METOLACHLOR	GROUP	15	HERBICIDE
METRIBUZIN	GROUP	5	HERBICIDE

Helmet MTZ

For Control of Certain Grasses and Broadleaf Weeds in Potatoes and Soybeans

Active Ingredients:	% by Weight
Metolachlor: 2-chloro- N-(2-ethyl-6-methylphenyl)-N-(2-methoxy-1-methylethyl) acetamide	58.2%
Metribuzin: 4-Amino-6-tert-butyl-3-methylthio-1,2,4-triazin-5-one	13.8%
Other Ingredients:	28.0%
Total:	100.0%

This product contains 5.25 lbs. of metolachlor and 1.25 lbs of metribuzin per gallon

EPA Reg. No.: 74530-98

KEEP OUT OF REACH OF CHILDREN

WARNING - AVISO

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

SEE INSIDE BOOKLET FOR ADDITIONAL PRECAUTIONARY STATEMENTS, STORAGE AND DISPOSAL AND DIRECTIONS FOR USE

Contains Petroleum Distillates. Do not store or use near open flame.

Read the entire label before using this product.

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 1600
Tampa, FL 33602
Phone: 813.621.8846
Fax: 813.621.0763
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FIRST AID	
IF IN EYES:	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
IF SWALLOWED:	• Call a poison control center or doctor immediately for treatment advice. • Do not give any liquid to the person. • Do not induce vomiting unless told by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
IF ON SKIN OR CLOTHING:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for further treatment advice.
IF INHALED:	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth to mouth if possible. • Call a poison control center or doctor for further treatment advice.
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: May pose an aspiration pneumonia hazard. Contains petroleum distillate.	

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS & DOMESTIC ANIMALS

WARNING – AVISO. Causes substantial but temporary eye injury. Harmful if swallowed. Do not get in eyes or on clothing. Wear protective eye wear *(goggles, face shield, or safety glasses). Wash thoroughly with soap and water after handling and before eating, drinking chewing, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

This product may cause skin sensitization reactions in some people.

PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers must wear:
—Coveralls over short-sleeved shirt and short pants
—Chemical-resistant gloves: Barrier Laminate, Butyl Rubber ≥ 14 mils, Nitrile Rubber ≥14 mils
—Chemical-resistant footwear plus socks
—Chemical-resistant headgear for overhead exposure
—Chemical-resistant apron when cleaning equipment, mixing, or loading

Follow manufacturer's instructions for cleaning/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.

When applicators use enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.607(d-e)], 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

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

Metribuzin is a chemical which can travel (seep or leach) through soil and can enter groundwater which may be used as drinking water. Metribuzin has been found in groundwater as a result of agricultural use. Users are advised not to apply metribuzin where the water table (groundwater) is close to the surface and where the 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.

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 anti-siphoning 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.

DIRECTIONS FOR USE

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

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

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.

AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 24 hours. Exception: If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated. PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is: coveralls over short-sleeve shirt and short pants, chemical-resistant gloves (Barrier Laminate, Butyl Rubber ≥ 14 mils, Nitrile Rubber ≥14 mils), chemical-resistant footwear plus socks, chemical-resistant headgear for overhead exposures.

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.

Use of this product in certain portions of California, Oregon, and Washington is subject to the January 22, 2004 Order for injunctive relief in Washington Toxics Coalition, et al. v. EPA, C01-0132C, (W.D. WA). For further information, please refer to https://www.epa.gov/endangered-species/endangered-species-case-washington-toxics-coalition-v-epa.

PRODUCT INFORMATION

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.

Do not apply under conditions which favor runoff or wind erosion of soil containing this product to nontarget areas.

To prevent off-site movement due to runoff or wind erosion:

1. 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.
2. Do not apply to impervious substrates, such as paved or highly compacted surfaces.
3. 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.

Mix only enough spray solution for the required application. Ensure that the spray equipment is clean prior to use. Maintain vigorous agitation in the spray tank during mixing and during application. **Do not** allow the spray solution to sit in the spray tank overnight. Always clean the spray system rigorously after each use. Dispose of system rinsate on a previously treated area.

MIXING PROCEDURES

Helmet MTZ is a liquid that may be mixed with water or fluid fertilizer and applied as a spray. **Helmet MTZ** 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 **Helmet MTZ** and used to control weeds in corn.

When applying **Helmet MTZ** with dry bulk granular fertilizers, follow all directions for use and precautions on the **Helmet MTZ** 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.

Prepare the herbicide/fertilizer mixture by using any closed drum, belt, ribbon, or other commonly used dry bulk fertilizer blender. Nozzles used to spray **Helmet MTZ** 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 **Helmet MTZ** to be used by the following formula:

$$\frac{2{,}000}{\text{lbs. of fertilizer per acre}} \times \text{pts./A of Helmet MTZ} = \text{pts. of Helmet MTZ per ton of fertilizer}$$

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 **Helmet MTZ** with Exxon Aromatic 200 at a rate of 2.0-2.5 pts./gal. of **Helmet MTZ**. 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.

Notes: (1) Mixtures of **Helmet MTZ** 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 **Helmet MTZ** 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) Drying agents are not recommended for use with On-The-Go impregnation equipment.

