4. Tank Mixture with Linuron for Control of Lambquarters and Pigweed

For prolonged control of lambsquarters and pigweed in DE, MD, NJ, NY, PA, VA, and WV, **HAI Xtra Herbicide** may be applied preemergence in tank mix combination with linuron. Apply **HAI Xtra Herbicide** according to the rates in Table 2 and linuron according to the labeled rates. Follow instructions, restrictions, and precautions on the **HAI Xtra Herbicide** and linuron labels when tank mixing these products.

Rotational Crops: Follow the crop rotation instructions in the **HAI Xtra Herbicide Alone** section for corn.

5. Tank Mixture with Mesotrione

For preemergence control of weeds in corn, **HAI Xtra Herbicide** may be applied in combination with mesotrione. Apply **HAI Xtra Herbicide** according to the rates in Table 2 and mesotrione at the labeled rate. Observe all directions for use, precautions, restrictions, and limitations on the respective product labels when applying these products in tank mix combination.

6. Tank Mixtures For Postemergence Salvage Weed Control in Field Corn Only

For postemergence control of weeds in specific types of field corn, the **HAI Xtra Herbicide** combinations listed below may be used. Full season weed control from early preplant, preplant incorporated, or preemergence treatments can lead to maximum yield potential under competition-free conditions. However, if control of emerged weeds is needed, a postemergence program listed below can be applied to provide residual control for the remainder of the season.

Notes:

- Follow all label directions, instructions, precautions, restrictions, and limitations for each product used.
 - Do not use fluid fertilizer with these mixtures or corn injury may occur.
 - For each tank mixture with **HAI Xtra Herbicide**, apply only to the specific field corn type specified on the tank mix product label.
 - In-row weed control may be reduced because of lack of coverage when applied to corn over 4 inches tall.
- a. **HAI Xtra Herbicide + Glufosinate: Postemergence Use in Corn Warranted as Being Tolerant to Glufosinate**— The tank mixture of **HAI Xtra Herbicide** + glufosinate can be applied postemergence to weeds and corn from seed warranted as being tolerant to glufosinate. Glufosinate provides postemergence control of a broad spectrum of grass and broadleaf weeds and the HAI Xtra Herbicide provides residual control of grasses and broadleaf weeds listed in the label section **HAI Xtra Herbicide Applied Alone – Weeds Controlled**. For the proper rate of HAI Xtra Herbicide applied postemergence, refer to Table 3 and use the minimum rate per soil texture for season-long residual control. Refer to the glufosinate label for the glufosinate postemergence application rate according to weed species and their maximum height at the time of postemergence application. Where multiple weed species are present, use the highest glufosinate rate specified to control the species and growth stages present.

Follow all applicable use directions, limitations, precautions, and information regarding application to corn on the **HAI Xtra Herbicide** and glufosinate labels.

RESTRICTION: DO NOT apply this tank mixture postemergence to any corn variety unless it is designated as glufosinate tolerant.

- b. **HAI Xtra Herbicide + Glyphosate for Postemergence Application to glyphosate tolerant corn** – The tank mixture of **HAI Xtra Herbicide** + glyphosate can be applied postemergence to weeds and to corn varieties or cultivars warranted as tolerant to glyphosate. Application may be applied postemergence to glyphosate tolerant corn up to 12 inches in height. This mixture will provide postemergence control of weed species on the glyphosate label and also residual control of weed species on the **HAI Xtra Herbicide** label. Use the minimum **HAI Xtra Herbicide** rate postemergence with glyphosate in glyphosate tolerant corn as specified in Table 3 of this label according to soil texture.

Refer to the glyphosate label and follow all appropriate use directions, application procedures, precautions, restrictions, and limitations for control of labeled broadleaf and grass weeds. Where

difficult species and/or severe weed populations are expected, use the maximum rate where rate ranges are listed.

RESTRICTION: DO NOT apply this tank mixture postemergence to any corn variety unless it is designated glyphosate tolerant.

