



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

October 7, 2015

Bill Washburn  
Registration Specialist  
Helena Chemical Company  
225 Schilling Blvd., Suite 300  
Collierville, Tennessee 38017

Subject: Label Amendment – Adding Edamame to the Label  
Product Name: HM-1151-A Herbicide  
EPA Registration Number: 5905-593  
Application Date: 8-10-15  
Decision Number: 508808

Dear Mr. Washburn:

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, is acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance

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with FIFRA section 6. If you have any questions, please contact Erik Kraft by phone at 703-308-9358, or via email at [kraft.erik@epa.gov](mailto:kraft.erik@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Heather Garvie".

Heather Garvie, Product Manager 24  
Fungicide and Herbicide Branch  
Registration Division (7505P)  
Office of Pesticide Programs

Enclosure

**HM-1151-A HERBICIDE**

For Control of Certain Weeds in Cotton, Dry Beans, Potatoes, Snap Beans, Succulent Soybeans (Edamame) and Soybeans

Active Ingredient:

Fomesafen:

5-[2 -chloro-4-(trifluoromethyl)phenoxy]-N-(methylsulfonyl)-2-nitrobenzamide ..... 28.65%

Other Ingredients: ..... 71.35%

Total: ..... 100.0%

Equivalent to 2.87 pounds per U.S. gallon of fomesafen a.i.

**KEEP OUT OF REACH OF CHILDREN.**

**WARNING / PELIGRO**

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 additional precautionary statements and directions for use inside booklet.

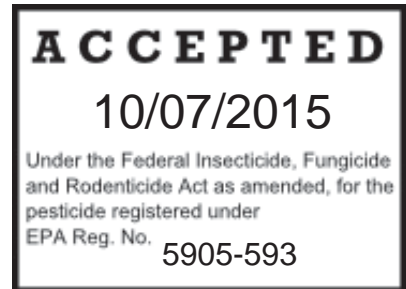
EPA Reg. No. 5905-593

AD 120914

EPA Est. No.

NET CONTENTS: \_\_\_ Gallons

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



<b>FIRST AID</b>	
<b>If in eyes</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If swallowed</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>If on skin</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If inhaled</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
<b>NOTE TO PHYSICIAN:</b> Probable mucosal damage may contraindicate the use of gastric lavage.	
<b>HOT LINE NUMBER</b>	
Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact (800) 424-9300, for 24-hour medical emergency assistance (human or animal) and chemical emergency assistance (spill, leak, fire, or accident).	

**PRECAUTIONARY STATEMENTS**  
**Hazards To Humans And Domestic Animals**  
**WARNING**

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 gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

**Personal Protective Equipment (PPE)**

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate or Viton®
- Shoes plus socks
- Protective eyewear

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

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

### **User Safety Recommendations**

Users should:

- Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

### **Environmental Hazards**

For Terrestrial Uses: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate. Do not apply when weather conditions favor drift from target area.

### **Groundwater Advisory**

This chemical has properties and characteristics associated with chemicals detected in groundwater. This chemical may leach into groundwater if used in areas where permeable, particularly where the water table is shallow.

### **Surface Water Advisory**

This product may impact surface water quality due to spray drift and 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 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 fomesafen from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. See the manual for "Conservation Buffers to Reduce Pesticide Losses" at the following internet address: <http://www.wsi.nrcs.usda.gov/products/W2Q/pest/core4.html>.

### **DIRECTIONS FOR USE**

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

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

### **AGRICULTURAL USE REQUIREMENTS**

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

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

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Chemical-resistant gloves such as barrier laminate or Viton
- Shoes plus socks
- Protective eyewear

## STORAGE AND DISPOSAL

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

### Prohibitions

Open dumping is prohibited. Do not reuse empty container.

### Pesticide Storage

Store above 32°F in original containers only. If product freezes, return to room temperature and agitate to reconstitute. Keep container closed when not in use. Do not store near food or feed. In case of spill or leak on floor or paved surfaces, soak up with sand, earth or synthetic absorbent. Remove to chemical waste area.

### Pesticide Disposal

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

### Container Handling [less than 5 gallons]

Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application 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 and disposal. Drain for 10 seconds after the flow begins to drip. 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.

### Container Handling [Bulk/Mini-Bulk]

Refillable container. Refill this container with HM-1151-A 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 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

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

## PRODUCT INFORMATION

Read all label directions before using.

HM-1151-A is a selective herbicide which may be applied pre plant surface, preemergence and/or postemergence for control or partial control of broad leaf weeds, grasses and sedges in cotton, dry beans, potatoes, snap beans and soybeans.

### Preplant Surface and Preemergence Applications

Certain germinating broad leaf weeds, grasses and sedges can be controlled or partially controlled by soil residual activity from either preplant surface or preemergence applications of HM-1151-A. Moisture is necessary to activate HM-1151-A in soil for residual weed control. Dry weather following applications of

HM-1151-A may reduce effectiveness. When adequate moisture is not received after a HM-1151-A application, weed control may be improved by overhead irrigation with at least a ½ inch of water.

### **Postemergence Applications**

HM-1151-A is generally most effective when used postemergence, working through contact action. Therefore, emerged weeds must have thorough spray coverage for effective control. Best broad-spectrum postemergence control of susceptible broadleaf weeds is obtained when HM-1151-A is applied early to actively growing weeds. This usually occurs within 14 to 28 days after planting. Refer to the weed control tables for specific recommendations on weed growth stages and rates. Some bronzing, crinkling or spotting *at* labeled crop leaves may occur following postemergence applications, but labeled crops soon outgrow these effects and develop normally.

### **Soil Characteristics**

Application of HM-1151-A to soils with high organic matter and/or high clay content may require higher rates than soils with low organic matter and/or low clay content. Refer to the HM-1151-A Regional Use Map, weed control tables, and specific crop use sections for recommendations on use rates based on soil texture.

### **Environmental and Agronomic Conditions**

Always apply HM-1151-A under favorable environmental conditions that promote active weed growth. Avoid applying HM-1151-A to weeds or labeled crops which are under stress from drought, extreme temperatures, excessive water, low humidity, low soil fertility, mechanical or chemical injury as reduced weed control and/or increased crop injury may result.

### **Rainfastness**

HM-1151-A requires a 1 hour rain-free period for best results when applied postemergence.

### **Cultivation**

Cultivation prior to postemergence application is not recommended. Cultivation may put weeds under stress, reducing weed control. Timely cultivation 1-3 weeks after applying HM-1151-A may assist weed control.

### **Information on Weed Resistance**

Naturally occurring biotypes of certain broadleaf species with resistance to this herbicide and related products (same mode of action) are known to exist. Selection of resistant biotypes, through repeated use of these herbicides, may result in control failures.

If poor performance cannot be attributed to adverse weather conditions or improper application methods, a resistant biotype may be present. In such a case, additional treatments with this herbicide or similar mode of action products are not recommended. Consult your local company representative or agricultural advisor for assistance.

## **APPLICATION DIRECTIONS**

### **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 determines the potential for spray drift. The applicator and grower must consider the interaction of equipment and weather-related factors to ensure that the potential for drift to sensitive nontarget plants is minimal.