*Precautions: To avoid potential for explosion, (1) Do not impregnate **Helmet MTZ** on ammonium nitrate, potassium nitrate, or sodium nitrate, either alone or in blends with other fertilizers. (2) Do not combine **Helmet MTZ** with a single superphosphate (0-20-0) or treble superphosphate (0-46-0). (3) Do not use **Helmet MTZ** on straight limestone, since absorption will not be achieved. Fertilizer blends containing limestone can be impregnated.*

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 **Helmet MTZ** impregnated onto dry bulk granular fertilizers can be expected to last longer in the soil than when **Helmet MTZ** is applied as a spray in water or fluid fertilizer.*

Application in Water or Fluid Fertilizers

Helmet MTZ Alone: Fill the spray tank 1/3 full with water or fluid fertilizer. Start the agitator and add the required amount of **Helmet MTZ** followed by 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 1/3 full with water or fluid fertilizer. Start the agitator and add the required amounts of tank mix partners. **In general**, tank mix partners should be added in the following sequence: products packaged in water soluble packages, wettable powders, wettable granules (dry flowables), liquid flowables, liquids such as Helmet MTZ and emulsion concentrates. Always allow each tank mix partner to fully disperse before adding the next product. Maintain sufficient agitation while adding the remainder of the water or fluid fertilizer and to ensure the formation of a uniform suspension.

Note: Water soluble packaging will not dissolve in most fluid fertilizers. If products in water soluble packaging are to be tank mixed with Helmet MTZ, add the products in water soluble packaging to water only. Ensure that the water soluble packaging is totally dissolved and the product completely dispersed before adding other tank mix partners and Helmet MTZ.

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

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

COMPATIBILITY TEST

A jar test is recommended before tank mixing to ensure compatibility of **Helmet MTZ** 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 recommended 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.

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:

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

Center Pivot Irrigation Application

If chemigating apply this product only through a center pivot irrigation system. Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

DO NOT apply this product through irrigation systems connected to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place. 'Public water system' means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days per year.

Controls for both irrigation water and pesticide injection systems must be functionally interlocked, so as to automatically terminate pesticide injection when the irrigation water pump motor stops. A person knowledgeable of the irrigation system and responsible for its operation shall be present so as to discontinue pesticide injection and make necessary adjustments, should the need arise.

The irrigation water pipeline must be fitted with a functional, automatic, quick-closing check valve to prevent the flow of treated irrigation water back toward the water source. The pipeline must also be fitted with a vacuum relief valve and low pressure drain, located between the irrigation water pump and the check valve, to prevent back-siphoning of treated irrigation water into the water source.

Always inject Helmet MTZ into irrigation water after it discharges from the irrigation pump and after it passes through the check valve. Never inject pesticides into the intake line on the suction side of the pump.

Pesticide injection equipment must be fitted with a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump. Interlock this valve to the power system, so as to prevent fluid from being withdrawn from the chemical supply tank when the irrigation system is either automatically or manually turned off.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphram pump, or piston pump) effectively designed and constructed of materials that are chemically compatible with pesticides and capable of being fitted with a system interlock.

Spray mixture in the chemical supply tank must be agitated at all times, otherwise settling and uneven application may occur. DO NOT apply when wind speed favors drift beyond the area intended for treatment. Apply in 1/2 to 1 inch of water. Use the lower volume of water on course textured soils and the higher volume on fine textured soils. Use of more than 1 inch of water may reduce weed control by moving the herbicide below the effective zone in the soil.

Fill chemical supply tank of injection equipment with water. Operate system for one complete revolution, measuring time required, amount of water injected, and acreage covered. Thoroughly mix recommended amount of Helmet MTZ for acreage to be covered into same amount of water used during calibration and inject into system continuously for one revolution or run. Mixture in the chemical supply tank must be continuously agitated during the injection run. Shut off injection equipment after one revolution, but continue to operate irrigation system until Helmet MTZ has been cleared from last sprinkler head.

Caution: Where sprinkler irrigation patterns do not overlap sufficiently, unacceptable weed control may result. Where sprinkler irrigation patterns overlap excessively, crop injury may result.

Aerial Application: 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, make applications at a maximum height of 10 ft., using low-drift nozzles at a maximum pressure of 40 psi.

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

HERBICIDE RESISTANCE MANAGEMENT

Metribuzin and Metolachlor, the active ingredients in this product, are Group 5 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 5 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 **Helmet MTZ** or other Group 5 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 **Helmet MTZ** 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.

Aerial Drift Management
Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determines the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.
The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.
1. The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downward more than 45 degrees.
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 **Mandatory Spray Drift Management** 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 medium or coarser droplets (ASABE S641).
- If the wind speed is 10 miles per hour or less, applicators must use ½ swath displacement upwind at the downwind edge of the field. When the wind speed is between 11-15 miles per hour, applicators must use ¾ 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 wind speed 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.

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 medium or coarser droplets (ASABE S572).
- **DO NOT** apply when wind speeds exceed 15 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.

Boomless Ground Applications:

- Applicators are required to select the nozzle and pressure that deliver medium or coarser droplet size (ASABE S572.3) for all applications.
- **DO NOT** apply when wind speeds exceed 15 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.

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.

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. Avoid applications during temperature inversions.

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.

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

Cleaning Equipment after Application
Some non-labeled crops are particularly sensitive to low application rates of Helmet MTZ. It is essential, therefore that the complete application system is rigorously cleaned following application of Helmet MTZ and prior to use for crops not on this label.