- c. **HAI Xtra Herbicide + Primisulfuron-methyl:** Apply 1.33-1.75 qts./A of **HAI Xtra Herbicide** + the labeled rate of primisulfuron-methyl to corn that is 4-12 inches tall. The application may be broadcast, semi-directed, or directed. The **HAI Xtra Herbicide** rate is based on soil texture, with 1.33 qts./A on *coarse*, and 1.75 qts./A on *medium* and *fine soils*. Add a nonionic surfactant at 0.25% v/v.

This mixture is effective for control of many annual broadleaf weeds and some grasses. A few instances of broadleaf weed control antagonism have been observed with this combination. Control of certain annual grasses can be improved with the addition of nicosulfuron.

- d. **HAI Xtra Herbicide + Primisulfuron-methyl + Nicosulfuron:** Apply the same rates of **HAI Xtra Herbicide** and primisulfuron-methyl as mentioned above. Add nicosulfuron at the labeled rate for more effective control of certain annual grasses. Apply to field corn between 4 and 12 inches. Add a nonionic surfactant at 0.25% v/v. The use of fertilizer or crop oil concentrate with this combination may cause injury to corn.
- e. **HAI Xtra Herbicide + Primisulfuron-methyl/Prosulfuron** – Primisulfuron-methyl /prosulfuron herbicide at the labeled rate can be substituted in place of primisulfuron-methyl in the above combinations in field corn only.

Notes: Do not use fertilizer or crop oil concentrate with these mixtures or injury to field corn may occur. The combination of **HAI Xtra Herbicide** with other products for postemergence weed control in corn is generally not recommended. **These combinations may cause injury and/or weed control concerns that would not exist when the products are used separately.** A certain inherent risk is involved with the various combinations of these products used postemergence in corn. [It should be noted that early preplant, preplant incorporated, or preemergence control of these weeds would usually provide more timely weed control resulting in higher yields than postemergence treatments.]

Mixing Order

Add these products (Tank Mixtures c, d, and e) to the tank mix in the following order:

1. Products in water-soluble bags should be added first.
2. **HAI Xtra Herbicide.**
3. Additives.

Precautions:

1. Follow all label instructions, precautions, and rotational restrictions for individual products when making these applications to field corn. When **HAI Xtra Herbicide** is applied after June 10, crop injury may occur the following year if you rotate to crops other than corn or sorghum.
2. In-row weed control may be reduced because of lack of coverage when applied to corn over 4 inches tall.

SORGHUM APPLICATION PROCEDURES

USE ONLY ON SORGHUM SEED TREATED WITH CONCEP® OR SCREEN®

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 24 hours

RESTRICTIONS:

- **MAXIMUM SINGLE APPLICATION RATE:** 2.65 qt./product/A (1.6 lbs. metolachlor AI/A and 2.1 lbs. atrazine AI/A) (Use 2.65 qt./product/A total if making a split application, use 2.6 qt./product/A if making a single one-time application.)
- **MAXIMUM ANNUAL APPLICATION RATE PER YEAR:** 2.65 qt./product/A (1.6 lbs. metolachlor AI/A and 2.1 lbs. atrazine AI/A) (Use 2.65 qt./product/A total if making a split application, use 2.6 qt./product/A if making a single one-time application.)
- **MAXIMUM NUMBER OF APPLICATIONS:** 1 (Two applications are allowed if using the split application program)
- **PRE-HARVEST INTERVAL (PHI):** 60 days

EARLY PREPLANT

If you apply this product early preplant, use the appropriate rate from Table 6.

For minimum-tillage or no-tillage systems only, HAI Xtra Herbicide may be applied up to 45 days before planting in IA, IL, eastern KS, MO, NE, and SD. Use only split applications for treatments made 30 to 45 days prior to planting, with two-thirds of the broadcast rate applied initially and the remaining one-third at planting. Treatments less than 30 days prior to planting may be either as a split or single application. Use the lower rate for light expected weed infestations and the higher rate for heavy expected weed infestations. Under dry conditions, irrigation after application is recommended to move this product into the soil.

The above procedure may be followed if atrazine or metolachlor or simazine is used in tank mixtures with **HAI Xtra Herbicide**. Substitute a fluid fertilizer for some, or all, of the water carrier for burndown of existing annual weeds listed on this label up to the 2-leaf stage of development. The addition of crop oil concentrate to the spray mixture will enhance the burndown activity. If larger weeds are present at the time of treatment, apply in a tank mixture combination with a contact herbicide (for example, paraquat or glyphosate). Observe directions for use, precautions, and restrictions on the label of the contact herbicide.

