

HM-1512 AG

ACTIVE INGREDIENT:	
Sulfentrazone	39.6%
OTHER INGREDIENTS:	60.4%
TOTAL:	100.0%

Contains 4 pounds of active ingredient per gallon.

KEEP OUT OF REACH OF CHILDREN CAUTION

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

FIRST AID	
IF INHALED:	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
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.
IF SWALLOWED:	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
HOTLINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact Chemtrec at 1-800-424-9300 for emergency medical information.	
NOTE TO PHYSICIAN	
Sulfentrazone is expected to have low oral and dermal toxicity, and moderate inhalation toxicity. It is expected to be slightly irritating to the skin and minimally irritating to the eyes. Treatment is otherwise controlled removal of exposure followed by symptomatic and supportive care.	

EPA Reg. No. 82534-5-5905
AD 052914

EPA Est. No. 70815-GA-002
NET CONTENTS: 2.5 GALS (9.46 L)

Manufactured for:
Helena Chemical Company
225 Schilling Boulevard, Suite 300
Collierville, TN 38017

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

Caution

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

Personal Protective Equipment (PPE)

Applicators and other handlers must wear: long-sleeved shirt and long pants, chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride, and shoes plus socks.

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

User Safety Recommendations:

Users should:

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

Environmental Hazards

This pesticide is toxic to marine/estuarine invertebrates. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to terrestrial and aquatic plants in neighboring areas. Do not contaminate water when disposing of equipment washwaters or rinsate.

Groundwater advisory:

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

Do not use on coarse soils classified as sand, which have less than 1% organic matter.

Surface water advisory:

Sulfentrazone can contaminate surface water through spray drift. Under some conditions, sulfentrazone may also have a high potential for runoff into surface water (primarily via dissolution in runoff water), for several to many months post-application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlying extremely shallow groundwater, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas over-lying tile drainage systems that drain to surface waters.

Physical/Chemical Hazards

Do not use or store near heat or open flame.

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.

Applicators must not exceed labeled rates of this product. Refer to specific crop directions for use for maximum use rates. Calculate the 12 month period for the purpose of maximum use rates from when **HM-1512 AG** is first applied.

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. These **HM-1512 AG** requirements only apply to uses of this product that are covered by the Worker Protection Standard.

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

Personal Protective Equipment (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 long-sleeved shirt and long pants, chemical-resistant gloves made of any waterproof material, and shoes plus socks.

HERBICIDE RESISTANCE

HM-1512 AG must be applied at the labeled rates and in accordance with label directions. Do not apply **HM-1512 AG** at rates less than those listed in this label. Observe target areas prior to treatment and apply **HM-1512 AG** when weeds are smaller.

If levels of control provided by applications of this product is reduced, and cannot be accounted for by factors such as misapplication, abnormal levels of target species or extremes of weather, it may be the case that target species have developed a strain resistant to applications of **HM-1512 AG**. If resistance develops, **HM-1512 AG** may not provide sufficient control of target species. Where you suspect target species are developing resistance, contact State/local agricultural advisors.

Certain species may develop resistance to this product/other herbicides where they are used repeatedly. Application of pesticide products therefore should be carried out in consultation with local/State agricultural advisors so that local resistance management strategies can be implemented.

In order to limit the possibility of resistance developing, apply **HM-1512 AG** in rotation with products that have a different mode of action and other classes of chemistry.

PRODUCT INFORMATION

HM-1512 AG is a soil-applied selective herbicide. It will control listed grasses, sedges and broadleaf weeds. **HM-1512 AG** is a flowable product that contains 4 pounds of active ingredient (sulfentrazone) per gallon.

The active ingredient sulfentrazone inhibits an enzyme required by plants in order to produce chlorophyll. Inhibiting this enzyme leads to the release of singlet oxygen (O) which then disrupts cellular membranes, resulting in cellular leakage and cellular death ultimately resulting in plant death.

HM-1512 AG has a selective mode of action because sulfentrazone has a greater affinity for the PPO IX enzyme in listed weed species as opposed to listed crops.

HM-1512 AG must be prepared and used in such a way so as to prevent the following:

- spills
- improper disposal of spray mixtures, rinsate or any excess pesticide
- back siphoning in wells

Setback

The following activities must not be carried out within 50 feet of any well (including drainage and abandoned wells) unless the activity is carried out on an impervious pad that has been built to withstand the heaviest possible weight that will be moved across the pad or placed upon it:

- Loading
- Mixing
- Washing/rinsing **HM-1512 AG** from application equipment

The impervious pad must be made to contain any leaks or spills, as well as any rinsate/washwaters and rain that may fall upon it. An impervious pad that does not have a roof must have enough capacity to contain a minimum of 110% of the volume of the largest container that will be placed on the pad. Those pads that are covered by a roof must have enough capacity to contain a minimum of 100% of the volume of the largest container that will be placed on the pad. The roof must be big enough to completely exclude contact with the pad from rainfall.

The above containment volume minimum must be maintained. The minimum capacity volumes do not apply to the following:

- Vehicles delivering pesticide product to the load/mix area

Applicators must ensure that they are aware of any State requirements for containment and set back from wells.

The impervious pad must be self-contained so that surface water cannot flow over or from one pad. They must also be sloped to allow for material removal.

Do not load or mix **HM-1512 AG** within 50 feet of any sinkholes, reservoirs, impounded or natural lakes, wells (including drainage and abandoned wells) or intermittent/perennial rivers and streams. This restriction does not apply where there are properly diked loading/mixing areas or impervious pads. The restriction also does not apply where abandoned wells are properly plugged or capped.

APPLICATION INSTRUCTIONS

Apply this product in one of the following ways:

- as a surface application, pre-emergence treatment (i.e. before crop and/or weed emergence)
- as a incorporated treatment prior to planting
- Post-plant application
- Over-the-top
- Layby

For further detail, refer to the Crop Specific Use Directions below.

When **HM-1512 AG** is used as an incorporated treatment, the product must be incorporated following a uniform surface application to a depth of 2 inches maximum. If it is incorporated to a greater depth, reduced control of target species may result. Applicators must ensure that there is no overlap between areas that have been treated with **HM-1512 AG** due to soil movement. Such an overlap could cause an adverse crop response.

When **HM-1512 AG** is soil applied or applied as a post-plant treatment, the herbicidal action of the product must be activated by moisture. The amount of moisture required depends upon a number of factors including:

- soil type
- organic matter content
- tillth
- existing soil moisture at the time of treatment

For an effective application of **HM-1512 AG**, 0.5 to 1 inch of irrigation or rainfall is required within 7 to 10 days following treatment. If that level of moisture is not received, shallow incorporation must be undertaken in order to obtain sufficient control of target species. Activating moisture can be delayed for 10-14 days, and sometimes longer, depending on the factors listed above. If activating moisture is delayed, however, control of listed species may be reduced, due to the growth of weeds during the delay.

When **HM-1512 AG** has been activated, it will provide control of listed weed species. The level of control will depend on the size and type of weed species when **HM-1512 AG** is activated. The control of listed germinating weed species will be reduced when rain or irrigation follows a period of dry weather.

Apply **HM-1512 AG** prior to the germination of crop seeds in order to avoid damage to emerging seedlings. Crop damage may occur where treatment is delayed if seeds are germinating, or are close to the soil surface.

If **HM-1512 AG** is applied by surface application and activation has not been triggered by rainfall, or irrigation (1/2" to 1" moisture) within 10 days of treatment, make a shallow incorporation (less than 2") of the product so that germinating weed species can be controlled. Soil incorporation will also facilitate product activation with existing soil moisture.

Where there is prolonged periods when rainfall/irrigation is not available, alternative weed control methods should be considered.

Follow Crop Specific Use Directions exactly and with care, particularly for post plant treatments.

Lay-by/Over-the-top applications provide control of listed species through contact and residual control (depending on weed species).

Combining this product with a surfactant may improve control of listed species, but may also increase the risk of crop injury.

Applicators must be aware that certain crops will react differently to treatment with **HM-1512 AG** according to the following factors:

- use rate
- specific crop species sensitivity
- soil composition

Once a treatment with **HM-1512 AG** has been made, seedlings and germinating seeds absorb sulfentrazone from the soil solution. The amount of available active ingredient contained in the soil solution, is determined by the following factors:

- soil type
- soil pH
- soil organic matter content

Sulfentrazone is absorbed by the organic matter and clay parts of soils. This absorption reduces the amount of active ingredient available for weed uptake. Clay content in soil tends to increase as the soil gets finer. Crop Use Directions are indicated per soil types. Refer to the following chart to determine the category of a particular soil type:

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

The organic matter in soil will vary widely within soil classifications. In order to assess organic matter soil content, a detailed analysis will be required.