First, flush the whole system (tank, hoses, boom and nozzles) with clean water. Follow this with a solution of 1 gallon of household ammonia in 50 gallons of water, or use a commercial spray tank cleaner. **Do not** use a chlorine (bleach) based cleaner. Fill the spray tank with the cleaning solution to ensure that **all** surfaces of the spray tank system are contacted with the cleaning solution and circulate this solution for at least 15 minutes until all surfaces are completely clean. Use a pressure washer, if available, to clean the inside of the spray tank, including the upper surface of the tank. Flush hoses, boom and nozzles with the cleaning solution for at least one minute. Repeat the whole cleaning process one time. Clean all screens and nozzles separately in the cleaning solution following the procedure above. Finally flush the whole system with clean water. Dispose of all wash waters according to the directions for such disposal in the **STORAGE AND DISPOSAL** section of this label.

CROP ROTATION

Table 1: Crop Rotation Intervals[1, 3]

Rotational Interval After Application of Helmet MTZ[2]				
4 Months	**4.5 Months**	**8 Months**	**12 Months**	**18 Months**
corn	winter barley[4] winter wheat[4] alfalfa	peas rice[5] spring barley spring wheat	Asparagus cotton forage grasses lentils sainfoin sugarcane tomatoes other crops not listed (except root crops)	onions sugar beets other root crops

[1] Cover crops for soil building or erosion control may be planted at any time, but do not graze or harvest for food or feed. Stand reductions may occur in some areas.
[2] Crop rotation recommendations do not include restrictions for the tank mix partner. Refer to the label of the other product for additional restrictions.
[3] Refer to the specific crop use sections for additional crop rotation precautions.
[4] Following peas, lentils or soybeans.
[5] Do not rotate rice after any application to a primary crop greater than 1.0 pounds of active ingredient per acre of metribuzin per crop season.

Do not rotate to food or feed crops other than those listed on this label.

Replanting
If replanting is necessary in fields previously treated with Helmet MTZ, the field may be replanted to potatoes or soybeans. Before replanting, refer to the specific crop use sections for recommendations restrictions and precautions.

Activation
A small amount of rainfall or irrigation is required to activate Helmet MTZ following application. In areas of low rainfall, a preemergence application should be followed by light irrigation of 0.25 to 0.5 inch of water. Do not apply heavy irrigation immediately after application. As with many surface applied herbicides, weed control and crop tolerance may vary with rainfall and/or soil texture.

POTATOES

Helmet MTZ is recommended for preemergence weed control prior to or after potato emergence. Helmet MTZ has some postemergence activity on weeds, but the consistency and spectrum of weed control is much better preemergence to weeds. Preplant incorporated applications are not recommended due to an increased risk of crop injury.

Preemergence Applications
Apply with ground spray equipment, aerial spray equipment, or by center pivot irrigation equipment which is capable of making a uniform broadcast application. Apply after planting but before crop emergence, or apply after drag-off if this operation is part of the usual cultural practice.

Postemergence Applications
Apply post-emergence only in center pivot irrigation water, after drag-off if that is a usual cultural practice, but not closer than 60 days before harvest. Refer to the "Center Pivot Irrigation Application" section of this label for application information.

Table 2: Weeds Controlled by Helmet MTZ			
C=Control S=Suppression or Erratic Control P=Poor or No Control O=No information (Control may range from poor to excellent)			
ANNUAL BROADLEAF WEEDS		**ANNUAL GRASSES**	
Black Nightshade (Solanum nigrum)	C	Barnyard Grass (Echinochloa crus-galli)	C
Bristly Starbur (Acanthospermum hispidum)	C	Bluegrass (Poa annua)	C
Buffalobur (Solanum rostratum)	P	Broadleaf Signalgrass (Brachiaria platyphylla)	C
Carpetweed (Mollugo verticillata)	C	Browntop Millet (Panicum ramosum)	P
Cocklebur (Xanthium pensylvanicum)	S	Crabgrass (Digitaria spp.)	C
Copperleaf, Hophornbeam (Acalypha ostryaefolia)	C	Crowfootgrass (Dactyloctenium aegyptum)	C
Florida Beggarweed (Desmodium tortuosum)	C	Cupgrass (Eriochloa gracillis)	P
Florida Pusley (Richardia scabra)	C	Foxtails (Setaria spp.)	C
Galinsoga (Galinsoga spp.)	C	Goosegrass (Eleusine indica)	C
Horseweed Marestail (Conyza canadensis)	O	Johnsongrass, Seedling (Sorghum halepense)	C
Jimsonweed (Datura stramonium)	C	Junglerice (Echinochloa colonum)	C
Knotweed (Polygonum spp.)	C	Panicum, Fall (Panicum dichotomiflorum)	C
Kochia (Kochia scoparia)	S	Panicum, Texas (Panicum texanum)	P
Lambsquarters (Chenopodium spp.)	C	Red Rice (Oryza sativa)	C
Morningglory, Ivyleaf (Ipomoea hederacea)	P	Sandbur (Cenchrus spp.)	P
Morningglory, Pitted (Ipomoea lacunose)	P	Shattercane (Sorghum bicolor)	P
Morningglory, Smallflower (Jacquemontia tamnifolia)	P	Sorghum, Volunteer (Sorghum spp.)	P
Morningglory, Tall (Ipomoea purpurea)	P	Sprangletop (Leptochloa spp.)	P
Pigweeds (Amaranthus spp.)	C	Stinkgrass (Eragrostis spp.)	P
Prickly Sida/Teaweed (Sida spinosa)	C	Wheat, Volunteer (Triticum spp.)	P
Purslane (Portulaca oleracea)	C	Witchgrass (Panicum capillare)	C
Ragweed, Common (Ambrosia artemisiifolia)	S		
Redweed (Melochia corchorifolia)	C	**SEDGES**	
Russian Thistle (Salsola kali)	C	Nutsedge, Yellow (Cyperus esculentus)	C
Sesbania (Sesbania spp.)	C		
Shepherdspurse (Capsella bursa-pastoris)	C		
Sicklepod (Cassia obtusifolia)	C		
Smartweeds (Polygonum spp.)	C		
Spotted Spurge (Euphorbia maculata)	C		
Spurred Anoda (Anoda cristata)	C		
Sunflower (Helianthus spp.)	S		
Velvetleaf (Abutilon theophrasti)	S		
Venice Mallow (Hibiscus trionum)	C		
Wild Mustards (Brassica spp.)	C		
Helmet MTZ will not provide acceptable control of triazine-resistant biotypes. Suppression: weeds may be stunted in growth or be of reduced populations as compared to non-treated areas but control will generally not be commercially acceptable.			