On *medium-* and *fine-textured soils* following final seedbed preparation in the Blacklands and Gulf Coast areas of TX, an early preplant application of **HAI Xtra Herbicide** at 1.6 – 1.9 qts./A may be made 30-45 days before planting. Grass suppression of 2-3 weeks after planting can be expected as a result of this application. Do not incorporate or disturb the soil before planting, and avoid moving the soil during the planting operation. A follow-up application of metolachlor may be needed in fields with a history of heavy grass pressure. Apply after planting, but before sorghum and grass weeds emerge.

Table 6: HAI Xtra Herbicide – Early Preplant Rates of Application (quarts/Acre)

Soil Texture	Organic Matter Content	Single Application (qts./A)	Split Application ¹ (qts./A)	
			30-45 Days Pre-planting	At Planting
COARSE Sand, loamy sand, sandy loam	Any level	DO NOT USE		
MEDIUM ² Loam, silt loam, silt	More than 1.0%	2.1 ^A	1.4 ^A	0.7 ^A
	More than 1.0%	2.1 - 2.33 ^B	1.4 - 1.6 ^B	0.7 – 0.8 ^B
FINE Sandy clay loam, silty clay loam, clay loam, sandy clay, silty clay, clay	More than 1.0%	2.1 ^A	1.4 ^A	0.7 ^A
	1.0 – 1.5%	2.1 - 2.33 ^B	1.4 - 1.6 ^B	0.7 – 0.8 ^B
	More than 1.5%	2.33 - 2.58 ^B	1.6 – 1.75 ^B	0.8 – 0.9 ^B

¹ Split applications can be made less than 30 days before planting if desired.

² DO NOT use on medium soil texture when the soil organic matter content is less than 1.0%.

^A Use this rate when applying to highly erodible land with less than 30% plant residue cover. Control of certain weeds may be reduced and a tank mix partner or an application of a postemergence herbicide may be needed.

^B Use this rate for all other applications.

RESTRICTIONS:

1. DO NOT use this product on sorghum grown under dry mulch tillage, or injury may occur.
2. Except for the split preplant surface treatment, DO NOT make more than one application per year, or illegal residues may result.
3. DO NOT apply atrazine and propazine products to the same sorghum acre.

PRECAUTIONS:

1. If sorghum seed is not properly treated with Concep or Screen seed treatment, this product will severely injure the crop.
2. Under high soil moisture conditions prior to sorghum emergence, injury may occur following the use of this product. The crop will normally outgrow this effect.

Notes:

- If a follow-up application of metolachlor is needed, do not exceed a total of 1.6 lbs. a.i. of metolachlor per acre, including the preplant **HAI Xtra Herbicide** application on *medium-* or *fine-textured soils*. On *fine-textured soils* with more than 3% organic matter, do not exceed 1.6 lbs. a.i. of metolachlor.
[To determine the total lbs. ai. of metolachlor per acre, use the following 2-step method:
A. Determine the lbs. of metolachlor applied as **HAI Xtra Herbicide** (1 qt. = 0.61 lb. ai. of metolachlor); then,
B. If metolachlor is to be used, add the lbs. ai. to be applied in these products to the lbs. in Step A above.]
- To the extent possible, do not move treated soil out of the row or move untreated soil to the surface during planting, or weed control will be diminished.

PREPLANT SURFACE, PREPLANT INCORPORATED, OR PREEMERGENCE

If you apply this product preplant surface, preplant incorporated, or preemergence, use the appropriate rate from Table 7.

Preplant Surface: Apply uniformly to the soil surface within 14 days before planting. Where applications are made to coarse soils more than 7 days before planting, use the rates in Table 6.

Preplant Incorporated: Apply to the soil and incorporate into the top 2 inches of the soil within 14 days before planting, using a finishing disk, finishing harrow, rolling cultivator, or similar implement capable of providing uniform 2-inch incorporation. Use the preplant incorporated method if furrow irrigation is used or when a period of dry weather after application is expected. If crop is to be planted on beds, apply and incorporate after bed formation.