The amount of sulfentrazone available for uptake by weed species will increase as the pH of the soil increases. The pH of the soil must be accurately assessed using representative soil samples. In addition, irrigation with water with a high pH (i.e. alkaline water) following treatment, will increase the amount of available sulfentrazone for uptake by target species. However, if irrigation water pH exceeds 7.5, crop damage may result. The likelihood of an adverse response by crops will decrease as the growth stage of crops advances.

The use rate of this product will be determined by the following factors:

- Timing of treatment
- The amount of activating moisture (rainfall/irrigation)
- Soil parameters
- Soil pH

The Crop Specific Use Directions (below) for each crop, are based on:

- soil type
- soil organic matter
- soil pH interactions

The performance of **HM-1512 AG** and crop tolerance is based on strictly following the Crop Specific Use Directions.

Application by Air

- Apply **HM-1512 AG** using appropriate nozzles that will allow for optimal coverage, will minimize drift and will keep fine spray droplets to a minimum.
- Apply **HM-1512 AG** in an appropriate volume for sufficient coverage. Use minimum spray volume of 5 gallons per acre.
- Do not apply **HM-1512 AG** when wind speed is likely to cause drift outside the target area.

Application by Ground

- Apply **HM-1512 AG** using a boom and nozzle sprayer with the appropriate spray tips, screens and nozzles. Application equipment must be calibrated for optimal coverage and spray distribution at the appropriate pressure.
- Use spray nozzles that will minimize drift by keeping fine spray droplets to a minimum.
- Apply **HM-1512 AG** in a minimum spray volume of 10 gallons per acre. Avoid overlapping applications which may result in excessive treatment and adverse crop response. When starting, turning or stopping, slower ground speed of application equipment may also lead to excessive treatment.
- Do not apply **HM-1512 AG** when wind speed is likely to cause drift outside the target area.

Chemigation Application

HM-1512 AG may be applied through sprinkler irrigation systems including center pivot, lateral move, end tow, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system. Do not connect any irrigation system (including greenhouse systems) used for pesticide application to a public water system. Crop injury, lack of effectiveness or illegal residues on or 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. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. The pesticide injection pipeline must also contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. 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., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

HM-1512 AG should be metered into the irrigation system continuously for the duration of the water application. **HM-1512 AG** should be diluted in sufficient volume to insure accurate application over the area to be treated. Use the appropriate amount of water to carry the product to the soil surface. Continuous agitation is required to maintain product suspension in the solution tank. A jar test should be conducted to ensure that phase separation would not occur during dilution and application. Failure to achieve a uniform dilution throughout the time of application may result in undesirable residues or less than desirable weed control. Flush the lines at the completion of the application and then turn the water off promptly.

When using water from public water systems; **DO NOT APPLY HM-1512 AG THROUGH ANY IRRIGATION SYSTEM PHYSICALLY CONNECTED TO A PUBLIC WATER SYSTEM.** 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 of the year. **HM-1512 AG** may be applied through irrigation systems, which may be supplied by a public water system only if water from the water system is discharged into a reservoir tank prior to pesticide

introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and to top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. Before beginning chemigation, always make sure that the air gap exists and that there is no blockage of the overflow of the reservoir tank.

Crop response to treatment with **HM-1512 AG** will depend on the following factors:

- application rate and timing
- volume of water applied and pH
- sensitivity of crop type to treatment with **HM-1512 AG**
- growth stage of the crop when irrigated

The amount of sulfentrazone available for uptake by weed species will increase as the pH of the soil increases. The pH of the soil must be accurately assessed using representative soil samples. In addition, irrigation with water with a high pH (i.e. alkaline water) following treatment, will increase the amount of available sulfentrazone for uptake by target species. However, if irrigation water pH exceeds 7.5, crop damage may result. The likelihood of an adverse response by crops will decrease as the growth stage of crops advances.

Application in Combination with Dry Fertilizers

- **HM-1512 AG** may be impregnated on and applied in conjunction with a dry bulk fertilizer.
- Only apply combinations of this product and dry fertilizer with ground equipment.
- Do not apply via aerial application.
- Applicators using dry fertilizer must follow state regulations on the preparation of the **HM-1512 AG**/fertilizer combination, including mixture preparation, storage, transportation, selling and treatment.

Directions for Dry Fertilizer Impregnation:

- Use the following method for impregnation:
 1. Ensure that spray nozzles are calibrated and positioned for uniform **HM-1512 AG** coverage of the dry fertilizer during the mixture process.
 2. Make a slurry with **HM-1512 AG** and water in a clean container.
 3. Once made, add the **HM-1512 AG**/water slurry to the impregnation spray tank.
 4. Finish the solution by adding water as required.
- For impregnation and application of **HM-1512 AG** and dry fertilizer, use a dry bulk fertilizer blender such as a closed rotary-drum mixer that is fitted with appropriate spray application equipment.
- See the CLEANING APPLICATION EQUIPMENT section (below) prior to cleaning equipment used for impregnation, transportation, loading and application of the **HM-1512 AG**/dry fertilizer combination.
- **DO NOT** attempt to impregnate coated ammonium nitrate or limestone with **HM-1512 AG** as neither can absorb the herbicide.

Application instructions for **HM-1512 AG** impregnated dry fertilizers:

- Dry fertilizer impregnated with **HM-1512 AG** must be applied using a dry fertilizer spreader. The application equipment must be correctly calibrated for sufficient and uniform coverage of the soil surface. If treatment is not uniform, some areas may go untreated which may cause reduced control of target species.
- Avoid overlapping applications, which may cause labeled use rates to be exceeded, and may cause adverse crop response.
- Apply the dry fertilizer/**HM-1512 AG** combination at a rate of at least 200 pounds of impregnated dry bulk fertilizer per acre in order to provide sufficient soil coverage.
 - See the appropriate crop specific section of this label for the use rate of **HM-1512 AG** per acre
 - Next, use the following equation to calculate the amount of **HM-1512 AG** that must be used to impregnate 2000 pounds (one ton) of dry bulk fertilizer:

fl. oz. of HM-1512 AG to be applied per ton of Dry Bulk Fertilizer	=	fl. oz. of HM-1512 AG per acre	X	2000	÷	Lbs dry bulk fertilizer applied per acre
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Example 1: If use rate of **HM-1512 AG** is 8 fl. oz. per acre, and 200 lbs fertilizer will be applied per acre:

$$(8) (2000 / 200) = 80 \text{ fl. oz HM-1512 AG per ton of dry bulk fertilizer}$$

Example 2: If use rate of **HM-1512 AG** is 12 fl. oz. per acre and 400 lbs fertilizer will be applied per acre:

$$(12) (2000 / 400) = 60 \text{ fl. oz. HM-1512 AG per ton of dry bulk fertilizer}$$

Application in Combination with Liquid Fertilizers

- **HM-1512 AG**, when applied in combination with a liquid fertilizer will provide control of listed weeds.
- Sufficient soil coverage is crucial for control of target species.
- Fertilizer solutions that may be used as a carrier for **HM-1512 AG** may be concentrate formulations as blended or diluted in water.

Directions for Liquid Fertilizer Combination:

- The selected spray system must have the spray capacity to allow uniform application of the treatment solution, and must be capable of maintaining agitation in the spray tank throughout the mixture and application procedures.
 - Some spray application systems might need separate pumps to apply the solution and maintain agitation at the same time.
 - Prior to combining the liquid fertilizer and **HM-1512 AG** in the application tank, carry out a compatibility test to ensure that the mixture is stable, homogenous and compatible [In a lidded glass jar (~1 quart size), add all mix partners, in their relative proportions. Invert, shake or mix the jar thoroughly. If mixture forms precipitates (flakes or sludge), gels, balls up or forms oily films or layers, this indicates incompatibility. Though signs of incompatibility will typically be seen within 5 minutes of mixing, mixture should be observed for approximately 30 minutes].
 - Combine **HM-1512 AG** and the carrier liquid fertilizer as follows:
 1. Fill a clean spray tank ½ full of fertilizer solution.
 2. Begin agitation of the fertilizer solution.
 3. Use a clean container to create a slurry of **HM-1512 AG** and water (equal parts of both)*.
 4. Add the slurry slowly to the spray tank, continuing agitation throughout.
 5. Rinse the slurry mix container and add rinsate solution to spray tank.
 6. Finish filling spray tank to required level.
 7. Maintain agitation throughout. The **HM-1512 AG**/water slurry must be mixed thoroughly prior to application.
- * For best mixing of the **HM-1512 AG**/water slurry, add the slurry using induction systems on the sprayer fill plumbing system.
- Read and follow the label of each tank mix product used for precautionary statements, directions for use, rates and timings, and other restrictions.