Application Rates

The application rates for Helmet MTZ for use in potatoes are provided below. Where a rate range is given, use the lower end of the rate range on the more coarse textured soils listed within that group and/or where weed pressures are known to be light; use the high end of the rate range on the more fine textured soils listed within that group and/or where the weeds pressures are known to be heavy.

Table 3: Helmet MTZ Preemergence Use Rates in Potatoes		
Soil Texture	**0.5 to 3% Organic Matter Pt./A**	**Over 3% Organic Matter Pt./A**
COARSE[1] (Sand, loamy sand, sandy loam)	1.5-2.0	2.0-2.4
MEDIUM or FINE (Loam, silt loam, silt, sandy clay, sandy clay loam, silty clay, silty clay loam, clay, clay loam)	2.4-2.75	2.75-2.9
[1] On soils that classify as a "sand" texture do not use more than 1.5 pt./A of Helmet MTZ, or more than 0.5 lb. a.i./A of metribuzin in total, or crop injury may occur.		

Table 4: Helmet MTZ Postemergence Use Rates in Potatoes (for application in center pivot irrigation water only)	
Soil Texture	**0.5% Organic Matter and Above Pt./A**
COARSE[1] (Sand, loamy sand, sandy loam)	1.5
MEDIUM or FINE (Loam, silt loam, silt, sandy clay, sandy clay loam, silty clay, silty clay loam, clay, clay loam)	1.5-2.2
[1] Crop injury may occur on soils that classify as a "sand" texture and have less than 0.5% organic matter.	

Precautions (Potatoes):

1. To avoid crop injury, postemergence applications should be made only on russetted or white skinned varieties of potatoes that are not early maturing. Avoid postemergence applications on Atlantic, Bellchip, Centennial, Chipbelle, Shepody and Superior varieties. Preemergence applications on these varieties may cause crop injury under adverse weather conditions, on coarse soils, under high soil pH and with higher use rates.
2. Potato varieties may vary in their response to a given herbicide application. When using Helmet MTZ for the first time on a particular variety, always determine crop tolerance before using on a field-scale.
3. The planting of sensitive crops such as lettuce, cole crops and cucurbits during the next year following application of Helmet MTZ may result in injury to that crop.
4. Certain cereal varieties are sensitive to metribuzin (e.g. see cereal section of the Sencor 4 or Sencor DF label) and should not be planted during the next year unless the following cultural practices occur: a. Potato vines left in the row as a result of harvest must be uniformly distributed over the soil surface prior to plowing, and b. Plow with a moldboard plow to a depth sufficient to mix the upper 8 inches of soil.

Use Restrictions (Potatoes):

1. **MAXIMUM SINGLE APPLICATION RATE:** 2.9 pts./product/A (1.9 lbs. metolachlor/A and 0.45 lbs. metribuzin/A)
2. **MAXIMUM ANNUAL APPLICATION RATE PER YEAR:** 5.1 pts./product/A (3.35 lbs. metolachlor /A and 0.8 lbs. metribuzin /A). For potatoes grown in soils with organic matter between 3% and 10%, do not apply more than 5.1 pints (3.35 lb. a.i. metolachlor and 0.8 lbs. metribuzin /A) per acre/year; and in soils with organic matter between 0.5% and 3.0% do not apply more than 4.95 pints (3.25 lb. a.i. metolachlor and 0.77 lbs. metribuzin /A) per acre/year. Do not apply more than 1.0 lb. a.i. of metribuzin per acre/year. Helmet MTZ is not recommended for application to muck or peat soils.
3. **MAXIMUM NUMBER OF APPLICATIONS:** 2
4. **PRE-HARVEST INTERVAL (PHI):** 60 days
5. Do not apply Helmet MTZ postemergence if the weather in the next 3 days is predicted to be cool, wet or cloudy, as crop injury may occur.
6. Do not apply after June 30 in Idaho, Oregon, or Washington if the treated land will be planted to a crop other than potatoes in the fall.
7. Do not apply Helmet MTZ to sweet potatoes or yams.
8. Do not apply Helmet MTZ as a preplant incorporated application in potatoes, or crop injury may occur.
9. Do not use Helmet MTZ on potatoes in Kern county California.