Preemergence: Apply to the soil surface at planting (behind the planter) or after planting, but before weeds or crop emerge.

Table 7: HAI Xtra Herbicide – Preplant Surface, Preplant Incorporated, or Preemergence Rates of Application

Soil Texture	Organic Matter	Broadcast Rate (quarts per acre)
COARSE Sand, loamy sand, sandy loam	Any level	DO NOT USE
MEDIUM and FINE Loam, silt loam, silt, sandy clay loam, silty clay loam, clay loam, sandy clay, silty clay, clay	Less than 1.0%	DO NOT USE
	More than 1.0%	1.6 – 2.1

Do not use in NM or TX, except in the TX panhandle, Gulf Coast, and Blacklands area. Do not apply preplant incorporate in AZ or the Imperial Valley of CA.

Substitute a fluid fertilizer for some, or all, of the water carrier for burndown of existing annual weeds listed on this label up to the 2-leaf stage of development. The addition of crop oil concentrate to the spray mixture will enhance the burndown activity. If larger weeds are present at the time of treatment, apply in a tank mixture combination with a contact herbicide (for example, paraquat or glyphosate). Observe directions for use, precautions, and restrictions on the label of the contact herbicide.

RESTRICTIONS:

- In the event of escape of annual weeds following an early preplant, preplant surface, preplant incorporated, or preemergence treatment of **HAI Xtra Herbicide** applied alone or in combination, follow with a post-emergence application of an appropriately labeled broadleaf and/or grass weed herbicide, i.e., atrazine, glyphosate, or 2,4-D+glyphosate. If the postemergence treatment includes the herbicide used in the earlier treatment, do not exceed the labeled rate for sorghum on a given soil texture.
- If atrazine or another product containing atrazine is used postemergence following application of **HAI Xtra Herbicide**, do not exceed a total of 2.5 lbs. a.i./A of atrazine per year.
- To avoid possible illegal residues, do not graze or feed sorghum forage for 60 days following preemergent use.

HAI XTRA HERBICIDE COMBINATIONS

Always follow label instructions for tank mix products when mixing with **HAI Xtra Herbicide**.

When tank mixing **HAI Xtra Herbicide** with atrazine formulations, refer to the **HAI Xtra Herbicide Rate Limitations** section of this label. Do not exceed the labeled rate for atrazine.

Tank Mixture of HAI XTRA HERBICIDE with Atrazine, Metolachlor – Conventional Tillage

1. **Atrazine:** Add the labeled rate of atrazine the rate of **HAI Xtra Herbicide** specified in Table 3 in the southeastern U.S. where high rainfall can shorten the duration of control of broadleaf weeds, and in all areas where heavy infestations of cocklebur, morningglory, velvetleaf, or other broadleaf weeds claimed are expected.

2. **Metolachlor Products:** Add the labeled rate of metolachlor to the rate of **HAI Xtra Herbicide** specified in Table 3 when heavy infestations of yellow nutsedge, sandbur, or seedling johnsongrass are expected.

HAI Xtra Herbicide Alone or Tank Mixture of HAI Xtra Herbicide + atrazine, metolachlor, or with paraquat, glyphosate, or 2,4-D + glyphosate – Minimum-Tillage or No-Tillage Systems

When tank mixing or sequentially applying atrazine to sorghum, the total pounds of atrazine applied must not exceed 2.0 pounds active ingredient per single application or 2.5 lbs active ingredient/acre per calendar year.

In minimum-tillage or no-tillage systems where sorghum is planted directly into a cover crop, stale seedbed, established sod, or previous crop residues, the contact herbicides paraquat, 2,4-D + glyphosate, or glyphosate should be tank mixed with **HAI Xtra Herbicide**. When used as directed, the paraquat portion of the tank mixture controls most emerged annual weeds and suppresses many perennial weeds. 2,4-D+glyphosate or glyphosate combinations will control emerged annual and perennial weeds when applied as directed on its label. The **HAI Xtra Herbicide** portion of the tank mixture provides preemergence control of the weeds listed on this label in the **HAI Xtra Herbicide Alone** section for sorghum.