Application instructions for **HM-1512 AG** mixed with liquid fertilizers:

- The spray application solution must be applied immediately following preparation.
- Maintain agitation throughout mixture and application.
- Do not store spray solution in the spray tank for an extended period of time, or overnight.
- A combination of **HM-1512 AG** and liquid fertilizer must not be premixed in nurse tanks.
- Applicators/sellers of liquid fertilizer must follow state regulations for liquid fertilizers, including those regarding preparation, blending, registration, transportation, selling, treatment and storage.

Band Treatment Applications

HM-1512 AG can be applied as a banded treatment application. When calculating rates for band treatment, apply the equivalent volume per acre rate for broadcast treatment by using the following equation:

Band Rate or Volume	=	Broadcast Rate (fl. oz./acre) or Volume per acre	X	Band width (in inches)	÷	Row width (in inches)
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Mixing and Loading Instructions

- **HM-1512 AG** may be applied on its own or in combination with other herbicides for a broader spectrum of weed control. Combinations with other products may not have been tested, therefore, carry out a compatibility test before mixing and

applying [In a lidded glass jar (~1 quart size), add all mix partners, in their relative proportions. Invert, shake or mix the jar thoroughly. If mixture forms precipitates (flakes or sludge), gels, balls up or forms oily films or layers, this indicates incompatibility. Though signs of incompatibility will typically be seen within 5 minutes of mixing, mixture should be observed for approximately 30 minutes].

- Read and follow the label of each tank mix product used for precautionary statements, directions for use, rates and timings, and other restrictions.
 - Spray equipment must be clean and free of product residue prior to mixing an application solution of **HM-1512 AG**. Refer to Cleaning Directions below and to the cleaning directions of the product(s) previously applied.
 - Mix **HM-1512 AG** using the following procedure:
 1. Fill a clean spray tank with ½ of water required for treatment.
 2. Begin agitation.
 3. Use a clean container to create a slurry of **HM-1512 AG** and water*.
 4. Add the slurry slowly to the spray tank, continuing agitation throughout.
 5. Rinse the slurry mix container and add rinsate solution to spray tank.
 6. Finish filling spray tank to required level.
 7. Maintain agitation throughout. The **HM-1512 AG**/water slurry must be mixed thoroughly prior to application.
- * For best mixing of the **HM-1512 AG**/water slurry, add the slurry using induction systems on the sprayer fill plumbing system.
- The spray application solution must be applied immediately following mixture.
 - Maintain agitation throughout mixture and application.
 - Do not store spray solution in the spray tank for an extended period of time, or overnight.
 - A tank mixture containing **HM-1512 AG** must not be premixed in nurse tanks.

Cleaning Application Equipment

Adverse crop reaction may result if residues of this product are left in spray equipment following application. Spray equipment must be cleaned immediately after treatment with **HM-1512 AG**, and before applications with other products.

- Use the following procedure:
 1. Drain the spray application equipment, including tank, hoses, spray boom and nozzles.
 2. Clean inside the spray tank with a high-pressure detergent, removing residues and sediment.
 3. Thoroughly rinse the spray tank.
 4. Flush the spray system out using water, including hoses, spray boom and spray nozzles.
 5. Combine 3 gallons of ammonia (with a minimum of 3% active ingredient) in 100 gallons of water. Make sufficient cleaning solution to operate the spray application equipment for a minimum of 15 minutes so that the system is thoroughly flushed.
 6. Remove spray tips, and all screens and filters and clean separately using the ammonia solution (step 5).
 7. Leave the cleaning solution or water in the nozzles, spray booms, hoses and spray tank overnight (or during storage) to ensure thorough cleaning.
 8. Drain the system completely prior to re-use. Use clean water to rinse/flush nozzles, spray booms, hoses and the spray tank. Remove spray tips, and all screens and filters and clean separately using the ammonia solution (step 5).
 9. Dispose of rinsate and excess cleaning solution in compliance with Federal, State, and local regulations and guidelines.
- Rinsate and cleaning solution must not be applied to sensitive crops.
- Spray application equipment must not be stored for any extended period while **HM-1512 AG** application solution remains in the spray lines, nozzles, strainers, or boom plumbing.
- When application equipment has been idle or in storage, flush the nozzles and spray boom with clean water prior to use for application of product.
- If small amounts of this product remain in equipment after cleaning, **HM-1512 AG** may be released during later applications, which may cause an adverse reaction from certain crops/other vegetation. The applicator is solely responsible for any damage caused by equipment that is not properly cleaned.
- Equipment must not be flushed or drained near desirable plants/trees.
- Ensure that bodies of water are not contaminated with application solution, rinsate or cleaning solution, including water that may be used for other crops, i.e. irrigation water.

SPRAY DRIFT REDUCTION ADVISORY

To avoid drift, do not apply when wind speeds exceed 10 mph. Do not exceed spray pressures of 40 psi unless specified by the manufacturer of drift reducing spray tips and nozzles.

Spray Drift Management

AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR AND THE GROWER.

The interaction of many equipment and weather related factors determine 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 movement from aerial applications. These requirements do not apply to forestry applications, public health uses or to applications of dry materials.

1. The distance of the outermost nozzles on the boom must not exceed 75 % the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.
3. Observe the regulations of the State where applications are made.
4. Applicators must observe and abide by the requirements of the Aerial Drift Reduction Advisory.

Information on Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage for pesticide performance. Applying larger droplets reduces drift potential but will not prevent drift if applications are made improperly or under unfavorable environmental conditions. (See information on Wind, Temperature and Humidity, and Temperature Inversions in subsequent sections).

Controlling Spray Droplet Size

Volume - Use high flow rate nozzles to apply the greatest practical spray volume. Nozzles with higher rated flow generally produce larger droplets.

Pressure - When higher flow rates are needed, use higher flow rate nozzles rather than increasing spray pressure. Do not exceed the nozzle manufacturer's specified pressures. Lower pressure produces larger droplets in many types of nozzles.

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

Nozzle Orientation - For aerial application, the recommended practice is to orient nozzles so that the spray is released parallel to the airstream. This orientation usually produces larger droplets as compared to other nozzle orientations. Significant nozzle deflection from horizontal will reduce droplet size and increase drift potential.

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

Boom Length - For some aerial use patterns, reducing the effective boom length to less than 75% of the wingspan or rotor length may further reduce drift without reducing swath width.

Application Height - To minimize spray drift, make applications at a height < 10 feet above the top of the target plant canopy unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment - When aerial applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the upwind and downwind edges of the field, the applicator must compensate for this displacement by the path of the aircraft upwind. Increase swath adjustment or offset distance when conditions favor increased drift potential (higher winds, smaller droplets, etc).

Wind - Drift potential is lowest between wind speeds of 3-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. Do not make applications below 3 mph due to variable wind direction and high inversion potential. **NOTE:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they may potentially affect spray drift.

Temperature and Humidity - When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

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

Sensitive Areas - Only apply pesticide when the wind is blowing away from sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops).

HM-1512 AG Drift

If **HM-1512 AG** solutions drift into non-target areas, contact with other plants/crops can cause adverse reaction. Initially, adverse crop/plant reaction may be in localized areas, depending on factors such as plant sensitivity to the application solution and spray solution droplet size. Lesions or spots caused by drift may or may not coalesce. The effects of drift will not normally cause lasting effects on plant growth, but may adversely affect the value of fruit or foliage where value is affected by appearance. Where plants are sensitive to **HM-1512 AG** and drift is significant, defoliation may result.

Avoid drift of this product/solutions containing this product to non-target areas by taking adequate notice of the prevailing environmental conditions. Use appropriate and accurately calibrated application equipment and utilize treatment procedures that will minimize the risk of drift.

Misapplication of this product where label directions are not followed may result in drift. The applicator/user of this product is solely responsible for any misapplication of **HM-1512 AG**.

REPLANTING AND ROTATIONAL CROPS

- During replanting, keep soil tillage to a minimum so that the herbicide barrier is preserved, thereby maximizing weed control.
- In the event that the planting of crops listed in label directions does not produce a stand, only crops specified in this label or the tank mix partner may be planted. Where there is a tank mixture, the most restrictive label directions must be followed.
- The planted area must not be retreated with **HM-1512 AG** or any other product containing sulfentrazone.
- Do not plant crops in previously treated areas unless in full compliance with the Rotational Restrictions (below)

Crop Rotation: Refer to the table below for the minimum interval from the time **HM-1512 AG** was last applied until treated areas can be replanted with listed crops.