Tank Mixtures with Other Products Registered for Use in Potatoes

For pre-emergence applications in potatoes, Helmet MTZ may be tank mixed with other pesticide products registered for use in this way and timing in potatoes. Follow the directions for use, observe the stated precautions, and abide by the limitations and restrictions on the most restrictive of the product labels. If you have no previous experience mixing these products under your conditions, perform a compatibility test before attempting large-scale mixing (see the Compatibility Test section of this label).

For post-emergence applications (center pivot irrigation applications only), i.e. where potato vines are exposed, there may be increased risk of crop injury from certain product mixtures. At this application timing, tank mix Helmet MTZ only with pesticide products which allow tank mixing and post-emergence chemigation on their product label. Follow the directions for use, observe the stated precautions, and abide by the limitations and restrictions on the most restrictive of the product labels.

SOYBEAN (EXCEPT CALIFORNIA)

Helmet MTZ is a selective herbicide for the control/suppression of annual grasses and selected broadleaf weeds in soybeans. To broaden the spectrum of weeds controlled or increase residual control, Helmet MTZ is recommended for use in tank mixture with or sequentially with additional registered herbicides.
Helmet MTZ may be applied preplant surface, preplant incorporated, preemergence, or as a sequential application to control weeds listed on this label.

Grazing and Feeding Treated Soybean Plants

Treated soybean plants may be grazed or fed to livestock 40 days after the last application of Helmet MTZ.

Rate Ranges

Where a rate range is shown, use a lower rate on soils that are coarse-textured and/or low in organic matter. Use a higher rate on soils that are relatively fine-textured and/or high in organic matter.

Replanting

If replanting is necessary in fields previously treated with Helmet MTZ, the field may be replanted to soybeans. A minimum of tillage is recommended. Do not apply a second treatment as injury to soybeans may occur.

Precautions (Soybeans)

Injury to soybeans or reduced weed control may occur when Helmet MTZ is used under the following conditions; these conditions should be avoided wherever possible.

- When soils have a calcareous surface area or a pH of 7.5 or higher.
- Due to the sensitivity of certain soybean varieties, Helmet MTZ is not recommended for use on Altona, AP 55, AP 71, Asgrow 6520, Burlison, Coker 102, Coker 156, Dassel, GL 3202, Govan, Maple Amber, NB 3665, NKS 1884, Paloma 350, Portage, Regal, Semmes, Terra-Vig 505, Terra-Vig 606, Tracy, Vansoy, and Vinton 81. If you choose to plant a newly released soybean variety, consult your seed supplier for information on its tolerance to metribuzin (an active ingredient in Helmet MTZ) before using Helmet MTZ.
- When applied in conjunction with soil-applied organic phosphate pesticides.
- Uneven application or improper incorporation of Helmet MTZ can decrease the level of weed control and/or increase the level of crop injury.
- When applied to any soil with less than 0.5% organic matter.
- Where soil incorporation is deeper than recommended.
- When sprayers were not calibrated accurately.
- When heavy rains occur soon after application, especially in poorly drained areas where water may stand for several days.
- When soybeans are planted less than 1-1/2" deep, particularly when Helmet MTZ is applied pre-emergence.
- Where high soil levels of atrazine are present.
- When using poor quality soybean seed.

USE RESTRICTIONS (Soybeans):

- **MAXIMUM SINGLE APPLICATION RATE:** 3.9 pts./product/A (2.56 lbs. metolachlor/A and 0.61 lbs. metribuzin/A)
- **MAXIMUM ANNUAL APPLICATION RATE PER YEAR:** 3.9 pts./product/A (2.56 lbs. metolachlor /A and 0.61 lbs. metribuzin/A)
- **MAXIMUM NUMBER OF APPLICATIONS:** 1
- **PRE-HARVEST INTERVAL (PHI):** 40 days

Note: On soils with pH above 7.0, soybean injury caused by the metribuzin in Helmet MTZ may occur at rates higher than 1.5 pt./A. To avoid injury, do not use Helmet MTZ at rates greater than 1.5 pt./A on soils above pH 7.0.

Table 5: Weeds Controlled by Helmet MTZ

C=Control S=Suppression or Erratic Control P=Poor or No Control O=No information (Control may range from poor to excellent)