Application: Apply **HAI Xtra Herbicide** before, during, or after planting, but before sorghum emerges, at the appropriate rate in Table 8. Add tank mix partners at labeled rates. Refer to the labels for all tank mix partners and follow all use directions, precautions, restrictions, and limitations.

Apply in 20-60 gals. of water per acre with conventional spray equipment.

Table 8: HAI Xtra Herbicide for Minimum-Tillage or No-Tillage Sorghum (Seed treated with Concep® or Screen®)

Soil Texture	Organic Matter	Broadcast Rate (quarts per acre)
COARSE Sand, loamy sand, sandy loam	Any level	DO NOT USE
MEDIUM and FINE Loam, silt loam, silt, sandy clay loam, silty clay loam, clay loam, sandy clay, silty clay, clay	Less than 1.0%	DO NOT USE
	1.0 – 1.5%	1.6
	More than 1.5%	1.8 – 2.1

Do not use in NM or TX, except in the TX panhandle, Gulf Coast, and Blacklands area. Do not apply preplant incorporate in AZ or the Imperial Valley of CA.

RESTRICTIONS:

To avoid possible crop injury,

1. Do not apply **HAI Xtra Herbicide** on highly alkaline soils (pH greater than 8.0) or on eroded areas where calcareous subsoils are exposed.
2. Do not apply **HAI Xtra Herbicide** when sorghum is planted in deep furrows because heavy rains following application can cause excessive concentrations of herbicide in the furrow.
3. Do not apply to sorghum grown under dry mulch tillage.
4. Postemergence applications to sorghum must be made before the crop reaches 12 inches in height.

Rotational Crops: Follow the crop rotation instructions on this label.

PRECAUTIONS:

To avoid possible crop injury,

1. Injury may occur if both **HAI Xtra Herbicide** applied early preplant, preplant surface, preplant incorporated, or preemergence and an at-planting systemic insecticide applied in-furrow are used.
2. In addition, sorghum growing under stress caused by minor element deficiency may be injured by **HAI Xtra Herbicide**.

STORAGE AND DISPOSAL

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

Pesticide Storage: This product may be stored at temperatures down to -30°F. 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.

Pesticide Disposal: Wastes resulting from the use of this product are toxic. Improper disposal of unused pesticide, spray mixture, or rinsate is a violation of federal law. Pesticide, spray mixture, or rinsate that cannot be used according to label instructions must be disposed of according to federal, state, or local procedures. For guidance in proper disposal methods, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office. Open dumping is prohibited.

Container Handling: [Containers < 5 Gallons:] Nonrefillable container. Do not reuse or refill this container. 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 ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling, if available, or puncture and dispose of in a sanitary landfill, by incineration.

Minibulk Containers: [Containers >5 Gallons:] Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follow: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or a mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Offer for recycling if available or puncture and dispose of in a sanitary landfill, by incineration.

Bulk Containers: [Containers >5 Gallons:] Refillable container. Refill this container with pesticide only . Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. When the container is empty, replace the cap and seal all openings that have been opened during use; and return to the point of purchase, or to a designated location named at the time of purchase of this product. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions,

worn-out threads and closure devices. Check for leaks after refilling and before transporting. Do not transport if this container is damaged or leaking. If the container is damaged or leaking, call Chem-Trec. If the container is damaged and leaking or material has been spilled, follow these procedures:

- Cover spill with absorbent material.
- Sweep into disposal container.
- Wash area with detergent and water and follow with clean water rinse.
- Do not allow to contaminate water supplies.
- Dispose of according to instructions.

If not returned to the point of purchase or to a designated location, clean empty container as instructed above and offer for recycling. Disposal of this container must be in compliance with state and local regulations.

LIMITATION OF WARRANTY AND DAMAGES

Seller warrants to those persons lawfully acquiring title to this product that at the time of first sale of this product by Seller that this product conformed to its chemical description and was reasonably fit for the express purposes stated on the label when used in accordance with Seller's directions. To the extent consistent with applicable law, Buyers and users of this product assume the risk of any use contrary to such directions. **TO THE FULLEST EXTENT PERMITTED BY LAW, EXCEPT AS PROVIDED ELSEWHERE IN WRITING CONTAINING AN EXPRESS REFERENCE TO THIS LIMITATION OF WARRANTY AND LIMITATION OF DAMAGES, SELLER MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OR GUARANTY, AND SELLER EXPRESSLY DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE AND EXPRESSLY DISCLAIMS ALL OTHER EXPRESS OR IMPLIED WARRANTIES THAT MAY EXIST UNDER APPLICABLE LAW, COURSE OF DEALING OR USAGE OF TRADE.** There are no warranties which extend beyond the description on the face hereof. **NO AGENT OF MANUFACTURER OR SELLER IS AUTHORIZED TO GRANT ANY WARRANTY IN EXCESS OF THAT GRANTED IN THIS LIMITATION OF WARRANTY AND LIMITATION OF DAMAGES. TO THE FULLEST EXTENT PERMITTED BY LAW, IN NO EVENT SHALL MANUFACTURER OR SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES RESULTING FROM THE HANDLING OR USE OF THIS PRODUCT. TO THE FULLEST EXTENT PERMITTED BY LAW, MANUFACTURER'S AND / OR SELLER'S LIABILITY FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE HANDLING OR USE OF THIS PRODUCT SHALL NOT EXCEED THE PURCHASE PRICE OF THE PRODUCT AS TO WHICH A CLAIM IS MADE.** To the fullest extent permitted by law, Buyers and users of this product are responsible for all loss or damage from use or handling of this product, including, but not limited to, incompatibility with other products (unless otherwise expressly provided for in the Directions for Use of this product), weather conditions, cultural practices, moisture conditions or other environmental conditions.

[Optional Alternate Warranty {to be used as an optional replacement to CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY section}]

WARRANTY DISCLAIMER

The EPA approved directions for use of this product must be followed carefully. **TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, (1) THE GOODS DELIVERED TO YOU ARE FURNISHED "AS IS" BY MANUFACTURER OR SELLER AND (2) MANUFACTURER AND SELLER MAKE NO WARRANTIES, GUARANTEES, OR REPRESENTATIONS OF ANY KIND TO BUYER OR USER, EITHER EXPRESS OR IMPLIED, OR BY USAGE OF TRADE, STATUTORY OR OTHERWISE, WITH REGARD TO THE PRODUCT SOLD, INCLUDING, BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, USE, OR ELIGIBILITY OF THE PRODUCT FOR ANY PARTICULAR TRADE USAGE. UNINTENDED CONSEQUENCES, INCLUDING BUT NOT LIMITED TO INEFFECTIVENESS, MAY RESULT**

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(RV010423)



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Screen® is a registered trademark of Monsanto Company
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RoundupReady is a trademark of Monsanto Company

OPTIONAL LANGUAGE THAT MAY APPEAR ON THE LABEL

[See additional Precautionary Statements and Directions for Use inside [the] [book[let].]

[Application Type AG Agriculture]

[Peel back [label] [book] here

[Product of _____] [Note: if manufactured in a country other than the US, country name will appear here]

NOTES TO REVIEWER:

Any text found in brackets “[” “]” is optional on container label.]

[State restrictions will not be found on the container label if the product is not registered in that associated state.]

[Making the product more restrictive than Federally accepted by incorporating the optional statement “Not for use in California.” Or any other “Not for use in {X state}”, may be undertaken on the container label for any use, weed or crop as determined to be necessary to procure state registration.]

[HELM may distribute or sell this product under labeling bearing any subset of the approved directions for use, provided that in limiting the uses listed on the label, no changes would be necessary in precautionary statements, use classification, or packaging of the product.]

LABEL HISTORY

FILE NAME	REVISION MARK	COMMENTS
074530-000XX.20200630.EPA New	(RV063020)	EPA New
074530-00RNN.20201116.EPA New	(RV111720)	EPA Review
074530-00RNN.20201119.EPA New	(RV111020)	EPA Review
074530-00100.20201120.EPA New	(RV111920)	EPA SAL
074530-00100.20210512.EPA Amendment	(RV051221)	Metolachlor ID
074530-00100.20210907.Label Amendment BiOp and ID	(RV090721)	EPA Amendment – BiOp and ID
074530-00100.20221212.Label Amendment	(RV121222)	EPA Review
074530-00100.20230104.Label Amendment	(RV010423)	EPA Review