Crop	Minimum Rotational Interval
Barley Rye Triticale Wheat	4 months
Corn, Field Rice Sorghum ¹	10 months
Alfalfa Cereal Grains (Buckwheat, Oats, Pearl Millet, Proso Millet, Teosinte, Wild Rice)	12 months

Sweet Potatoes	
Corn, Pop Corn, Sweet Cotton	18 months
Canola	24 months
Sugar Beets	36 months
Asparagus Berries Brassica, head and stem (Broccoli and Cabbage) Brassica, leafy greens Citrus Cowpea, succulent (TN Only) Dry Shell Peas and Beans Flax Fruiting Vegetables (except cucurbits), Okra Grapes Horseradish Lima beans, succulent (TN Only) Melons Mint Peanuts Potatoes Rhubarb Soybeans Strawberry Succulent peas Sugarcane Sunflower subgroup 20B Tobacco Tree nuts Turf Turnips Wheat, spring (Pacific Northwest states ID, OR, WA only)	Crops can be planted at any point following the application of HM-1512 AG

¹18 month minimum rotational interval for sorghum where use rates are greater than 8 oz. of **HM-1512 AG** per acre

- Certain crops have a rotational interval of more than 12 months because of sensitivity and the risk of crop injury. Carry out a representative bioassay of the target area on the rotational crop in order to assess the crop's sensitivity to applications of this product.
- For all crops not listed in the table above, there must be a minimum rotational interval of 12 months.
- When this product is tank mixed with another product(s), read and follow the directions of all tanks mix partners. The most restrictive directions must apply, including directions for re-cropping.

LISTED WEED SPECIES

When applied in accordance with these label directions (alone or in a tank mixture), **HM-1512 AG** will provide control of the following weed species (refer to crop specific section for more details):

Amaranth, livid (*Amaranthus lividus*)
Amaranth, Palmer (*Amaranthus palmeri*)
Amaranth, Powell (*Amaranthus Powell II*)
Amaranth, spiny (*Amaranthus spinosus*)
Amaranth, spleen (*Amaranthus dubius*)
Anoda, spurred (*Anoda cristata*)
Bedstraw, catchweed (*Galium aparine*)
Carpetweed (*Mollugo verticillata*)
Chickweed, common (*Stellaria media*)
Copperleaf, hophornbeam (*Acalypha ostryeafolia*)
Copperleaf, Virginia (*Acalypha virginica*)
Crabgrass, large (*Digitaria sanguinalis*)
Crabgrass, smooth (*Digitaria ischaemum*)
Crabgrass, Southern (*Digitaria ciliaris*)
Croton, tropic (*Croton glandulosus*)
Crownbeard, golden (*Verbesina encelioides*)
Cupgrass, woolly (*Erichloa villosa*)
Cyperus, hedgehog (*Cyperus compressus*)
Daisy, American (*Eclipta alba*)
Devilsclaw (*Proboscidea Louisiana*)
Dock, curly (*Rumex crispus*)
Eclipta (*Eclipta prostrate*)
Filaree, redstem (*Erodium cicutarium*)
Flixweed (*Descurainia sophia*)
Galinsoga, hairy (*Galinsoga ciliate*)
Goosegrass (*Eleusine indica*)
Groundcherry, clammy (seedling) (*Physalis heterophylla*)
Groundcherry, cutleaf (*Physalis angulate*)
Jimsonweed (*Datura stramonium*)
Kochia (ALS and Triazine Resistant) (*Kochia scoparia*)
Ladysthumb (*Polygonum persicaria*)
Lambsquarters, common (*Chenopodium album*)
Lettuce, miners (*Montia perfoliata*)
Mallow, common (*Malva neglecta wall r.*)
Mayweed, Chamomile (*Anthemis cotula L.*)
Milkweed, honeyvine (*Ampelamus albidus*)
Morningglory, entireleaf (*Ipomoea hederacea integruscula*)
Morningglory, ivyleaf (*Ipomoea hederacea hederacea*)
Morningglory, palmleaf (*Ipomoea wrightii*)
Morningglory, purple (*Ipomoea turbinata*)
Morningglory, red (*Ipomoea, coccinea L.*)
Morningglory, scarlet (*Ipomoea coccinea*)
Morningglory, smallflower (*Jacquemontia tamnifolia*)
Morningglory, tall (*Ipomoea purpurea*)
Mustard, tumble (*Sisymbrium altissimum*)
Nightshade, black (*Solanum nigrum*)
Nightshade, Eastern black (*Solanum ptycanthum*)
Nutsedge, purple (*Cyperus rotundus*)
Nutsedge, yellow (*Cyperus esculentus*)
Orchardgrass (*Dactylis glomerata*)
Panicum, fall (*Panicum dichotomiflorum*)
Pigweed, redroot (*Amaranthus retroflexus*)
Pigweed, smooth (*Amaranthus hybridus*)
Plantain, blackseed (*Plantago rugelii decne*)
Plantain, narrow-leaved (*Plantago lanceolata*)
Poorjoe (*Diodia feres*)
Porophyllum (*Porophyllum rederale*)
Poinsettia, wild (*Euphorbia heterophylla*)
Purslane, common (*Portulaca oleracea*)
Redmaids (*Calandrinia ciliate*)
Redweed (*Melochia corchorifolia*)
Sedge, annual (*Carex spp.*)
Senna, coffee (*Cassia occidentalis*)
Sheperdspurse (*Capsella bursa-pastoris*)
Sida, prickly (*Sida spinosa*)
Sida, Southern (*Sida acuta*)
Signalgrass, broadleaf (*Brachiaria platyphylla*)
Smartweed, PA (seedling) (*Polygonum pensylvanicum*)
Smellmellon (*Cucumis melo*)
Starbur, bristly (*Acanthospermum hispidum*)
Stinkgrass (*Eragrostis cilianensis*)
Toadflax, yellow (*Linaria vulgaris*)
Tassleflower, red (*Emilio sonchifolia*)
Thistle, Russian (*Salsola kali*)
Waterhemp, common (*Amaranthus rudis*)
Waterhemp, tall (*Amaranthus tuberculatos*)
Waterprimrose, winged (*Ludwigia decurrens*)
Witchgrass (*Panicum capillare*)

CROP-SPECIFIC USE DIRECTIONS

Crop	Page
Cabbage (Transplant)	15-16
Dry Field Peas and Chickpeas	17-18
Horseradish	19-20
Lima Beans – Succulent (TN Only)	21
Mint	22-23
Soybeans	24-25
Sugar Cane	26
Sunflower	27-28
Tobacco	29-30

SPECIMEN LABEL

CABBAGE (Transplanted only)

To control susceptible weeds, **HM-1512 AG** can be applied cabbage (transplanted only) at the following times:

In the fall (Preplant), before spring growing season

In the spring (early preplant, preplant incorporated, preemergence)

When applying early preplant to cabbage, the product may be applied only in CO, ID, MI, MN, MT, NE, ND, OR, SD, WA, WI, WY.

When applied as indicated on this label, the following weeds in cabbage will be controlled with **HM-1512 AG**:

Galinsoga, hairy Pigweed, redroot
Lambsquarters, common Waterhemp (common, tall)

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 2.25 – 3.0 fl. oz. **HM-1512 AG** per acre
- 1.5% to 3.0% OM, apply 3.0 – 6.0 fl. oz. **HM-1512 AG** per acre
- Greater than 3.0% OM, apply 6.0 – 9.0 fl. oz. **HM-1512 AG** per acre

For Medium Textured Soils

- Less than 1.5% OM, apply 3.0 – 4.5 fl. oz. **HM-1512 AG** per acre
- 1.5% to 3.0% OM, apply 6.0 – 9.0 fl. oz. **HM-1512 AG** per acre
- Greater than 3.0% OM, apply 6.0 – 12.0 fl. oz. **HM-1512 AG** per acre

For Fine Textured Soils

- Less than 1.5% OM, apply 3.0 – 6.0 fl. oz. **HM-1512 AG** per acre
- 1.5% to 3.0% OM, apply 6.0 – 9.0 fl. oz. **HM-1512 AG** per acre
- Greater than 3.0% OM, apply 6.0 – 12.0 fl. oz. **HM-1512 AG** per acre

OM – Organic Matter

Consult preceding information regarding **Coarse, Medium** or **Fine** soil categories.

Use rate is inversely dependent on soil pH – use higher **HM-1512 AG** rates with lower soil pH rates (7.0 and lower) and lower **HM-1512 AG** rates with higher soil pH rates (greater than 7.0).

Application Instructions

Apply amount of **HM-1512 AG** indicated above to stubble or to the soil surface, in the fall, or in the spring from 60 days prior to planting or transplanting up to 72 hours after transplant. Unless applying preplant incorporated, do not incorporate the product into the soil after application. Destroying the herbicide barrier by mechanically incorporating can allow weed escapes to occur.