ANNUAL BROADLEAF WEEDS		**ANNUAL GRASSES**	
Black Nightshade (Solanum nigrum)	C	Barnyard Grass (Echinochioa crus-galli)	C
Bristly Starbur (Acanthospermum hispidum)	C	Bluegrass (Poa annua)	C
Buffalobur (Solanum rostratum)	P	Broadleaf Signalgrass (Brachiaria platyphylla)	C
Carpetweed (Mollugo verticillata)	C	Browntop Millet (Panicum ramosum)	P
Cocklebur (Xanthium pensylvanicum)	S	Crabgrass (Digitaria spp.)	C
Copperleaf, Hophornbeam (Acalypha ostryaefolia)	C	Crowfootgrass (Dactyloctenium aegyptum)	C
Florida Beggarweed (Desmodium tortuosum)	C	Cupgrass (Eriochloa gracillis)	P
Florida Pusley (Richardia scabra)	C	Foxtails (Setaria spp.)	C
Galinsoga (Galinsoga spp.)	C	Goosegrass (Eleusine indica)	C
Horseweed Marestail (Conyza canadensis)	O	Johnsongrass, Seedling (Sorghum halepense)	C
Jimsonweed (Datura stramonium)	C	Junglerice (Echinochloa colonum)	C
Knotweed (Polygonum spp.)	C	Panicum, Fall (Panicum dichotomiflorum)	C
Kochia (Kochia scoparia)	S	Panicum, Texas (Panicum texanum)	P
Lambsquarters (Chenopodium spp.)	C	Red Rice (Oryza sativa)	C
Morningglory, Ivyleaf (Ipomoea hederacea)	P	Sandbur (Cenchrus spp.)	P
Morningglory, Pitted (Ipomoea lacunose)	P	Shattercane (Sorghum bicolor)	P
Morningglory, Smallflower (Jacquemontia tamnifolia)	P	Sorghum, Volunteer (Sorghum spp.)	P
Morningglory, Tall (Ipomoea purpurea)	P	Sprangletop (Leptochloa spp.)	P
Pigweeds (Amaranthus spp.)	C	Stinkgrass (Eragrostis spp.)	P
Prickly Sida/Teaweed (Sida spinosa)	C	Wheat, Volunteer (Triticum spp.)	P
Purslane (Portulaca oleracea)	C	Witchgrass (Panicum capillare)	C
Ragweed, Common (Ambrosia artemisiifolia)	S		
Redweed (Melochia corchorifolia)	C	**SEDGES**	
Russian Thistle (Salsola kali)	C	Nutsedge, Yellow (Cyperus esculentus)	C
Sesbania (Sesbania spp.)	C		
Shepherdspurse (Capsella bursa-pastoris)	C		
Sicklepod (Cassia obtusifolia)	C		
Smartweeds (Polygonum spp.)	C		
Spotted Spurge (Euphorbia maculata)	C		
Spurred Anoda (Anoda cristata)	C		
Sunflower (Helianthus spp.)	S		
Velvetleaf (Abutilon theophrasti)	S		
Venice Mallow (Hibiscus trionum)	C		
Wild Mustards (Brassica spp.)	C		

Helmet MTZ will not provide acceptable control of triazine-resistant biotypes.
Suppression: weeds may be stunted in growth or be of reduced populations as compared to non-treated areas but control will generally not be commercially acceptable.

Helmet MTZ Foundation Program for Planned 2-Pass Weed Control Systems

Helmet MTZ may be applied preplant incorporated or preemergence at 1.5-1.8 pt./A on all soils to reduce competition from the weeds listed in Table 5 for a 30-day period when followed by a planned postemergence weed control treatment. Recommended postemergence treatments include glyphosate products or combination of products labeled to control the specific weeds remaining in the field (for use only on glyphosate tolerant soybean varieties). Follow all application directions for Helmet MTZ used alone, either preplant incorporated or

preemergence. For the postemergence herbicide application, consult the selected postemergence herbicide manufacturer's label for weeds controlled, weed size, application rate, additional use directions, precautions, and limitations before use.
Note: On soils with pH above 7.0, use the 1.5 pt./A rate only.

Helmet MTZ in Conventional Tillage Systems
Preplant Incorporated Application
Incorporate Helmet MTZ uniformly into the top 2 inches of soil within 14 days before planting using a disk, field cultivator, rolling cultivator, or similar implement. Apply Helmet MTZ preplant incorporated if furrow irrigation is used or when a period of dry weather after application is expected. If soybeans are planted on beds, apply and incorporate the tank mixture after bed formation.
Preemergence Application
Rainfall (1/2 inch or more) is necessary for herbicide activation. Dry weather following preemergence application of Helmet MTZ may reduce effectiveness. If weeds develop, cultivate uniformly with shallow tilling equipment such as a rotary hoe that will not damage soybeans.

For information on applying product in fluid or dry fertilizer, refer to **Application in Water or Fluid Fertilizers** or **Impregnation onto Dry Bulk Granular Fertilizers** and **Application of Impregnated Dry Bulk Granular Fertilizer** on this label.

Table 6: Helmet MTZ Use Rates - Conventional Tillage Systems (Broadcast Rate)

Soil Texture	0.5 to 3% Organic Matter Pt./A	Over 3% Organic Matter[2] Pt./A
COARSE[1] (Loamy sand, sandy loam)	1.2-1.5[3]	1.5-1.8
MEDIUM (Loam, silt loam, silt, sandy clay, sandy clay loam)	1.8-2.1	2.1-2.4
FINE (Silty clay, silty clay loam[4], clay, clay loam)	2.4-2.7	2.4-3.0

[1] Do not use on sand soils. On coarse-textured soils, do not use on loamy sand soils with less than 2% organic matter.
[2] For preplant incorporated application, use the lower rate.
[3] For Southern and Southeastern states, see section below **In Coarse (Light) Soils**
[4] Silty clay loam soils are transitional soils and may be classified as medium-textured soils in some regions of the U.S. When using Helmet MTZ, treat this soil as "fine-textured."

Note: On soils with pH above 7.0, soybean injury caused by the metribuzin in Helmet MTZ may occur at rates higher than 1.5 pt./A. To avoid injury, do not use Helmet MTZ at rates greater than 1.5 pt./A on soils above pH 7.0.