This pesticide may only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, nontarget plants) is minimal (i.e., when the wind is blowing away from the sensitive area).



### **Spray Additives**

Only spray additives cleared for use on growing crops under 40 CFR 180.1001 may be used in spray mixture.

### **For Postemergence Applications One of The Following May Be Added Except in Tank Mix With Products Prohibiting Spray Additives:**

**Nonionic Surfactant (NIS)** - Use NIS containing at least 75% surface active agent at 0.25 to 0.5% v/v (1-2 qts. /100 gals.) of the finished spray volume.

**Crop Oil Concentrate (COC)** - Use a nonphytotoxic COC containing 15-20% approved emulsifier, at 0.5-1 % v/v (0.5-1 gal. /100 gals.) of the finished spray volume. COC can improve weed control but may slightly reduce crop tolerance.

**Other Adjuvants** - Adjuvants other than COC or NIS may be used providing the product meets the following criteria:

1. Contains only EPA exempt ingredients.
2. Is nonphytotoxic to the target crop.
3. Is compatible in mixture. (May be established through a jar test.)
4. Is supported locally for use with HM-1151-A on the target crop through proven field trials and through university and extension recommendations.

**When an adjuvant or a specific adjuvant product (such as a drift control agent) is to be used with this product, use a Chemical Producers and Distributors Association (CPDA) certified adjuvant.**

**Note:** No adjuvants are needed for preplant surface or preemergence applications unless HM-1151-A is being used in a burndown on emerged weeds.

### **Recommended Mixing Order:**

1. Fill the spray tank with half the required amount of water and begin agitation.\*
2. Add dry pesticide formulations.
3. Add HM-1151-A Herbicide.
4. Add liquid pesticide formulations.
5. Add spray adjuvant and fertilizer (if used).
6. Add the remaining water and maintain agitation throughout the spray operation.

\*Compatibility agent, 1 gallon/500 gallons of water or 0.2% v/v, may be added as needed.

### **Tank-Mix Compatibility Test**

A jar test is recommended prior to tank mixing to ensure compatibility of HM-1151-A Herbicide with mixture partners. Add proportion amounts of tank mixture components in a clear quart jar one at a time in the recommended mixing order. Gently shake or invert capped jar and let stand for 15-30 minutes. If the mixture clumps, forms flakes, oily films or layers or other precipitates, it is not compatible and the tank mixture should not be used.

### **GROUND APPLICATION**

**Preplant Surface and Preemergence Application** - Use a minimum of 10 gallons per acre. Nozzle selection should meet manufacturer's gallonage and pressure recommendations for preplant surface or preemergence applications.

**Postemergence Application** - Use sufficient spray volume and pressure to ensure complete coverage of the target weed. A spray volume of 10-20 gallons per acre and 30-60 psi at the nozzle tip is



recommended. On large weeds *and/or* dense foliage. Use 60 psi and a minimum of 20 gallons per acre to ensure coverage of weed foliage.

The use of flat fan nozzles will result in the most effective postemergence application of HM-1151-A. Use nozzles that are set up to deliver medium quality spray (ASAE Standard S-572).

**DO NOT USE FLOOD TYPE OR OTHER SPRAY NOZZLES, WHICH DELIVER COARSE, LARGE DROPLET SPRAYS.**

**BAND APPLICATIONS**

Calculate the amount of herbicide and water volume needed for band treatment by the following formulas:

$$\frac{\text{Band width in inches}}{\text{row width in inches}} \times \text{broadcast rate per acre} = \text{Band herbicide rate per acre}$$

$$\frac{\text{Band width in inches}}{\text{row width in inches}} \times \text{broadcast volume per acre} = \text{Band water volume per acre}$$

**Note:** Thorough weed coverage is important for postemergence band applications. Best coverage is obtained with a minimum of two nozzles, one directed to each side of the planted row. Application with a single nozzle directed over the top of the row is not recommended for postemergence applications but is suitable for preemergence applications. Cultivation of untreated areas may be needed following band applications. When making post emergence band applications and cultivating in the same operation, position nozzles in advance of the cultivation device. This will reduce dust in the spray area. Dust can intercept spray, reducing weed coverage resulting in less than adequate weed control.

**AERIAL APPLICATION**

Use sufficient spray volume and pressure to ensure complete coverage of the target. A minimum of 5 gallons per acre of spray mixture should be applied with a maximum of 40 PSI pressure. When foliage is dense, use a minimum of 10 gallons per acre to ensure coverage of weed foliage.

**DO NOT APPLY THIS PRODUCT THROUGH ANY TYPE OF IRRIGATION SYSTEM, EXCEPT CENTER PIVOT SYSTEMS.**

**CENTER PIVOT IRRIGATION APPLICATION**

HM-1151-A alone or in tank mixture with other herbicides on this label, which are registered for center pivot application, may be applied in irrigation water preemergence (after planting but before weeds or crop emerge) at rates recommended on this label. HM-1151-A also may be applied postemergence to the crop and preemergence to weeds in crops where postemergence applications are allowed on this label. Follow all restrictions (height, timing, rate, etc.) to avoid illegal residues. 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 nonuniform distribution of treated water. If you have questions about calibration, you should contact State Extension specialists, equipment manufacturers, or other experts. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system, unless the pesticide label-prescribed safety devices for public water systems are in place. 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.

## Operating Instructions

- 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 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 distributions adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump or piston pump), effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- Do not apply when wind speed favors drift beyond the area intended for treatment.
- Prepare a mixture with a minimum of 1 part water to 1 part herbicide(s) and inject this mixture into the center pivot system. Injecting a larger volume of a more dilute mixture per hour will usually provide more accurate calibration of equipment. Maintain sufficient agitation to keep the herbicide in suspension.
- Meter into irrigation water during entire period of water application.
- Apply in  $\frac{1}{2}$  - 1 inch of water. Use the lower water volume ( $\frac{1}{2}$  inch) on *coarser soils* and the higher volume (1 inch) on *fine-textured soils*. More than 1 inch of water at application may reduce weed control by moving the herbicide below the effective zone in the soil.

*Precaution for center pivot applications: Where sprinkler distribution patterns do not overlap sufficiently unacceptable weed control may result. Where sprinkler distribution patterns overlap excessively, crop injury may result.*

Posting of areas to be chemigated is required when 1) any part of a treated area is within 300 feet of sensitive areas such as residential areas, labor camps, businesses, day care centers, hospitals, in-patient clinics, nursing homes or any public areas such as schools, parks, playgrounds, or other public facilities not including public roads, or 2) when the chemigated area is open to the public such as golf courses or retail greenhouses.

Posting must conform to the following requirements. Treated areas shall be posted with signs at all usual points of entry and along likely routes of approach from the listed sensitive area. When there are no usual points of entry, signs must be posted in the corners of the treated areas and in any other locations affording maximum visibility to sensitive areas. The printed side of the sign should face away from the treated area towards the sensitive area. The signs shall be printed in English. Signs must be posted prior to application and must remain posted until foliage has dried and soil surface water has disappeared. Signs may remain in place indefinitely as long as they are composed of materials to prevent deterioration and maintain legibility for the duration of the posting period.