If applying preemergence, applications before transplant can be broadcast or banded. Preemergence applications up to 72 hours after transplant should be a banded treatment in the row middles.

If applying this product preplant incorporated in the spring, prior to transplantation, mix thoroughly or shallowly incorporate the **HM-1512 AG** into the soil. Inconsistent weed control could result if product is incorporated deeper than the maximum incorporation depth of 2 inches.

Moisture (in the form of rain or snow) after application will activate

Important

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **HM-1512 AG** with specific local varieties or cultivars of cabbage.
- Do not apply more than 0.375 lbs sulfentrazone (12.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application (including preplant fall application).
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').
- Product is not to be incorporated any deeper than 2 inches.

and move the product into the soil. To prevent runoff of **HM-1512 AG** from snowmelt or rain, do not apply **HM-1512 AG** to soils that are frozen or have an existing snow cover.

Tank Mixes

HM-1512 AG can be split-applied or mixed with burndown herbicides or soil-applied herbicides labeled for use on cabbage to control emerged weeds or broaden the herbicide control spectrum. Read and follow the label of each tank mix product used for precautionary statements, directions for use, rates and timings, and other restrictions.

SPECIMEN LABEL

DRY FIELD PEAS and CHICKPEAS

To control susceptible weeds, **HM-1512 AG** can be applied to dry field peas and chickpeas at the following times:
 In the fall (Preplant), before spring growing season (only in CO, ID, KS, MI, MN, MT, NE, ND, OR, SD, WA, WI, WY).
 In the spring (early preplant, preplant incorporated, preemergence)

When applied as indicated on this label, the following weeds in dry field peas and chickpeas will be controlled with **HM-1512 AG**:

Amaranth, Palmer	Filaree, redstem
Kochia (ALS and Triazone resistant)	Lambsquarters, common
Morningglory (ivyleaf, tall)	Nightshade, Eastern black
Pigweed (red root, smooth)	Sida, prickly
Thistle, Russian	Waterhemp (common, tall)

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 2.25 – 3.0 fl. oz. **HM-1512 AG** per acre
- 1.5% to 3.0% OM, apply 3.0 – 4.5 fl. oz. **HM-1512 AG** per acre
- Greater than 3.0% OM, apply 3.75 – 6.0 fl. oz. **HM-1512 AG** per acre

For Medium Textured Soils

- Less than 1.5% OM, apply 3.0 – 4.5 fl. oz. **HM-1512 AG** per acre
- 1.5% to 3.0% OM, apply 3.75 – 6.0 fl. oz. **HM-1512 AG** per acre
- Greater than 3.0% OM, apply 4.5 – 6.75 fl. oz. **HM-1512 AG** per acre

For Fine Textured Soils

- Less than 1.5% OM, apply 3.0 – 4.5 fl. oz. **HM-1512 AG** per acre
- 1.5% to 3.0% OM, apply 4.5 – 6.0 fl. oz. **HM-1512 AG** per acre
- Greater than 3.0% OM, apply 5.25 – 8.0 fl. oz. **HM-1512 AG** per acre

OM – Organic Matter

Consult preceding information regarding **Coarse, Medium, or Fine** soil categories.

Use rate is inversely dependent on soil pH – use higher **HM-1512 AG** rates with lower soil pH rates (7.0 and lower) and lower **HM-1512 AG** rates with higher soil pH rates (greater than 7.0).

Application Instructions

Apply amount of **HM-1512 AG** indicated above to stubble or to the soil surface, in the fall, or in the spring from 60 days prior to planting up to 3 days after planting (if seed furrow is completely closed and if seedlings have not broken the soil furrow).

When applying preplant fall applications, do not incorporate the product into the soil after application. Destroying the herbicide barrier by mechanically incorporating can allow weed escapes to occur. Moisture (in the form of rain or snow) after application will activate and move the product into the soil. To prevent runoff of **HM-1512 AG** from snowmelt or rain, do not apply **HM-1512 AG** to soils that are frozen or have an existing snow cover.

When applying in the spring early preplant greater than three weeks prior to planting, use the higher rate listed in 'Application Rates' for

Important

- Reduce rate of **HM-1512 AG** on coarse textured soil with organic matter less than 1.5% and pH of 7.8 or higher, or on highly eroded soils, or in areas of calcareous outcroppings to minimize adverse crop response.
- Planting less than 1 inch in depth or inadequate seed furrow closure or poor growing conditions (diseases, low temperature, soil compaction, excessive moisture) can also cause adverse crop response.
- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **HM-1512 AG** with specific local varieties or cultivars of dry field peas and chickpeas.
- Do not apply more than 0.25 lbs sulfentrazone (8.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application (including preplant fall application).
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').
- Product is not to be incorporated any deeper than 2 inches.
- If seedlings are close to soil surface or crop has emerged, do not apply **HM-1512 AG**.
- To prevent runoff of **HM-1512 AG** from snowmelt or rain, do not apply **HM-1512 AG** to soils that are frozen or have an existing snow cover.

appropriate soil and organic matter type. Wait a minimum of 7 days after application to plant in coarse textured soils with less than 1.5% organic matter. Moisture (in the form of rain or snow) should occur after application to move the product into the soil. If dry conditions persist, a shallow incorporation may be needed.

If applying this product preplant incorporated in the spring prior to planting reduced and conventional tillage dry field peas and chickpeas, mix thoroughly or shallowly incorporate the **HM-1512 AG** into the soil. Inconsistent weed control could result if product is incorporated deeper than the maximum incorporation depth of 2 inches.

Tank Mixes

HM-1512 AG can be split-applied or mixed with burndown herbicides or soil-applied herbicides labeled for use on dry beans and peas to control emerged weeds or broaden the herbicide control spectrum. Read and follow the label of each tank mix product used for precautionary statements, directions for use, rates and timings, and other restrictions.

SPECIMEN LABEL

HORSERADISH

To control susceptible weeds, **HM-1512 AG** can be applied to horseradish at the following times:

In the fall (preplant), before spring growing season

In the spring (early preplant, preplant incorporated, preemergence)

When applying early preplant to horseradish, the product may be applied only in CO, ID, MI, MN, MT, NE, ND, OR, SD, WA, WI, WY.

When applied as indicated on this label, the following weeds in horseradish will be controlled with **HM-1512 AG**:

Lambsquarters, common	Morningglory, ivyleaf	Nutsedge, yellow
Pigweed, red root	Waterhemp (common, tall)	

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 2.25 – 4.5 fl. oz. **HM-1512 AG** per acre
- 1.5% to 3.0% OM, apply 4.5 – 6.0 fl. oz. **HM-1512 AG** per acre
- Greater than 3.0% OM, apply 6.0 – 7.5 fl. oz. **HM-1512 AG** per acre

For Medium or Fine Textured Soils

- Less than 1.5% OM, apply 3.0 – 4.5 fl. oz. **HM-1512 AG** per acre
- 1.5% to 3.0% OM, apply 6.0 – 8.0 fl. oz. **HM-1512 AG** per acre
- Greater than 3.0% OM, apply 6.0 – 8.0 fl. oz. **HM-1512 AG** per acre

OM – Organic Matter

Consult preceding information regarding Coarse, Medium or Fine soil categories.

Use rate is inversely dependent on soil pH – use higher **HM-1512 AG** rates with lower soil pH rates (7.0 and lower) and lower **HM-1512 AG** rates with higher soil pH rates (greater than 7.0).

Application Instructions

Apply amount of **HM-1512 AG** indicated above to stubble or to the soil surface. Unless applying preplant incorporated, do not incorporate the product into the soil after application. Destroying the herbicide barrier by mechanically incorporating can allow weed escapes to occur.

If applying preplant in the spring, product can be applied 60 days prior to planting up to planting.

If applying preemergence, applications before planting, and up to 5 days before crop emergence can be broadcast or banded. After crop emergence, **HM-1512 AG** can be applied to row middles as a banded treatment. If soil has more than 1% organic matter or is clay, higher rates of **HM-1512 AG** should be used.

If applying this product preplant incorporated in the spring, prior to planting, mix thoroughly or shallowly incorporate the **HM-1512 AG** into the soil. Inconsistent weed control could result if product is incorporated deeper than the maximum incorporation depth of 2 inches.

Moisture (in the form of rain or snow) after application will activate and move the product into the soil. To prevent runoff of **HM-1512 AG** from snowmelt or rain, do not apply **HM-1512 AG** to soils that

Important

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use
- Consult with university or extension weed management specialists for information on using **HM-1512 AG** with specific local varieties or cultivars of horseradish
- Do not apply more than 0.25 lbs sulfentrazone (8.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application (including preplant fall application)
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand')
- Product is not to be incorporated any deeper than 2 inches
- If seedlings are close to soil surface or have emerged, do not apply **HM-1512 AG** directly to the crop (apply a banded treatment to row middles)

are frozen or have an existing snow cover.