In Coarse (Light) Soils
(Only in AL, AR, FL, GA, LA, MS, MO, NC, OK, SC, TN, TX, VA)
Helmet MTZ is recommended for use as a preplant incorporated or preemergence application in coarse-textured, low organic matter soils in the states listed above. Refer to the appropriate sections of this label for specific directions on use, recommendations, and restrictions.
Weeds Controlled: Refer to Table 5.

Table 7: Helmet MTZ Preemergence Application (Broadcast Rates)

Soil Texture	Organic Matter	Pt/A
COARSE (Sand[1], loamy sand, sandy loam)	0.5% or above	1.2-2.1[2]

[1] Not recommended for use on sand with less than 1% organic matter.
[2] Use the higher rate under heavy weed pressures and/or on soils higher in organic matter. For maximum control of sicklepod, use a preemergence application.

Note: On soils with pH above 7.0, soybean injury caused by the metribuzin in Helmet MTZ may occur at rates higher than 1.5 pt./A. To avoid injury, do not use Helmet MTZ at rates greater than 1.5 pt./A on soils above pH 7.0.

Herbicides That May Be Applied Postemergence Following Helmet MTZ
If required, application of Helmet MTZ alone or in tank mixture may be followed by an application of a postemergence herbicide to provide additional control of certain weeds. The following postemergence herbicides may be applied:

Acifluorfen
Bentazon
Carfentrazone
Chloransulam-methyl
Chlorimuron-ethyl
Clethodim
Fenoxaprop-p-ethyl
Fluazifop-butyl
Flumiclorac pentyl ester
Fomesafen
Glufosinate ammonium[2]
Glyphosate[1]
Imazamox
Imazaquin
Imazethapyr
Lactofen
Quizalofop
Sethoxydim
Thifensulfuron methyl
Thifensulfuron methyl & Chlorimuron-ethyl[3]

[1] Use on glyphosate tolerant soybean varieties only.
[2] Use on glufosinate tolerant soybean varieties only.
[3] Use on Thifensulfuron methyl & Chlorimuron-ethyl tolerant soybean varieties only.
Refer to the above information and the individual product labels for use directions, use rates, and special precautions/restrictions.

Burndown Weed Control
Helmet MTZ can be used as part of a burndown herbicide program for control of existing vegetation prior to soybean emergence in conservation tillage (reduced-tillage/no-till) systems. Helmet MTZ may be tank mixed with 2,4-D low volatile ester (LVE), glyphosate for control of emerged weeds prior to crop emergence. Helmet MTZ burndown tank mixes can be applied before planting or prior to crop emergence.

Application
Helmet MTZ may be applied up to 30 days before planting or preemergence. Apply only by ground equipment when Helmet MTZ is used for burndown of existing vegetation in conservation tillage systems. Use the high end of the rate range for Helmet MTZ applications made 14-30 days before planting. Refer to Table 16 for rates of Helmet MTZ and to the following table for rates of tank mix partners.

Table 8: Burndown Rates of Tank Mix Partners

Active Ingredient	Rate	Directions and Remarks
2,4-D LVE	Refer to product label for use rates	Include crop oil concentrate (COC) at the rate of 1 gal./100 gal. of spray solution (1% v/v).
Glyphosate	Refer to product label for use rates	Must be applied prior to crop emergence. Use the higher rates as weeds approach the maximum weed heights listed in Table 9. Apply in 10-20 gal. of water per acre. Refer to the glyphosate label for spray adjuvant recommendations. Any glyphosate formulation registered and labeled for use in soybeans may be tank mixed with Helmet MTZ.
Glyphosate + 2,4-D LVE	Refer to the Glyphosate and 2,4-D LVE labels for use rates	Follow the **Directions and Remarks** section above for 2,4-D LVE and glyphosate, paying special attention to planting restrictions with 2,4-D LVE. Refer to the glyphosate label for spray adjuvant recommendations. Do not use crop oil concentrate.
Precautions: Do not apply these treatments after crop emergence. Observe all precautions and limitations on the labeling of all products used in tank mixtures. Refer to the Product Information section of this label for additional information, precautions, and limitations.		

Soybeans
1. Apply only 2,4-D low volatile ester formulations which are registered and labeled for preplant or burndown use.
2. Do not apply tank mixtures containing 2,4-D LVE if wind is blowing toward desired susceptible plants (i.e., cotton, tobacco, tomato, etc.) or when wind speeds exceed 6 miles per hour. Observe all cautions and limitations of all products used in tank mixtures.

Feeding Restrictions
Soybean plants or hay treated with Helmet MTZ may be grazed or fed to livestock 40 days after application. Follow the most restrictive preharvest interval of all products used in a tank mixture.

Weeds Controlled: Helmet MTZ in tank mixtures with the herbicides listed in Table 8 will provide burndown control of the weeds listed below.