All words shall consist of letters at least 2  $\frac{1}{2}$  inches tall, and all letters and the symbol shall be a color which sharply contrasts with their immediate background. At the top of the sign shall be the words KEEP OUT, followed by an octagonal stop sign symbol at least 8 inches in diameter containing the word STOP. Below the symbol shall be the words PESTICIDES IN IRRIGATION WATER.

Posting required for chemigation does not replace other posting and reentry interval requirements for farm worker safety.

## Specific Instructions for Public Water Systems

1. 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 out of the year.
2. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, back-flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be 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 the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
3. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
4. The pesticide injection pipeline must 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.
5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. 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.
7. Do not apply when wind speed favors drift beyond the area intended for treatment.

## PRECAUTIONS

- Thoroughly clean the spray system with water and a commercial tank cleaner before and after each use.
- Tank mixes of HM-1151-A Herbicide with other pesticides, fertilizers or any other additives except as specified on this label or other approved Syngenta supplemental labels may result in tank-mix incompatibility, unsatisfactory performance or unsatisfactory crop injury.
- Avoid overlapping spray swaths, as injury may occur to rotational crops.
- To provide adequate coverage, it is recommended that ground speed not exceed 10 mph during application.
- Avoid drift to all other crops and nontarget areas. Crops other than those labeled may be severely injured by drift. Do not apply when wind velocity exceeds 15 mph.

## RESTRICTIONS

- A maximum of 1.05 pts. of HM-1151-A Herbicide (or a maximum of 0.375 lb. a.i. /A of fomesafen from any product containing fomesafen) may be applied per acre per year in Region 1 (see Regional Use Map).
- A maximum of 1.05 pts. of HM-1151-A Herbicide (or a maximum of 0.375 lb. a.i. /A of fomesafen from any product containing fomesafen) may be applied per acre in ALTERNATE years in Region 2 (see Regional Use Map).

- A maximum of 0.87 pt. of HM-1151-A Herbicide (or a maximum of 0.313 lb. a.i. /A of fomesafen from any product containing fomesafen) may be applied per acre in ALTERNATE years in Region 3 (see Regional Use Map).
- A maximum of 0.70 pt. of HM-1151-A Herbicide (or a maximum of 0.25 lb. a.i. /A of fomesafen from any product containing fomesafen) may be applied per acre in ALTERNATE years in Region 4 (see Regional Use Map).
- A maximum of 0.52 pt. of HM-1151-A Herbicide (or a maximum of 0.1875 lb. a.i. /A of fomesafen from any product containing fomesafen) may be applied per acre in ALTERNATE years in Region 5 (see Regional Use Map).
- Do not make ground or aerial application during temperature inversions.

## Replanting

If replanting is necessary in fields previously treated with HM-1151-A, the field may be replanted to cotton, dry beans, potatoes, snap beans or soybeans. During replanting, a minimum of tillage is recommended to preserve the herbicide barrier for effective weed control. Do not apply a second application of HM-1151-A or other fomesafen containing product as crop injury or illegal residues may occur in harvested crops. If tank-mix combinations were used, refer to product labels for any additional replanting instructions.

## ROTATIONAL CROP RESTRICTIONS

The following rotational crops may be planted after applying HM-1151-A at recommended rates:

Crop To Be Planted	(After)	Minimum Rotation Interval r Last HM-1151-A Application)
Cotton, dry beans, potatoes, snap beans, and soybeans, succulent soybean (edamame)		0 days
Small grains such as wheat, barley, rye, peanut, , succulent pea, lima bean		4 months
Field Corn, sweet corn <sup>5</sup> , pepper (transplanted) <sup>1</sup> , , popcorn <sup>4</sup> , pumpkin <sup>2</sup> , , rice, seed corn, tomato, (transplanted) <sup>1</sup> , watermelon <sup>2</sup>		10 months
Cantaloupe <sup>2</sup> , cucumber <sup>2</sup> , edible-podded beans and peas not otherwise specified in this table, eggplant, dry pea, pepper (direct-seeded) squash <sup>2</sup> , succulent bean (other than edamame, snap bean and lima bean), tomato (direct-seeded)		12 months
Sorghum <sup>3</sup>		18 months
All other crops not listed above		18 months

<sup>1</sup> 4 months in Region 1

<sup>2</sup> 8 months in Region 1

<sup>3</sup> 10 months in Region 1

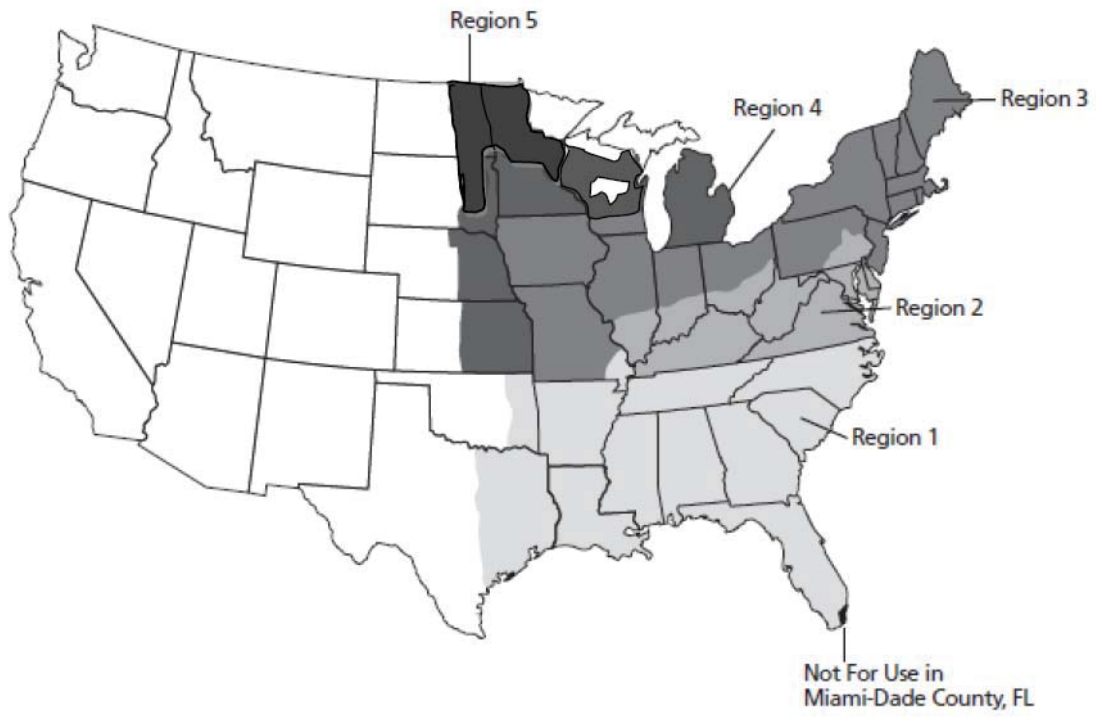
<sup>4</sup> 12 months in the states of Ohio, Kentucky, Illinois, Indiana, Iowa, and Region 4 when applied at rates of 1 pint per acre or more.

<sup>5</sup> 18 months in the states of Connecticut, Maine, Massachusetts, new Hampshire, New York, Rhode Island, Vermont and Region 5

Do not graze rotated small grain crops or harvest forage or straw for livestock.