Tank Mixes

HM-1512 AG can be split-applied or mixed with burndown herbicides, residual soil herbicides or other pesticides labeled for use on horseradish to control emerged weeds or broaden the pesticide control spectrum. Read and follow the label of each tank mix product used for precautionary statements, directions for use, rates and timings, and other restrictions.

SPECIMEN LABEL

LIMA BEANS, SUCCULENT (TENNESSEE ONLY)

To control susceptible weeds, **HM-1512 AG** can be applied preemergence to succulent lima beans (TN only).

When applied as indicated on this label, the following weeds in lima beans will be controlled with **HM-1512 AG**:

Copperleaf, hophornbeam Morningglory (entireleaf, ivyleaf)
Pigweed (redroot, smooth)

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 2.25 – 3.75 fl. oz. **HM-1512 AG** per acre
- 1.5% to 3.0% OM, apply 3.0 – 4.5 fl. oz. **HM-1512 AG** per acre
- Greater than 3.0% OM, apply 3.75 - 6.0 fl. oz. **HM-1512 AG** per acre

For Medium Textured Soils

- Less than 1.5% OM, apply 3.0 – 6.0 fl. oz. **HM-1512 AG** per acre
- 1.5% to 3.0% OM, apply 3.75 - 6.0 fl. oz. **HM-1512 AG** per acre
- Greater than 3.0% OM, apply 4.5 - 6.0 fl. oz. **HM-1512 AG** per acre

For Fine Textured Soils

- Less than 1.5% OM, apply 3.75 – 6.0 fl. oz. **HM-1512 AG** per acre
- 1.5% to 3.0% OM, apply 4.5 - 6.0 fl. oz. **HM-1512 AG** per acre
- Greater than 3.0% OM, apply 5.25 - 6.0 fl. oz. **HM-1512 AG** per acre

OM – Organic Matter

Consult preceding information regarding **Coarse, Medium or Fine** soil categories.

Use rate is inversely dependent on soil pH – use higher **HM-1512 AG** rates with lower soil pH rates (7.0 and lower) and lower **HM-1512 AG** rates with higher soil pH rates (greater than 7.0).

Application Instructions

Apply amount of **HM-1512 AG** indicated above as a preemergence treatment. Apply product in at least 10 gallons of finished spray per acre. Make application with ground equipment.

Important

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **HM-1512 AG** with specific local varieties or cultivars of lima beans.
- Do not apply more than 0.1875 lbs sulfentrazone (6.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application.
- Wait a minimum of 7 days after application to plant in coarse textured soils with less than 1.5% organic matter.
- Reduce rate of **HM-1512 AG** on coarse textured soil with organic matter <1.5% and pH of 7.8 or higher, or on highly eroded soils, or in areas of calcareous outcroppings to minimize adverse crop response.
- Planting less than 1 inch in depth or inadequate seed furrow closure or poor growing conditions (diseases, low temperature, soil compaction, excessive moisture) can also cause adverse crop response.
- Reduced weed control can occur if crop is experiencing extended periods of dry weather.
- Do not incorporate **HM-1512 AG** into the soil when using product on lima beans (TN).

MINT

To control susceptible weeds, **HM-1512 AG** can be applied to established stands of dormant mint or to newly planted mint, prior to emergence of new growth.

When applied as indicated on this label, the following weeds in mint will be controlled with **HM-1512 AG**:

Amaranth, Powell	Bedstraw, catchweed	Chamomile, mayweed
Kochia (ALS and Triazine resistant)	Lambsquarters, common	Morningglory, ivyleaf
Nightshade, Eastern black	Nutsedge, yellow	Pigweed, redroot
Shepherdspurse	Toadflax, yellow	Thistle, Russian
Waterhemp (common, tall)		

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 4.5 – 6.0 fl. oz. **HM-1512 AG** per acre
- 1.5% to 3.0% OM, apply 6.0 – 8.0 fl. oz. **HM-1512 AG** per acre
- Greater than 3.0% OM, apply 8.0 – 10.1 fl. oz. **HM-1512 AG** per acre

For Medium Textured Soils

- Less than 1.5% OM, apply 6.0 – 8.0 fl. oz. **HM-1512 AG** per acre
- 1.5% to 3.0% OM, apply 8.0 – 10.1 fl. oz. **HM-1512 AG** per acre
- Greater than 3.0% OM, apply 10.1 – 12.0 fl. oz. **HM-1512 AG** per acre

For Fine Textured Soils

- Less than 1.5% OM, apply 8.0 fl. oz. **HM-1512 AG** per acre
- 1.5% to 3.0% OM, 10.1 fl. oz. **HM-1512 AG** per acre
- Greater than 3.0% OM, apply 12.0 fl. oz. **HM-1512 AG** per acre

OM – Organic Matter

Consult preceding information regarding **Coarse, Medium** or **Fine** soil categories.

Use rate is inversely dependent on soil pH – use higher **HM-1512 AG** rates with lower soil pH rates (7.0 and lower) and lower **HM-1512 AG** rates with higher soil pH rates (greater than 7.0).

Application Instructions

Apply amount of **HM-1512 AG** indicated above can be applied to dormant mint in the fall or spring, or preemergence to new mint plantings.

Dormant Applications: Application can be made to established stands of mint in the spring (after spring cultivation has been completed) or in the fall (after post-harvest cultivation has been completed), prior to emergence of new growth. Split applications of **HM-1512 AG** can be used for preemergence control of winter and spring annual weeds

New Planting Applications: When applying to new mint plantings, reduce rate of application by 25% of the rate listed for established plantings. Apply product preemergence to both weeds and mint.

Tank Mixes

HM-1512 AG can be mixed with burndown herbicides labeled for use on mint to control emerged weeds. Enhanced control of

Important

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **HM-1512 AG** with specific local varieties or cultivars of mint.
- Do not apply more than 0.375 lbs. sulfentrazone (12.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application.
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').
- Do not apply **HM-1512 AG** to mint plantings once new growth has emerged, to avoid severe injury to plant tissue.
- Application to mint fields under stress (environmental, cultural, pests, disease) may result in crop injury. Apply to healthy mint fields only.
- To activate herbicide and move product into the soil, moisture (in the form of rain or overhead irrigation) is required after application.

<p>emerged weeds can be obtained by also adding a surfactant to the tank mix. Read and follow the label of each tank mix product used for precautionary statements, directions for use, rates and timings, and other restrictions.</p>	
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SPECIMEN LABEL

SOYBEANS

To control susceptible weeds in soybeans, **HM-1512 AG** can be applied to soybeans in the spring (preemergence or preplant incorporated). **HM-1512 AG** can also be applied in the fall, before spring planting of soybeans.

When applied as indicated on this label, the following weeds in soybeans will be controlled with **HM-1512 AG**:

Amaranth, Palmer	Copperleaf, hophornbeam
Kochia (ALS and Triazine resistant)	Lambsquarters, common
Morningglory, spp.	Nightshade
Pigweed, spp.	Prickly sida
Russian Thistle	Waterhemp, spp.

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 4.5 to 6.0 fl. oz. **HM-1512 AG** per acre
- 1.5% to 3.0 % OM, apply 6.0 to 8.0 fl. oz. **HM-1512 AG** per acre
- Greater than 3.0% OM, apply 8.0 to 10.1 fl. oz. **HM-1512 AG** per acre

For Medium Textured Soils

- Less than 1.5% OM, apply 6.0 to 8.0 fl. oz. **HM-1512 AG** per acre
- 1.5% to 3.0% OM, apply 8.0 to 10.1 fl. oz. **HM-1512 AG** per acre
- Greater than 3.0% OM, apply 10.1 to 12.0 fl. oz. **HM-1512 AG** per acre

For Fine Textured Soils

- Less than 1.5% OM, apply 8.0 fl. oz. **HM-1512 AG** per acre
- 1.5% to 3.0% OM, apply 10.1 fl. oz. **HM-1512 AG** per acre
- Greater than 3.0% OM, apply 12.0 fl. oz. **HM-1512 AG** per acre

OM – Organic Matter

Consult preceding information regarding **Coarse**, **Medium** or **Fine** soil categories.

Use rate is inversely dependent on soil pH – use higher **HM-1512 AG** rates with lower soil pH rates (7.0 and lower) and lower **HM-1512 AG** rates with higher soil pH rates (greater than 7.0).