Table 9: Weeds Controlled by Burndown Rates of Helmet MTZ Tank Mixtures

		Helmet MTZ +	
Weeds Controlled	**2,4-D – LVE**	**Glyphosate**	**Glyphosate + 2,4-D - LVE**
Annual Grasses	**Maximum Burndown Height (Inches)**		
Barley	Does not control these species	8	
Barnyard grass		6	
Crabgrass spp		6	
Foxtail spp.		8	
Johnsongrass, seedling		8	
Panicum, fall		6	
Sandbur, field		8	
Shattercane		8	
Wheat, volunteer		6	
Witchgrass		6	
Broadleaf	**Maximum Burndown Height (Inches)**		
Buffalobur	-	6	6
Chickweed, common	6	6	6
Cocklebur, common	6	6	8
Dandelion, common	6 dia.	2 dia.	6 dia.
Henbit	4	4	4
Horseweed/ marestail	6	4	6
Jimsonweed	6	6	6
Kochia	4	4	4
Ladysthumb	6	6	8
Lambsquarters, common	6	6	8
Lettuce, prickly	6	4	6

(continued)

Table 9: Weeds Controlled by Burndown Rates of Helmet MTZ Tank Mixtures *(continued)*			
	Helmet MTZ +		
Weeds Controlled	**2,4-D – LVE**	**Glyphosate**	**Glyphosate + 2,4-D - LVE**
Broadleaf *(continued)*	**Maximum Burndown Height (Inches)**		
Mallow, Venice	6	6	6
Morningglory spp.	6	2	4
Mustard spp.	6	6	8
Pennycress, field	6	6	6
Pigweed spp. (annual)	6	6	8
Ragweed, common	6	6	8
Ragweed, giant	6	4	6
Shepherd's-purse	6	6	6
Sida, prickly	6	4	4
Smartweed, Pennsylvania	6	6	8
Sunflower, common	6	6	6
Thistle, Russian	4	2-4	4
Velvetleaf	6	6	8
Waterhemp spp.	6	6	8

Helmet MTZ Use Rates for Reduced and No-Till Systems

Preplant Surface Application

Helmet MTZ may be used in reduced-till and no-till systems. Applications may be made up to 30 days before planting or after planting, but before soybean emergence. Residual herbicides containing chloransulam-methyl, imazaquin, clomazone, flumetsulam, and pendimethalin may be tank mixed for additional weed control. If weeds are present at time of application, burndown herbicides may be added to the tank mixes (see **Burndown Weed Control** section). Refer to the tank mix product labels for specific rates and use directions.

Table 10: Helmet MTZ Use Rates for Reduced-Till and No-Till Systems (Broadcast Rates)	
Soil Texture	**Pt./A**[1]
COARSE[2] (Sand,loamy sand, sandy loam)	1.2-2.1
MEDIUM (Loam, silt loam, silt, sandy clay, sandy clay loam)	2.1-3.0
FINE (silty clay, silty clay loam[3], clay, clay loam)	2.7-3.6

[1] Use low rate range for low residue level or soils with less than 3% organic matter. Use the higher rate range for high residue level or soils with greater than 3% organic matter.
[2] Do not use on sand soils. On coarse-textured soils, do not use on loamy sand soils with less than 2% organic matter.
[3] Silty clay loam soils are transitional soils and may be classified as medium-textured soils in some regions of the U.S. When using Helmet MTZ, treat this soil as "fine-textured."

Helmet MTZ Sequential Application

An early preplant (surface-applied or shallow incorporated) application of Helmet MTZ, followed by a preemergence application of Helmet MTZ after planting but before soybean emergence, will provide more consistent control of broadleaf and grass weeds than a single application.

A sequential application will decrease the need for tillage and/or burndown herbicides for the control of existing vegetation before planting, while providing residual control of weeds after planting.

Application

An early preplant application may be made 15-30 days before planting soybeans. Follow this application with a preemergence overlay application of Helmet MTZ after planting but before crop emergence. Follow directions on this label for sequential applications from 0-14 days before planting.

Where a rate range is specified, use higher rates (a) in fields with a history of severe weed pressure, (b) when the time between early preplant and preemergence overlay applications approaches the maximum 30 days, (c) when the organic matter content of the soil is over 3%, and/or (d) when heavy crop residues are present on the soil surface.

When weeds exceed 1-1.5 inches in height or diameter at application, use a burndown herbicide, such as glyphosate, paraquat, or 2,4-D LVE.

Weeds Controlled: In addition to weeds controlled by Helmet MTZ alone, the sequential application improves control of the following annual broadleaf weeds: buffalobur, cocklebur, common ragweed, velvetleaf, and sunflower.

Table 11: Helmet MTZ Sequential Application (Broadcast Rates)			
Soil Texture[1]	Early Preplant Application Pt./A		Preemergence Overlay Application Pt./A
COARSE[1] (Sand,loamy sand, sandy loam)	1.2-1.8	followed by	0.3-0.9
MEDIUM (Loam, silt loam, silt, sandy clay, sandy clay loam)	1.5-2.1	followed by	0.6-1.2
FINE (silty clay, silty clay loam[3], clay, clay loam)	1.8-2.4	followed by	0.9-1.5[2]

[1] On coarse-textured soils, do not use on sand soils with less than 1% organic matter. However, on coarse-textured soils with a calcareous surface area or a pH of 7.5 or higher, do not use on sand soils with less than 2% organic matter, or on loamy sand or sandy loam soils with less than 1% organic matter.
[2] Total not to exceed 3.9 pints of Helmet MTZ per acre per use season.
[3] Silty clay loam soils are transitional soils and may be classified as medium-textured soils in some regions of the U.S. When using Helmet MTZ, treat this soil as "fine-textured."

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited.

Pesticide Storage: Store in a cool, dry place. 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.

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, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.
Minibulk Containers: 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 it 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.
Bulk Containers: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. 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.

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