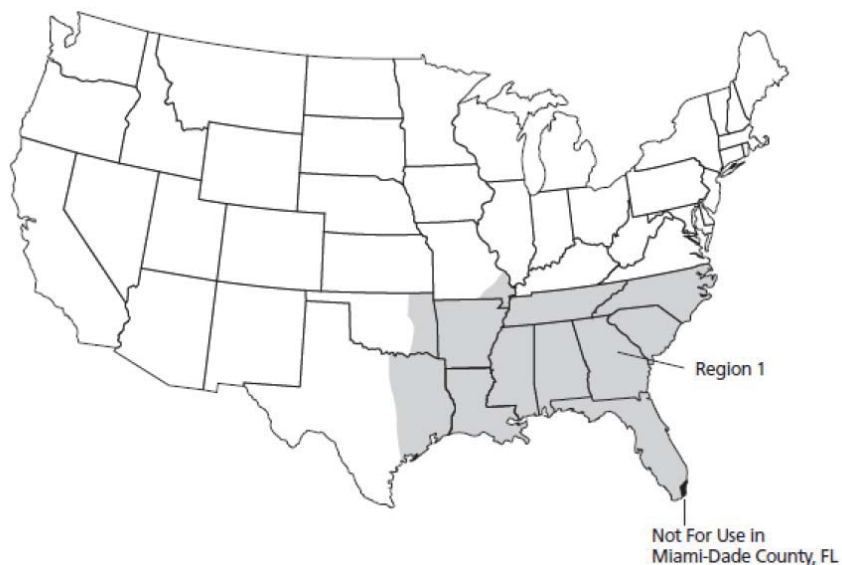
### USE RATES AND WEEDS CONTROLLED

#### HM-1151-A REGIONAL USE MAP



**REGION GUIDES**

**REGION 1**  
**Maximum Rate 1.05 pints/acre per year**



Includes the following states or portion of states where HM-1151-A Herbicide may be applied:		
<b>Region 1</b>	Alabama	All areas.
	Arkansas	All areas.
	Florida	All areas except for Miami-Dade County.
	Georgia	All areas.
	Louisiana	All areas.
	Mississippi	All areas.
	Missouri	Counties of Bollinger, Butler, Cape Girardeau, Dunklin, Madison, Mississippi, New Madrid, Pemiscot, Perry, Ripley, Scott, Stoddard and Wayne.
	North Carolina	All areas.
	Oklahoma	All areas east of U.S. Highway 75 and East of Indian Nation Parkway.
	South Carolina	All areas.
	Tennessee	All areas.
	Texas	All areas east of U.S. Highway 77 to State Road 239, including all of Calhoun County.

**REGION 2**  
**Maximum Rate 1.05 pints per acre, alternate years**



Includes the following states or portion of states where Reflex Herbicide may be applied:		
<b>Region 2</b>	Delaware	All areas.
	Illinois	All areas south of Interstate 70.
	Indiana	All areas south of Interstate 70.
	Kentucky	All areas.
	Maryland	All areas.
	Ohio	All areas south of Interstate 70.
	Pennsylvania	All areas south of Interstate 80 to the intersection of U.S. Highway 15 and east of U.S. Highway 15 and U.S. Highway 522.
	Virginia	All areas.
	West Virginia	All areas.



**REGION 3**  
**Maximum Rate 0.87 pints per acre, alternate years**



Includes the following states or portion of states where Reflex Herbicide may be applied:		
<b>Region 3</b>	Connecticut	All areas.
	Illinois	All areas north of Interstate 70.
	Indiana	All areas north of Interstate 70
	Iowa	All areas.
	Maine	All areas.
	Massachusetts	All areas.
	Missouri	All counties except for those listed in Region 1.
	Ohio	All areas north of Interstate 70.
	New Hampshire	All areas.
	New Jersey	All areas.
	New York	All areas. Do not use on potatoes in Nassau and Suffolk counties, New York.
	Pennsylvania	All areas except those listed in Region 2.
	Rhode Island	All areas.
	Vermont	All areas.
Wisconsin	All areas south of U.S. Highway 18 between Prairie Du Chien and Madison, and south of Interstate 94 between Madison and Milwaukee.	

**REGION 4**  
**Maximum Rate 0.70 pint per acre, alternate years**



Includes the following states or portion of states where Reflex Herbicide may be applied:		
<b>Region 4</b>	Kansas	All counties east of or intersected by U.S. Highway 281.
	Michigan.	Southern Peninsula
	Minnesota	All areas south of Interstate 94.
	Nebraska	All counties east of or intersected by U.S. Highway 281.
	North Dakota	All areas east of Interstate 29 from Fargo south to the South Dakota state line.
	South Dakota	All areas east of Interstate 29 from the North Dakota state line to Watertown, all areas east of Highway 81 from Watertown to Madison and all areas east and south of State Road 34 and U.S. Highway 281 to the Nebraska state line.
	Wisconsin	All areas south of Interstate 94 (except those in Region 3) from Minnesota state line to Eau Claire and south of U.S. Highway 29 from Eau Claire to Green Bay plus Barron, Burnett, Chippewa, Clark, Door, Dunn, Eau Claire, Langlade, Lincoln, Kewaunee, Marathon, Marinette, Menominee, Oconto, Polk, Price, Rusk, Sawyer, Shawano, St. Croix, Taylor, and Washburn counties. The following counties are excluded: Adams, Marquette, Portage, Waupaca, Waushara and Wood.

**REGION 5**  
**Maximum Rate 0.52 pint per acre, alternate years**



Includes the following states or portion of states where Reflex Herbicide may be applied:		
<b>Region 5</b>	Minnesota	All areas south of U.S. Highway 2 (except those areas in Region 4), plus Betrami, Clearwater, Lake of the Woods, Kittson, Marshall, Pennington, Polk, Red Lake, and Roseau.
	North Dakota	All areas east of U.S. Highway 281, except those areas in Region 4.
	South Dakota	All areas east of U.S. Highway 281, except those areas in Region 4.

## WEEDS CONTROLLED

**TABLE 1. Weeds controlled or partially controlled\* by preemergence activity of HM-1151-A at 0.87 to 1.05 pints per acre<sup>1</sup>.**

<b>Broadleaf Weeds Controlled</b>	<b>Soil Texture</b>	<b>Organic Matter</b>
Amaranth, Palmer	All soil types	Up to 5%
Croton, tropic <sup>2</sup>		
Eclipta		
Galinsoga spp.		
Lambsquarters, common		
Morningglory, smallflower		
Nightshade, black		
Nightshade, Eastern black		
Pigweed, redroot		
Pigweed, smooth		
Poinsettia, wild		
Purslane, common		
Ragweed, common <sup>2</sup>		
Sida, prickly <sup>2</sup>		
Starbur, bristly		
<b>Broadleaf Weeds Partially Controlled*</b>		
Anoda, spurred		
Cocklebur, common		
Morningglory, entireleaf		
Morningglory, ivyleaf		
Morningglory, pitted		
Morningglory, red/scarlet		
Morningglory, tall		
Nightshade, hairy		
Ragweed, giant		
Waterhemp, common		
<b>Sedges Partially Controlled*</b>		
Nutsedge, Yellow		

\* Partial control means significant activity but not always at a level considered acceptable for commercial weed control.