Application Instructions

Apply amount of **HM-1512 AG** indicated above to the soil surface in the spring, preplant incorporated or preemergence, up to 3 days after planting (applications more than 3 days after planting can result in injury, if seeds are germinating) in conventional, conservation, reduced or no-tillage cropping systems. If seedlings are close to soil surface or have emerged, do not apply **HM-1512 AG**

The listed amount of **HM-1512 AG** can also be applied in the fall in conservation and no-tillage cropping systems for burndown of existing crop stubble and weeds and for preemergence control of weeds. For optimum results, fall applications should be a part of weed control programs that include spring herbicide applications the following crop season, as needed. Apply in the fall when soil temperature is sustained at 55 °F down to a depth of 4 inches. If using a ridge till production system, form ridges or beds prior to **HM-**

Important

- Adverse or poor growing conditions (disease, cool weather, pH of 7.5 and above, prolonged and excessive moisture, poor agronomic practices) can cause undesirable crop response (such as discoloration or stunting). Normal growing conditions will lessen and diminish these effects.
- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **HM-1512 AG** with specific local varieties or cultivars of soybean.
- Do not apply more than 0.375 lbs sulfentrazone (12.0 fl. oz. product) per acre per 12 month period. If making a preplant fall application, the 12 month period starts at this point.
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').
- To prevent runoff of **HM-1512 AG** from snowmelt or rain, do not apply **HM-1512 AG** to soils that are frozen or have an existing snow cover.
- Do not apply after soybean seed has germinated.

1512 AG application.

Observe the following date restrictions:

Areas north of Interstate 90 – Apply after September 30

Areas north of Interstate 70 – Apply after October 15

Areas south of Interstate 70 – Do not make fall application

HM-1512 AG can be applied by ground or aerial application. Mix **HM-1512 AG** in water to make a minimum of 5 gallons of spray solution for aerial application or 10 gallons of spray solution for ground application. Be sure to use enough spray volume for acceptable soil coverage. Spray must be applied with nozzles that produce a minimum amount of fine droplets, but also generate optimum soil coverage.

If applying the product preplant incorporated, in the spring, mix thoroughly and shallowly incorporate the **HM-1512 AG** into the soil. Inconsistent weed control can result if product is not uniformly incorporated, or incorporated deeper than the maximum incorporation depth of 2 inches.

Tank Mixes

HM-1512 AG can be mixed with a burndown herbicide to control emerged weeds. For adequate weed coverage when applying in the fall, mix products with water to make a minimum of 20 gallons of finished spray per acre. If weeds are emerged, adjuvants (such as COC or MSO) can be added to the mix for enhanced burndown activity.

For enhanced control of grasses and broadleaf weeds in the spring, **HM-1512 AG** can be tank mixed with or followed by an application of a postemergence soybean herbicide. Read and follow the label of each tank mix product used for precautionary statements, directions for use, rates and timings, and other restrictions.

SPECIMEN LABEL

SUGARCANE

To control susceptible broadleaves, grasses and sedges in sugarcane, **HM-1512 AG** can be applied to sugarcane at the following times:
 Preemergent (newly planted) –broadcast or banded; aerial or ground application
 Layby – directed spray; ground application

When applied as indicated in this label, the following weeds in sugarcane will be controlled with **HM-1512 AG**:
 Morningglory (entireleaf, ivyleaf, red or tall) Pigweed, red root Nutsedge, yellow

See **Listed Weed Species** section of this label for information on additional weeds.

<p>Application Rates</p> <p>For Coarse Textured Soils</p> <ul style="list-style-type: none"> • Less than 1.5% OM, apply 4.5 – 6.0 fl. oz. HM-1512 AG per acre • 1.5% to 3.0% OM, apply 6.0 – 8.3 fl. oz. HM-1512 AG per acre • Greater than 3.0% OM, apply 8.0 – 10.1 fl. oz. HM-1512 AG per acre <p>For Medium Textured Soils</p> <ul style="list-style-type: none"> • Less than 1.5% OM, apply 6.0 – 8.0 fl. oz. HM-1512 AG per acre • 1.5% to 3.0% OM, apply 8.0 – 10.1 fl. oz. HM-1512 AG per acre • Greater than 3.0% OM, apply 10.1 – 12.0 fl. oz. HM-1512 AG per acre <p>For Fine Textured Soils</p> <ul style="list-style-type: none"> • Less than 1.5% OM, apply 8.0 fl. oz. HM-1512 AG per acre • 1.5% to 3.0% OM, apply 10.1 fl. oz. HM-1512 AG per acre • Greater than 3.0% OM, apply 12.0 fl. oz. HM-1512 AG per acre <p>OM – Organic Matter Consult preceding information regarding Coarse, Medium or Fine soil categories. Use rate is inversely dependent on soil pH – use higher HM-1512 AG rates with lower soil pH rates (7.0 and lower) and lower HM-1512 AG rates with higher soil pH rates (greater than 7.0).</p>	<p>Important</p> <ul style="list-style-type: none"> • Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use. • Consult with university or extension weed management specialists for information on using HM-1512 AG with specific local varieties or cultivars of sugarcane. • Pre-harvest interval is 120 days. • Do not use on soils that contain less than 1% organic matter (soils classified as 'sand'). • Do not apply more than 0.375 lbs sulfentrazone (12.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application. • Do not contact crop leaves with HM-1512 AG.
<p>Application Instructions Apply amount of HM-1512 AG indicated above to ratoon or newly planted sugarcane (preemergent) or to sugarcane at lay-by timing (directed spray).</p> <p>HM-1512 AG can be applied aerially (for preemergent application), in a minimum of 5 gallons of spray per acre or by ground equipment (preemergent application or lay-by application), in a minimum of 15 gallons of spray per acre</p> <p>For all applications, use the higher rate on soils with organic matter content higher than 2% or on clay soils.</p>	
<p>Tank Mixes HM-1512 AG can be applied with other herbicides or insecticides registered for use in sugarcane. Read and follow the label of each tank mix product used for precautionary statements, directions for use, rates and timings, and other restrictions.</p>	

SUNFLOWER

To control or suppress weeds in sunflowers, **HM-1512 AG** can be applied at the following times:

In the Fall (Preplant), before spring planting of sunflowers (Fall applications allowed only in ND, SD, MT, MN, WY, CO, NE, KS)

In the Spring (Early Preplant, Preemergence, Preplant Incorporated), prior to planting up to three days after planting.

When applied as indicated on this label, the following weeds in sunflowers will be controlled with **HM-1512 AG**:

Amaranth, Palmer	Filaree, redstem
Kochia (ALS and Triazine Resistant)	Lambsquarters, common
Morningglory (ivyleaf and tall)	Nightshade, Eastern black
Pigweed (red root, smooth)	Sida, prickly
Thistle, Russian	Waterhemp (common, tall)

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 3.0 to 3.75 fl. oz. **HM-1512 AG** per acre
- 1.5% to 3.0% OM, apply 3.0 – 4.5 fl. oz. **HM-1512 AG** per acre
- Greater than 3.0% OM, apply 3.75 – 6.0 fl. oz. **HM-1512 AG** per acre

For Medium Textured Soils

- Less than 1.5% OM, apply 3.0 to 4.5 fl. oz. **HM-1512 AG** per acre
- 1.5% to 3.0% OM, apply 3.75 to 6.0 fl. oz. **HM-1512 AG** per acre
- Greater than 3.0% OM, apply 4.5 to 6.75 fl. oz. **HM-1512 AG** per acre

For Fine Textured Soils

- Less than 1.5% OM, apply 3.75 to 5.25 fl. oz. **HM-1512 AG** per acre
- 1.5% to 3.0% OM, apply 4.5 to 6.75 fl. oz. **HM-1512 AG** per acre
- Greater than 3.0% OM, apply 6.0 to 8.0 fl. oz. **HM-1512 AG** per acre

OM – Organic Matter

Consult preceding information regarding **Coarse, Medium** or **Fine** soil categories.

Use rate is inversely dependent on soil pH – use higher **HM-1512 AG** rates with lower soil pH rates (7.0 and lower) and lower **HM-1512 AG** rates with higher soil pH rates (greater than 7.0).

Application Instructions

Apply amount of **HM-1512 AG** indicated above to stubble or to the soil surface preplant in the fall (fall use only in ND, SD, MT, MN, WY, CO, NE or KS), or early preplant, preemergence or preplant incorporated in the spring prior to planting up to three days after planting (if seed furrow is closed completely and seedlings have not broken the soil surface). For applications in the fall, use a mid to high rate range for your soil type and for applications in the spring greater than three weeks prior to planting, use a high rate range for your soil type, because of the extended time period between application and planting. Plant a minimum of 7 days after application if soil is coarse textured and contains less than 1.5% organic matter.