<sup>1</sup> Use the higher end of the rate range when heavy weed populations are anticipated.

<sup>2</sup> Rates less than 1.05 pints per acre will provide only partial control of this weed.

**TABLE 2. Weeds controlled or partially controlled\* by postemergence activity of HM-1151-A**

Weed	HM-1151-A Rate (Pints per Acre)			
	Maximum Growth Stage Controlled At			
	0.52 pt/acre No. of True Leaves	0.70 pt/acre No. of True Leaves	0.87 pt/acre No. of True Leaves	1.05 pt/acre No. of True Leaves
Anoda, Spurred	--	--	--	2
Balloonvine	--	--	2 <sup>c</sup>	2
Carpetweed	--	6" Diameter Size	Multi-leaf 6" diameter	Unlimited Size
Citron (Wild Watermelon)	--	2	2	4
Cocklebur, Common <sup>a,b</sup>	--	--	2	4
Copperleaf, Hophornbeam	--	2	2	4
Copperleaf, Virginia	--	2	2	4
Crotalaria, Showy	--	4	4	6
Croton, Tropic	--	2	2	4
Cucumber, Volunteer	--	4	4	6
Eclipta	--	2	2	4
Groundcherry, Cutleaf	--	4	4	6
Hemp <sup>b</sup>	--	--	4	6
Horsenettle <sup>b</sup>	--	2 <sup>c</sup>	2 <sup>c</sup>	2
Jimsonweed	2	4	6	8
Ladysthumb	--	2	2	4
Lambsquarters, Common <sup>c</sup>	--	2	2	2
Mexicanweed	--	2 <sup>c</sup>	2 <sup>c</sup>	2
Morningglory				
Cypressvine	--	4	4	6
Entireleaf var.	2 <sup>c</sup>	2	2	4
Ivyleaf	2 <sup>c</sup>	2	2	4
Purple Moonflower	--	2	4	4
Red (Scarlet)	--	2	2	4
Smallflower	--	2	2	4
Pitted (Smallwhite)	--	4	4	4
Tall (Common)	2 <sup>c</sup>	2	2	3
Palmleaf (Willowleaf)	--	2	2	4
Mustard, Wild	2	4	6	8
Nightshade, Black	2	4	4	4
Nutsedge, Yellow	--	--	--	Suppression Only
Pigweed				
Amaranth, Palmer	2 <sup>c</sup>	4	4	6
Amaranth, Spiny	2 <sup>c</sup>	2	2	4
Redroot	2 <sup>c</sup>	4	6	6
Smooth	2 <sup>c</sup>	4	4	6
Poinsettia, Wild	--	--	--	3
Purslane, Common	--	Multi-Leaf 6" Diameter	Multi-Leaf 6" Diameter	Multi-Leaf 8" Diameter
Pusley, Florida	--	--	--	2
Ragweed, Common	2	4	4	6
Ragweed, Giant <sup>b</sup>	--	--	4	4
Redweed	--	--	--	3 <sup>c</sup>

**TABLE 2, continued**

Weed	HM-1151-A Rate (Pints per Acre)			
	Maximum Growth Stage Controlled At			
	0.52 pt/acre No. of True Leaves	0.70 pt/acre No. of True Leaves	0.87 pt/acre No. of True Leaves	1.05 pt/acre No. of True Leaves
Sesbania, Hemp	--	6	6	12
Sicklepod	--	--	--	Cotyledon <sup>c</sup>
Sida, Prickly	--	--	--	Cotyledon <sup>c</sup>
Smartweed, Pennsylvania	2 <sup>c</sup>	4	4	6
Smellmelon	--	--	--	2
Spurge, Prostrate	--	--	--	1" Diameter
Spurge, Spotted	--	--	--	2 <sup>c</sup>
Starbur, Bristly	--	2	2	4
Sunflower, Common	--	--	--	2
Velvetleaf <sup>b</sup>	--	--	2	4
Venice Mallow	2	4	4	6
Witchweed	--	Multi-Leaf Up to 7"	Multi-Leaf Up to 7"	Multi-Leaf Up to 10"
Waterhemp, Common	2 <sup>c</sup>	2	2	4
Waterhemp, Tall	2 <sup>c</sup>	2	2	4
Yellow Rocket	2	4	6	6

\* Partial control means significant activity but not always at a level considered acceptable for commercial weed control.

<sup>a</sup> Do not apply in cotyledon stage.

<sup>b</sup> For effective control of this weed it is necessary to use 1 % MSO and 2.5% UAN v/v as an adjuvant in Regions 2 and 3 (soybeans only).

<sup>c</sup> Partial control.

**SPECIAL USE DIRECTIONS FOR ADDITIONAL WEED PROBLEMS**

**Partial Control\* of Annual Grasses**

The grasses listed below may be partially controlled by preemergence applications of HM-1151-A at 0.70 - 1.05 pints per acre.

- Crabgrass
- Goosegrass
- Panicum, Texas
- Signalgrass, broadleaf

The grasses listed below may be partially controlled by postemergence applications of HM-1151-A at 0.70 - 1.05 pints per acre.

- |                        |                        |
|------------------------|------------------------|
| Barnyardgrass          | Goosegrass             |
| Signalgrass, broadleaf | Johnsongrass, Seedling |
| Crabgrass              | Panicum, Fall          |
| Foxtail                | Panicum, Texas         |
| Giant                  |                        |
| Green                  |                        |
| Yellow                 |                        |

### **Partial Control\* of Perennial Weeds**

Use of HM-1151-A postemergence at rates of 0.70 - 1.05 pints per acre will aid in suppressing the aboveground portions of the weeds listed below until crop canopy can assist in suppression.

Perennial weeds continue to regrow from underground rootstocks even if above-ground foliage is temporarily controlled or retarded. Even though HM-1151-A and crop competition can suppress perennial weeds for a growing season, the rootstocks will continue to live and reestablishment will occur in subsequent years.

Milkweed, Climbing  
Milkweed, Honeyvine  
Bindweed, Field  
Bindweed, Hedge  
Trumpet creeper

\* Partial control means significant activity but not always at a level considered acceptable for commercial weed control.

## **CROP USE DIRECTIONS**

### **COTTON**

#### **Preemergence Application**

Apply HM-1151-A preemergence at 0.70 - 1.05 pints per acre in cotton for control or partial control of the weeds listed in Table 1. Apply as a preemergence treatment only to coarse textured soils (sandy loam, loamy sand, sandy clay loam). Do not apply as a preemergence treatment to medium or fine-textured soils as crop injury will likely occur. To broaden the weed control spectrum, HM-1151-A may be tank mixed with other preemergence herbicides such as Caparol®, Cotoran®, Direx®, Karmex®, Solicam®, or Staple®. For control of emerged weeds, HM-1151-A may be tank mixed with a burndown herbicide such as Gramoxone Inteon™ or glyphosate brands (such as Touchdown®, Showdown®, or Roundup®) labeled in cotton. In reduced tillage plantings, HM-1151-A can be applied up to 14 days prior to planting or at planting with a burndown herbicide. Refer to the tank-mix partner label for use directions, restrictions and limitations. The most restrictive product labeling applies.

Cotton plants are tolerant to preemergence applications of HM-1151-A when applied at recommended rates and to coarse textured soil types. Some crinkling or spotting of cotton foliage or stunting may occur, especially if heavy rainfall occurs during or soon after cotton emergence, but cotton plants normally outgrow these effects and develop normally.

Cotton foliage is not tolerant to HM-1151-A. Do not apply HM-1151-A over the top of emerged cotton as unacceptable cotton injury will occur.

#### **Post-Directed Application**

Apply HM-1151-A in emerged cotton as a post-directed treatment using precision post-directed, hooded or shielded application equipment to provide complete coverage of emerged weeds. Apply HM-1151-A at 0.70 - 1.05 pints per acre in a minimum of 10 gallons spray solution per acre. Applications may be made broadcast or banded. Post-directed applications of HM-1151-A will provide contact control of labeled emerged weeds and residual preemergence control of labeled weeds (once activated by rainfall or irrigation). See previous label sections for a list of weeds controlled, recommended application rates, weed growth stages, and application directions.



Do not add a non-ionic surfactant or crop oil concentrate to HM-1151-A unless tank mixing with other post-directed herbicides that require the addition of either. Do not add liquid nitrogen (28% or similar) to HM-1151-A, or HM-1151-A tank mixes in cotton.

To broaden the *weed* control spectrum, post-directed applications of HM-1151-A may be tank mixed with other labeled post-directed herbicides such as Caparol, DSMA, Direx, Dual MAGNUM®, Envoke®, Karmex, Layby™ Pro, MSMA, Sequence®, or Suprend®.

When applied with hooded or shielded sprayers, HM-1151-A and HM-1151-A tank mixes may be applied with burndown products such as Gramoxone Inteon, Sequence or glyphosate brands (such as Touchdown, Showdown, or Roundup) labeled for in crop application in cotton. Refer to the tank-mix partner label for use directions, restrictions and limitations. The most restrictive product labeling applies.

Cotton foliage is not tolerant to HM-1151-A applications. Avoid contact to cotton foliage as unacceptable injury will occur. Application equipment should be calibrated (spray pressure, nozzle type and configuration, and orifice size) to avoid fine spray droplets contacting green cotton stems and foliage.

### **Post-Directed Application Timing in Cotton**

HM-1151-A may be applied to cotton with at least 3 to 4 inches of brown bark stem as a post-directed application. All post-directed applications should avoid spray contact with any green non-barked parts of the cotton plant or foliage as unacceptable injury will occur. Follow the application timing recommendations below for post-directed applications in cotton.

#### **Shield and Hooded Applications**

Make a precision post-directed HM-1151-A application to the base of the cotton plant avoiding contact with the cotton stem or foliage when cotton has at least 3 to 4 inches of brown baked stem to avoid cotton injury. Use only hooded or shielded spray equipment to apply HM-1151-A in cotton with at least 3 to 4 inches of brown barked stem. Adjust nozzles to provide full coverage of emerged target weeds.

#### **Layby Applications**

Make a post-directed HM-1151-A application to the base of the cotton plant avoiding contact with any non-barked portion of the cotton plant or foliage. Use precision post-directed equipment or hooded or shielded sprayers on cotton that has developed a minimum of 4 inches of brown bark through layby. Application equipment should be configured to provide full coverage of emerged target weeds.

### **Product Use Restrictions - Cotton**

Do not apply HM-1151-A later than 70 days before harvest.

Do not apply more than 1.05 pints per acre of HM-1151-A in any year.

### **Special Use Directions for the Suppression of Woollyleaf Bursage (Lakeweed), *Ambrosia grayi*, in Texas**

Apply HM-1151-A to cultivated areas of cropland in the fall or spring as a spot treatment at a rate of 1.05 pints per acre and incorporate to a depth of 2-3 inches for suppression of woollyleaf bursage. Applications should be made with ground equipment.

The use of adjuvants, as specified under the Spray Additives section, will significantly improve the initial burndown of any emerged woollyleaf bursage, but this effect is only temporary. Therefore, an adjuvant may be used if desired, but is not necessary.

Significant suppression may not be seen until 6-8 months after application, but should then continue for at least 2 years after application. Cotton or soybeans may be planted in treated areas. Under certain

conditions, significant damage may occur to cotton planted within 18 months of application. A 3-year interval from last application to planting is required for all other crops.

Do not make more than one application of HM-1151-A per year. Do not apply more than 1.05 pints per acre of HM-1151-A in any year. If two consecutive year applications are made, allow a 2 year interval before another application.

## **DRY BEANS AND SNAP BEANS**

### **Preplant Surface and Preemergence Application**

Apply HM-1151-A as a preplant surface or preemergence application in Regions 1, 2, 3, and 4 only for control or partial control of the weeds listed in Table 1. HM-1151-A can be applied alone, or tank mixed or followed sequentially with other labeled dry bean or snap bean herbicides to broaden the weed control spectrum or control newly emerged weeds. Refer to the Tank Mix and Sequential Application section for additional information.

NOTE: Treated soil that is splashed onto newly emerged seedlings may result in temporary crop injury but plants normally outgrow these effects and develop normally.

### **Postemergence Application**

Apply HM-1151-A as a postemergent broadcast application in Regions 1, 2, 3, 4 and 5 for control or partial control of the weeds listed in Table 2 and in the Special Use Directions for Additional Weed Problems section. Application rate depends on weed species and growth stage. Two applications may be made if necessary but not to exceed the maximum rate specified per geographic region. (Refer to map for definition of specified geographic regions). Refer to the Spray Additive section for recommended spray additives. Use of crop oil concentrate can improve weed control but may slightly reduce crop tolerance. Do not use UAN (28% or similar) or ammonium sulfate on dry beans or snap beans as severe crop injury may occur. Apply when dry beans or snap beans have at least one fully expanded trifoliolate leaf.

HM-1151-A can be applied alone or in tank mix with other labeled dry bean or snap bean postemergence herbicides to broaden the weed control spectrum. Refer to the Tank Mix and Sequential Application section.

Some bronzing, crinkling or spotting of dry bean or snap bean leaves may occur following postemergent applications, but dry beans and snap beans soon outgrow these effects and develop normally.

### **Tank Mix and Sequential Applications for Dry Beans and Snap Beans**

HM-1151-A can be used sequentially or in tank mix with the following products:

#### **Dry Beans and Snap Beans**

Assure II®  
Basagran®  
Dual MAGNUM  
Eptam®  
Poast®  
Prowl®  
Pursuit®  
Raptor®  
Treflan®

#### **Dry Beans Only**

Frontier®  
Select®  
Sonalan®

Under certain conditions, the mixture of HM-1151-A with one or more of the above mentioned broadleaf herbicides may cause a reduction in activity of any postemergence grass herbicide in the mixture.

For sequential applications allow 2-3 days after the application of the postemergence grass herbicide before applying HM-1151-A or HM-1151-A mixtures. Where HM-1151-A or the HM-1151-A mixture is applied first, apply the grass herbicide when the grass weeds begin to develop new leaves (generally around 7 days).

**NOTE:** Tank-mix applications can result in increased crop injury as compared to either product used alone.

Always read and follow the recommendations, restrictions and limitations for all products whether used alone, sequentially or in a tank mix. The most restrictive labeling of any product used applies.

### **Product Use Restrictions - Dry Beans and Snap Beans**

- Refer to HM-1151-A Regional Use Map for the maximum rate of HM-1151-A (or other fomesafen containing products) that may be applied in each geographic region.
- Do not apply to any field in Regions 2, 3, 4 or 5 more than once every two years.
- **For snap beans:** Do not exceed 1.05 pints of HM-1151-A per acre in anyone year and also adhere to the maximum rate that may be applied in each geographic region (refer to the HM-1151-A Regional Use Map). Do not graze treated areas or harvest for forage or hay. Do not utilize hay or straw for animal feed or bedding. Do not apply within 30 days of harvest.
- **For dry beans:** Do not exceed 1.05 pints of HM-1151-A per acre in anyone year and also adhere to the maximum rate that may be applied in each geographic region (refer to the HM-1151-A Regional Use Map). Do not graze animals on green forage or stubble. Do not utilize hay or straw for animal feed or bedding. Do not apply within 45 days of harvest.

### **POTATOES**

Apply HM-1151-A at 0.70 pint per acre as a broadcast preemergence application after planting but before potato emergence for control or partial control of weeds listed in Table 1. Effectiveness will be reduced if later cultural practices expose untreated soil. For application by center pivot irrigation, see the Center Pivot Irrigation Application section of this label.

**Note:** Potato varieties may vary in their response to HM-1151-A. When using HM-1151-A for the first time on a particular variety, always determine crop tolerance before using.

### **Tank Mixtures With Other Products Registered for Use in Potatoes:**

For preemergence applications in potatoes, HM-1151-A 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 Tank Mix Compatibility Test section of this label).

### **Product Use Restrictions - Potatoes**

- Do not exceed 0.70 pint per acre of HM-1151-A per year. Refer to HM-1151-A Regional Use Map for the maximum rate of HM-1151-A (or other fomesafen containing products) that may be applied per year or alternate year in each geographic region.
- Do not harvest potatoes treated with HM-1151-A within 70 days of application.
- Do not apply HM-1151-A to sweet potatoes or yams

- Do not apply HM-1151-A as a preplant incorporated application in potatoes or crop injury may occur.
- Do not apply to emerged potato plants or severe crop injury will occur.
- Do not use on potatoes in Nassau and Suffolk Counties, New York.

## **SOYBEANS**

### **Preplant Surface and Preemergence Application**

Apply HM-1151-A as a preplant surface or preemergence application in Regions 1, 2, 3, and 4 only for control or partial control of the weeds listed in Table 1. HM-1151-A can be applied alone or tank mixed or followed sequentially with other labeled soybean herbicides to broaden the weed control spectrum or control newly emerged weeds. Refer to the Tank Mix and Sequential Application section for additional information.

For control of emerged weeds, HM-1151-A may be tank mixed with a burndown herbicide such as Gramoxone Inteon or glyphosate brands (such as Touchdown, Showdown or Roundup) labeled in soybeans. In reduced tillage plantings, HM-1151-A can be applied up to 14 days prior to planting or at planting with a burndown herbicide.

### **Postemergence Application**

Apply HM-1151-A as a postemergence broadcast application in Regions 1, 2, 3, 4 and 5 for control or partial control of weeds listed in Table 2 and in the Special Use Directions for Additional Weed Problems section. Application rate depends on weed species and growth stage. Refer to the Spray Additive section for recommended spray additives. To enhance postemergence control of susceptible broad leaf weeds (soybeans only) in Regions 2, 3, 4 and 5 (see HM-1151-A Regional Use Map), HM-1151-A can be used with a minimum of 2.5% liquid nitrogen (28% or similar) or a minimum of 10 pounds ammonium sulfate per 100 gallons of spray volume.

HM-1151-A can be applied alone or in combination with other labeled soybean postemergence herbicides to broaden the weed control spectrum. Refer to the Tank Mix and Sequential Application section.

Some bronzing, crinkling or spotting of soybean leaves may occur following postemergent applications, but soybeans soon outgrow these effects and develop normally.

### **Tank Mix and Sequential Applications for Soybeans**

HM-1151-A can be used sequentially or in tank mix with one or more of the following products: Assure II, Basagran, Boundary®, Butyrac®, Classic®, Dual MAGNUM, Dual II MAGNUM®, FirstRate®, Fusilade® DX, Fusion®, Glyphosate (such as Touchdown, Showdown, Roundup or Glyphomax™), Gramoxone Inteon, Harmony® GT XP, Pursuit, Poast, Poast Plus®, Prowl, Raptor, Resource®, Select®, Sequence, Scepter®, and Synchrony® STS®.

Under certain conditions, the mixture of HM-1151-A with one or more of the above mentioned broad leaf herbicides may cause a reduction in activity of any postemergence grass herbicide in the mixture.

For sequential applications allow 2-3 days after the application of the postemergence grass herbicide before applying HM-1151-A or HM-1151-A mixtures. Where HM-1151-A or the HM-1151-A mixture is applied first, apply the postemergence grass herbicide when the grass weeds begin to develop new leaves (generally around 7 days).

### **NOTE:**

- Tank-mix applications can result in increased crop injury as compared to either product used alone.

- Do not exceed 1 fl. oz. of Butyrac per acre in mixture with HM-1151-A.
- Do not exceed 0.25 oz. per acre of Synchrony STS herbicide in the tank with labeled rates of HM-1151-A on non-STs varieties. This tank mix can be applied postemergence to any soybean variety for additional broad leaf weed control. Refer to the Synchrony STS label for more information and crop rotation restrictions.
- Always read and follow the recommendations, restrictions and limitations for all products whether used alone, sequentially or in a tank mix. The most restrictive labeling of any product used applies.

### **Roundup Ready® (Glyphosate Tolerant) Soybean Tank Mixes**

HM-1151-A at 4.18 - 8.36 oz per acre, can be tank mixed with glyphosate products (such as Touchdown, Showdown or Roundup) that are labeled for Roundup Ready (glyphosate tolerant) soybeans for improved postemergence control of many weeds such as morningglory spp., hemp sesbania, waterhemp, and black nightshade which are known to have tolerance to glyphosate, but are susceptible to HM-1151-A.

### **FOLLOW THE RECOMMENDATIONS ON THE GLYPHOSATE PRODUCT LABEL FOR THE USE OF SPRAY ADDITIVES IN THIS TANK MIX.**

Do not allow this tank mix to move off target as contact by even minute quantities can cause severe damage or death to any non-target vegetation.

**NOTE:** Postemergence application of this tank mix on soybean varieties which do not contain the Roundup Ready gene will result in severe crop injury or death of the soybean crop. Always read and follow the recommendations, restrictions and limitations for all products used. The most restrictive labeling of any product applies.

### **Product Use Restrictions - Soybeans**

- Refer to HM-1151-A Regional Use Map for the maximum rate of HM-1151-A (or other fomesafen containing products) that may be applied in each geographic region. Do not apply to any field in Regions 2, 3, 4 or 5 more than once every two years.
- Do not exceed 1.05 pints of HM-1151-A per acre in anyone year and also adhere to the maximum rate that may be applied in each geographic region (refer to the HM-1151-A Regional Use Map). Do not graze treated areas or harvest for forage or hay. Do not apply within 45 days of harvest.

### **Succulent Soybean (Edamame)**

#### **Preplant Surface and Preemergence Applications**

Apply HM-1151-A Herbicide at 1-1.5 pt/A as a preplant surface or preemergence application only in Regions 1, 2, 3, and 4 in succulent vegetable soybean (edamame) or other food-grade soybeans. Refer to Table 1 for weeds controlled or partially controlled by preplant surface and preemergence applications. Refer to the **HM-1151-A Herbicide Regional Use Map** for the maximum rate that may be applied in each geographic region.

**NOTE:** Treated soil that is splashed onto newly emerged seedlings may result in temporary crop injury but plants normally outgrow these effects and develop normally.

#### **Postemergence Application**

Apply HM-1151-A Herbicide as a postemergence broadcast application in Regions 1, 2, 3, 4 and 5 in succulent vegetable soybean (edamame) or other food-grade soybeans. Refer to Table 2 and **Special Use Directions for Additional Weed Problems** section for weeds controlled or partially controlled by



postemergence applications. Application rate depends on weed species and growth stage. Refer to the **HM-1151-A Herbicide Regional Use Map** for the maximum rate that may be applied in each geographic region. Apply when succulent vegetable soybean (edamame) has at least one fully expanded trifoliolate leaf. Refer to the **Spray Additives** section for recommended spray additives. Use of crop oil concentrate can improve weed control but may slightly reduce crop tolerance. Do not use UAN (28% or similar) or ammonium sulfate on succulent vegetable soybean (edamame).

Some bronzing, crinkling or spotting of leaves may occur following postemergence application, but succulent vegetable soybean (edamame) soon outgrow these effects and develop normally.

### **Tank Mixtures or Sequential Applications with Other Products Registered for Use in Succulent Soybean (Edamame)**

HM-1151-A Herbicide may be tank mixed or applied sequentially with other pesticide products registered for use in succulent vegetable soybean (edamame). Always follow the directions for use, observe the stated precautions, and abide by the limitations and restrictions for all products whether used alone, sequentially or in tank mix. The most restrictive labeling of any product used applies.

A jar test is recommended prior to tank mixing to ensure HM-1151-A Herbicide compatibility with mixture partners (see **Tank Mix Compatibility Test** section of this label).

**NOTE:** Tank mix applications can result in increased crop injury as compared to either product used alone.

### **Use Restrictions – Succulent Soybean (Edamame)**

- Refer to the **HM-1151-A Herbicide Regional Use Map** for the maximum rate of HM-1151-A Herbicide (or other fomesafen containing products) that may be applied in each geographic region.
- Do not apply to any field in Regions 2, 3, 4 or 5 more than once every two years.
- Do not exceed 1.5 pints of HM-1151-A Herbicide per acre in any one year and also adhere to the maximum rate that may be applied in each geographic region (refer to the **HM-1151-A Herbicide Regional Use Map**).
- Do not graze treated areas or harvest for forage or hay. Do not utilize hay or straw for animal feed or bedding.
- Do not apply within 30 days of harvest.

## **AERIAL SPRAY DRIFT MANAGEMENT ADVISORY**

### **SPRAY 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 outer most nozzles on the boom must not exceed  $\frac{3}{4}$  the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

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

The applicator should be familiar with and take into account the information covered in the **Aerial Drift Reduction Advisory Information**.

## **Aerial Drift Reduction Advisory Information**

### **IMPORTANCE OF DROPLET SIZE**

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift applications are made improperly, or under unfavorable environmental conditions (See Wind, Temperature and Humidity, and Temperature Inversion sections of this label).

### **CONTROLLING DROPLET SIZE**

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of nozzles** - Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation** - Orienting nozzles so that the spray is released backwards, parallel to the airstream will produce larger droplets than other orientations. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.

### **BOOM LENGTH**

For some use patterns, reducing the effective boom length to less than  $\frac{3}{4}$  of the wingspan or rotor length may further reduce drift without reducing swath width.

### **APPLICATION HEIGHT**

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

### **SWATH ADJUSTMENT**

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

### **WIND**

Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 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 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

Applications must not occur 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 light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

## 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).

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The directions on this label are believed to be reliable and must be followed carefully. Insufficient control of pests and/or injury to the crop to which the product is applied may result from the occurrence of extraordinary or unusual weather conditions or the failure to follow the label directions or good application practices, all of which are beyond the control of Helena Chemical Company (the "Company") or seller. In addition, failure to follow label directions may cause injury to crops, animals, man or the environment. The Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purpose referred to in the directions for use subject to the factors noted above which are beyond the control of the Company. To the extent consistent with applicable law, The Company makes no other warranties or representations of any kind, express or implied, concerning the product, including no implied warranty of merchantability or fitness for any particular purpose, and no such warranty shall be implied by law.

The exclusive remedy against the Company for any cause of action relating to the handling or use of this product shall be limited to, at Helena Chemical Company's election, one of the following:

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## APPENDIX

Scientific names are listed for those weeds referred to in the HM-1151-A Herbicide label.

COMMON NAME	SCIENTIFIC	NAME
Amaranth, Palmer		<i>Amaranthus palmeri</i>
Amaranth, Spiny		<i>Amaranthus spinosus</i>
Anoda, Spurred		<i>Anoda cristata</i>
Balloonvine		<i>Cardiospermum halicacabum</i>
Barnyardgrass		<i>Echinochloa crus-galli</i>
Bindweed, Field		<i>Convolvulus arvensis</i>
Bindweed, Hedge		<i>Calystegia sepium</i>
Broadleaf Signalgrass		<i>Brachiaria platyphylla</i>
Carpetweed		<i>Mollugo verticillata</i>
Citron (Wild Watermelon)		<i>Citrullus vulqaris</i>
Cocklebur, Common		<i>Xanthium strumarium</i>
Copperleaf, Hophornbeam		<i>Acalypha ostryifolia</i>
Copperleaf, Virginia		<i>Acalypha virginica</i>
Crabgrass		<i>Digitaria</i> spp.
Crotalaria, Showy		<i>Crotalaria spectabilis</i>
Croton, Tropic		<i>Croton glandulosus</i>
Cucumber, Volunteer		<i>Cucumis sativas</i>
Eclipta		<i>Eclipta prostrata</i>
Foxtail, Giant		<i>Setaria faberi</i>
Foxtail, Green		<i>Setaria viridis</i>
Foxtail, Yellow		<i>Setaria glauca</i>
Goosegrass		<i>Eleusine indica</i>
Groundcherry, Cutleaf		<i>Physalis angulata</i>
Hemp		<i>Cannabis sativa</i>
Horsenettle		<i>Solanum carolinense</i>
Jimsonweed		<i>Datura stramonium</i>
Johnsongrass, Seedling		<i>Sorghum halepense</i>
Ladysthumb		<i>Polygonum persicaria</i>
Lambsquarters, Common		<i>Chenopodium album</i>
Mexicanweed		<i>Caperonia castaniifolia</i>
Milkweed, Climbing		<i>Sarcostemma cyanchoides</i>
Milkweed, Honeyvine		<i>Ampelamus albidus</i>