If applying this product preplant incorporated in the spring, to

Important

- Reduce rate of **HM-1512 AG** on coarse textured soil with organic matter less than 1.5% and pH of 7.8 or higher, or on highly eroded soils, or in areas of calcareous outcroppings to minimize adverse crop response.
- Planting less than 1 inch in depth or inadequate seed furrow closure or poor growing conditions (diseases, low temperature, soil compaction, excessive moisture) can also cause adverse crop response.
- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **HM-1512 AG** with specific local varieties or cultivars of sunflowers.
- Do not apply more than 0.25 lbs sulfentrazone (8.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application.
- To prevent runoff of **HM-1512 AG** from snowmelt or rain, do not apply **HM-1512 AG** to soils that are frozen or have an existing snow cover.
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').
- Product is not to be incorporated any deeper than 2 inches.

reduced or conventional tillage sunflowers, mix thoroughly or shallowly incorporate the **HM-1512 AG** into the soil. Inconsistent weed control could result if product is incorporated deeper than the maximum incorporation depth of 2 inches.

Moisture (in the form of rain or snow) should occur after application to move the product into the soil. If dry conditions persist, a shallow incorporation may be needed.

For maximum weed control, disturb the soil surface as little as possible after application. Destroying the herbicide barrier by mechanically incorporating can allow weed escapes to occur. To prevent runoff of **HM-1512 AG** from snowmelt or rain, do not apply **HM-1512 AG** to soils that are frozen or have an existing snow cover.

Tank Mixes

HM-1512 AG can be tank mixed or split-applied with burndown herbicides such as paraquat or glyphosate at their full labeled rate to control emerged weeds. **HM-1512 AG** can be tank mixed with other herbicides labeled for use on sunflowers to enhance weed control and suppression. Read and follow the label of each tank mix product used for precautionary statements, directions for use, rates and timings and other restrictions.

SPECIMEN LABEL

TOBACCO (Burley, Flue-Cured and Dark)

HM-1512 AG can be applied preemergence or preplant incorporated to tobacco transplants, for control of susceptible weeds.

When applied as indicated on this label, the following weeds in tobacco will be controlled with **HM-1512 AG**:

Amaranthus, livid	Filaree, redstem	Galinsoga, hairy
Lambsquarters, common	Morningglory (ivyleaf, tall)	Pigweed (redroot, smooth)
Sida, prickly	Signalgrass, broadleaf	Smartweed, Pennsylvania

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 4.5 – 6.0 fl. oz. **HM-1512 AG** per acre
- 1.5% to 3.0% OM, apply 6.0 – 8.0 fl. oz. **HM-1512 AG** per acre
- Greater than 3.0% OM, apply 8.0 – 10.1 fl. oz. **HM-1512 AG** per acre

For Medium Textured Soils

- Less than 1.5% OM, apply 6.0 – 8.0 fl. oz. **HM-1512 AG** per acre
- 1.5% to 3.0% OM, apply 8.0 – 10.1 fl. oz. **HM-1512 AG** per acre
- Greater than 3.0% OM, apply 10.1 – 12.0 fl. oz. **HM-1512 AG** per acre

For Fine Textured Soils

- Less than 1.5% OM, apply 8.0 fl. oz. **HM-1512 AG** per acre
- 1.5% to 3.0% OM, apply 10.1 fl. oz. **HM-1512 AG** per acre
- Greater than 3.0% OM, apply 12.0 fl. oz. **HM-1512 AG** per acre

OM – Organic Matter

Consult preceding information regarding **Coarse, Medium or Fine** soil categories.

Use rate is inversely dependent on soil pH – use higher **HM-1512 AG** rates with lower soil pH rates (7.0 and lower) and lower **HM-1512 AG** rates with higher soil pH rates (greater than 7.0).

Application Instructions

Amount of **HM-1512 AG** indicated above can be broadcast applied to the soil surface preplant or preplant incorporated, in a minimum of 10 gallons of finished product per acre, from 14 days to 12 hours before transplanting tobacco.

If applying the product preplant incorporated, shallowly incorporate the **HM-1512 AG** into the soil. Inconsistent weed control can result if product is not uniformly incorporated, or incorporated deeper than the maximum incorporation depth of 2 inches.

When applying on Non-Bedded Fields (i.e., raised beds not formed prior to transplanting) and **HM-1512 AG** is surface applied – use light finishing equipment to remove equipment tracks from the field after application, and do not disturb the soil to a depth greater than 2 inches. Reduced or unacceptable weed control could occur in the drill if pre-transplant surface applications are not followed by timely cultivations.

When applying to Bedded Fields (i.e. raised beds formed prior to transplanting), any dragging or knocking down of beds prior to

Important

- Adverse or poor growing conditions (disease, cold weather, unfavorable pH soils, excessive moisture or drought, poor agronomic practices or other unfavorable conditions) can cause undesirable crop response in tobacco transplants, particularly if they are weakened and are in conditions of compacted or saturated soil or poor drainage. Normal growing conditions will lessen and diminish these effects.
- If transplants are set too shallowly, if heavy rainfall occurs after transplant, temporary stunting of transplants can occur.
- Observe responsible transplanting practices to avoid exposure (i.e., washing or crusting over) of transplants to treated soil. Necrosis (typically localized and inconsequential) can be caused if treated soil is splashed onto tobacco leaves.
- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **HM-1512 AG** with specific local varieties or cultivars of tobacco, and for agronomic recommendations for local conditions and specific tobacco varieties.
- Do not apply **HM-1512 AG** to shade grown tobacco, tobacco seedling beds or tobacco in greenhouses.
- To avoid unacceptable injury, do not apply **HM-1512 AG** post-transplant.
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').
- Mix thoroughly and uniformly and do not incorporate product deeper than the maximum incorporation depth of 2 inches to avoid inconsistent weed control or concentrating **HM-1512 AG** into the soil (which can result in crop injury). Additionally, do not perform other tillage practices that could concentrate **HM-1512 AG** into the soil.
- Do not apply more than 0.375 lbs sulfentrazone (12.0 fl. oz. product) per acre per 12 month period. The 12 month period

<p>transplanting must occur prior to HM-1512 AG application. HM-1512 AG can concentrate in the bed if the product is not mixed thoroughly and uniformly into the soil, or incorporated deeper than the maximum incorporation depth of 2 inches.</p> <p>New tobacco transplants can be replanted if the first transplant does not produce a uniform stand. If replanting:</p> <ul style="list-style-type: none"> - Do not re-treat fields with a second application of HM-1512 AG or any other sulfentrazone product <p>Do not reform beds prior to replanting; plant new transplants into existing beds that have already been treated with HM-1512 AG</p>	<p>starts at the point of first application.</p>
<p>Tank Mixes HM-1512 AG can be mixed with a grass herbicide (or grass herbicide can be applied separately), to give optimum broad spectrum grass weed control. Read and follow the label of each product used for precautionary statements, directions for use, rates and timings, and other restrictions.</p>	

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal. Do not use or store around the home.

PESTICIDE STORAGE: Store product in original container only, away from other pesticides, fertilizer, food or feed. Store in a cool, dry place and avoid excess heat.

PESTICIDE DISPOSAL: Waste resulting from the use of this product may be disposed of at an approved waste disposal facility.

CONTAINER HANDLING: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: (For containers 5 gallons or less) Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Triple rinse (or equivalent). Then offer for recycling if available, or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Steps to be taken in case material is released or spilled:

In case of release or spill, isolate area and keep unprotected persons or animals away from area. Dike and contain the spill with inert material (sand, earth, cat litter or commercial clay, etc.) and transfer liquid and solid diking material to separate containers for disposal. Remove contaminated clothing and wash affected skin areas with soap and water. Wash clothing before re-use. Keep the spill out of all sewers and open bodies of water.

LIMITATION OF WARRANTY AND LIABILITY

IMPORTANT: READ BEFORE USE. Read the entire Directions for Use, Conditions of Warranties and Limitations of Liability before using this product. If these terms and conditions are not acceptable, return the unopened product container at once. By using this product, user or buyer accepts the following Disclaimer of Warranties and Limitations of Liability.

CONDITIONS: The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Ineffectiveness, injury, and other unintended consequences may result because of such factors as manner of use or application (including misuse), the presence of other materials, weather conditions, and other unknown factors, all of which are beyond the control of Helena Chemical Company. All such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: To the extent consistent with applicable law, Helena Chemical Company makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond statements on this label.

LIMITATIONS OF LIABILITY: To the extent consistent with applicable law, neither Helena Chemical Company, the manufacturer, nor the Seller shall be liable for any indirect, special, incidental or consequential damages resulting from the use, handling, application, storage, or disposal of this product. To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries or damages resulting from the use, handling, application, or storage of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid.