



U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs  
Registration Division (7505P)  
1200 Pennsylvania Ave., N.W.  
Washington, D.C. 20460

EPA Reg. Number:

93809-1

Date of Issuance:

6/19/19

NOTICE OF PESTICIDE:

Registration  
 Reregistration  
(under FIFRA, as amended)

Term of Issuance:

Conditional

Name of Pesticide Product:

Axill Solutions Mesotrione 4 SC

Name and Address of Registrant (include ZIP Code):

Keeva Shultz  
Agent for Axill Solutions, LLC  
Wagner Regulatory Associates, Inc.  
P.O. Box 640  
7217 Lancaster Pile, Suite A  
Hockessin, DE 19707

**Note:** Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA section 3(c)(7)(A). You must comply with the following conditions:

1. Submit and/or cite all data required for registration/reregistration/registration review of your product under FIFRA when the Agency requires all registrants of similar products to submit such data.

Signature of Approving Official:

Erik Kraft, Product Manager 24  
Fungicide and Herbicide Branch,  
Registration Division (7505P)

Date:

6/19/19

2. You are required to comply with the data requirements described in the DCI identified below:

a. Mesotrione GDCI-122990-1474

You must comply with all of the data requirements within the established deadlines. If you have questions about the Generic DCI listed above, you may contact the Chemical Review Manager in the Pesticide Reevaluation Division: <http://iaspub.epa.gov/apex/pesticides/f?p=chemicalsearch:1>

3. Make the following label changes before you release the product for shipment:

- Revise the EPA Registration Number to read, “EPA Reg. No. 93809-1.”

4. Submit one copy of the final printed label for the record before you release the product for shipment.

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.

If you fail to satisfy these data requirements, EPA will consider appropriate regulatory action including, among other things, cancellation under FIFRA section 6(e). Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records. Please also note that the record for this product currently contains the following CSFs:

- Basic CSF dated 08/28/2018
- Alternate CSF #1 dated 08/28/2018
- Alternate CSF #2 dated 08/28/2018
- Alternate CSF #3 dated 08/28/2018
- Alternate CSF #4 dated 08/28/2018
- Alternate CSF #5 dated 08/28/2018
- Alternate CSF #6 dated 08/28/2018

If you have any questions, please contact Aswathy Balan by phone at 703-347-0510, or via email at [balan.aswathy@epa.gov](mailto:balan.aswathy@epa.gov).

[Master Label]

MESOTRIONE	GROUP	<b>27</b>	HERBICIDE
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# Axill Solutions Mesotrione 4SC

**ABN: Axill Solutions Mesotrione SC**

**[Sub-Label A - Pages 2 - 24:]**

For Control of Annual Broadleaf Weeds in Asparagus, Berries, Bluegrass, Ryegrass (Annual and Perennial) and Tall Fescue Grown For Seed, Citrus Fruit, Corn (Field, Seed, Sweet, and Yellow Popcorn), Cranberry, Flax, Oats, Okra, Pearl Millet, Pome Fruit, Rhubarb, Sorghum (Grain and Sweet), Soybean, Stone Fruit and Tree Nuts, Sugarcane, and Turfgrass.

**[Sub-Label B - Pages 25 - 45:]**

For Control of Annual Broadleaf Weeds in Asparagus, Berries, Bluegrass, Ryegrass (Annual and Perennial) and Tall Fescue Grown For Seed, Citrus Fruit, Corn (Field, Seed, Sweet, and Yellow Popcorn), Cranberry, Flax, Oats, Okra, Pearl Millet, Pome Fruit, Rhubarb, Sorghum (Grain and Sweet), Soybean, Stone Fruit and Tree Nuts, and Sugarcane.

**[Sub-Label C - Pages 46 - 55:]**

Turfgrass

**Active Ingredient:**

Mesotrione: 2-[4-(methylsulfonyl)-2-nitrobenzoyl]-1,3-cyclohexanedione ..... **% By Weight** 40.0%

**Other Ingredients:** ..... 60.0%

**Total:** ..... **100.0%**

Axill Solutions Mesotrione 4SC is formulated as a soluble concentrate and contains 4 lbs. of active ingredient mesotrione per gallon.

## KEEP OUT OF REACH OF CHILDREN CAUTION / PRECAUCIÓN

Si usted no entiende la 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	
<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 eye.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF ON SKIN OR CLOTHING:</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>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 the poison control center or doctor.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul>

**HOTLINE NUMBERS**

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For 24-Hour Medical Emergency Assistance (Human or Animal), call: **1-800-222-1222**. For Chemical Emergency Assistance (Spill, Leak, Fire, or Accident), call CHEMTREC: **1-800-424-9300**.

[Optional referral statements when booklets and container labels are used:

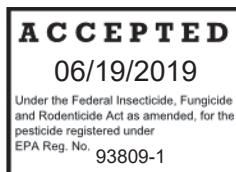
See label booklet for [complete] [additional] [First Aid,] [Precautionary Statements,] [Directions For Use,] and [Storage and Disposal].

EPA Reg. No.: 93809-XX

EPA Est. No.: \_\_\_\_\_

**Manufactured For:**  
 Axill Solutions, LLC  
 P.O. Box 398  
 Clinton, NC 28329

**Net Contents:** \_\_\_\_\_ [Gals./Liters]



MESOTRIONE GROUP 27 HERBICIDE

# Axill Solutions Mesotrione 4SC

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For Control of Annual Broadleaf Weeds in, Asparagus, Berries, Bluegrass, Ryegrass (Annual and Perennial) and Tall Fescue Grown For Seed, Citrus Fruit, Corn (Field, Seed, Sweet, and Yellow Popcorn), Cranberry, Flax, Oats, Okra, Pearl Millet, Pome Fruit, Rhubarb, Sorghum (Grain and Sweet), Soybean, Stone Fruit and Tree Nuts, Sugarcane, and Turfgrass.

Active Ingredient:	% By Weight
Mesotrione: 2-[4-(methylsulfonyl)-2-nitrobenzoyl]-1,3-cyclohexanedione .....	40.0%
<b>Other Ingredients:</b> .....	<u>60.0%</u>
<b>Total:</b> .....	<b>100.0%</b>

Axill Solutions Mesotrione 4SC is formulated as a soluble concentrate and contains 4 lbs. of active ingredient mesotrione per gallon.

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[Optional referral statements when booklets and container labels are used:

See label booklet for [complete] [additional] [First Aid,] [Precautionary Statements,] [Directions For Use,] and [Storage and Disposal].

EPA Reg. No.: 93809-XX

EPA Est. No.: \_\_\_\_\_

**Manufactured For:**

Axill Solutions, LLC  
P.O. Box 398  
Clinton, NC 28329

Net Contents: \_\_\_\_\_ [Gals./Liters]

## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

#### CAUTION

Causes moderate eye irritation. Harmful if absorbed through skin, inhaled or swallowed. Avoid contact with skin, eyes, or clothing. 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
- Shoes plus socks
- Chemical-resistant gloves

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.

#### ENGINEERING CONTROL STATEMENTS

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

#### USER SAFETY RECOMMENDATIONS

##### Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

#### ENVIRONMENTAL HAZARDS

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

#### SURFACE WATER ADVISORY

This product may contaminate water through drift of spray in wind. This product has a high potential for runoff for several weeks after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. A level, well maintained vegetative buffer strip between areas to which this product is applied and surface water features including ponds, streams, and springs will reduce the potential for contamination of water from runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. Sound erosion control practices will reduce this product's contribution to surface water contamination.

#### PHYSICAL AND CHEMICAL HAZARDS

Do not mix or allow contact with reducing and/or oxidizing agents. Hazardous chemical reaction may occur.

#### 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 12 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, including plants, soil, or water, is:

- Coveralls
- Shoes plus socks
- Chemical-resistant gloves

**NON-AGRICULTURAL USE REQUIREMENTS**

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard, 40 CFR Part 170. The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, and greenhouses.

Do not enter treated areas without protection clothing until sprays have dried.

**PRODUCT INFORMATION**

**Axill Solutions Mesotrione 4SC** is a systemic pre-emergence and post-emergence herbicide for the selective contact and residual control of broadleaf weeds in asparagus, bush and caneberry, bluegrass, ryegrass (annual and perennial) and tall fescue grown for seed, citrus fruit, corn (field, seed, sweet, and yellow popcorn), cranberry, flax, oats, okra, pearl millet, pome fruit, rhubarb, sorghum (grain and sweet), soybean, stone fruit and tree nuts, sugarcane and turfgrass. When used for pre-emergence, weeds take up the product through the soil during emergence. Dry conditions following application may reduce the pre-emergence activity of **Axill Solutions Mesotrione 4SC**. If an activating rain (0.25 inch) is not received within 7 to 10 days after a pre-emergence application, where it is appropriate, rotary hoeing is suggested. When used post-emergence, susceptible weeds take up the herbicide through the treated foliage and cease growth soon after treatment.

Complete death of the weeds may take up to 14 days. The product is absorbed through the soil and/or by the foliage of emerged weeds.

**Axill Solutions Mesotrione 4SC** is not effective for the control of most grass weeds. Pre-emergence grass herbicides or post-emergence grass herbicides can be tank mixed with **Axill Solutions Mesotrione 4SC** to provide broad-spectrum weed control in corn (see appropriate section of label for this information). **Axill Solutions Mesotrione 4SC** can be applied post-emergence following a pre-emergence grass herbicide application. **Axill Solutions Mesotrione 4SC** can also be used in combination with a burndown herbicide, before planting, to provide added burndown and residual weed control in field corn, seed corn, yellow popcorn, and sweet corn.

**USE RESTRICTIONS**

- Do not make application of **Axill Solutions Mesotrione 4SC** to white popcorn or ornamental (Indian) corn.
- Do not cultivate corn within 7 days before or after an **Axill Solutions Mesotrione 4SC** application as weed control from the **Axill Solutions Mesotrione 4SC** application may be reduced.
- Do not make application of this product through any type of irrigation system unless specified otherwise under the specific crop section on the label.
- Do not make application of this product with suspension fertilizers as the carrier.
- Do not make application of **Axill Solutions Mesotrione 4SC** post-emergence in a tank mix with emulsifiable concentrate grass herbicides, unless specifically addressed under one of the tank mix sections of this label, or injury may occur.
- Do not use aerial application to apply **Axill Solutions Mesotrione 4SC** unless specified otherwise under the specific crop section on the label.

**USE PRECAUTIONS**

- Severe corn injury resulting in yield loss may occur if **Axill Solutions Mesotrione 4SC** application is made post-emergence to corn that was treated with terbufos or chlorpyrifos.
- Severe corn injury resulting in yield loss may occur if **Axill Solutions Mesotrione 4SC** application is made to foliar post-emergence corn in a tank mix with any organophosphate or carbamate insecticide.
- Severe corn injury resulting in yield loss may occur if any organophosphate or carbamate insecticide is applied to foliar post-emergence within 7 days before or 7 days after **Axill Solutions Mesotrione 4SC** is applied.
- When weeds are stressed due to drought, heat, lack of fertility, flooding, or prolonged cool temperatures, control can be reduced or delayed since the weeds are not actively growing. Weed escapes or regrowth may occur when treatment is made under prolonged stress conditions. Optimum weed control will be obtained if an application of **Axill Solutions Mesotrione 4SC** is made following label directions when weeds are actively growing.
- An application of **Axill Solutions Mesotrione 4SC** may be made with pyrethroid type insecticides (e.g., lambda-cyhalothrin).

**RESISTANCE MANAGEMENT**

**Axill Solutions Mesotrione 4SC** contains mesotrione and is classified in the triketone chemical class as a Group 27 herbicide, inhibitor of 4-hydroxyphenyl-pyruvatedioxygenase. Herbicide resistance is defined as the inherited ability of a plant to survive and reproduce following exposure to a dose of herbicide normally lethal to the wild type. In a plant, resistance may be naturally occurring or induced by such techniques as genetic engineering or selection of variants produced by tissue culture or mutagenesis. Any weed population may contain or develop plants that are naturally resistant to **Axill Solutions Mesotrione 4SC** and other Group 27 herbicides. Weed species with acquired resistance to Group 27 herbicides may eventually dominate the weed population if Group 27 herbicides are used repeatedly in the same field or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species by **Axill Solutions Mesotrione 4SC** or other Group 27 herbicides.

To delay herbicide resistance, consider the below best practices for resistance management:

- Plant into weed-free fields and keep fields as weed-free as possible.
- To the extent possible, use a diversified approach toward weed management. Whenever possible, incorporate multiple weed-control practices including mechanical cultivation, biological management practices, and crop rotation.
- Fields with difficult to control weeds should be rotated to crops that allow the use of herbicides with alternative mechanisms of action or different management practices.

- To the extent possible, do not allow weed escapes to produce seeds, roots or tubers. Manage weed seeds at harvest and post-harvest to prevent a buildup of the weed seed-bank.
- Prevent field-to-field and within-field movement of weed seed or vegetative propagules. Thoroughly clean plant residues from equipment before leaving fields.
- Prevent an influx of weeds into the field by managing field borders.
- Identify weeds present in the field through scouting and field history and understand their biology. The weed-control program should consider all of the weeds present.
- Difficult to control weeds may require sequential applications of herbicides with differing mechanisms of action.
- Apply this herbicide at the correct timing and rate needed to control the most difficult weed in the field.
- Use a broad-spectrum soil-applied herbicide with a mechanism of action that differs from this product as a foundation in a weed-control program. Do not use more than 2 applications of this or any other herbicide with the same mechanism of action within a single growing season unless mixed with an herbicide with another mechanism of action with an overlapping spectrum for the difficult-to-control weeds.
- If resistance is suspected, treat weed escapes with an herbicide with a different MOA or use non-chemical methods to remove escapes.
- Monitor treated weed populations for loss of field efficacy.
- Scout field(s) before and after application.
- Report lack of performance to Axill Solutions LLC or their representative.

Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species.

Contact your local sales representative, extension agent, or certified crop advisors to find out if suspected resistant weeds to this MOA have been found in your region. If resistant biotypes of target weeds have been reported, use the application rates of this product specified for your local conditions. Tank mix products so that there are multiple effective mechanisms of action for each target weed.

#### INTEGRATED PEST (WEED) MANAGEMENT

**Axill Solutions Mesotrione 4SC** should be integrated into an overall weed and pest management strategy whenever the use of a herbicide is required. Practices known to reduce weed development (tillage, crop competition) and herbicide use (weed scouting, proper application timing, banding) must be followed wherever possible. Consult local agricultural and weed authorities for additional IPM strategies established for your area.

#### MANDATORY SPRAY DRIFT

##### Aerial Applications

- Do not release spray at a height greater than 10 ft. above the vegetative canopy, unless a greater application height is necessary for pilot safety.
- For all applications, applicators are required to use a coarse or coarser spray droplet size (ASABE S572.1).
- The boom length must not exceed 65% of the wingspan for airplanes or 75% of the rotor blade diameter for helicopters.
- Applicators must use ½ swath displacement upwind at the downwind edge of the field.
- Nozzles must be oriented so the spray is directed toward the back of the aircraft.
- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- Do not apply during temperature inversions.

##### Ground Applications

- Apply with the nozzle height recommended by the manufacturer, but no more than 3 feet above the ground or crop canopy.
- For all applications, applicators are required to use a coarse or coarser spray droplet size (ASABE S572.1).
- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- Do not apply during temperature inversions.

##### Spray Drift Advisories

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

##### **IMPORTANCE OF DROPLET SIZE**

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

##### **Controlling Droplet Size - Ground Boom**

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

**Controlling Droplet Size - Aircraft**

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

**BOOM HEIGHT - Ground Boom**

Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. For ground equipment, the boom should remain level with the crop and have minimal bounce.

**RELEASE HEIGHT - Aircraft**

Higher release heights increase the potential for spray drift. When applying aerially to crops, do not release spray at a height greater than 10 ft above the crop canopy, unless a greater application height is necessary for pilot safety.

**SHIELDED SPRAYERS**

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

**TEMPERATURE AND HUMIDITY**

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

**TEMPERATURE INVERSIONS**

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

**WIND**

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

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

**APPLICATION INFORMATION****PRE-EMERGENCE GROUND APPLICATION**

Make application in a spray volume of 10 - 60 gals. per acre using water or liquid fertilizer (excluding suspension fertilizers) as the carrier. Use a pump that can maintain a pressure of at least 35 - 40 PSI at the nozzles and provide proper agitation within the tank to keep the product dispersed. Lower pressures may be used with extended range or drift reduction nozzles.

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

**POST-EMERGENCE GROUND APPLICATION**

Good weed coverage is essential for optimum weed control. Boom height for broadcast over-the-top applications must be based on the height of the crop – at least 15 inches above the crop canopy.

Make application in a spray volume of 10 - 30 gals. per acre using water as a carrier. Use a pump that can maintain a pressure of at least 35 - 40 PSI at the nozzles and provide proper agitation within the tank to keep the product dispersed. Lower pressures may be used with extended range or drift reduction nozzles. When weed foliage is dense, use a minimum of 20 gals.

Flat fan nozzles of 80° or 110° are needed for optimum post-emergence coverage. **DO NOT** use flood-jet nozzles or controlled droplet application equipment for post-emergence applications.

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

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

**Aerial Application****Restrictions:**

- An application of **Axill Solutions Mesotrione 4SC** may be made aerially only to corn and sugarcane.
- For aerial application, use only nozzles producing coarse-ultra coarse droplets. Do not use nozzles producing fine-medium size droplets.
- Aerial applications must be made in a minimum of 2 gals. of water per acre.
- **For Corn** – An application of **Axill Solutions Mesotrione 4SC** may be made aerially for pre-emergence or post-emergence weed control only in the following states: Alabama, Arizona, Arkansas, Colorado, Connecticut, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Nebraska, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah,



Vermont, Virginia, Washington, West Virginia, Wisconsin, and Wyoming.

- **For Sugarcane** – An application of **Axill Solutions Mesotrione 4SC** may be made aerielly for pre-emergence or post-emergence weed control only in the following states: Florida, Louisiana, and Texas.

#### SPRAY ADDITIVES: POST-EMERGENCE ADJUVANTS

When using an adjuvant with this product, an adjuvant that meets the standards of the Chemical Producers and Distributors Association (CPDA) adjuvant certification program is advised.

The following adjuvant specifications are intended primarily for **Axill Solutions Mesotrione 4SC** use in corn. Refer to the use directions section of each crop section for specific adjuvant specifications.

#### POST-EMERGENCE APPLICATIONS TO FIELD CORN AND SEED CORN

For post-emergence applications made after the crop has emerged, add crop oil concentrate (COC) to the spray solution at the rate of 1 gal. per 100 gals. of water (1.0% v/v). The use of a nonionic surfactant (NIS) at 1 qt./100 gals. of water (0.25% v/v) instead of COC is allowed, but the weed control achieved with COC is consistently better than NIS. The use of methylated seed oil (MSO) adjuvants or MSO blend adjuvants for post-emergence applications of **Axill Solutions Mesotrione 4SC** may cause severe crop injury to occur. **DO NOT** use MSO adjuvants for post-emergence use unless directed for a specific tank mix under the **Axill Solutions Mesotrione 4SC Tank Mixtures For Corn** section of this label. In addition to COC, always add spray grade UAN (e.g., 28-0-0) to the spray solution at a rate of 2.5% v/v or AMS at 8.5 lbs./100 gals. of spray solution, except if precluded elsewhere on this label.

#### POST-EMERGENCE APPLICATIONS TO SWEET CORN AND YELLOW POPCORN

**DO NOT** add UAN or AMS when making post-emergence applications of **Axill Solutions Mesotrione 4SC** to yellow popcorn or sweet corn, or severe crop injury may occur.

When making applications for post-emergence to yellow popcorn and sweet corn, the use of a nonionic surfactant (NIS) instead of a crop oil concentrate (COC) is advised, so as to minimize the risk of crop injury. A COC may be used, and will increase the level of weed control achieved, especially under dry growing conditions, but the risk of crop injury is increased significantly under lush growing conditions. For optimum control, add atrazine wherever rotational or local atrazine restrictions allow.

#### PRE-EMERGENCE ADJUVANTS

When making applications of **Axill Solutions Mesotrione 4SC** for pre-plant or pre-emergence, and where weeds are present, the use of any adjuvant for agricultural use is permitted. In these situations, MSO type adjuvants are typically better than COC type adjuvants, which are typically better than NIS type adjuvants for enhancing weed control. UAN or AMS can be added and typically provides better weed control than not adding one of these. If **Axill Solutions Mesotrione 4SC** is being tank mixed with another registered herbicide in this situation, refer to the tank mix partner label for adjuvant precautions and restrictions. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

#### SPRAY EQUIPMENT

##### Cleaning Equipment after Axill Solutions Mesotrione 4SC Application

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

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

#### MIXING PROCEDURES

See the **CROP USE DIRECTIONS** sections of this label for specific tank mix instructions.

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

The compatibility of any tank mix combination is to be tested on a small scale including a jar test before actual tank mixing.

Follow the mixing instructions for adding **Axill Solutions Mesotrione 4SC** to the spray tank:

1. Only use sprayers in good running condition with good agitation. Ensure the sprayer is cleaned according to instructions on the

label of the product used before **Axill Solutions Mesotrione 4SC**. For post-emergence applications, use only clean water for the spray solution. Ensure that all in-line strainer and nozzle screens in the sprayer are 50-mesh or coarser. **DO NOT** use screens finer than 50-mesh.

- Liquid fertilizer (excluding suspension fertilizers) may be used as the carrier for pre-emergence applications.
- Begin to fill sprayer tank or premix tank with clean water and engage agitator. Agitation must be continued throughout the entire mixing and spraying procedure.
- When the sprayer or premix tank is half full of water, add AMS and agitate until completely dispersed.
- Next add **Axill Solutions Mesotrione 4SC** slowly and agitate until completely dissolved. Wait at least 1 minute after the last of the **Axill Solutions Mesotrione 4SC** has been added to the tank to allow for complete dispersion. A longer agitation period may be required to disperse **Axill Solutions Mesotrione 4SC** when using cold water from sources including deep drilled wells.
- If tank mixing, add the tank mix product next.
- Finally, add adjuvant and UAN, if needed, and then continue to fill tank to desired level with water.

**Restriction:** This product cannot be mixed with any product containing a label prohibition against such mixing. **DO NOT** tank mix **Axill Solutions Mesotrione 4SC** with any other insecticide, fungicide, fertilizer solution, or adjuvant not specified on the label without testing compatibility, as poor mixing may result.

#### WEEDS CONTROLLED

Make applications of **Axill Solutions Mesotrione 4SC** as directed in this label will control or partially control the weeds listed in Tables 1 and 2.

Where reference is made to weeds partially controlled, partial control can either mean erratic control (good to poor) or consistent control at a level below that generally considered acceptable for commercial weed control.

For best post-emergence results, make application of **Axill Solutions Mesotrione 4SC** to actively growing weeds. Dry weather following pre-emergence application of **Axill Solutions Mesotrione 4SC** may reduce residual weed control effectiveness. If irrigation is available, apply ½ to 1" of water after pre-emergence application. If irrigation is not available, a uniform shallow cultivation is needed as soon as weeds emerge.

Make applications of **Axill Solutions Mesotrione 4SC** alone or in mixture with atrazine will not provide consistent or effective control of weeds identified as resistant to post-emergence HPPD-inhibiting herbicides.

Refer to the crop sections on this label for specific rates and use directions.

**Table 1. Weeds Controlled With Post-Emergence Applications of Axill Solutions Mesotrione 4SC**

Common Name	Scientific Name	Axill Solutions Mesotrione 4SC 3.0 Fl. Oz./A	Axill Solutions Mesotrione 4SC 2.5 - 3.0 Fl. Oz./A + Atrazine <sup>1</sup>
		Apply to Weeds <5 Inches Tall <sup>2</sup>	
Amaranth, Palmer	<i>Amaranthus palmeri</i>	PC*	C*
Amaranth, Powell	<i>Amaranthus powellii</i>	C	C
Amaranth, Spiny	<i>Amaranthus spinosus</i>	C	C
Atriplex	<i>Chenopodium orach</i>	C	C
Broadleaf Signalgrass	<i>Urochloa platyphylla</i>	C*	C*
Buckwheat, Wild	<i>Polygonum convolvulus</i>	PC	PC
Buffalobur	<i>Solanum rostratum</i>	C	C
Burcucumber	<i>Sicyos angulatus</i>	PC	C*
Carpetweed	<i>Mollugo verticillata</i>	C	C
Carrot, Wild	<i>Daucus carota</i>	PC	C
Chickweed, Common	<i>Stellaria media</i>	C	C
Cocklebur, Common	<i>Xanthium strumarium</i>	C	C
Crabgrass, Large	<i>Digitaria sanguinalis</i>	C*	C*
Dandelion	<i>Taraxacum officinale</i>	NC	PC
Dock, Curly	<i>Rumex crispus</i>	PC	PC
Galinsoga	<i>Galinsoga parviflora</i>	C	C
Hemp	<i>Cannabis sativa</i>	C	C
Horsenettle	<i>Solanum carolinense</i>	PC	C
Jimsonweed	<i>Datura stramonium</i>	C	C
Horseweed (Marestail)	<i>Conyza canadensis</i>	PC	C
Knotweed, Prostrate	<i>Polygonum aviculare</i>	PC	PC
Kochia	<i>Kochia scoparia</i>	PC*	C*
Lambsquarters, Common	<i>Chenopodium album</i>	C	C
Mallow, Venice	<i>Hibiscus trionum</i>	NC	C
Morningglory, Entireleaf	<i>Ipomoea hederacea</i>	PC	C
Morningglory, Ivyleaf	<i>Ipomoea hederacea</i>	PC	C

Morningglory, Pitted	<i>Ipomoea lacunosa</i>	PC	C
Mustard, Wild	<i>Brassica kaber</i>	C	C
Nightshade, Black	<i>Solanum nigrum</i>	C	C
Nightshade, Eastern Black	<i>Solanum ptycanthum</i>	C	C
Nightshade, Hairy	<i>Solanum sarrachoides</i>	C	C
Nutsedge, Yellow	<i>Cyperus esculentus</i>	PC	PC
Pigweed, Redroot	<i>Amaranthus retroflexus</i>	C	C
Pigweed, Smooth	<i>Amaranthus hybridus</i>	C	C
Pigweed, Tumble	<i>Amaranthus albus</i>	C	C
Pokeweed, Common	<i>Phytolacca americana</i>	PC	PC
Potatoes, Volunteer	<i>Solanum spp.</i>	C	C
Pusley, Florida	<i>Richardia scabra</i>	C*	C*
Ragweed, Common	<i>Ambrosia artemisiifolia</i>	PC	C
Ragweed, Giant	<i>Ambrosia trifida</i>	C*	C
Sesbania, Hemp	<i>Sesbania exaltata</i>	C	C
Sida, Prickly (Teaweed)	<i>Sida spinosa</i>	NC	C*
Smartweed, Ladysthumb	<i>Polygonum persicaria</i>	C*	C
Smartweed, Pale	<i>Polygonum lapathifolium</i>	C*	C
Smartweed, Pennsylvania	<i>Polygonum pensylvanicum</i>	C*	C
Sunflower, Common	<i>Helianthus annuus</i>	C	C
Thistle, Canada	<i>Cirsium arvense</i>	NC	PC
Velvetleaf	<i>Abutilon theophrasti</i>	C	C
Waterhemp, Common	<i>Amaranthus rudis</i>	C*	C
Waterhemp, Tall	<i>Amaranthus tuberculatus</i>	C*	C

\*Apply before weed exceeds 3" in height.

<sup>1</sup>Axill Solutions Mesotrione 4SC tank mixture with atrazine is approved only for use on corn and sugarcane.

<sup>2</sup>Under certain situations weeds can be controlled at larger than listed sizes, however to protect crop yield, manage weed resistance and provide consistent control, treat weeds before they exceed 5" in height.

C = Control      PC = Partial Control      NC = Not Controlled

**Table 2. Weeds Controlled With Pre-Emergence Applications of Axill Solutions Mesotrione 4SC**

Common Name	Scientific Name	Axill Solutions Mesotrione 4SC Applied Alone	Axill Solutions Mesotrione 4SC + Atrazine <sup>1</sup>
Amaranth, Palmer	<i>Amaranthus palmeri</i>	C	C
Amaranth, Powell	<i>Amaranthus powellii</i>	C	C
Amaranth, Spiny	<i>Amaranthus spinosus</i>	C	C
Broadleaf Signalgrass	<i>Urochloa platyphylla</i>	PC	PC
Buffalobur	<i>Solanum rostratum</i>	C	C
Burclover, California	<i>Medicago polymorpha</i>	C	-
Carpetweed	<i>Mollugo verticillata</i>	C	C
Carrot, Wild	<i>Daucus carota</i>	C	-
Chickweed, Common	<i>Stellaria media</i>	C	C
Chickweed, Mouseear	<i>Cerastium vulgatum</i>	C	-
Cocklebur, Common	<i>Xanthium strumarium</i>	PC	C
Crabgrass, Large	<i>Digitaria sanguinalis</i>	PC	PC
Dandelion, Common (Seedling)	<i>Taraxacum officinale</i>	C	-
Deadnettle, Purple	<i>Lamium purpureum</i>	C	-
Dock, Curly	<i>Rumex crispus</i>	C	-
Evening Primrose, Cutleaf	<i>Oenothera laciniata</i>	C	-
Fiddleneck, Coast	<i>Amsinckia intermedia</i>	C	-
Filaree, Redstem	<i>Erodium cicutarium</i>	C	-
Filaree, Whitestem	<i>Erodium moschatum</i>	C	-
Fleabane, Hairy	<i>Conyza bonariensis</i>	C	-
Galinsoga	<i>Galinsoga parviflora</i>	C	C
Geranium, Carolina	<i>Geranium carolinianum</i>	C	-
Groundcherry, Smooth	<i>Physalis subglabrata</i>	C	-
Groundsel, Common	<i>Senecio vulgaris</i>	C	-
Henbit	<i>Lamium amplexicaule</i>	C	-
Horsenettle	<i>Solanum carolinense</i>	PC	-
Horseweed/Marestail	<i>Conyza canadensis</i>	C	-
Jimsonweed	<i>Datura stramonium</i>	C	C
Kochia	<i>Kochia scoparia</i>	PC	C
Lambsquarters, Common	<i>Chenopodium album</i>	C	C
Lettuce, Prickly	<i>Lactuca serriola</i>	C	-
Mallow, Common	<i>Malva neglecta</i>	C	-

Mayweed, Chamomile	<i>Anthemis cotula</i>	C	-
Morningglory, Entireleaf	<i>Ipomoea hederacea</i>	PC	C
Morningglory, Ivyleaf	<i>Ipomoea hederacea</i>	PC	C
Morningglory, Pitted	<i>Ipomoea lacunosa</i>	PC	C
Nettle, Burning	<i>Urtica urens</i>	C	-
Nightshade, Eastern Black	<i>Solanum ptycanthum</i>	C	C
Nightshade, Hairy	<i>Solanum sarrachoides</i>	C	C
Pansy	<i>Viola tricolor</i>	C	-
Pigweed, Redroot	<i>Amaranthus retroflexus</i>	C	C
Pigweed, Smooth	<i>Amaranthus hybridus</i>	C	C
Pigweed, Tumble	<i>Amaranthus albus</i>	C	C
Pineappleweed	<i>Matricaria matricarioides</i>	C	-
Puncturevine, Common	<i>Tribulus terrestris</i>	C	-
Purslane, Common	<i>Portulaca oleracea</i>	C	-
Pusley, Common	<i>Richardia scabra</i>	PC	-
Ragweed, Common	<i>Ambrosia artemisiifolia</i>	C	C
Ragweed, Giant	<i>Ambrosia trifida</i>	PC	C
Redmaids	<i>Calandrinia caulescens</i>	C	-
Rocket, London	<i>Sisymbrium irio</i>	C	-
Shepherd's Purse	<i>Capsella bursa-pastoris</i>	C	-
Smartweed, Ladysthumb	<i>Polygonum persicaria</i>	C	C
Smartweed, Pale	<i>Polygonum lapathifolium</i>	C	C
Smartweed, Pennsylvania	<i>Polygonum pennsylvanicum</i>	C	C
Sowthistle, Annual	<i>Sonchus oleraceus</i>	C	-
Spanishneedles	<i>Bidens bipinnata</i>	C	-
Sunflower, Common	<i>Helianthus annuus</i>	PC	C
Swinecress	<i>Coronopus didymus</i>	C	-
Tassel Flower, Red	<i>Emilia sonchifolia</i>	C	-
Velvetleaf	<i>Abutilon theophrasti</i>	C	C
Waterhemp, Common	<i>Amaranthus rudis</i>	C	C
Vetch, Common	<i>Vicia sativa</i>	C	-
Vetch, Purple	<i>Vicia benghalensis</i>	PC	-
Waterhemp, Tall	<i>Amaranthus tuberculatus</i>	C	C
Willowherb, Panicle	<i>Epilobium brachycarpum</i>	C	-

<sup>1</sup>Axill Solutions Mesotrione 4SC tank mixture with atrazine is approved only for use on corn grain sorghum and sugarcane. Refer to the crop sections on this label for specific use directions.

C = Control      PC = Partial Control

#### ROTATIONAL CROP INTERVALS

When making an application of **Axill Solutions Mesotrione 4SC** as directed on this label, follow the crop rotation intervals in Table 3. If **Axill Solutions Mesotrione 4SC** is tank mixed with other products, follow the most restrictive product's crop rotation interval.

**Table 3. Time Interval Between Axill Solutions Mesotrione 4SC Application and Replanting or Planting of Rotational Crop**

Crop	Replant/Rotational Interval (Months)
Asparagus, Corn (all types), Cranberry, Flax, Kentucky bluegrass grown for seed, Millet (pearl), Oats, Rhubarb, Ryegrass (perennial and annual) grown for seed, Sorghum (grain and sweet), Sugarcane, and Tall fescue grown for seed	Anytime
Soybean	Immediate
Small grain cereals including wheat, barley, and rye	4
Alfalfa, Blueberry, Canola, Cotton, Currant, Lingonberry, Okra, Peanuts, Peas*, Potato, Rice, Snap beans*, Sunflowers, and Tobacco	10
Cucurbits, Dry beans, Red clover, Sugar beets, and All other rotational crops	18

\*Plant these rotational crops only if the following criteria below have been met. If all criteria are not met, plant peas and snap beans a minimum of 18 months following **Axill Solutions Mesotrione 4SC** application:

- A minimum of 20" of rainfall plus irrigation has been received between application and planting of the rotational crop.
- Soil pH is 6.0 or greater.
- Applying **Axill Solutions Mesotrione 4SC** at 3.0 fl. oz./A (0.094 lb. a.i./A) or less applied no later than June 30 the year preceding rotational crop planting.
- No other HPPD herbicides (such as, mesotrione, S-metolachlor, metolachlor, glyphosate, atrazine, topramezone, isoxaflutole, thiencazabone-methyl, and tembotrione) were applied the year before planting peas and snap beans.

#### Rotational Crop Restriction:

- Do not plant peas or snap beans on sand, sandy loam, or loamy sand soils in Minnesota or Wisconsin.

#### CROP USE DIRECTIONS

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**ASPARAGUS**

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Make applications of **Axill Solutions Mesotrione 4SC** as a broadcast or banded at a rate of 3.0 - 7.7 fl. oz./A (0.094 - 0.24 lb. a.i./A) to asparagus as a spring application before spear emergence, as a post-harvest application (after final harvest), or both.

Use the 3.0 fl. oz./A (0.094 lb. a.i./A) rate for post-emergence control or partial control of the emerged weeds listed in Table 1. Use the 6.0 - 7.7 fl. oz./A (0.187 - 0.24 lb. a.i./A) rate for pre-emergence control or partial control of the weeds listed in Table 2. For banded applications, the application must be made to account for band width, i.e., to deliver 3.0 - 7.7 fl. oz. (0.094 - 0.24 lb. a.i./A) per treated acre. For the best pre-emergence weed control with spring applications, make an application of **Axill Solutions Mesotrione 4SC** after fern mowing, disking or other tillage operation but before asparagus spear emergence.

When applying post-harvest, the rate applied pre-emergence in the spring must be taken into account so as not to exceed the 7.7 fl. oz./A (0.24 lb. a.i./A) per year rate limit. Post-harvest applications must be made in a way that minimizes contact with any standing asparagus spears or ferns and maximizes contact with the weeds and/or soil, e.g., by using a directed or semi-directed type application, or crop injury may occur.

The use of an adjuvant will increase the risk of crop injury when applying post-harvest.

If weeds are emerged at the time of the **Axill Solutions Mesotrione 4SC** application, the addition of a crop oil concentrate (COC) type adjuvant at the rate of 1% v/v or a nonionic surfactant (NIS) at the rate of 0.25% v/v is needed. In addition to COC or NIS, a spray grade UAN (e.g., 28-0-0) at the rate of 2.5% v/v or ammonium sulfate (AMS) at the rate of 8.5 lbs./100 gals. of spray solution may be added for improved burndown of emerged weeds. If weeds have not yet emerged, no adjuvant is required.

**Restrictions - Asparagus:**

- Do not apply more than 7.7 fl. oz./A (0.24 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** per year.
- Do not apply more than 2 applications of **Axill Solutions Mesotrione 4SC** per year.
- Do not make the second application within 14 days of the first application.
- Do not apply more than 7.7 fl. oz./A (0.24 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** in a single application.

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**BLUEGRASS, RYEGRASS (ANNUAL AND PERENNIAL) AND TALL FESCUE GROWN FOR SEED**

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An application of **Axill Solutions Mesotrione 4SC** can be made to bluegrass, ryegrass (annual and perennial), or tall fescue which is grown for seed. An application of **Axill Solutions Mesotrione 4SC** can be made as a pre-emergence application to bare soil (new seeding) or as a post-emergence application to an emerged grass crop.

**Pre-Emergence Application:**

Make an application of **Axill Solutions Mesotrione 4SC** as a broadcast, surface spray at a rate of 6.0 fl. oz./A (0.187 lb. a.i./A) to a newly seeded crop. The application of **Axill Solutions Mesotrione 4SC** must be made before crop and weed emergence. Rainfall or irrigation as the newly seeded grass crop emerges from the soil may increase the risk of injury from **Axill Solutions Mesotrione 4SC**. Grass crop injury symptoms include temporary bleaching of newly emerged leaves, or in extreme conditions, stunting. For a list of pre-emergence weeds controlled or partially controlled, see Table 2. In addition to the weeds listed in Table 2, **Axill Solutions Mesotrione 4SC** applied pre-emergence will control mannagrass.

**Post-Emergence Application:**

Make an application of **Axill Solutions Mesotrione 4SC** as a broadcast post-emergence spray at a rate of 3.0 - 6.0 fl. oz./A (0.094 - 0.187 lb. a.i./A) to emerged bluegrass, perennial ryegrass or tall fescue grown for seed. Use the 3.0 fl. oz./A (0.094 lb. a.i./A) rate for post-emergence control or partial control of the weeds listed in Table 1. In addition to the weeds listed in Table 2, **Axill Solutions Mesotrione 4SC** applied post-emergence will control mannagrass (up to 3 tillers).

Use the 6.0 fl. oz./A (0.187 lb. a.i./A) rate for post-emergence weed control plus extended residual weed control (see Table 2). The addition of a crop oil concentrate type adjuvant at 1% v/v or a nonionic surfactant (NIS) type adjuvant at a rate of 0.25% v/v is needed. Post-emergence applications of **Axill Solutions Mesotrione 4SC** may result in temporary bleaching of the grass crop.

In addition to COC or NIS, a spray grade UAN (e.g., 28-0-0) at the rate of 2.5% v/v or ammonium sulfate (AMS) at the rate of 8.5 lbs./100 gals. of spray solution may also be added for improved control of emerged weeds. The addition of UAN or AMS will improve consistency of post-emergence weed control but will also increase the risk of grass crop injury, especially at **Axill Solutions Mesotrione 4SC** rates greater than 3.0 fl. oz./A (0.094 lb. a.i./A). If grass crop injury is a concern, do not add UAN or AMS to the spray solution.

Tank mixing other pesticides with **Axill Solutions Mesotrione 4SC** post-emergence may increase the risk of crop injury. **DO NOT** add pesticides with emulsifiable concentrate (EC) type formulations to **Axill Solutions Mesotrione 4SC** for applications made post-emergence to the crop.

**Restrictions - Grass Grown For Seed:**

- Do not harvest the grass crop for seed or straw within 60 days following the application of **Axill Solutions Mesotrione 4SC**.
- Do not graze or feed forage from treated areas within 14 days following harvest of seed or straw and at least 74 days after application of **Axill Solutions Mesotrione 4SC**.
- Do not apply more than 2 applications of **Axill Solutions Mesotrione 4SC** per year.

- Do not apply more than 6.0 fl. oz./A (0.187 lb. a.i./A) in a single application and not more than 9.0 fl. oz./A (0.28 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** per year.
- Do not make applications of **Axill Solutions Mesotrione 4SC** to grasses grown for seed species not listed on this label.

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### BERRY (GROUP 13)

**Note:** Not all cultivars and types of berries that are included within the Environmental Protection Agencies definition of berries (Group 13) have been tested and shown to have adequate crop safety to **Axill Solutions Mesotrione 4SC**. Those that have been tested, and are believed to be reasonably fit, are listed below along with use directions for that crop. If **Axill Solutions Mesotrione 4SC** is used on bush or caneberries not listed below, severe crop injury may occur.

An application of **Axill Solutions Mesotrione 4SC** may be made as a pre-bloom post-directed spray in high bush blueberry, lingonberry, red currant, black currant, black raspberry, red raspberry, and blackberry. For a list of weeds controlled, see Tables 1 and 2. An application of **Axill Solutions Mesotrione 4SC** may be made in bush or caneberries at a rate up to 6.0 fl. oz./A (0.187 lb. a.i./A). If a split application weed control program is desired, 3.0 fl. oz./A (0.094 lb. a.i./A) followed by 3.0 fl. oz./A (0.094 lb. a.i./A) may be used. The use of a crop oil concentrate (COC) type adjuvant at the rate of 1% v/v is needed, but do not use COC adjuvants that are injurious to bush or caneberry leaves.

In lowbush blueberries, an application of **Axill Solutions Mesotrione 4SC** may only be made in the non-bearing year. This treatment may be a broadcast application. Up to 6.0 fl. oz./A (0.187 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** may be applied in a single application, or 3.0 fl. oz./A (0.094 lb. a.i./A) followed by 3.0 fl. oz./A (0.094 lb. a.i./A) if used in a split application program. The use of a crop oil concentrate (COC) type adjuvant at 1% v/v is needed. Applying **Axill Solutions Mesotrione 4SC** during dry weather conditions and/or temperatures above 85°F can cause injury to lowbush blueberries.

Applying **Axill Solutions Mesotrione 4SC** can cause yellowing or necrosis of leaves and under severe conditions, leaf drop may occur especially on "Sourtop" variety blueberries.

#### Restrictions - Bush and Caneberry:

- Do not apply more than 2 applications of **Axill Solutions Mesotrione 4SC** per year.
- Do not apply more than 6.0 fl. oz./A (0.187 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** in total per year.
- If 2 applications are made, they must be made no closer than 14 days apart.
- Do not make an application of **Axill Solutions Mesotrione 4SC** to bush or caneberries after the onset of the bloom stage or illegal residues may occur.
- Do not apply more than 6.0 fl. oz./A (0.187 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** in a single application.

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### CITRUS FRUIT, POME FRUIT, STONE FRUIT, AND TREE NUTS

**Axill Solutions Mesotrione 4SC** may be used for post-emergence and residual control of weeds listed in Tables 1 and 2 in the following crops.

**Citrus Fruit (Crop Group 10-10):** Australian Desert Lime, Australian Finger Lime, Australian Round Lime, Brown River Finger Lime, Calamondin, Citron, Citrus Hybrids, Grapefruit, Japanese Summer Grapefruit, Kumquat, Lemon, Lime, Mediterranean Mandarin, Sour Orange, Sweet Orange, Pummelo, Russell River Lime, Satsuma Mandarin, Sweet Lime, Tachibana Orange, Tahiti Lime, Tangelo, Tangerine (Mandarin), Tangor, Trifoliolate Orange, UniQ Fruit, Cultivars, and Varieties and/or Hybrids of these.

**Pome Fruit (Crop Group 11-10):** Apple, Azarole, Crabapple, Loquat, Mayhaw, Medlar, Pear, Asian Pear, Quince, Chinese Quince, Japanese Quince, Tejocote, Cultivars, Varieties and/or Hybrids of these.

**Stone Fruit (Crop Group 12-12):** Apricot, Japanese Apricot, Capulin, Black Cherry, Nanking Cherry, Sweet Cherry, Tart Cherry, Chinese Jujube, Nectarine, Peach, Plum, American Plum, Beach Plum, Canada Plum, Cherry Plum, Chickasaw Plum, Damson Plum, Japanese Plum, Klamath Plum, Prune Plum, Plumcot, Sloe, Cultivars, Varieties and/or Hybrids of these.

**Tree Nuts (Crop Group 14-12):** African Nut-Tree, Almond, Beech Nut, Brazil Nut, Brazilian Pine, Bunya, Bur Oak, Butternut, Cajou Nut, Candlenut, Cashew, Chestnut, Chinquapin, Coconut, Coquito Nut, Dika Nut, Ginkgo, Guiana Chestnut, Hazelnut (Filbert), Heartnut, Hickory Nut, Japanese Horse-Chestnut, Macadamia Nut, Mongongo Nut, Monkey-Pot, Monkey Puzzle Nut, Okari Nut, Pachira Nut, Peach Palm Nut, Pecan, Pequi, Pili Nut, Pine Nut, Pistachio, Sapucaia Nut, Tropical Almond, Black Walnut, English Walnut, Yellowhorn, Cultivars, Varieties and/or Hybrids of these.

#### Spray Additives

For treatment to emerged weeds, the use of crop oil concentrate (COC) type adjuvant at 1% v/v or nonionic surfactant (NIS) at 0.25% v/v is needed. Addition of ammonium sulfate or other nitrogen-based adjuvants will increase efficacy when used in combination with COC or NIS. For more information, see **Spray Additives** section on this label.

#### Banded Applications

When applying a row or banded treatment of **Axill Solutions Mesotrione 4SC**, the following formula may be used to calculate the amount per acre:

$$\frac{\text{Band Width in Inches}}{\text{Row Width in Inches}} \times \text{Broadcast Rate per Acre} = \text{Amount Needed per Acre of Field}$$

**Tank Mix Instructions**

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

**Axill Solutions Mesotrione 4SC** may be mixed and applied in combination with most commonly used herbicides registered for use in the approved crops in order to expand the post-emergence (paraquat dichloride, glycine, glufosinate or oxyfluorfen) or residual (simazine, norflurazon, rimsulfuron, oryzalin, oxyfluorfen, pendimethalin, diuron, bromacil, or indaziflam) weed control spectrum. These tank mixtures can be used to help control or manage the development of resistant weeds. The application of mixtures or sequences of effective herbicides, with different sites of action, can provide the diversity needed for management of herbicide resistance.

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

**Weed Control (Table 1 and 2)**

**Axill Solutions Mesotrione 4SC** provides both post-emergence and pre-emergence control of susceptible weeds. Best control is obtained if post-emergence applications are made before weeds reach 5" in height (Table 1) or before germination of seed for pre-emergence control (Table 2). Rainfall or irrigation soon after application will enhance pre-emergence activity.

**Use Directions**

Apply as a directed or shielded spray. Ensure that the soil is settled, firm and relatively free of debris at time of application. Also ensure that the soil is free of depressions around trees where rain or irrigation water can concentrate. Make the first application of **Axill Solutions Mesotrione 4SC** in late fall/early winter or spring and subsequent applications using one of the programs noted in the Table 4.

**Table 4. Axill Solutions Mesotrione 4SC Application Programs, Rates, and Intervals**

Program	Application Rate (Fl. Oz./A)			Application Interval (Week)
	1 <sup>st</sup> Application	2 <sup>nd</sup> Application	3 <sup>rd</sup> Application	
1	6	6	-	20
2	6	3	-	6
3	6	3	3	6
4	3	3	3	6

For optimum post-emergence weed control, make an application of **Axill Solutions Mesotrione 4SC** to actively growing weeds in tank mixture with burndown herbicides including paraquat dichloride, and glyphosate products before weeds exceed 5" in height.

For effective residual weed control, **Axill Solutions Mesotrione 4SC** must be moved into the weed seed germination zone. For pre-emergence weed control, make an application of **Axill Solutions Mesotrione 4SC** before rainfall or irrigation. For optimum residual control, **Axill Solutions Mesotrione 4SC** can be tank-mixed with herbicides including simazine, norflurazon, rimsulfuron, oxyfluorfen, pendimethalin, diuron, bromacil or indaziflam, where approved for use.

Subsequent application(s) of **Axill Solutions Mesotrione 4SC** can be made alone or in tank mixture, with the herbicides noted above, if weed emergence occurs.

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

Apply **Axill Solutions Mesotrione 4SC** in a spray volume of 10 - 40 gals. per acre.

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

**Precautions - Citrus Fruit, Pome Fruit, Stone Fruit, and Tree Nuts:**

- To avoid crop injury, apply by spraying of the product to the grove or orchard floor and to the weeds. Avoid making contact with crop foliage, stems or fruit. Contact of **Axill Solutions Mesotrione 4SC** with the crop may result in bleaching injury that is typically temporary. Use trunk guards to protect plants until adequate bark has developed.
- Specified rates are based on broadcast treatment. For band applications around trees in fruit or nut plantings, reduce the broadcast rate of **Axill Solutions Mesotrione 4SC** and carrier per acre in proportion to the area actually sprayed (refer to the **Banded Applications** section).

**Restrictions - Citrus Fruit, Pome Fruit, Stone Fruit, and Tree Nuts:**

- Apply **Axill Solutions Mesotrione 4SC** only in pome fruit, stone fruit and nut trees that have been established for a minimum of 12 months. An application of **Axill Solutions Mesotrione 4SC** can be made in citrus trees or plantings that are less than 12 months old and are exhibiting normal growth and vigor.
- Do not apply in orchards that are stressed due to poor weather or other abiotic factors.
- Do not exceed a total of 12.0 fl. oz./A (0.375 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** per year or in a 12-month period.
- Do not exceed 6.0 fl. oz./A (0.187 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** for the first and single application.
- Do not exceed 3 applications of **Axill Solutions Mesotrione 4SC** per year or in a 12-month period.
- Allow at least 5 months between applications of Axill Solutions Mesotrione 4SC at 6.0 fl. oz./A (0.187 lb. a.i./A), and at least 6

weeks between applications of 6.0 fl. oz./A (0.187 lb. a.i./A), and subsequent applications of 3.0 fl. oz./A (0.094 lb. a.i./A). (Applications must follow one of the four programs listed in Table 4 above.)

- Do not harvest pome fruit, stone fruit or tree nuts within 30 days after treatment.
- Do not harvest citrus fruit within 1 day after application.
- Do not use on soils with greater than 20% gravel.
- Do not make an application of **Axill Solutions Mesotrione 4SC** through any type of irrigation system.
- Do not make an application of **Axill Solutions Mesotrione 4SC** by air.
- Do not apply when nuts or fruits are on the ground at harvest.

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## CORN

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Make application of **Axill Solutions Mesotrione 4SC** by ground for pre-emergence or post-emergence weed control in field corn, seed corn, yellow popcorn, and sweet corn.

An application of **Axill Solutions Mesotrione 4SC** can also be made aerially for pre-emergence or post-emergence weed control only in the following states: Alabama, Arizona, Arkansas, Colorado, Connecticut, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, and Wyoming.

Refer to seed company instructions for use on field corn inbred lines. Special adjuvant restrictions must be followed for post-emergence applications of **Axill Solutions Mesotrione 4SC** in yellow popcorn or sweet corn (see the **SPRAY ADDITIVES** section of this label).

Post-emergence applications (after crop emergence) of **Axill Solutions Mesotrione 4SC** may cause crop bleaching in some yellow popcorn and sweet corn hybrids. Crop bleaching is typically transitory and has no effect on final yield or quality. However, herbicide sensitivity in yellow popcorn and sweet corn varies widely, and all yellow popcorn and sweet corn hybrids have not been tested. Contact your popcorn or sweet corn company, crop advisor, or University specialist about hybrid instructions before making a post-emergence application of **Axill Solutions Mesotrione 4SC** to yellow popcorn or sweet corn.

Temporary crop response (transient bleaching) from post-emergence applications to field corn may occur under extreme weather conditions or when the crop is suffering from stress. Field corn quickly outgrows these effects and develops normally.

### Restrictions - Corn:

- Do not make an application of **Axill Solutions Mesotrione 4SC** more than a total of 7.7 fl. oz./A (0.24 lb. a.i./A) of per year.
- Do not apply more than 2 applications of **Axill Solutions Mesotrione 4SC** per year.
- Do not exceed 3.0 fl. oz./A (0.094 lb. a.i./A) in a single post-emergence application.
- Do not make the second application of **Axill Solutions Mesotrione 4SC** within 14 days of the first application.
- Do not feed or harvest forage, grain, or stover within 45 days after application.
- Do not make an application of **Axill Solutions Mesotrione 4SC** to white popcorn or ornamental (Indian) corn.
- Do not include nitrogen based adjuvants (UAN or AMS) when making post-emergence applications of Axill Solutions Mesotrione 4SC to yellow popcorn or sweet corn.

Make an application of **Axill Solutions Mesotrione 4SC** for the control of broadleaf and grass weeds listed in Tables 1 and 2. Corn may be treated up to 30" tall or up to the 8-leaf stage of corn growth.

### Axill Solutions Mesotrione 4SC Used Alone – Post-Emergence

Apply **Axill Solutions Mesotrione 4SC** at 3.0 fl. oz./A (0.094 lb. a.i./A) per application. Always add an appropriate adjuvant to the spray tank (see the **SPRAY ADDITIVES** section of this label).

For best results, apply **Axill Solutions Mesotrione 4SC** to actively growing weeds. For a list of weeds controlled, see Table 1. Susceptible weeds which emerge soon after application of **Axill Solutions Mesotrione 4SC** may be controlled after they absorb the herbicide from the soil. **Axill Solutions Mesotrione 4SC** will not control most grass weeds.

Two post-emergence applications of **Axill Solutions Mesotrione 4SC** may be made with the following restrictions.

### Restrictions - Post-Emergence Application to Corn:

- Only 1 post-emergence application may be made if **Axill Solutions Mesotrione 4SC** has been applied pre-emergence.
- Do not exceed a total of 2 applications per year.
- Do not exceed a total of 7.7 fl. oz./A (0.24 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** per year.
- Do not make the second application within 14 days of the first application.
- Do not exceed a total of 6.0 fl. oz./A (0.187 lb. a.i./A) for the 2 post-emergence applications.
- Do not harvest forage, grain, or stover within 45 days after application.

Apply **Axill Solutions Mesotrione 4SC** at rates less than 3.0 fl. oz./A (0.094 lb. a.i./A) post-emergence may result in incomplete weed



control and loss of residual control.

If an application of **Axill Solutions Mesotrione 4SC** is made post-emergence to ground that received a pre-emergence application of a mesotrione-containing herbicide, atrazine must be tank mixed with **Axill Solutions Mesotrione 4SC**.

If atrazine is mixed with **Axill Solutions Mesotrione 4SC**, do not make an application to corn that is more than 12" in height. Corn may be treated up to 30" tall or up to the 8-leaf stage of corn growth.

#### **Axill Solutions Mesotrione 4SC Used Alone – Pre-Emergence**

Apply **Axill Solutions Mesotrione 4SC** alone at 6.0 - 7.7 fl. oz./A (0.187 - 0.24 lb. a.i./A) by ground sprayers in a spray volume of 10 - 30 gals. of water (up to 80 gals. if applied with liquid fertilizers) per acre for broadleaf weed control. For a list of weeds controlled, refer to Table 2. **Axill Solutions Mesotrione 4SC** may be tank mixed with pre-emergence grass herbicides for grass control. Refer to the tank mix section for a list of partners.

#### **Axill Solutions Mesotrione 4SC Tank Mixtures For Corn**

**Axill Solutions Mesotrione 4SC** may be tank mixed with other registered herbicides for improved spectrum of weed control in burndown, pre-emergence or post-emergence applications. Additionally, these tank mixtures can be used to include a different mode of action herbicide to help control or manage the development of resistant weed biotypes.

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

#### **Burndown Tank Mixtures in Corn**

**Axill Solutions Mesotrione 4SC** may be applied in tank mixture with other registered herbicides for burndown plus residual weed control.

For improved broadleaf weed control with limited residual control before planting corn and before corn emergence, make an application of **Axill Solutions Mesotrione 4SC** at 3.0 fl. oz./A (0.094 lb. a.i./A) in tank mixes with paraquat dichloride brands, glyphosate brands, dicamba brands, and/or 2,4-D. For greater residual control, use 6.0 - 7.7 fl. oz./A (0.187 - 0.24 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** (see Table 2) with the above products. Use the adjuvant system specified by the burndown herbicide. Refer to individual product labels for precautionary statements, restrictions, rates, approved uses, and a list of weeds controlled.

#### **Pre-Emergence Tank Mixtures in Corn**

**Axill Solutions Mesotrione 4SC** may be applied at a rate of 5.3 - 7.7 fl. oz./A (0.166 - 0.24 lb. a.i./A) in tank mixture with other registered herbicides (Table 5) for pre-emergence residual weed control. Refer to Table 2 for a list of weeds controlled by **Axill Solutions Mesotrione 4SC** and **Axill Solutions Mesotrione 4SC** plus atrazine applied pre-emergence.

**Table 5. Axill Solutions Mesotrione 4SC Tank Mixtures For Pre-Emergence Application in Corn\***

Acetochlor	Dimethenamide-P	Metolachlor/S-Metolachlor
Atrazine	Glyphosate	Pendimethalin

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

#### **Post-Emergence Tank Mixtures in Corn**

The tank mixtures with **Axill Solutions Mesotrione 4SC** identified in Table 6 may be applied post-emergence to corn (such as, after corn has emerged). Unless specified otherwise on this label, do not make an application of **Axill Solutions Mesotrione 4SC** at less than 3.0 fl. oz./A (0.094 lb. a.i./A). Applying **Axill Solutions Mesotrione 4SC** at rates less than 3.0 fl. oz. (0.094 lb. a.i./A) post-emergence may result in a loss of residual control.

Always add an appropriate adjuvant to the spray tank (see the **SPRAY ADDITIVES** section of this label). Refer to individual product labels for precautionary statements, restrictions, rates, approved uses, and a list of weeds controlled. Not all of the tank mix pesticides listed is registered for field corn, yellow popcorn, or sweet corn.

**Table 6. Axill Solutions Mesotrione 4SC Tank Mixtures For Post-Emergence Application in Corn**

Tank-Mix Partners*	Directions
Atrazine	Refer to Table 1 on this label for application rates and weeds controlled.
Nicosulfuron	Use this mixture for additional grass control. Refer to product label for list of weeds controlled.
Sodium Bentazon	Use this mixture for additional broadleaf weed control. Refer to product label for list of weeds controlled.
Thifensulfuron + Rimsulfuron	Use this mixture for additional weed control. Refer to product label for list of weeds controlled.
Atrazine + S-Metolachlor	When using these tank mixtures, it is advised to leave the nitrogen based adjuvant (UAN or AMS) out of the mixture or apply as a post-directed spray to minimize contact with crop foliage. To further reduce the risk of crop injury, the user may also leave out the crop oil concentrate (COC), or replace it with a nonionic surfactant (NIS). In all cases, the control of emerged weeds may be reduced somewhat due to less than optimum adjuvant effect or weed coverage.
Bromoxynil Octanoate	Use this mixture for additional broadleaf weed control. Add bromoxynil octanoate at a rate specified on the label.

Atrazine + Glyphosate + S- Metolachlor	For use only in glyphosate-resistant corn (e.g., Agrisure® GT, Roundup Ready®). Application of this mixture to a corn hybrid that is not glyphosate-resistant will result in crop death. <b>DO NOT</b> add urea ammonium nitrate (UAN) or methylated seed oil (MSO) type adjuvants to this tank mixture or crop injury may occur.
Bifenthrin + Imidacloprid	Use this tank mixture only on corn designated as LibertyLink® or warranted as being resistant to glufosinate. Application of this mixture to a corn hybrid that is not glufosinate-resistant will result in severe crop injury or death. <b>DO NOT</b> use crop oil concentrate (COC) as an adjuvant for this mixture or severe crop injury may occur.
Imazapyr + Imazethapyr	For use only on corn designated as Clearfield® corn or warranted by BASF as being resistant to imazapyr + imazethapyr. Application of this mixture to a corn hybrid that is not imazapyr + imazethapyr resistant will result in severe crop injury or death. <b>DO NOT</b> use a Methylated Seed Oil (MSO), or an MSO blend with this mixture or severe crop injury may result.
Dicamba + Primisulfuron- Methyl	Use this mixture for additional weed control. Refer to product label for list of weeds controlled.
Prosulfuron	Use this mixture for additional weed control. Refer to product label for list of weeds controlled.
Primisulfuron- Methyl + Prosulfuron	Use this mixture for additional weed control. Refer to product label for list of weeds controlled.
Nicosulfuron + Rimsulfuron	Use this mixture for additional weed control. Refer to product label for list of weeds controlled.
Nicosulfuron + Thifensulfuron- Methyl	Use this mixture for additional weed control. Refer to product label for list of weeds controlled.
Glyphosate	For use only in glyphosate-resistant corn (e.g., Agrisure GT, Roundup Ready). Application of this mixture to a corn hybrid that is not glyphosate-resistant will result in crop death. Add spray-grade ammonium sulfate (AMS) at a rate that delivers 8.5 - 17.0 lbs. of AMS/100 gals. of water. If the glyphosate product label calls for an adjuvant in addition to AMS, add a nonionic surfactant (NIS) at 0.25 - 0.5% v/v (1 - 2 qts./100 gals.). <b>DO NOT</b> add urea ammonium nitrate (UAN), crop oil concentrate (COC), or methylated seed oil (MSO) type adjuvants to this tank mixture or crop injury may occur.
*Refer to individual product labels for precautionary statements, restrictions, rates, approved uses, and a list of weeds controlled.	

### CRANBERRY

An application of **Axill Solutions Mesotrione 4SC** may be made to bearing or non-bearing cranberry beds for control or suppression of bog St. John's wort (*Hypericum boreale*), rushes (*Juncus canadensis*, *J. effuses*, *J. bufonius*, *J. tenuis*), sedges spp. (*Carex* spp.), yellow loosestrife (*Lysimachia terrestris*) and silverleaf (*Potentilla pacifica*) in addition to the weeds listed in Tables 1 and 2.

An application of **Axill Solutions Mesotrione 4SC** may be made in cranberries at a rate up to 8.0 fl. oz./A (0.25 lb. a.i./A).

The use of a crop oil concentrate (COC) type adjuvant at 1% v/v or nonionic surfactant (NIS) at 0.25% v/v is advised. An application of **Axill Solutions Mesotrione 4SC** may be made through irrigation systems (chemigation) including center pivot or solid set.

#### Restrictions - Cranberry:

- Do not apply more than 2 applications of **Axill Solutions Mesotrione 4SC** per year.
- Do not apply more than 16.0 fl. oz./A (0.5 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** in total per year.
- Do not apply more than 8.0 fl. oz./A (0.25 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** in a single application.
- If 2 applications are made, they must be made no closer than 14 days apart.
- In non-bearing cranberries, make the **Axill Solutions Mesotrione 4SC** application(s) after the bud break stage, but not less than 45 days before flooding in fall or winter.
- In bearing cranberries, make the **Axill Solutions Mesotrione 4SC** application(s) after the bud break stage, but not less than 45 days before flooding or harvest.
- Do not use COC adjuvants that are injurious to cranberry leaves.

#### Chemigation – Sprinkler Irrigation Application for Cranberry Only

Check the irrigation system to ensure uniform application of water to all areas. Thorough coverage of foliage is required for good control. Good agitation in the pesticide supply tank must be maintained before and during the entire application period. Apply by injecting the specified rate of **Axill Solutions Mesotrione 4SC** into the irrigation system using a metering device that will introduce a constant flow and by distributing the product to the target areas in 0.1 - 0.2 acre-inch of water. In general, use the least amount of water in this range required for proper distribution and coverage.

After application is completed, flush the entire irrigation and injection system with clean water before stopping the system. If application is being made during a normal irrigation set of a stationary sprinkler, the specified rate of **Axill Solutions Mesotrione 4SC** for the area covered must be injected into the system only during the end of the irrigation set for sufficient time to provide adequate coverage and product distribution.

**Chemigation Use Precautions – Sprinkler Irrigation Application**

- Apply this product only through sprinkler irrigation systems including center pivot or solid set.
- Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.
- If you have any questions about calibration, you should contact State Extension Service specialists, equipment manufacturers, or other experts.
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- 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 if 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 back-flow.
- 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 pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump, including a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and are capable of being fitted with a system interlock.
- Any alternatives to the above required safety devices must conform to the list of EPA approved alternative devices.

**Additional Restrictions - Cranberry Chemigation:**

- Do not apply directly to water or areas where surface water is present outside the bog system.
- Do not contaminate water when disposing of equipment wash water or rinsate.
- Do not make an application within 10 feet of surface water outside the bog system.
- Do not spray to runoff.
- Do not apply this product through any other type of irrigation system.
- Do not connect an irrigation system (including greenhouse systems) used for pesticide application 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 out of the year.
- Do not apply when wind speed favors drift beyond the area intended for treatment or nonuniform distribution of treated water.

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**FLAX**

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An application of **Axill Solutions Mesotrione 4SC** may be made pre-emergence in flax, i.e., after planting but before crop emergence, at a rate up to 6.0 fl. oz./A (0.187 lb. a.i./A). For a list of weeds controlled, see Tables 1 and 2. If weeds are emerged at the time of treatment, the use of a crop oil concentrate (COC) type adjuvant at the rate of 1% v/v is needed. In addition, a spray grade UAN (e.g., 28-0-0) at the rate of 2.5% v/v or AMS at the rate of 8.5 lbs./100 gals. of spray solution may be added to improve the burndown of existing weeds.

Applications of **Axill Solutions Mesotrione 4SC** to emerged flax can result in severe crop injury.

**Restriction For Flax:**

- Do not apply more than 1 application of **Axill Solutions Mesotrione 4SC** per year.
- Do not apply more than 6.0 fl. oz./A (0.187 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** per year.
- Do not apply more than 6.0 fl. oz./A (0.187 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** in a single application.

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**OATS**

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An application of **Axill Solutions Mesotrione 4SC** can be made pre-emergence or post-emergence (but not both) for weed control in oats.

For pre-emergence control or partial control of the weeds listed in Table 2, apply **Axill Solutions Mesotrione 4SC** broadcast at a rate of 6.0 fl. oz./A before oat emergence. For best pre-emergence weed control, the **Axill Solutions Mesotrione 4SC** application must be made before weed emergence.

For post-emergence (after oat emergence) control or partial control of the weeds listed in Table 1, make an application of **Axill Solutions Mesotrione 4SC** at a rate of 3.0 fl. oz./A (0.094 lb. a.i./A). For best results, an application of **Axill Solutions Mesotrione 4SC** must be made to emerged weeds that are less than 5" tall. Post-emergence applications of **Axill Solutions Mesotrione 4SC** may result in temporary injury of the oat crop. Injury symptoms may include leaf bleaching, leaf burn and in extreme conditions, stunting.

If emerged weeds are present at the time of the **Axill Solutions Mesotrione 4SC** application, the addition of a crop oil concentrate

(COC) type adjuvant at a rate of 1% v/v **or** a nonionic surfactant (NIS) type adjuvant at a rate of 0.25% v/v is needed. In addition to COC or NIS, a spray grade UAN (e.g., 28-0-0) at the rate of 2.5% v/v **or** ammonium sulfate (AMS) at the rate of 8.5 lbs./100 gals. of spray solution may be added for improved weed control. If emerged weeds are not present at the time of the **Axill Solutions Mesotrione 4SC** application, no additives are advised. If oat injury is a concern, eliminating the use of UAN or AMS will reduce the risk for post-emergence crop injury. Additionally, the use of NIS instead of COC will also reduce the oat injury risk. However, weed control is also reduced if UAN or AMS is eliminated and when switching from COC to NIS.

If the oat crop treated with Axill Solutions Mesotrione 4SC is lost or destroyed, oats may be replanted immediately. If Axill Solutions Mesotrione 4SC was applied to the lost oat crop, no additional Axill Solutions Mesotrione 4SC can be applied to the replanted oat crop.

Tank mixing other pesticides with **Axill Solutions Mesotrione 4SC** post-emergence may increase the risk of injury. **DO NOT** add pesticides with emulsifiable concentrate (EC) type formulations to **Axill Solutions Mesotrione 4SC** for applications made post-emergence to the crop.

#### Restrictions - Oats:

- Do not graze or feed forage from treated areas within 30 days following an application of **Axill Solutions Mesotrione 4SC**.
- Do not harvest oats within 50 days following the application of **Axill Solutions Mesotrione 4SC**.
- Do not apply more than 1 application of **Axill Solutions Mesotrione 4SC** per year.
- Do not apply **Axill Solutions Mesotrione 4SC** pre-emergence (before oat emergence) at more than 6.0 fl. oz./A (0.187 lb. a.i./A) per year.
- Do not apply **Axill Solutions Mesotrione 4SC** post-emergence at more than 3.0 fl. oz./A (0.094 lb. a.i./A) per year.
- Do not apply **Axill Solutions Mesotrione 4SC** pre-emergence (before oat emergence) at more than 6.0 fl. oz./A (0.187 lb. a.i./A) in a single application.
- Do not apply **Axill Solutions Mesotrione 4SC** post-emergence at more than 3.0 fl. oz./A (0.094 lb. a.i./A) in a single application.

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#### OKRA

An application of **Axill Solutions Mesotrione 4SC** can be made as a row-middle or a hooded post-direct treatment (but not both) for weed control in okra.

#### Pre-Emergence Row-Middle Application:

Make an application of **Axill Solutions Mesotrione 4SC** at a rate of 6.0 fl. oz./A (0.187 lb. a.i./A) as a banded application to the row middles before weed emergence. For this banded application, leave 1 foot of untreated area over the okra row or 6" to each side of the planted row. For banded applications, the application must be made to account for band width, i.e., to deliver 6.0 fl. oz. per treated acre (0.187 lb. a.i./A). Injury risk is greatest on coarse-textured soils (sand, sandy loam or loamy sand).

#### Post-Emergence Hooded Application:

Make an application of **Axill Solutions Mesotrione 4SC** at a rate of 3.0 fl. oz./A (0.094 lb. a.i./A) as a post-emergence directed application using a hooded sprayer for control or partial control of the weeds listed in Table 1. Okra must be at least 3" tall at the time of this application. A nonionic surfactant (NIS) type adjuvant at a rate of 0.25% v/v must be added to the spray solution. For post-emergence hooded applications, the spray equipment must be set up to minimize the amount of **Axill Solutions Mesotrione 4SC** that contacts the okra foliage or crop injury will occur. For best post-emergence results, **Axill Solutions Mesotrione 4SC** must be applied to actively growing weeds.

If the okra crop treated with **Axill Solutions Mesotrione 4SC** is lost or destroyed, okra can be replanted only in the soil band that was not treated with **Axill Solutions Mesotrione 4SC**.

#### Restrictions - Okra:

- Do not harvest okra within 28 days following the treatment of **Axill Solutions Mesotrione 4SC**.
- Do not make an application of **Axill Solutions Mesotrione 4SC** directly over the planted okra row or severe crop injury may occur.
- Do not apply more than 1 application of **Axill Solutions Mesotrione 4SC** per year.
- Do not apply **Axill Solutions Mesotrione 4SC** as a row-middle application at more than 6.0 fl. oz./A (0.187 lb. a.i./A) per year.
- Do not apply **Axill Solutions Mesotrione 4SC** as a post-directed application at more than 3.0 fl. oz./A (0.094 lb. a.i./A) per year.
- Do not apply **Axill Solutions Mesotrione 4SC** as a row-middle application at more than 6.0 fl. oz./A (0.187 lb. a.i./A) in a single application.
- Do not apply **Axill Solutions Mesotrione 4SC** as a post-directed application at more than 3.0 fl. oz./A (0.094 lb. a.i./A) in a single application.
- Do not apply **Axill Solutions Mesotrione 4SC** as a broadcast pre-emergence or broadcast post-emergence application to okra or severe injury will occur.

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#### PEARL MILLET

Make an application of **Axill Solutions Mesotrione 4SC** may be made pre-emergence in pearl millet, i.e., after planting but before

crop emergence, at a rate up to 6.0 fl. oz./A (0.1874 lb. a.i./A). For a list of weeds controlled, see Table 2. If weeds are emerged at the time of application, the use of a crop oil concentrate (COC) type adjuvant at the rate of 1% v/v is needed. In addition, a spray grade UAN (e.g., 28-0-0) at the rate of 2.5% v/v or AMS at the rate of 8.5 lbs./100 gals. of spray solution may be added to improve the burndown of existing weeds.

Applying **Axill Solutions Mesotrione 4SC** to emerged pearl millet can result in severe crop injury.

#### Restriction For Pearl Millet:

- Do not apply more than 1 application of **Axill Solutions Mesotrione 4SC** per year.
- Do not apply more than 6.0 fl. oz./A (0.187 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** per year.
- Do not apply more than 6.0 fl. oz./A (0.187 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** in a single application.

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#### RHUBARB

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An application of **Axill Solutions Mesotrione 4SC** can be made before crop emergence for weed control in established rhubarb.

Apply **Axill Solutions Mesotrione 4SC** at a rate of 6.0 fl. oz./A (0.187 lb. a.i./A) to dormant (before any spring green-up) rhubarb for control or partial control of the weeds listed in Table 2. If weeds are emerged at the time of application, it is required that a crop oil concentrate (COC) type adjuvant at 1% v/v or a nonionic surfactant (NIS) type adjuvant at a rate of 0.25% v/v be added to the spray solution. Applying **Axill Solutions Mesotrione 4SC** to rhubarb that is not dormant may result in a temporary bleaching symptomatology. Rainfall or irrigation after the **Axill Solutions Mesotrione 4SC** application may increase the risk of injury to emerging rhubarb.

#### Restrictions - Rhubarb:

- Do not harvest rhubarb within 21 days following the application of **Axill Solutions Mesotrione 4SC**.
- Do not apply more than 1 application of **Axill Solutions Mesotrione 4SC** per year.
- Do not apply more than 6.0 fl. oz./A (0.187 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** per year.
- Do not apply more than 6.0 fl. oz./A (0.187 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** in a single application.

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#### SORGHUM (GRAIN AND SWEET)

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#### Pre-Emergence Application:

An application of **Axill Solutions Mesotrione 4SC** can be made pre-emergence or pre-plant non-incorporated up to 21 days before planting sorghum for control or partial control of the weeds listed in Table 2.

Make an application of **Axill Solutions Mesotrione 4SC** pre-emergence at a rate of 6.0 - 6.4 fl. oz./A (0.187 - 0.20 lb. a.i./A) as a broadcast non-incorporated application before sorghum emergence. Applications of **Axill Solutions Mesotrione 4SC** less than 7 days before sorghum planting will increase the risk of crop injury, especially if irrigation or rainfall is received following the application. Injury symptoms include temporary bleaching of newly emerging sorghum leaves. Applications of **Axill Solutions Mesotrione 4SC** more than 7 days (but not more than 21) before planting will reduce the risk of crop injury.

If an application of **Axill Solutions Mesotrione 4SC** is made before planting, minimize disturbance of the herbicide treated soil barrier during the planting process in order to lessen the potential for weed emergence.

If emerged weeds are present at the time of the pre-emergence application, use a nonionic surfactant (NIS) type adjuvant at a rate of 0.25% v/v or a crop oil concentrate (COC) type adjuvant at a rate of 1% v/v be added to the spray solution. In addition to COC or NIS, a spray grade UAN at a rate of 2.5% v/v or ammonium sulfate (AMS) at a rate of 8.5 lbs./100 gals. of spray solution can be added to the spray solution.

#### Restrictions - Sorghum Pre-Emergence Application:

- Do not apply more than 6.4 fl. oz./A (0.20 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** per year.
- Do not apply more than 6.4 fl. oz./A (0.20 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** in single application.
- Do not apply more than 1 pre-emergence application of **Axill Solutions Mesotrione 4SC** per year.
- Do not make an application of **Axill Solutions Mesotrione 4SC** to emerged sorghum or severe crop injury may occur.
- Do not use **Axill Solutions Mesotrione 4SC** in the production of forage sorghum, sudangrass, sorghum-sudangrass hybrids, or dual purpose sorghum.
- Do not make an application of **Axill Solutions Mesotrione 4SC** to sorghum that is grown on coarse-textured soils (e.g., sandy loam, loamy sand, sand).
- In the State of Texas, do not make an application of **Axill Solutions Mesotrione 4SC** to sorghum grown south of Interstate 20 (I-20) or east of Highway 277.

#### Post-Directed Application:

An application of **Axill Solutions Mesotrione 4SC** can be made post-directed to grain sorghum for control or partial control of the weeds listed in Table 1. For best results, make an application of **Axill Solutions Mesotrione 4SC** to actively growing weeds.

Make an application of **Axill Solutions Mesotrione 4SC** at a rate of 3.0 fl. oz./A (0.094 lb. a.i./A) as a post-directed application when the grain sorghum is a minimum of 8" tall. Make the application by directing the spray between the crop rows and towards the base

of the grain sorghum plant. Direct application of **Axill Solutions Mesotrione 4SC** onto grain sorghum foliage can result in crop injury including temporary bleaching. If crop injury does occur, newly emerging leaves following treatment are typically unaffected.

Use a nonionic surfactant (NIS) type adjuvant at a rate of 0.25% v/v **or** a crop oil concentrate (COC) type adjuvant at a rate of 1% v/v be added to the spray solution. In addition to COC or NIS, a spray grade Urea Ammonium Nitrate (UAN) at a rate of 2.5% v/v **or** ammonium sulfate (AMS) at a rate of 8.5 lbs./100 gals. of spray solution can be added to the spray solution.

**Axill Solutions Mesotrione 4SC** may be tank mixed with other herbicides registered for grain sorghum for improved spectrum of weed control. Additionally, these tank mixtures can be used to include a herbicide with a different mode of action to help control or manage the development of resistant weed biotypes.

#### Restrictions - Sorghum Post-Directed Application:

- Do not apply more than 1 post-directed application of **Axill Solutions Mesotrione 4SC** per year.
- Do not apply more than 3.0 fl. oz./A (0.094 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** post-directed and not more than 6.4 fl. oz./A (0.20 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** per year.
- Do not make an application of **Axill Solutions Mesotrione 4SC** broadcast over-the-top to emerged sorghum or severe crop injury may occur.
- Do not harvest grain sorghum for forage for 30 days following application.
- Do not harvest for grain or stover for 60 days following application.
- Do not make an application of **Axill Solutions Mesotrione 4SC** after the sorghum seedhead has begun to emerge.
- Do not use **Axill Solutions Mesotrione 4SC** in the production of forage sorghum, sudangrass, or sorghum-sudangrass hybrids.

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#### SOYBEANS (Mesotrione-Resistant Varieties Only.)

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Make an application of **Axill Solutions Mesotrione 4SC** can only be made pre-emergence and only to soybeans that are identified as mesotrione-resistant. Applications to soybeans that are not mesotrione-resistant will result in significant crop injury. For a list of mesotrione-resistant soybean varieties, contact your Seed provider.

#### Pre-Emergence Application:

For pre-emergence control of the weeds listed in Table 2, make an application of **Axill Solutions Mesotrione 4SC** before soybean emergence at a rate of 6.0 fl. oz./A (0.187 lb. a.i./A). Use the higher rate for longer residual control. This product may be tank mixed with other registered soybean herbicides including s-metolachlor, metolachlor and sodium salt of fomesafen. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

If weeds are emerged at the time of application, add either a nonionic surfactant (NIS) at 1 qt./100 gals. (0.25% v/v) or a crop oil concentrate (COC) at 1 gal./100 gals. (1% v/v). In addition to NIS or COC, also add either ammonium sulfate (AMS) at 8.5 - 17 lbs./100 gals. (or equivalent).

#### Restrictions - Soybeans:

- Do not apply more than 6.0 fl. oz./A (0.187 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** per year.
- Do not apply more than 6.0 fl. oz./A (0.187 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** in a single application.
- Do not apply more than 1 application of **Axill Solutions Mesotrione 4SC** per year.
- Do not make an application of **Axill Solutions Mesotrione 4SC** to emerged soybeans.
- Do not graze or feed soybean forage or hay to livestock.

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#### SUGARCANE

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An application of **Axill Solutions Mesotrione 4SC** can be made by ground for pre-emergence, post-emergence over-the-top or post-emergence directed weed control in sugarcane.

An application of **Axill Solutions Mesotrione 4SC** may also be made aerially for pre-emergence or post-emergence weed control only in the following states: Florida, Louisiana, and Texas.

#### Pre-Emergence Application:

Make an application of **Axill Solutions Mesotrione 4SC** for pre-emergence weed control at 6.0 - 7.7 fl. oz./A (0.187 - 0.24 lb. a.i./A) after the planting of plant-cane or after harvest of ratoon-cane. For a list of weeds controlled pre-emergence, refer to Table 2. If some weeds are already emerged at the time of application, add a crop oil concentrate (COC) type adjuvant at a rate of 1% v/v **or** a nonionic surfactant (NIS) type adjuvant at a rate of 0.25% v/v to the spray solution. In addition to COC or NIS, a spray grade UAN at a rate of 2.5% v/v **or** ammonium sulfate (AMS) at a rate of 8.5 lbs./100 gals. of spray solution can be added to the spray solution. For improved pre-emergence weed control, atrazine or ametryn can be tank mixed with **Axill Solutions Mesotrione 4SC**. Refer to the tank mix partner label for specific rates and use directions.

#### Post-Emergence Application:

Make an application of **Axill Solutions Mesotrione 4SC** for post-emergence at 3.0 fl. oz./A (0.094 lb. a.i./A) for control of the weeds listed in Table 1. Post-emergence applications may be made as a post-over-the-top or as a post-directed spray to the base of the sugarcane. If a pre-emergence application was made earlier in the season, only 1 post-emergence application can be made. If no

pre-emergence application was made earlier in the season, both a post-over-the-top and a post-directed application can be made. For best results, **Axill Solutions Mesotrione 4SC** must be applied to actively growing weeds.

For post-emergence applications, add either a crop oil concentrate (COC) type adjuvant at a rate of 1% v/v or a nonionic surfactant (NIS) type adjuvant to the spray solution. In addition to COC or NIS, the use of a spray grade UAN (e.g., 28-0-0) at 2.5% v/v or ammonium sulfate (AMS) at a rate of 8.5 lbs./100 gals. of spray solution can be added for improved control of weeds.

For additional post-emergence weed control, **Axill Solutions Mesotrione 4SC** can be tank mixed with atrazine, asulam, and/or pyridinesulfonamide. Refer to the tank mix product labels for specific rates and use directions.

#### Restrictions - Sugarcane:

- Do not apply more than 7.7 fl. oz./A (0.24 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** as a pre-emergence application.
- Do not apply more than 3.0 fl. oz./A (0.094 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** in a post-emergence application.
- Do not apply more than 2 applications of **Axill Solutions Mesotrione 4SC** per year. If a pre-emergence application of **Axill Solutions Mesotrione 4SC** is made, only 1 post-emergence application is allowed.
- Do not apply 2 **Axill Solutions Mesotrione 4SC** applications less than 14 days apart.
- Do not apply more than 10.7 fl. oz./A (0.334 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** per year.
- Do not harvest sugarcane within 114 days following a post-over-the-top application of **Axill Solutions Mesotrione 4SC** (114-day PHI).
- Do not harvest sugarcane within 100 days following a post-directed application of **Axill Solutions Mesotrione 4SC** (100-day PHI).

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### TURFGRASSES

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An application of **Axill Solutions Mesotrione 4SC** is made pre-emergence and post-emergence to provide selective contact and residual control of turfgrass weeds. If application is made pre-emergence, **Axill Solutions Mesotrione 4SC** is absorbed by the weeds as they emerge from the soil. Pre-emergence activity and control is reduced under dry conditions, and therefore **Axill Solutions Mesotrione 4SC** must be activated with 0.15" of irrigation if rain hasn't fallen within 10 days of application.

Post-emergent control is obtained by absorption into the soil and contact with foliage. Growth ceases post-application, weeds turn white from chlorophyll loss, and die within 21 days. A repeat application 14-21 days after the initial application will improve post-emergence weed control. Add a nonionic surfactant (NIS) when making post-emergence applications.

Turfgrass color can temporarily become white after treatment, typically occurring 5 to 7 days post-application and lasting for several weeks. A second application to the same site will cause less whitening of plant tissue.

**Axill Solutions Mesotrione 4SC** controls weeds before and during seeding of certain turfgrasses during turf renovation (see **New Seedings**).

If making pre-emergence application to established turf, tank mix **Axill Solutions Mesotrione 4SC** with other pre-emergence herbicides including those containing pendimethalin for longer residual and broad-spectrum control.

Make an application of **Axill Solutions Mesotrione 4SC** at reduced rates of 4 fl. oz./A (0.125 lb. a.i./A) or less if tank mixing with atrazine, bentazon, or simazine. Before tank mixing **Axill Solutions Mesotrione 4SC** with other herbicides, conduct a compatibility, safety, and efficacy test before treating larger areas.

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

#### Use Sites

An application of **Axill Solutions Mesotrione 4SC** may be applied to commercial and residential turfgrasses. Non-crop area use sites include golf courses, sod farms, athletic fields, parks, residential and commercial properties, cemeteries, airports, and lawns.

#### Turfgrass Species & Application Rates

Species Application	Application Rate (Fl. Oz. per Acre)
Kentucky Bluegrass ( <i>Poa pratensis</i> )	5 - 8 fl. oz.
Centipedegrass ( <i>Eremochloa ophiuroides</i> )	5 - 8 fl. oz.
Buffalograss ( <i>Buchloe dactyloides</i> )	5 - 8 fl. oz.
Tall Fescue ( <i>Festuca arundinacea</i> )	5 - 8 fl. oz.
Perennial ryegrass* ( <i>Lolium perenne</i> )	5 fl. oz.
Fine Fescue* (Creeping Red, Chewing's, and Hard) ( <i>Festuca</i> spp.)	5 fl. oz.
St. Augustinegrass* (Grown For Sod) ( <i>Stenotaphrum secundatum</i> )	4 fl. oz.

\*See additional rate instructions below.

**Pre-Emergence Application:**

Make an application of **Axill Solutions Mesotrione 4SC** at 4 - 8 fl. oz./A (0.125 – 0.25 lb. a.i./A) in at least 30 gals. of water per acre before seeds germinate and as close to seed germination as possible. Combine this product with another pre-emergence herbicide including pendimethalin for extended control of crabgrass and foxtail.

**Precaution - Pre-Emergence**

- **Axill Solutions Mesotrione 4SC** is most effective on established turf when applied post-emergence unless it is combined with another soil active herbicide.

**Restrictions - Pre-Emergence**

- Do not exceed 5 fl. oz./A (0.156 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** per application to perennial ryegrass, fine fescues, or mixed stands that consist of >50% perennial ryegrass and/or fine fescue.
- **St. Augustinegrass Sod:** Do not exceed 4 fl. oz. per acre (0.125 lb. a.i./A) per application.

**New Seedings / New Lawns Application:**

Make an application of **Axill Solutions Mesotrione 4SC** at 5 - 8 fl. oz./A (0.156 - 0.25 lb. a.i./A) in at least 30 gals. of water per acre before seeding or after seeding of non-sensitive turfgrass species listed below, except fine fescue, as application to fine fescue can reduce grass density. **Axill Solutions Mesotrione 4SC** can be effectively used on grass seed blends that contain <20% by weight hard/fine fescue. For optimal control, apply at grass seeding or as close to seeding as possible.

**Restriction - New Seedings / New Lawns**

- Do not spray on newly germinated turfgrass. Delay treatment until grass has been mowed 2 to 4 times and/or 28 days after emergence, whichever is longer.

**Post-Emergence Application:**

Make an application of **Axill Solutions Mesotrione 4SC** at 4 - 8 fl. oz./A (0.125 – 0.25 lb. a.i./A) in at least 30 gals. of water per acre with a NIS surfactant. Make a repeat application 14 to 21 days later for optimal weed control. Apply to young, actively growing weeds.

**Precaution - Post-Emergence**

- Moisture stress and application to mature weeds can reduce herbicide efficacy.

**Bentgrass (*Agrostis* spp.) / Nimbleweed (*Muhlenbergia schreberi*) Control:**

Make an application of **Axill Solutions Mesotrione 4SC** at 5 fl. oz./A (0.156 lb. a.i./A) in at least 30 gals. of water per acre combined with a NIS surfactant at 14 to 21 days intervals for a maximum of 3 applications. For optimal Bentgrass control, apply in late summer/early fall just before new growth.

**St. Augustinegrass (Sod Uses Only) and Centipedegrass Treatment:**

Make applications to established turf ONLY.

**Restrictions - St. Augustinegrass (Sod Uses Only) and Centipedegrass**

- Do not exceed 4 fl. oz./A (0.125 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** if tank mixing with atrazine or simazine.
- Do not exceed 0.5 lb./A atrazine or simazine active ingredient. See atrazine/simazine labels for precautions and restrictions.

**Dormant Bermudagrass Application Only:**

Make an application of **Axill Solutions Mesotrione 4SC** at 5 fl. oz./A (0.156 lb. a.i./A) to control winter weeds listed in the **WEEDS CONTROLLED** table below. Make a repeat application 14 to 21 days later. Applying **Axill Solutions Mesotrione 4SC** to semi-dormant turf will cause bermudagrass whitening.

**Spot Applications of Axill Solutions Mesotrione 4SC:**

Spray Mix	Application Rate	Rate of this Product	Rate of NIS Adjuvant
2 gallons	1 gallon per 1,000 sq. ft.	1 teaspoon	3 teaspoons

**Restriction - Spot Application**

- Do not apply more than 16 fl. oz./A of **Axill Solutions Mesotrione 4SC** per year (equivalent to 0.5 lb. a.i. per acre per year).

**WEEDS CONTROLLED****PRE-EMERGENCE APPLICATION**

Make an application of **Axill Solutions Mesotrione 4SC** with a grass pre-emergence herbicide including UP-End® Hydrocap, except when used to control weeds in new seedings. **Axill Solutions Mesotrione 4SC** will control the following weeds using pre-emergence application:

Common Name	Scientific Name	Common Name	Scientific Name
Barnyardgrass	<i>Echinochloa crusgalli</i>	Foxtail (Yellow)	<i>Setaria glauca</i>
Bentgrass (Creeping)	<i>Agrostis stolonifera</i>	Galinsoga	<i>Galinsoga ciliate</i>
Bluegrass (Annual) - suppression only	<i>Poa annua</i>	Lambsquarters (Common)	<i>Chenopodium album</i>



Buckhorn Plantain	<i>Plantago lanceolata</i>	Pigweed (Redroot)	<i>Amaranthus retroflexus</i>
Carpetweed	<i>Mollugo verticillata</i>	Pigweed (Smooth)	<i>Amaranthus hybridus</i>
Chickweed (Common)	<i>Stellaria media</i>	Purslane (Common)	<i>Portulaca oleracea</i>
Chickweed (Mouseear)	<i>Cerastium vulgatum</i>	Shepherd's Pursue	<i>Capsella bursa-pastoris</i>
Clover (Large Hop)	<i>Trifolium aureum</i>	Smartweed (Pale)	<i>Polygonum lapathifolium</i>
Clover (White)	<i>Trifolium repens</i>	Smartweed (Pennsylvania)	<i>Polygonum pensylvanicum</i>
Crabgrass (Large)	<i>Digitaria sanguinalis</i>	Speedwell (Persian)	<i>Veronica persica</i>
Crabgrass (Smooth)	<i>Digitaria ischaemum</i>	Speedwell (Purslane)	<i>Veronica peregrine</i>
Crabgrass (Southern)	<i>Digitaria ciliaris</i>	Wild Carrot	<i>Daucus carota</i>

**POST-EMERGENCE APPLICATION**

Make a second application of **Axill Solutions Mesotrione 4SC** 7 to 14 days after initial treatment. For optimal control, add a NIS-type surfactant and apply to young, actively growing weeds. **Axill Solutions Mesotrione 4SC** will control the following weeds using post-emergence application:

Common Name	Scientific Name	Common Name	Scientific Name
Barnyardgrass	<i>Echinochloa crusgalli</i>	Henbit	<i>Lamium amplexicaule</i>
Bentgrass (Creeping)	<i>Agrostis stolonifera</i>	Lambsquarters (Common)	<i>Chenopodium album</i>
Buckhorn Plantain	<i>Plantago lanceolata</i>	Lawn Burweed	<i>Soliva sessilis</i>
Buttercup	<i>Ranunculus sardous</i>	Lovegrass (Tufted)	<i>Eragrostis pectinacea</i>
Carpetweed	<i>Mollugo verticillata</i>	Marestail	<i>Conyza Canadensis</i>
Chickweed (Common)	<i>Stellaria media</i>	Nimblewill	<i>Muhlenbergia schreberi</i>
Chickweed (Mouseear)	<i>Cerastium vulgatum</i>	Nutsedge (Yellow)	<i>Cyperus esculentus</i>
Clover (Large Hop)	<i>Trifolium aureum</i>	Oxalis	<i>Oxalis stricta</i>
Clover (White)	<i>Trifolium repens</i>	Pigweed (Redroot)	<i>Amaranthus retroflexus</i>
Crabgrass (Large)*	<i>Digitaria sanguinalis*</i>	Pigweed (Smooth)	<i>Amaranthus hybridus</i>
Crabgrass (Smooth)*	<i>Digitaria ischaemum*</i>	Purslane (Common)	<i>Portulaca oleracea</i>
Crabgrass (Southern)*	<i>Digitaria ciliaris*</i>	Shepherd's Pursue	<i>Capsella bursa-pastoris</i>
Curly Dock	<i>Rumex crispus</i>	Smartweed (Pale)	<i>Polygonum lapathifolium</i>
Dandelion (Catsear)	<i>Hypochoeris radicata</i>	Smartweed (Pennsylvania)	<i>Polygonum pensylvanicum</i>
Dandelion (Common)	<i>Taraxacum officinale</i>	Sowthistle	<i>Sonchus oleraceus</i>
Florida Betony	<i>Stachys floridana</i>	Swinecress	<i>Coronopus didymus</i>
Florida Pusley	<i>Richardia scabra</i>	Thistle (Canada)	<i>Cirsium arvense</i>
Foxtail (Yellow)	<i>Setaria glauca</i>	Verbena	<i>Verbena hastate</i>
Galinsoga	<i>Galinsoga ciliate</i>	Wild Carrot	<i>Daucus carota</i>
Goosegrass*	<i>Eleusine indica*</i>	Wild Violet	<i>Viola pratincola</i>
Ground Ivy	<i>Glechoma hederacea</i>	Windmillgrass	<i>Chloris verticillata</i>
Heal-All	<i>Prunella vulgaris</i>		

\*For optimal control, apply to less than 4 tiller crabgrass and goosegrass.

**Precautions - Turfgrass:**

- Thoroughly clean application equipment after use to avoid injury to sensitive plants.
- To avoid injury to sensitive species, keep traffic out of treated areas until sprays have dried; irrigate soil lightly to move **Axill Solutions Mesotrione 4SC** from turf foliage before resuming normal irrigation.

**Restrictions - Turfgrass:**

- Do not overspray or allow spray to drift to ornamentals or flower beds and gardens. Roses and daylilies are particularly sensitive to **Axill Solutions Mesotrione 4SC**.
- Do not apply more than 16 fl. oz./A (or 0.50 lb. a.i.) of **Axill Solutions Mesotrione 4SC** per year.
- Do not apply more than 8 fl. oz./A (0.125 lb. a.i./A) in a single application.
- Do not apply more than 2 applications per acre per year.
- Do not plant any crop other than turfgrass for 18 months post-application of **Axill Solutions Mesotrione 4SC** to avoid turfgrass injury.
- If multiple application are made, they must be made no closer than 14 days apart.
- Do not make an application of organophosphate or carbamate insecticides within 7 days of applying **Axill Solutions Mesotrione 4SC**.
- **Residential Lawns:** Do not make broadcast applications for pre-and post-emergent weed control unless the home lawn is being reseeded and/or renovated as whitening of some turfgrasses may occur.
- Do not make an application of **Axill Solutions Mesotrione 4SC** through any type of irrigation system.
- Do not make an application by air.
- Do not use treated clippings to mulch trees or vegetable/flower gardens.
- Do not make an application of this product on bentgrass, *Poa annua*, kikuyugrass, zoysiagrass, seashore paspalum, and bermudagrass, when plant injury is unacceptable. Maintain a 5-foot buffer between treated areas and bentgrass or *Poa annua* greens.
- Do not make an application over the top of exposed roots of trees and ornamentals.
- Do not use on golf course putting greens; maintain a minimum of a 5-foot buffer between putting greens and treated areas.

## STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Keep container tightly closed when not in use. Do not store near seed, fertilizers, or foodstuffs. Can be stored at temperatures as low as 20°F. Keep away from heat and flame.

**PESTICIDE DISPOSAL:** Open dumping is prohibited. Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

### **CONTAINER HANDLING [Less Than or Equal to 5 Gallons]:**

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or 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 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by State and local authorities.

### **CONTAINER HANDLING [Greater Than 5 Gallons]:**

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the person refilling. To clean container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10% 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 by other procedures approved by State and local authorities.

### **CONTAINER HANDLING [Greater Than 5 Gallons]:**

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by State and local authorities.

## CONDITION OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

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

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather, presence of other materials or other influencing factors in the use of the product, which are beyond the control of Axill Solutions LLC or Seller. To the extent consistent with applicable law, all such risks shall be assumed by Buyer and User, and Buyer and User agree to hold Axill Solutions LLC and Seller harmless for any claims relating to such factors.

Axill Solutions LLC warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or Axill Solutions LLC, and Buyer and User assume the risk of any such use. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, AXILL SOLUTIONS LLC MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

To the extent consistent with applicable law, neither Axill Solutions LLC nor Seller shall be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF AXILL SOLUTIONS LLC AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF AXILL SOLUTIONS LLC OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

Axill Solutions LLC and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of Axill Solutions LLC.

**MESOTRIONE** | **GROUP 27** | **HERBICIDE**

# Axill Solutions Mesotrione 4SC

## ABN: Axill Solutions Mesotrione SC

**[Sub-Label B - Pages 25 - 45:]**

For Control of Annual Broadleaf Weeds in Asparagus, Berries, Bluegrass, Ryegrass (Annual and Perennial) and Tall Fescue Grown For Seed, Citrus Fruit, Corn (Field, Seed, Sweet, and Yellow Popcorn), Cranberry, Flax, Oats, Okra, Pearl Millet, Pome Fruit, Rhubarb, Sorghum (Grain and Sweet), Soybean, Stone Fruit and Tree Nuts, and Sugarcane.

<b>Active Ingredient:</b>	<b>% By Weight</b>
Mesotrione: 2-[4-(methylsulfonyl)-2-nitrobenzoyl]-1,3-cyclohexanedione .....	40.0%
<b>Other Ingredients:</b> .....	<u>60.0%</u>
<b>Total:</b> .....	<b>100.0%</b>

Axill Solutions Mesotrione 4SC is formulated as a soluble concentrate and contains 4 lbs. of active ingredient mesotrione per gallon.

### KEEP OUT OF REACH OF CHILDREN CAUTION / PRECAUCIÓN

Si usted no entiende la 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.)

<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 eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF ON SKIN OR CLOTHING:</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>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 the poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>

**HOTLINE NUMBERS**

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For 24-Hour Medical Emergency Assistance (Human or Animal), call: **1-800-222-1222**. For Chemical Emergency Assistance (Spill, Leak, Fire, or Accident), call CHEMTREC: **1-800-424-9300**.

[Optional referral statements when booklets and container labels are used:

See label booklet for [complete] [additional] [First Aid,] [Precautionary Statements,] [Directions For Use,] and [Storage and Disposal].

EPA Reg. No.: 93809-XX

EPA Est. No.: \_\_\_\_\_

**Manufactured For:**  
 Axill Solutions, LLC  
 P.O. Box 398  
 Clinton, NC 28329

Net Contents: \_\_\_\_\_ [Gals./Liters]

## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

#### CAUTION

Causes moderate eye irritation. Harmful if absorbed through skin, inhaled or swallowed. Avoid contact with skin, eyes, or clothing. 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
- Shoes plus socks
- Chemical-resistant gloves

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.

#### ENGINEERING CONTROL STATEMENTS

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

#### USER SAFETY RECOMMENDATIONS

##### Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

#### ENVIRONMENTAL HAZARDS

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

#### SURFACE WATER ADVISORY

This product may contaminate water through drift of spray in wind. This product has a high potential for runoff for several weeks after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. A level, well maintained vegetative buffer strip between areas to which this product is applied and surface water features including ponds, streams, and springs will reduce the potential for contamination of water from runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. Sound erosion control practices will reduce this product's contribution to surface water contamination.

#### PHYSICAL AND CHEMICAL HAZARDS

Do not mix or allow contact with reducing and/or oxidizing agents. Hazardous chemical reaction may occur.

#### 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 12 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, including plants, soil, or water, is:

- Coveralls
- Shoes plus socks
- Chemical-resistant gloves

#### PRODUCT INFORMATION

**Axill Solutions Mesotrione 4SC** is a systemic pre-emergence and post-emergence herbicide for the selective contact and residual control of broadleaf weeds in asparagus, bush and caneberry, bluegrass, ryegrass (annual and perennial) and tall fescue grown for seed, citrus fruit, corn (field, seed, sweet, and yellow popcorn), cranberry, flax, oats, okra, pearl millet, pome fruit, rhubarb, sorghum (grain and sweet), soybean, stone fruit and tree nuts, sugarcane and turfgrass. When used for pre-emergence, weeds take up the product through the soil during emergence. Dry conditions following application may reduce the pre-emergence activity of **Axill Solutions Mesotrione 4SC**. If an activating rain (0.25 inch) is not received within 7 to 10 days after a pre-emergence application, where it is appropriate, rotary hoeing is suggested. When used post-emergence, susceptible weeds take up the herbicide through the treated foliage and cease growth soon after treatment.

Complete death of the weeds may take up to 14 days. The product is absorbed through the soil and/or by the foliage of emerged weeds.

**Axill Solutions Mesotrione 4SC** is not effective for the control of most grass weeds. Pre-emergence grass herbicides or post-emergence grass herbicides can be tank mixed with **Axill Solutions Mesotrione 4SC** to provide broad-spectrum weed control in corn (see appropriate section of label for this information). **Axill Solutions Mesotrione 4SC** can be applied post-emergence following a pre-emergence grass herbicide application. **Axill Solutions Mesotrione 4SC** can also be used in combination with a burndown herbicide, before planting, to provide added burndown and residual weed control in field corn, seed corn, yellow popcorn, and sweet corn.

#### USE RESTRICTIONS

- Do not make application of **Axill Solutions Mesotrione 4SC** to white popcorn or ornamental (Indian) corn.
- Do not cultivate corn within 7 days before or after an **Axill Solutions Mesotrione 4SC** application as weed control from the **Axill Solutions Mesotrione 4SC** application may be reduced.
- Do not make application of this product through any type of irrigation system unless specified otherwise under the specific crop section on the label.
- Do not make application of this product with suspension fertilizers as the carrier.
- Do not make application of **Axill Solutions Mesotrione 4SC** post-emergence in a tank mix with emulsifiable concentrate grass herbicides, unless specifically addressed under one of the tank mix sections of this label, or injury may occur.
- Do not use aerial application to apply **Axill Solutions Mesotrione 4SC** unless specified otherwise under the specific crop section on the label.

#### USE PRECAUTIONS

- Severe corn injury resulting in yield loss may occur if **Axill Solutions Mesotrione 4SC** application is made post-emergence to corn that was treated with terbufos or chlorpyrifos.
- Severe corn injury resulting in yield loss may occur if **Axill Solutions Mesotrione 4SC** application is made to foliar post-emergence corn in a tank mix with any organophosphate or carbamate insecticide.
- Severe corn injury resulting in yield loss may occur if any organophosphate or carbamate insecticide is applied to foliar post-emergence within 7 days before or 7 days after **Axill Solutions Mesotrione 4SC** is applied.
- When weeds are stressed due to drought, heat, lack of fertility, flooding, or prolonged cool temperatures, control can be reduced or delayed since the weeds are not actively growing. Weed escapes or regrowth may occur when treatment is made under prolonged stress conditions. Optimum weed control will be obtained if an application of **Axill Solutions Mesotrione 4SC** is made following label directions when weeds are actively growing.
- An application of **Axill Solutions Mesotrione 4SC** may be made with pyrethroid type insecticides (e.g., lambda-cyhalothrin).

#### RESISTANCE MANAGEMENT

**Axill Solutions Mesotrione 4SC** contains mesotrione and is classified in the triketone chemical class as a Group 27 herbicide, inhibitor of 4-hydroxyphenyl-pyruvatedioxygenase. Herbicide resistance is defined as the inherited ability of a plant to survive and reproduce following exposure to a dose of herbicide normally lethal to the wild type. In a plant, resistance may be naturally occurring or induced by such techniques as genetic engineering or selection of variants produced by tissue culture or mutagenesis. Any weed population may contain or develop plants that are naturally resistant to **Axill Solutions Mesotrione 4SC** and other Group 27 herbicides. Weed species with acquired resistance to Group 27 herbicides may eventually dominate the weed population if Group 27 herbicides are used repeatedly in the same field or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species by **Axill Solutions Mesotrione 4SC** or other Group 27 herbicides.

To delay herbicide resistance, consider the below best practices for resistance management:

- Plant into weed-free fields and keep fields as weed-free as possible.
- To the extent possible, use a diversified approach toward weed management. Whenever possible, incorporate multiple weed-control practices including mechanical cultivation, biological management practices, and crop rotation.
- Fields with difficult to control weeds should be rotated to crops that allow the use of herbicides with alternative mechanisms of action or different management practices.
- To the extent possible, do not allow weed escapes to produce seeds, roots or tubers. Manage weed seeds at harvest and post-harvest to prevent a buildup of the weed seed-bank.
- Prevent field-to-field and within-field movement of weed seed or vegetative propagules. Thoroughly clean plant residues from equipment before leaving fields.
- Prevent an influx of weeds into the field by managing field borders.

- Identify weeds present in the field through scouting and field history and understand their biology. The weed-control program should consider all of the weeds present.
- Difficult to control weeds may require sequential applications of herbicides with differing mechanisms of action.
- Apply this herbicide at the correct timing and rate needed to control the most difficult weed in the field.
- Use a broad-spectrum soil-applied herbicide with a mechanism of action that differs from this product as a foundation in a weed-control program. Do not use more than 2 applications of this or any other herbicide with the same mechanism of action within a single growing season unless mixed with an herbicide with another mechanism of action with an overlapping spectrum for the difficult-to-control weeds.
- If resistance is suspected, treat weed escapes with an herbicide with a different MOA or use non-chemical methods to remove escapes.
- Monitor treated weed populations for loss of field efficacy.
- Scout field(s) before and after application.
- Report lack of performance to Axill Solutions LLC or their representative.

Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species.

Contact your local sales representative, extension agent, or certified crop advisors to find out if suspected resistant weeds to this MOA have been found in your region. If resistant biotypes of target weeds have been reported, use the application rates of this product specified for your local conditions. Tank mix products so that there are multiple effective mechanisms of action for each target weed.

### INTEGRATED PEST (WEED) MANAGEMENT

**Axill Solutions Mesotrione 4SC** should be integrated into an overall weed and pest management strategy whenever the use of a herbicide is required. Practices known to reduce weed development (tillage, crop competition) and herbicide use (weed scouting, proper application timing, banding) must be followed wherever possible. Consult local agricultural and weed authorities for additional IPM strategies established for your area.

#### MANDATORY SPRAY DRIFT

##### Aerial Applications

- Do not release spray at a height greater than 10 ft. above the vegetative canopy, unless a greater application height is necessary for pilot safety.
- For all applications, applicators are required to use a coarse to coarser spray droplet size (ASABE S572.1).
- The boom length must not exceed 65% of the wingspan for airplanes or 75% of the rotor blade diameter for helicopters.
- Applicators must use ½ swath displacement upwind at the downwind edge of the field.
- Nozzles must be oriented so the spray is directed toward the back of the aircraft.
- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- Do not apply during temperature inversions.

##### Ground Applications

- Apply with the nozzle height recommended by the manufacturer, but no more than 3 feet above the ground or crop canopy.
- For all applications, applicators are required to use a coarse to coarser spray droplet size (ASABE S572.1).
- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- Do not apply during temperature inversions.

##### Spray Drift Advisories

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

##### IMPORTANCE OF DROPLET SIZE

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

##### Controlling Droplet Size - Ground Boom

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

##### Controlling Droplet Size - Aircraft

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

**BOOM HEIGHT - Ground Boom**

Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. For ground equipment, the boom should remain level with the crop and have minimal bounce.

**RELEASE HEIGHT - Aircraft**

Higher release heights increase the potential for spray drift. When applying aerially to crops, do not release spray at a height greater than 10 ft above the crop canopy, unless a greater application height is necessary for pilot safety.

**SHIELDED SPRAYERS**

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

**TEMPERATURE AND HUMIDITY**

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

**TEMPERATURE INVERSIONS**

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

**WIND**

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

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

**APPLICATION INFORMATION**  
**PRE-EMERGENCE GROUND APPLICATION**

Make application in a spray volume of 10 - 60 gals. per acre using water or liquid fertilizer (excluding suspension fertilizers) as the carrier. Use a pump that can maintain a pressure of at least 35 - 40 PSI at the nozzles and provide proper agitation within the tank to keep the product dispersed. Lower pressures may be used with extended range or drift reduction nozzles.

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

**POST-EMERGENCE GROUND APPLICATION**

Good weed coverage is essential for optimum weed control. Boom height for broadcast over-the-top applications must be based on the height of the crop – at least 15 inches above the crop canopy.

Make application in a spray volume of 10 - 30 gals. per acre using water as a carrier. Use a pump that can maintain a pressure of at least 35 - 40 PSI at the nozzles and provide proper agitation within the tank to keep the product dispersed. Lower pressures may be used with extended range or drift reduction nozzles. When weed foliage is dense, use a minimum of 20 gals.

Flat fan nozzles of 80° or 110° are needed for optimum post-emergence coverage. Do not use flood-jet nozzles or controlled droplet application equipment for post-emergence applications.

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

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

**Aerial Application****Restrictions:**

- An application of **Axill Solutions Mesotrione 4SC** may be made aerially only to corn and sugarcane.
- Aerial applications must be made in a minimum of 2 gals. of water per acre.
- **For Corn** – An application of **Axill Solutions Mesotrione 4SC** may be made aerially for pre-emergence or post-emergence weed control only in the following states: Alabama, Arizona, Arkansas, Colorado, Connecticut, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Nebraska, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, and Wyoming.
- **For Sugarcane** – An application of **Axill Solutions Mesotrione 4SC** may be made aerially for pre-emergence or post-emergence weed control only in the following states: Florida, Louisiana, and Texas.

**SPRAY ADDITIVES: POST-EMERGENCE ADJUVANTS**

When using an adjuvant with this product, an adjuvant that meets the standards of the Chemical Producers and Distributors Association (CPDA) adjuvant certification program is advised.

The following adjuvant specifications are intended primarily for **Axill Solutions Mesotrione 4SC** use in corn. Refer to the use directions section of each crop section for specific adjuvant specifications.

#### POST-EMERGENCE APPLICATIONS TO FIELD CORN AND SEED CORN

For post-emergence applications made after the crop has emerged, add crop oil concentrate (COC) to the spray solution at the rate of 1 gal. per 100 gals. of water (1.0% v/v). The use of a nonionic surfactant (NIS) at 1 qt./100 gals. of water (0.25% v/v) instead of COC is allowed, but the weed control achieved with COC is consistently better than NIS. The use of methylated seed oil (MSO) adjuvants or MSO blend adjuvants for post-emergence applications of **Axill Solutions Mesotrione 4SC** may cause severe crop injury to occur. **DO NOT** use MSO adjuvants for post-emergence use unless directed for a specific tank mix under the **Axill Solutions Mesotrione 4SC Tank Mixtures For Corn** section of this label. In addition to COC, always add spray grade UAN (e.g., 28-0-0) to the spray solution at a rate of 2.5% v/v or AMS at 8.5 lbs./100 gals. of spray solution, except if precluded elsewhere on this label.

#### POST-EMERGENCE APPLICATIONS TO SWEET CORN AND YELLOW POPCORN

**DO NOT** add UAN or AMS when making post-emergence applications of **Axill Solutions Mesotrione 4SC** to yellow popcorn or sweet corn, or severe crop injury may occur.

When making applications for post-emergence to yellow popcorn and sweet corn, the use of a nonionic surfactant (NIS) instead of a crop oil concentrate (COC) is advised, so as to minimize the risk of crop injury. A COC may be used, and will increase the level of weed control achieved, especially under dry growing conditions, but the risk of crop injury is increased significantly under lush growing conditions. For optimum control, add atrazine wherever rotational or local atrazine restrictions allow.

#### PRE-EMERGENCE ADJUVANTS

When making applications of **Axill Solutions Mesotrione 4SC** for pre-plant or pre-emergence, and where weeds are present, the use of any adjuvant for agricultural use is permitted. In these situations, MSO type adjuvants are typically better than COC type adjuvants, which are typically better than NIS type adjuvants for enhancing weed control. UAN or AMS can be added and typically provides better weed control than not adding one of these. If **Axill Solutions Mesotrione 4SC** is being tank mixed with another registered herbicide in this situation, refer to the tank mix partner label for adjuvant precautions and restrictions. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

#### SPRAY EQUIPMENT

##### Cleaning Equipment after Axill Solutions Mesotrione 4SC Application

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

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

#### MIXING PROCEDURES

See the **CROP USE DIRECTIONS** sections of this label for specific tank mix instructions.

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

The compatibility of any tank mix combination is to be tested on a small scale including a jar test before actual tank mixing.

Follow the mixing instructions for adding **Axill Solutions Mesotrione 4SC** to the spray tank:

1. Only use sprayers in good running condition with good agitation. Ensure the sprayer is cleaned according to instructions on the label of the product used before **Axill Solutions Mesotrione 4SC**. For post-emergence applications, use only clean water for the spray solution. Ensure that all in-line strainer and nozzle screens in the sprayer are 50-mesh or coarser. **DO NOT** use screens finer than 50-mesh.
2. Liquid fertilizer (excluding suspension fertilizers) may be used as the carrier for pre-emergence applications.



3. Begin to fill sprayer tank or premix tank with clean water and engage agitator. Agitation must be continued throughout the entire mixing and spraying procedure.
4. When the sprayer or premix tank is half full of water, add AMS and agitate until completely dispersed.
5. Next add **Axill Solutions Mesotrione 4SC** slowly and agitate until completely dissolved. Wait at least 1 minute after the last of the **Axill Solutions Mesotrione 4SC** has been added to the tank to allow for complete dispersion. A longer agitation period may be required to disperse **Axill Solutions Mesotrione 4SC** when using cold water from sources including deep drilled wells.
6. If tank mixing, add the tank mix product next.
7. Finally, add adjuvant and UAN, if needed, and then continue to fill tank to desired level with water.

**Restriction:** This product cannot be mixed with any product containing a label prohibition against such mixing. **DO NOT** tank mix **Axill Solutions Mesotrione 4SC** with any other insecticide, fungicide, fertilizer solution, or adjuvant not specified on the label without testing compatibility, as poor mixing may result.

#### WEEDS CONTROLLED

Make applications of **Axill Solutions Mesotrione 4SC** as directed in this label will control or partially control the weeds listed in Tables 1 and 2.

Where reference is made to weeds partially controlled, partial control can either mean erratic control (good to poor) or consistent control at a level below that generally considered acceptable for commercial weed control.

For best post-emergence results, make application of **Axill Solutions Mesotrione 4SC** to actively growing weeds. Dry weather following pre-emergence application of **Axill Solutions Mesotrione 4SC** may reduce residual weed control effectiveness. If irrigation is available, apply ½ to 1" of water after pre-emergence application. If irrigation is not available, a uniform shallow cultivation is needed as soon as weeds emerge.

Make applications of **Axill Solutions Mesotrione 4SC** alone or in mixture with atrazine will not provide consistent or effective control of weeds identified as resistant to post-emergence HPPD-inhibiting herbicides.

Refer to the crop sections on this label for specific rates and use directions.

**Table 1. Weeds Controlled With Post-Emergence Applications of Axill Solutions Mesotrione 4SC**

Common Name	Scientific Name	Axill Solutions Mesotrione 4SC 3.0 Fl. Oz./A	Axill Solutions Mesotrione 4SC 2.5 - 3.0 Fl. Oz./A + Atrazine <sup>1</sup>
		Apply to Weeds <5 Inches Tall <sup>2</sup>	
Amaranth, Palmer	<i>Amaranthus palmeri</i>	PC*	C*
Amaranth, Powell	<i>Amaranthus powellii</i>	C	C
Amaranth, Spiny	<i>Amaranthus spinosus</i>	C	C
Atriplex	<i>Chenopodium orach</i>	C	C
Broadleaf Signalgrass	<i>Urochloa platyphylla</i>	C*	C*
Buckwheat, Wild	<i>Polygonum convolvulus</i>	PC	PC
Buffalobur	<i>Solanum rostratum</i>	C	C
Burcucumber	<i>Sicyos angulatus</i>	PC	C*
Carpetweed	<i>Mollugo verticillata</i>	C	C
Carrot, Wild	<i>Daucus carota</i>	PC	C
Chickweed, Common	<i>Stellaria media</i>	C	C
Cocklebur, Common	<i>Xanthium strumarium</i>	C	C
Crabgrass, Large	<i>Digitaria sanguinalis</i>	C*	C*
Dandelion	<i>Taraxacum officinale</i>	NC	PC
Dock, Curly	<i>Rumex crispus</i>	PC	PC
Galinsoga	<i>Galinsoga parviflora</i>	C	C
Hemp	<i>Cannabis sativa</i>	C	C
Horsenettle	<i>Solanum carolinense</i>	PC	C
Jimsonweed	<i>Datura stramonium</i>	C	C
Horseweed (Marestail)	<i>Conyza canadensis</i>	PC	C
Knotweed, Prostrate	<i>Polygonum aviculare</i>	PC	PC
Kochia	<i>Kochia scoparia</i>	PC*	C*
Lambsquarters, Common	<i>Chenopodium album</i>	C	C
Mallow, Venice	<i>Hibiscus trionum</i>	NC	C
Morningglory, Entireleaf	<i>Ipomoea hederacea</i>	PC	C
Morningglory, Ivyleaf	<i>Ipomoea hederacea</i>	PC	C
Morningglory, Pitted	<i>Ipomoea lacunosa</i>	PC	C
Mustard, Wild	<i>Brassica kaber</i>	C	C
Nightshade, Black	<i>Solanum nigrum</i>	C	C
Nightshade, Eastern Black	<i>Solanum ptycanthum</i>	C	C

Nightshade, Hairy	<i>Solanum sarrachoides</i>	C	C
Nutsedge, Yellow	<i>Cyperus esculentus</i>	PC	PC
Pigweed, Redroot	<i>Amaranthus retroflexus</i>	C	C
Pigweed, Smooth	<i>Amaranthus hybridus</i>	C	C
Pigweed, Tumble	<i>Amaranthus albus</i>	C	C
Pokeweed, Common	<i>Phytolacca americana</i>	PC	PC
Potatoes, Volunteer	<i>Solanum spp.</i>	C	C
Pusley, Florida	<i>Richardia scabra</i>	C*	C*
Ragweed, Common	<i>Ambrosia artemisiifolia</i>	PC	C
Ragweed, Giant	<i>Ambrosia trifida</i>	C*	C
Sesbania, Hemp	<i>Sesbania exaltata</i>	C	C
Sida, Prickly (Teaweed)	<i>Sida spinosa</i>	NC	C*
Smartweed, Ladysthumb	<i>Polygonum persicaria</i>	C*	C
Smartweed, Pale	<i>Polygonum lapathifolium</i>	C*	C
Smartweed, Pennsylvania	<i>Polygonum pennsylvanicum</i>	C*	C
Sunflower, Common	<i>Helianthus annuus</i>	C	C
Thistle, Canada	<i>Cirsium arvense</i>	NC	PC
Velvetleaf	<i>Abutilon theophrasti</i>	C	C
Waterhemp, Common	<i>Amaranthus rudis</i>	C*	C
Waterhemp, Tall	<i>Amaranthus tuberculatus</i>	C*	C

\*Apply before weed exceeds 3" in height.

<sup>1</sup>Axill Solutions Mesotrione 4SC tank mixture with atrazine is approved only for use on corn and sugarcane.

<sup>2</sup>Under certain situations weeds can be controlled at larger than listed sizes, however to protect crop yield, manage weed resistance and provide consistent control, treat weeds before they exceed 5" in height.

C = Control      PC = Partial Control      NC = Not Controlled

**Table 2. Weeds Controlled With Pre-Emergence Applications of Axill Solutions Mesotrione 4SC**

Common Name	Scientific Name	Axill Solutions Mesotrione 4SC Applied Alone	Axill Solutions Mesotrione 4SC + Atrazine <sup>1</sup>
Amaranth, Palmer	<i>Amaranthus palmeri</i>	C	C
Amaranth, Powell	<i>Amaranthus powellii</i>	C	C
Amaranth, Spiny	<i>Amaranthus spinosus</i>	C	C
Broadleaf Signalgrass	<i>Urochloa platyphylla</i>	PC	PC
Buffalobur	<i>Solanum rostratum</i>	C	C
Burclover, California	<i>Medicago polymorpha</i>	C	-
Carpetweed	<i>Mollugo verticillata</i>	C	C
Carrot, Wild	<i>Daucus carota</i>	C	-
Chickweed, Common	<i>Stellaria media</i>	C	C
Chickweed, Mouseear	<i>Cerastium vulgatum</i>	C	-
Cocklebur, Common	<i>Xanthium strumarium</i>	PC	C
Crabgrass, Large	<i>Digitaria sanguinalis</i>	PC	PC
Dandelion, Common (Seedling)	<i>Taraxacum officinale</i>	C	-
Deadnettle, Purple	<i>Lamium purpureum</i>	C	-
Dock, Curly	<i>Rumex crispus</i>	C	-
Evening Primrose, Cutleaf	<i>Oenothera laciniata</i>	C	-
Fiddleneck, Coast	<i>Amsinckia intermedia</i>	C	-
Filaree, Redstem	<i>Erodium cicutarium</i>	C	-
Filaree, Whitestem	<i>Erodium moschatum</i>	C	-
Fleabane, Hairy	<i>Conyza bonariensis</i>	C	-
Galinsoga	<i>Galinsoga parviflora</i>	C	C
Geranium, Carolina	<i>Geranium carolinianum</i>	C	-
Groundcherry, Smooth	<i>Physalis subglabrata</i>	C	-
Groundsel, Common	<i>Senecio vulgaris</i>	C	-
Henbit	<i>Lamium amplexicaule</i>	C	-
Horsenettle	<i>Solanum carolinense</i>	PC	-
Horseweed/Marestail	<i>Conyza canadensis</i>	C	-
Jimsonweed	<i>Datura stramonium</i>	C	C
Kochia	<i>Kochia scoparia</i>	PC	C
Lambsquarters, Common	<i>Chenopodium album</i>	C	C
Lettuce, Prickly	<i>Lactuca serriola</i>	C	-
Mallow, Common	<i>Malva neglecta</i>	C	-
Mayweed, Chamomile	<i>Anthemis cotula</i>	C	-
Morningglory, Entireleaf	<i>Ipomoea hederacea</i>	PC	C
Morningglory, Ivyleaf	<i>Ipomoea hederacea</i>	PC	C
Morningglory, Pitted	<i>Ipomoea lacunosa</i>	PC	C

Nettle, Burning	<i>Urtica urens</i>	C	-
Nightshade, Eastern Black	<i>Solanum ptycanthum</i>	C	C
Nightshade, Hairy	<i>Solanum sarrachoides</i>	C	C
Pansy	<i>Viola tricolor</i>	C	-
Pigweed, Redroot	<i>Amaranthus retroflexus</i>	C	C
Pigweed, Smooth	<i>Amaranthus hybridus</i>	C	C
Pigweed, Tumble	<i>Amaranthus albus</i>	C	C
Pineappleweed	<i>Matricaria matricarioides</i>	C	-
Puncturevine, Common	<i>Tribulus terrestris</i>	C	-
Purslane, Common	<i>Portulaca oleracea</i>	C	-
Pusley, Common	<i>Richardia scabra</i>	PC	-
Ragweed, Common	<i>Ambrosia artemisiifolia</i>	C	C
Ragweed, Giant	<i>Ambrosia trifida</i>	PC	C
Redmaids	<i>Calandrinia caulescens</i>	C	-
Rocket, London	<i>Sisymbrium irio</i>	C	-
Shepherd's Purse	<i>Capsella bursa-pastoris</i>	C	-
Smartweed, Ladythumb	<i>Polygonum persicaria</i>	C	C
Smartweed, Pale	<i>Polygonum lapathifolium</i>	C	C
Smartweed, Pennsylvania	<i>Polygonum pennsylvanicum</i>	C	C
Sowthistle, Annual	<i>Sonchus oleraceus</i>	C	-
Spanishneedles	<i>Bidens bipinnata</i>	C	-
Sunflower, Common	<i>Helianthus annuus</i>	PC	C
Swinecress	<i>Coronopus didymus</i>	C	-
Tassel Flower, Red	<i>Emilia sonchifolia</i>	C	-
Velvetleaf	<i>Abutilon theophrasti</i>	C	C
Waterhemp, Common	<i>Amaranthus rudis</i>	C	C
Vetch, Common	<i>Vicia sativa</i>	C	-
Vetch, Purple	<i>Vicia benghalensis</i>	PC	-
Waterhemp, Tall	<i>Amaranthus tuberculatus</i>	C	C
Willowherb, Panicle	<i>Epilobium brachycarpum</i>	C	-

<sup>1</sup>Axill Solutions Mesotrione 4SC tank mixture with atrazine is approved only for use on corn grain sorghum and sugarcane. Refer to the crop sections on this label for specific use directions.

C = Control      PC = Partial Control

### ROTATIONAL CROP INTERVALS

When making an application of **Axill Solutions Mesotrione 4SC** as directed on this label, follow the crop rotation intervals in Table 3. If **Axill Solutions Mesotrione 4SC** is tank mixed with other products, follow the most restrictive product's crop rotation interval.

**Table 3. Time Interval Between Axill Solutions Mesotrione 4SC Application and Replanting or Planting of Rotational Crop**

Crop	Replant/Rotational Interval (Months)
Asparagus, Corn (all types), Cranberry, Flax, Kentucky bluegrass grown for seed, Millet (pearl), Oats, Rhubarb, Ryegrass (perennial and annual) grown for seed, Sorghum (grain and sweet), Sugarcane, and Tall fescue grown for seed	Anytime
Soybean	Immediate
Small grain cereals including wheat, barley, and rye	4
Alfalfa, Blueberry, Canola, Cotton, Currant, Lingonberry, Okra, Peanuts, Peas*, Potato, Rice, Snap beans*, Sunflowers, and Tobacco	10
Cucurbits, Dry beans, Red clover, Sugar beets, and All other rotational crops	18

\*Plant these rotational crops only if the following criteria below have been met. If all criteria are not met, plant peas and snap beans a minimum of 18 months following **Axill Solutions Mesotrione 4SC** application:

- A minimum of 20" of rainfall plus irrigation has been received between application and planting of the rotational crop.
- Soil pH is 6.0 or greater.
- Applying **Axill Solutions Mesotrione 4SC** at 3.0 fl. oz./A or less applied no later than June 30 the year preceding rotational crop planting.
- No other HPPD herbicides (such as, mesotrione, S-metolachlor, metolachlor, glyphosate, atrazine, topramezone, isoxaflutole, thiencazabone-methyl, and tembotrione) were applied the year before planting peas and snap beans.

#### Rotational Crop Restriction:

- Do not plant peas or snap beans on sand, sandy loam, or loamy sand soils in Minnesota or Wisconsin.

### CROP USE DIRECTIONS

#### ASPARAGUS

Make applications of **Axill Solutions Mesotrione 4SC** as a broadcast or banded at a rate of 3.0 - 7.7 fl. oz./A (0.094 - 0.24 lb. a.i./A) to asparagus as a spring application before spear emergence, as a post-harvest application (after final harvest), or both.

Use the 3.0 fl. oz./A (0.094 lb. a.i./A) rate for post-emergence control or partial control of the emerged weeds listed in Table 1. Use

the 6.0 - 7.7 fl. oz./A (0.187 - 0.24 lb. a.i./A) rate for pre-emergence control or partial control of the weeds listed in Table 2. For banded applications, the application must be made to account for band width, i.e., to deliver 3.0 - 7.7 fl. oz. (0.094 - 0.24 lb. a.i./A) per treated acre. For the best pre-emergence weed control with spring applications, make an application of **Axill Solutions Mesotrione 4SC** after fern mowing, disking or other tillage operation but before asparagus spear emergence.

When applying post-harvest, the rate applied pre-emergence in the spring must be taken into account so as not to exceed the 7.7 fl. oz./A (0.24 lb. a.i./A) per year rate limit. Post-harvest applications must be made in a way that minimizes contact with any standing asparagus spears or ferns and maximizes contact with the weeds and/or soil, e.g., by using a directed or semi-directed type application, or crop injury may occur.

The use of an adjuvant will increase the risk of crop injury when applying post-harvest.

If weeds are emerged at the time of the **Axill Solutions Mesotrione 4SC** application, the addition of a crop oil concentrate (COC) type adjuvant at the rate of 1% v/v or a nonionic surfactant (NIS) at the rate of 0.25% v/v is needed. In addition to COC or NIS, a spray grade UAN (e.g., 28-0-0) at the rate of 2.5% v/v or ammonium sulfate (AMS) at the rate of 8.5 lbs./100 gals. of spray solution may be added for improved burndown of emerged weeds. If weeds have not yet emerged, no adjuvant is required.

#### Restrictions - Asparagus:

- Do not apply more than 7.7 fl. oz./A (0.24 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** per year.
- Do not apply more than 7.7 fl. oz./A (0.24 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** in a single application.
- Do not make the second application within 14 days of the first application.
- Do not apply more than 2 applications of **Axill Solutions Mesotrione 4SC** per year.

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#### BLUEGRASS, RYEGRASS (ANNUAL AND PERENNIAL) AND TALL FESCUE GROWN FOR SEED

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An application of **Axill Solutions Mesotrione 4SC** can be made to bluegrass, ryegrass (annual and perennial), or tall fescue which is grown for seed. An application of **Axill Solutions Mesotrione 4SC** can be made as a pre-emergence application to bare soil (new seeding) or as a post-emergence application to an emerged grass crop.

#### Pre-Emergence Application:

Make an application of **Axill Solutions Mesotrione 4SC** as a broadcast, surface spray at a rate of 6.0 fl. oz./A (0.187 lb. a.i./A) to a newly seeded crop. The application of **Axill Solutions Mesotrione 4SC** must be made before crop and weed emergence. Rainfall or irrigation as the newly seeded grass crop emerges from the soil may increase the risk of injury from **Axill Solutions Mesotrione 4SC**. Grass crop injury symptoms include temporary bleaching of newly emerged leaves, or in extreme conditions, stunting. For a list of pre-emergence weeds controlled or partially controlled, see Table 2. In addition to the weeds listed in Table 2, **Axill Solutions Mesotrione 4SC** applied pre-emergence will control mannagrass.

#### Post-Emergence Application:

Make an application of **Axill Solutions Mesotrione 4SC** as a broadcast post-emergence spray at a rate of 3.0 - 6.0 fl. oz./A (0.094 - 0.187 lb. a.i./A) to emerged bluegrass, perennial ryegrass or tall fescue grown for seed. Use the 3.0 fl. oz./A (0.094 lb. a.i./A) rate for post-emergence control or partial control of the weeds listed in Table 1. In addition to the weeds listed in Table 2, **Axill Solutions Mesotrione 4SC** applied post-emergence will control mannagrass (up to 3 tillers).

Use the 6.0 fl. oz./A (0.187 lb. a.i./A) rate for post-emergence weed control plus extended residual weed control (see Table 2). The addition of a crop oil concentrate type adjuvant at 1% v/v or a nonionic surfactant (NIS) type adjuvant at a rate of 0.25% v/v is needed. Post-emergence applications of **Axill Solutions Mesotrione 4SC** may result in temporary bleaching of the grass crop.

In addition to COC or NIS, a spray grade UAN (e.g., 28-0-0) at the rate of 2.5% v/v or ammonium sulfate (AMS) at the rate of 8.5 lbs./100 gals. of spray solution may also be added for improved control of emerged weeds. The addition of UAN or AMS will improve consistency of post-emergence weed control but will also increase the risk of grass crop injury, especially at **Axill Solutions Mesotrione 4SC** rates greater than 3.0 fl. oz./A (0.094 lb. a.i./A). If grass crop injury is a concern, do not add UAN or AMS to the spray solution.

Tank mixing other pesticides with **Axill Solutions Mesotrione 4SC** post-emergence may increase the risk of crop injury. **DO NOT** add pesticides with emulsifiable concentrate (EC) type formulations to **Axill Solutions Mesotrione 4SC** for applications made post-emergence to the crop.

#### Restrictions - Grass Grown For Seed:

- Do not harvest the grass crop for seed or straw within 60 days following the application of **Axill Solutions Mesotrione 4SC**.
- Do not graze or feed forage from treated areas within 14 days following harvest of seed or straw and at least 74 days after application of **Axill Solutions Mesotrione 4SC**.
- Do not apply more than 2 applications of **Axill Solutions Mesotrione 4SC** per year.
- Do not apply more than 6.0 fl. oz./A (0.187 lb. a.i./A) in a single application and not more than 9.0 fl. oz./A (0.28 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** per year.
- Do not make application of **Axill Solutions Mesotrione 4SC** to grasses grown for seed species not listed on this label.

**BERRY (GROUP 13)**

**Note:** Not all cultivars and types of berries that are included within the Environmental Protection Agencies definition of berries (Group 13) have been tested and shown to have adequate crop safety to **Axill Solutions Mesotrione 4SC**. Those that have been tested, and are believed to be reasonably fit, are listed below along with use directions for that crop. If **Axill Solutions Mesotrione 4SC** is used on bush or caneberries not listed below, severe crop injury may occur.

An application of **Axill Solutions Mesotrione 4SC** may be made as a pre-bloom post-directed spray in high bush blueberry, lingonberry, red currant, black currant, black raspberry, red raspberry, and blackberry. For a list of weeds controlled, see Tables 1 and 2. An application of **Axill Solutions Mesotrione 4SC** may be made in bush or caneberries at a rate up to 6.0 fl. oz./A (0.187 lb. a.i./A). If a split application weed control program is desired, 3.0 fl. oz./A followed by 3.0 fl. oz./A may be used. The use of a crop oil concentrate (COC) type adjuvant at the rate of 1% v/v is needed, but do not use COC adjuvants that are injurious to bush or caneberry leaves.

In lowbush blueberries, an application of **Axill Solutions Mesotrione 4SC** may only be made in the non-bearing year. This treatment may be a broadcast application. Up to 6.0 fl. oz./A (0.187 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** may be applied in a single application, or 3.0 fl. oz./A (0.094 lb. a.i./A) followed by 3.0 fl. oz./A (0.094 lb. a.i./A) if used in a split application program. The use of a crop oil concentrate (COC) type adjuvant at 1% v/v is needed. Applying **Axill Solutions Mesotrione 4SC** during dry weather conditions and/or temperatures above 85°F can cause injury to lowbush blueberries.

Applying **Axill Solutions Mesotrione 4SC** can cause yellowing or necrosis of leaves and under severe conditions, leaf drop may occur especially on "Sourtop" variety blueberries.

**Restrictions - Bush and Caneberry:**

- Do not apply more than 2 applications of **Axill Solutions Mesotrione 4SC** per year.
- Do not apply more than 6.0 fl. oz./A (0.187 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** in total per year.
- Do not apply more than 6.0 fl. oz./A (0.187 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** in a single application.
- If 2 applications are made, they must be made no closer than 14 days apart.
- Do not make an application of **Axill Solutions Mesotrione 4SC** to bush or caneberries after the onset of the bloom stage or illegal residues may occur.

**CITRUS FRUIT, POME FRUIT, STONE FRUIT, AND TREE NUTS**

**Axill Solutions Mesotrione 4SC** may be used for post-emergence and residual control of weeds listed in Tables 1 and 2 in the following crops.

**Citrus Fruit (Crop Group 10-10):** Australian Desert Lime, Australian Finger Lime, Australian Round Lime, Brown River Finger Lime, Calamondin, Citron, Citrus Hybrids, Grapefruit, Japanese Summer Grapefruit, Kumquat, Lemon, Lime, Mediterranean Mandarin, Sour Orange, Sweet Orange, Pummelo, Russell River Lime, Satsuma Mandarin, Sweet Lime, Tachibana Orange, Tahiti Lime, Tangelo, Tangerine (Mandarin), Tangor, Trifoliate Orange, Uniq Fruit, Cultivars, varieties and/or hybrids of these.

**Pome Fruit (Crop Group 10-11):** Apple, Azarole, Crabapple, Loquat, Mayhaw, Medlar, Pear, Asian Pear, Quince, Chinese Quince, Japanese Quince, Tejocote, Cultivars, Varieties and/or Hybrids of these.

**Stone Fruit (Crop Group 12-12):** Apricot, Japanese Apricot, Capulin, Black Cherry, Nanking Cherry, Sweet Cherry, Tart Cherry, Chinese Jujube, Nectarine, Peach, Plum, American Plum, Beach Plum, Canada Plum, Cherry Plum, Chickasaw Plum, Damson Plum, Japanese Plum, Klamath Plum, Prune Plum, Plumcot, Sloe, Cultivars, Varieties and/or Hybrids of these.

**Tree Nuts (Crop Group 14-12):** African Nut-Tree, Almond, Beech Nut, Brazil Nut, Brazilian Pine, Bunya, Bur Oak, Butternut, Cajou Nut, Candlenut, Cashew, Chestnut, Chinquapin, Coconut, Coquito Nut, Dika Nut, Ginkgo, Guiana Chestnut, Hazelnut (Filbert), Heartnut, Hickory Nut, Japanese Horse-Chestnut, Macadamia Nut, Mongongo Nut, Monkey-Pot, Monkey Puzzle Nut, Okari Nut, Pachira Nut, Peach Palm Nut, Pecan, Pequi, Pili Nut, Pine Nut, Pistachio, Sapucaia Nut, Tropical Almond, Black Walnut, English Walnut, Yellowhorn, Cultivars, Varieties and/or Hybrids of these.

**Spray Additives**

For treatment to emerged weeds, the use of crop oil concentrate (COC) type adjuvant at 1% v/v or nonionic surfactant (NIS) at 0.25% v/v is needed. Addition of ammonium sulfate or other nitrogen-based adjuvants will increase efficacy when used in combination with COC or NIS. For more information, see **Spray Additives** section on this label.

**Banded Applications**

When applying a row or banded treatment of **Axill Solutions Mesotrione 4SC**, the following formula may be used to calculate the amount per acre:

$$\frac{\text{Band Width in Inches}}{\text{Row Width in Inches}} \times \text{Broadcast Rate per Acre} = \text{Amount Needed per Acre of Field}$$

**Tank Mix Instructions**

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

**Axill Solutions Mesotrione 4SC** may be mixed and applied in combination with most commonly used herbicides registered for use in the approved crops in order to expand the post-emergence (paraquat dichloride, glycine, glufosinate or oxyfluorfen) or residual (simazine, norflurazon, rimsulfuron, oryzalin, oxyfluorfen, pendimethalin, diuron, bromacil, or indaziflam) weed control spectrum. These tank mixtures can be used to help control or manage the development of resistant weeds. The application of mixtures or sequences of effective herbicides, with different sites of action, can provide the diversity needed for management of herbicide resistance.

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

#### Weed Control (Table 1 and 2)

**Axill Solutions Mesotrione 4SC** provides both post-emergence and pre-emergence control of susceptible weeds. Best control is obtained if post-emergence applications are made before weeds reach 5" in height (Table 1) or before germination of seed for pre-emergence control (Table 2). Rainfall or irrigation soon after application will enhance pre-emergence activity.

#### Use Directions

Apply as a directed or shielded spray. Ensure that the soil is settled, firm and relatively free of debris at time of application. Also ensure that the soil is free of depressions around trees where rain or irrigation water can concentrate. Make the first application of **Axill Solutions Mesotrione 4SC** in late fall/early winter or spring and subsequent applications using one of the programs noted in the Table 4.

**Table 4. Axill Solutions Mesotrione 4SC Application Programs, Rates, and Intervals**

Program	Application Rate (Fl. Oz./A)			Application Interval (Week)
	1 <sup>st</sup> Application	2 <sup>nd</sup> Application	3 <sup>rd</sup> Application	
1	6	6	-	20
2	6	3	-	6
3	6	3	3	6
4	3	3	3	6

For optimum post-emergence weed control, make an application of **Axill Solutions Mesotrione 4SC** to actively growing weeds in tank mixture with burndown herbicides including paraquat dichloride, and glyphosate products before weeds exceed 5" in height.

For effective residual weed control, **Axill Solutions Mesotrione 4SC** must be moved into the weed seed germination zone. For pre-emergence weed control, make an application of **Axill Solutions Mesotrione 4SC** before rainfall or irrigation. For optimum residual control, **Axill Solutions Mesotrione 4SC** can be tank-mixed with herbicides including simazine, norflurazon, rimsulfuron, oxyfluorfen, pendimethalin, diuron, bromacil or indaziflam, where approved for use.

Subsequent application(s) of **Axill Solutions Mesotrione 4SC** can be made alone or in tank mixture, with the herbicides noted above, if weed emergence occurs.

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

Apply **Axill Solutions Mesotrione 4SC** in a spray volume of 10 - 40 gals. per acre.

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

#### Precautions - Citrus Fruit, Pome Fruit, Stone Fruit, and Tree Nuts:

- To avoid crop injury, apply by spraying of the product to the grove or orchard floor and to the weeds. Avoid making contact with crop foliage, stems or fruit. Contact of **Axill Solutions Mesotrione 4SC** with the crop may result in bleaching injury that is typically temporary. Use trunk guards to protect plants until adequate bark has developed.
- Specified rates are based on broadcast treatment. For band applications around trees in fruit or nut plantings, reduce the broadcast rate of **Axill Solutions Mesotrione 4SC** and carrier per acre in proportion to the area actually sprayed (refer to the **Banded Applications** section).

#### Restrictions - Citrus Fruit, Pome Fruit, Stone Fruit, and Tree Nuts:

- Apply **Axill Solutions Mesotrione 4SC** only in pome fruit, stone fruit and nut trees that have been established for a minimum of 12 months. An application of **Axill Solutions Mesotrione 4SC** can be made in citrus trees or plantings that are less than 12 months old and are exhibiting normal growth and vigor.
- Do not apply in orchards that are stressed due to poor weather or other abiotic factors.
- Do not exceed a total of 12.0 fl. oz./A (0.375 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** per year or in a 12-month period.
- Do not exceed 6.0 fl. oz./A (0.187 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** for the first and single application.
- Do not exceed 3 applications of **Axill Solutions Mesotrione 4SC** per year or in a 12-month period.
- Allow at least 5 months between applications of **Axill Solutions Mesotrione 4SC** at 6.0 fl. oz./A (0.187 lb. a.i./A), and at least 6 weeks between applications of 6.0 fl. oz./A (0.187 lb. a.i./A), and subsequent applications of 3.0 fl. oz./A (0.094 lb. a.i./A). (Applications must follow one of the four programs listed in Table 4 above.)
- Do not harvest pome fruit, stone fruit or tree nuts within 30 days after treatment.
- Do not harvest citrus fruit within 1 day after application.
- Do not use on soils with greater than 20% gravel.

- Do not make an application of **Axill Solutions Mesotrione 4SC** through any type of irrigation system.
- Do not make an application of **Axill Solutions Mesotrione 4SC** by air.
- Do not apply when nuts or fruits are on the ground at harvest.

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## CORN

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Make application of **Axill Solutions Mesotrione 4SC** by ground for pre-emergence or post-emergence weed control in field corn, seed corn, yellow popcorn, and sweet corn.

An application of **Axill Solutions Mesotrione 4SC** can also be made aerially for pre-emergence or post-emergence weed control only in the following states: Alabama, Arizona, Arkansas, Colorado, Connecticut, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, and Wyoming.

Refer to seed company instructions for use on field corn inbred lines. Special adjuvant restrictions must be followed for post-emergence applications of **Axill Solutions Mesotrione 4SC** in yellow popcorn or sweet corn (see the **SPRAY ADDITIVES** section of this label).

Post-emergence applications (after crop emergence) of **Axill Solutions Mesotrione 4SC** may cause crop bleaching in some yellow popcorn and sweet corn hybrids. Crop bleaching is typically transitory and has no effect on final yield or quality. However, herbicide sensitivity in yellow popcorn and sweet corn varies widely, and all yellow popcorn and sweet corn hybrids have not been tested. Contact your popcorn or sweet corn company, crop advisor, or University specialist about hybrid instructions before making a post-emergence application of **Axill Solutions Mesotrione 4SC** to yellow popcorn or sweet corn.

Temporary crop response (transient bleaching) from post-emergence applications to field corn may occur under extreme weather conditions or when the crop is suffering from stress. Field corn quickly outgrows these effects and develops normally.

### Restrictions - Corn:

- Do not make an application of **Axill Solutions Mesotrione 4SC** more than a total of 7.7 fl. oz./A (0.24 lb. a.i./A) per year.
- Do not apply more than 2 applications of **Axill Solutions Mesotrione 4SC** per year.
- Do not exceed 3.0 fl. oz./A (0.094 lb. a.i./A) in a single post-emergence application.
- Do not make the second application of **Axill Solutions Mesotrione 4SC** within 14 days of the first application.
- Do not feed or harvest forage, grain, or stover within 45 days after application.
- Do not make an application of **Axill Solutions Mesotrione 4SC** to white popcorn or ornamental (Indian) corn.
- Do not include nitrogen based adjuvants (UAN or AMS) when making post-emergence applications of Axill Solutions Mesotrione 4SC to yellow popcorn or sweet corn.

Make an application of **Axill Solutions Mesotrione 4SC** for the control of broadleaf and grass weeds listed in Tables 1 and 2. Corn may be treated up to 30" tall or up to the 8-leaf stage of corn growth.

### Axill Solutions Mesotrione 4SC Used Alone – Post-Emergence

Apply **Axill Solutions Mesotrione 4SC** at 3.0 fl. oz./A (0.094 lb. a.i./A) per application. Always add an appropriate adjuvant to the spray tank (see the **SPRAY ADDITIVES** section of this label).

For best results, apply **Axill Solutions Mesotrione 4SC** to actively growing weeds. For a list of weeds controlled, see Table 1. Susceptible weeds which emerge soon after application of **Axill Solutions Mesotrione 4SC** may be controlled after they absorb the herbicide from the soil. **Axill Solutions Mesotrione 4SC** will not control most grass weeds.

Two post-emergence applications of **Axill Solutions Mesotrione 4SC** may be made with the following restrictions.

### Restrictions - Post-Emergence Application to Corn:

- Only 1 post-emergence application may be made if **Axill Solutions Mesotrione 4SC** has been applied pre-emergence.
- Do not exceed a total of 2 applications per year.
- Do not exceed a total of 7.7 fl. oz./A (0.24 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** per year.
- Do not make the second application within 14 days of the first application.
- Do not exceed a total of 6.0 fl. oz./A (0.187 lb. a.i./A) for the 2 post-emergence applications.
- Do not harvest forage, grain, or stover within 45 days after application.

Apply **Axill Solutions Mesotrione 4SC** at rates less than 3.0 fl. oz./A (0.094 lb. a.i./A) post-emergence may result in incomplete weed control and loss of residual control.

If an application of **Axill Solutions Mesotrione 4SC** is made post-emergence to ground that received a pre-emergence application of a mesotrione-containing herbicide, atrazine must be tank mixed with **Axill Solutions Mesotrione 4SC**.

If atrazine is mixed with **Axill Solutions Mesotrione 4SC**, do not make an application to corn that is more than 12" in height. Corn may be treated up to 30" tall or up to the 8-leaf stage of corn growth.

#### **Axill Solutions Mesotrione 4SC Used Alone – Pre-Emergence**

Apply **Axill Solutions Mesotrione 4SC** alone at 6.0 - 7.7 fl. oz./A (0.187 - 0.24 lb. a.i./A) by ground sprayers in a spray volume of 10 - 30 gals. of water (up to 80 gals. if applied with liquid fertilizers) per acre for broadleaf weed control. For a list of weeds controlled, refer to Table 2. **Axill Solutions Mesotrione 4SC** may be tank mixed with pre-emergence grass herbicides for grass control. Refer to the tank mix section for a list of partners.

#### **Axill Solutions Mesotrione 4SC Tank Mixtures For Corn**

**Axill Solutions Mesotrione 4SC** may be tank mixed with other registered herbicides for improved spectrum of weed control in burndown, pre-emergence or post-emergence applications. Additionally, these tank mixtures can be used to include a different mode of action herbicide to help control or manage the development of resistant weed biotypes.

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

#### **Burndown Tank Mixtures in Corn**

**Axill Solutions Mesotrione 4SC** may be applied in tank mixture with other registered herbicides for burndown plus residual weed control.

For improved broadleaf weed control with limited residual control before planting corn and before corn emergence, make an application of **Axill Solutions Mesotrione 4SC** at 3.0 fl. oz./A (0.094 lb. a.i./A) in tank mixes with paraquat dichloride brands, glyphosate brands, dicamba brands, and/or 2,4-D. For greater residual control, use 6.0 - 7.7 fl. oz./A (0.187 - 0.24 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** (see Table 2) with the above products. Use the adjuvant system specified by the burndown herbicide. Refer to individual product labels for precautionary statements, restrictions, rates, approved uses, and a list of weeds controlled.

#### **Pre-Emergence Tank Mixtures in Corn**

**Axill Solutions Mesotrione 4SC** may be applied at a rate of 5.3 - 7.7 fl. oz./A (0.166 - 0.24 lb. a.i./A) in tank mixture with other registered herbicides (Table 5) for pre-emergence residual weed control. Refer to Table 2 for a list of weeds controlled by **Axill Solutions Mesotrione 4SC** and **Axill Solutions Mesotrione 4SC** plus atrazine applied pre-emergence.

**Table 5. Axill Solutions Mesotrione 4SC Tank Mixtures For Pre-Emergence Application in Corn\***

Acetochlor	Dimethenamide-P	Metolachlor/S-Metolachlor
Atrazine	Glyphosate	Pendimethalin

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

#### **Post-Emergence Tank Mixtures in Corn**

The tank mixtures with **Axill Solutions Mesotrione 4SC** identified in Table 6 may be applied post-emergence to corn (such as, after corn has emerged). Unless specified otherwise on this label, do not make an application of **Axill Solutions Mesotrione 4SC** at less than 3.0 fl. oz./A (0.094 lb. a.i./A). Applying **Axill Solutions Mesotrione 4SC** at rates less than 3.0 fl. oz. (0.094 lb. a.i./A) post-emergence may result in a loss of residual control.

Always add an appropriate adjuvant to the spray tank (see the **SPRAY ADDITIVES** section of this label). Refer to individual product labels for precautionary statements, restrictions, rates, approved uses, and a list of weeds controlled. Not all of the tank mix pesticides listed is registered for field corn, yellow popcorn, or sweet corn.

**Table 6. Axill Solutions Mesotrione 4SC Tank Mixtures For Post-Emergence Application in Corn**

<b>Tank-Mix Partners*</b>	<b>Directions</b>
Atrazine	Refer to Table 1 on this label for application rates and weeds controlled.
Nicosulfuron	Use this mixture for additional grass control. Refer to product label for list of weeds controlled.
Sodium Bentazon	Use this mixture for additional broadleaf weed control. Refer to product label for list of weeds controlled.
Thifensulfuron + Rimsulfuron	Use this mixture for additional weed control. Refer to product label for list of weeds controlled.
Atrazine + S-Metolachlor	When using these tank mixtures, it is advised to leave the nitrogen based adjuvant (UAN or AMS) out of the mixture or apply as a post-directed spray to minimize contact with crop foliage. To further reduce the risk of crop injury, the user may also leave out the crop oil concentrate (COC), or replace it with a nonionic surfactant (NIS). In all cases, the control of emerged weeds may be reduced somewhat due to less than optimum adjuvant effect or weed coverage.
Bromoxynil Octanoate	Use this mixture for additional broadleaf weed control. Add Buctril or Moxy at a rate specified on the label.
Atrazine + Glyphosate + S-Metolachlor	For use only in glyphosate-resistant corn (e.g., Agrisure® GT, Roundup Ready®). Application of this mixture to a corn hybrid that is not glyphosate-resistant will result in crop death. <b>DO NOT</b> add urea ammonium nitrate (UAN) or methylated seed oil (MSO) type adjuvants to this tank mixture or crop injury may occur.
Bifenthrin +	Use this tank mixture only on corn designated as LibertyLink® or warranted as being resistant to glufosinate.



Imidacloprid	Application of this mixture to a corn hybrid that is not glufosinate resistant will result in severe crop injury or death. <b>DO NOT</b> use crop oil concentrate (COC) as an adjuvant for this mixture or severe crop injury may occur.
Imazapyr + Imazethapyr	For use only on corn designated as Clearfield® corn or warranted by BASF as being resistant to imazapyr + imazethapyr. Application of this mixture to a corn hybrid that is not imazapyr + imazethapyr resistant will result in severe crop injury or death. <b>DO NOT</b> use a Methylated Seed Oil (MSO), or an MSO blend with this mixture or severe crop injury may result.
Dicamba + Primisulfuron-Methyl	Use this mixture for additional weed control. Refer to product label for list of weeds controlled.
Prosulfuron	Use this mixture for additional weed control. Refer to product label for list of weeds controlled.
Primisulfuron-Methyl + Prosulfuron	Use this mixture for additional weed control. Refer to product label for list of weeds controlled.
Nicosulfuron + Rimsulfuron	Use this mixture for additional weed control. Refer to product label for list of weeds controlled.
Nicosulfuron + Thifensulfuron-Methyl	Use this mixture for additional weed control. Refer to product label for list of weeds controlled.
Glyphosate	For use only in glyphosate-resistant corn (e.g., Agrisure GT, Roundup Ready). Application of this mixture to a corn hybrid that is not glyphosate-resistant will result in crop death. Add spray-grade ammonium sulfate (AMS) at a rate that delivers 8.5 - 17.0 lbs. of AMS/100 gals. of water. If the glyphosate product label calls for an adjuvant in addition to AMS, add a nonionic surfactant (NIS) at 0.25 - 0.5% v/v (1 - 2 qts./100 gals.). <b>DO NOT</b> add urea ammonium nitrate (UAN), crop oil concentrate (COC), or methylated seed oil (MSO) type adjuvants to this tank mixture or crop injury may occur.
*Refer to individual product labels for precautionary statements, restrictions, rates, approved uses, and a list of weeds controlled.	

### CRANBERRY

An application of **Axill Solutions Mesotrione 4SC** may be made to bearing or non-bearing cranberry beds for control or suppression of bog St. John's wort (*Hypericum boreale*), rushes (*Juncus canadensis*, *J. effuses*, *J. bufonius*, *J. tenuis*), sedges spp. (*Carex* spp.), yellow loosestrife (*Lysimachia terrestris*) and silverleaf (*Potentilla pacifica*) in addition to the weeds listed in Tables 1 and 2.

An application of **Axill Solutions Mesotrione 4SC** may be made in cranberries at a rate up to 8.0 fl. oz./A (0.25 lb. a.i./A).

The use of a crop oil concentrate (COC) type adjuvant at 1% v/v or nonionic surfactant (NIS) at 0.25% v/v is advised. An application of **Axill Solutions Mesotrione 4SC** may be made through irrigation systems (chemigation) including center pivot or solid set.

#### Restrictions - Cranberry:

- Do not apply more than 2 applications of **Axill Solutions Mesotrione 4SC** per year.
- Do not apply more than 16.0 fl. oz./A (0.5 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** in total per year.
- Do not apply more than 8.0 fl. oz./A (0.25 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** in a single application.
- If 2 applications are made, they must be made no closer than 14 days apart.
- In non-bearing cranberries, make the **Axill Solutions Mesotrione 4SC** application(s) after the bud break stage, but not less than 45 days before flooding in fall or winter.
- In bearing cranberries, make the **Axill Solutions Mesotrione 4SC** application(s) after the bud break stage, but not less than 45 days before flooding or harvest.
- Do not use COC adjuvants that are injurious to cranberry leaves.

#### Chemigation – Sprinkler Irrigation Application for Cranberry Only

Check the irrigation system to ensure uniform application of water to all areas. Thorough coverage of foliage is required for good control. Good agitation in the pesticide supply tank must be maintained before and during the entire application period. Apply by injecting the specified rate of **Axill Solutions Mesotrione 4SC** into the irrigation system using a metering device that will introduce a constant flow and by distributing the product to the target areas in 0.1 - 0.2 acre-inch of water. In general, use the least amount of water in this range required for proper distribution and coverage.

After application is completed, flush the entire irrigation and injection system with clean water before stopping the system. If application is being made during a normal irrigation set of a stationary sprinkler, the specified rate of **Axill Solutions Mesotrione 4SC** for the area covered must be injected into the system only during the end of the irrigation set for sufficient time to provide adequate coverage and product distribution.

#### Chemigation Use Precautions – Sprinkler Irrigation Application

- Apply this product only through sprinkler irrigation systems including center pivot or solid set.
- Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.

- If you have any questions about calibration, you need to contact State Extension Service specialists, equipment manufacturers, or other experts.
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- 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 if 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 back-flow.
- 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 pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump, including a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and are capable of being fitted with a system interlock.
- Any alternatives to the above required safety devices must conform to the list of EPA approved alternative devices.
- water.

#### Additional Restrictions - Cranberry Chemigation:

- Do not apply directly to water or areas where surface water is present outside the bog system.
- Do not contaminate water when disposing of equipment wash water or rinsate.
- Do not make an application within 10 feet of surface water outside the bog system.
- Do not spray to runoff.
- Do not apply this product through any other type of irrigation system.
- Do not connect an irrigation system (including greenhouse systems) used for pesticide application 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 out of the year.
- Do not apply when wind speed favors drift beyond the area intended for treatment or nonuniform distribution of treated

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#### FLAX

An application of **Axill Solutions Mesotrione 4SC** may be made pre-emergence in flax, i.e., after planting but before crop emergence, at a rate up to 6.0 fl. oz./A (0.187 lb. a.i./A). For a list of weeds controlled, see Tables 1 and 2. If weeds are emerged at the time of treatment, the use of a crop oil concentrate (COC) type adjuvant at the rate of 1% v/v is needed. In addition, a spray grade UAN (e.g., 28-0-0) at the rate of 2.5% v/v or AMS at the rate of 8.5 lbs./100 gals. of spray solution may be added to improve the burndown of existing weeds.

Applications of **Axill Solutions Mesotrione 4SC** to emerged flax can result in severe crop injury.

#### Restriction For Flax:

- Do not apply more than 1 application of **Axill Solutions Mesotrione 4SC** per year.
- Do not apply more than 6.0 fl. oz./A (0.187 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** per year.
- Do not apply more than 6.0 fl. oz./A (0.187 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** in a single application.

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#### OATS

An application of **Axill Solutions Mesotrione 4SC** can be made pre-emergence or post-emergence (but not both) for weed control in oats.

For pre-emergence control or partial control of the weeds listed in Table 2, apply **Axill Solutions Mesotrione 4SC** broadcast at a rate of 6.0 fl. oz./A before oat emergence. For best pre-emergence weed control, the **Axill Solutions Mesotrione 4SC** application must be made before weed emergence.

For post-emergence (after oat emergence) control or partial control of the weeds listed in Table 1, make an application of **Axill Solutions Mesotrione 4SC** at a rate of 3.0 fl. oz./A (0.094 lb. a.i./A). For best results, an application of **Axill Solutions Mesotrione 4SC** must be made to emerged weeds that are less than 5" tall. Post-emergence applications of **Axill Solutions Mesotrione 4SC** may result in temporary injury of the oat crop. Injury symptoms may include leaf bleaching, leaf burn and in extreme conditions, stunting.

If emerged weeds are present at the time of the **Axill Solutions Mesotrione 4SC** application, the addition of a crop oil concentrate (COC) type adjuvant at a rate of 1% v/v or a nonionic surfactant (NIS) type adjuvant at a rate of 0.25% v/v is needed. In addition to COC or NIS, a spray grade UAN (e.g., 28-0-0) at the rate of 2.5% v/v or ammonium sulfate (AMS) at the rate of 8.5 lbs./100 gals. of spray solution may be added for improved weed control. If emerged weeds are not present at the time of the **Axill Solutions Mesotrione 4SC** application, no additives are advised. If oat injury is a concern, eliminating the use of UAN or AMS will reduce the

risk for post-emergence crop injury. Additionally, the use of NIS instead of COC will also reduce the oat injury risk. However, weed control is also reduced if UAN or AMS is eliminated and when switching from COC to NIS.

If the oat crop treated with **Axill Solutions Mesotrione 4SC** is lost or destroyed, oats may be replanted immediately. If **Axill Solutions Mesotrione 4SC** was applied to the lost oat crop, no additional **Axill Solutions Mesotrione 4SC** can be applied to the replanted oat crop.

Tank mixing other pesticides with **Axill Solutions Mesotrione 4SC** post-emergence may increase the risk of injury. Do not add pesticides with emulsifiable concentrate (EC) type formulations to **Axill Solutions Mesotrione 4SC** for applications made post-emergence to the crop.

#### Restrictions - Oats:

- Do not graze or feed forage from treated areas within 30 days following an application of **Axill Solutions Mesotrione 4SC**.
- Do not harvest oats within 50 days following the application of **Axill Solutions Mesotrione 4SC**.
- Do not apply more than 1 application of **Axill Solutions Mesotrione 4SC** per year.
- Do not apply **Axill Solutions Mesotrione 4SC** pre-emergence (before oat emergence) at more than 6.0 fl. oz./A (0.187 lb. a.i./A) per year.
- Do not apply **Axill Solutions Mesotrione 4SC** post-emergence at more than 3.0 fl. oz./A (0.094 lb. a.i./A) per year.
- Do not apply **Axill Solutions Mesotrione 4SC** pre-emergence (before oat emergence) at more than 6.0 fl. oz./A (0.187 lb. a.i./A) in a single application
- Do not apply **Axill Solutions Mesotrione 4SC** post-emergence at more than 3.0 fl. oz./A (0.094 lb. a.i./A) in a single application.
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#### OKRA

An application of **Axill Solutions Mesotrione 4SC** can be made as a row-middle or a hooded post-direct treatment (but not both) for weed control in okra.

#### Pre-Emergence Row-Middle Application:

Make an application of **Axill Solutions Mesotrione 4SC** at a rate of 6.0 fl. oz./A (0.187 lb. a.i./A) as a banded application to the row middles before weed emergence. For this banded application, leave 1 foot of untreated area over the okra row or 6" to each side of the planted row. For banded applications, the application must be made to account for band width, i.e., to deliver 6.0 fl. oz. per treated acre (0.187 lb. a.i./A). Injury risk is greatest on coarse-textured soils (sand, sandy loam or loamy sand).

#### Post-Emergence Hooded Application:

Make an application of **Axill Solutions Mesotrione 4SC** at a rate of 3.0 fl. oz./A (0.094 lb. a.i./A) as a post-emergence directed application using a hooded sprayer for control or partial control of the weeds listed in Table 1. Okra must be at least 3" tall at the time of this application. A nonionic surfactant (NIS) type adjuvant at a rate of 0.25% v/v must be added to the spray solution. For post-emergence hooded applications, the spray equipment must be set up to minimize the amount of **Axill Solutions Mesotrione 4SC** that contacts the okra foliage or crop injury will occur. For best post-emergence results, **Axill Solutions Mesotrione 4SC** must be applied to actively growing weeds.

If the okra crop treated with **Axill Solutions Mesotrione 4SC** is lost or destroyed, okra can be replanted only in the soil band that was not treated with **Axill Solutions Mesotrione 4SC**.

#### Restrictions - Okra:

- Do not harvest okra within 28 days following the treatment of **Axill Solutions Mesotrione 4SC**.
- Do not make an application of **Axill Solutions Mesotrione 4SC** directly over the planted okra row or severe crop injury may occur.
- Do not apply more than 1 application of **Axill Solutions Mesotrione 4SC** per year.
- Do not apply **Axill Solutions Mesotrione 4SC** as a row-middle application at more than 6.0 fl. oz./A (0.187 lb. a.i./A) per year.
- Do not apply **Axill Solutions Mesotrione 4SC** as a post-directed application at more than 3.0 fl. oz./A (0.094 lb. a.i./A) per year.
- Do not apply **Axill Solutions Mesotrione 4SC** as a row-middle application at more than 6.0 fl. oz./A (0.187 lb. a.i./A) in a single application.
- Do not apply **Axill Solutions Mesotrione 4SC** as a post-directed application at more than 3.0 fl. oz./A (0.094 lb. a.i./A) in a single application.
- Do not apply **Axill Solutions Mesotrione 4SC** as a broadcast pre-emergence or broadcast post-emergence application to okra or severe injury will occur.

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#### PEARL MILLET

Make an application of **Axill Solutions Mesotrione 4SC** may be made pre-emergence in pearl millet, i.e., after planting but before crop emergence, at a rate up to 6.0 fl. oz./A (0.1874 lb. a.i./A). For a list of weeds controlled, see Table 2. If weeds are emerged at the time of application, the use of a crop oil concentrate (COC) type adjuvant at the rate of 1% v/v is needed. In addition, a spray grade UAN (e.g., 28-0-0) at the rate of 2.5% v/v or AMS at the rate of 8.5 lbs./100 gals. of spray solution may be added to improve the burndown of existing weeds.

Applying **Axill Solutions Mesotrione 4SC** to emerged pearl millet can result in severe crop injury.

#### Restriction For Pearl Millet:

- Do not apply more than 1 application of **Axill Solutions Mesotrione 4SC** per year.
- Do not apply more than 6.0 fl. oz./A (0.187 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** per year.
- Do not apply more than 6.0 fl. oz./A (0.187 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** in a single application.

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#### RHUBARB

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An application of **Axill Solutions Mesotrione 4SC** can be made before crop emergence for weed control in established rhubarb.

Apply **Axill Solutions Mesotrione 4SC** at a rate of 6.0 fl. oz./A (0.187 lb. a.i./A) to dormant (before any spring green-up) rhubarb for control or partial control of the weeds listed in Table 2. If weeds are emerged at the time of application, it is required that a crop oil concentrate (COC) type adjuvant at 1% v/v or a nonionic surfactant (NIS) type adjuvant at a rate of 0.25% v/v be added to the spray solution. Applying **Axill Solutions Mesotrione 4SC** to rhubarb that is not dormant may result in a temporary bleaching symptomology. Rainfall or irrigation after the **Axill Solutions Mesotrione 4SC** application may increase the risk of injury to emerging rhubarb.

#### Restrictions - Rhubarb:

- Do not harvest rhubarb within 21 days following the application of **Axill Solutions Mesotrione 4SC**.
- Do not apply more than 1 application of **Axill Solutions Mesotrione 4SC** per year.
- Do not apply more than 6.0 fl. oz./A (0.187 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** per year.
- Do not apply more than 6.0 fl. oz./A (0.187 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** in a single application.

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#### SORGHUM (GRAIN AND SWEET)

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#### Pre-Emergence Application:

An application of **Axill Solutions Mesotrione 4SC** can be made pre-emergence or pre-plant non-incorporated up to 21 days before planting sorghum for control or partial control of the weeds listed in Table 2.

Make an application of **Axill Solutions Mesotrione 4SC** pre-emergence at a rate of 6.0 - 6.4 fl. oz./A (0.187 - 0.20 lb. a.i./A) as a broadcast non-incorporated application before sorghum emergence. Applications of **Axill Solutions Mesotrione 4SC** less than 7 days before sorghum planting will increase the risk of crop injury, especially if irrigation or rainfall is received following the application. Injury symptoms include temporary bleaching of newly emerging sorghum leaves. Applications of **Axill Solutions Mesotrione 4SC** more than 7 days (but not more than 21) before planting will reduce the risk of crop injury.

If an application of **Axill Solutions Mesotrione 4SC** is made before planting, minimize disturbance of the herbicide treated soil barrier during the planting process in order to lessen the potential for weed emergence.

If emerged weeds are present at the time of the pre-emergence application, use a nonionic surfactant (NIS) type adjuvant at a rate of 0.25% v/v or a crop oil concentrate (COC) type adjuvant at a rate of 1% v/v be added to the spray solution. In addition to COC or NIS, a spray grade UAN at a rate of 2.5% v/v or ammonium sulfate (AMS) at a rate of 8.5 lbs./100 gals. of spray solution can be added to the spray solution.

#### Restrictions - Sorghum Pre-Emergence Application:

- Do not apply more than 6.4 fl. oz./A (0.20 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** per year.
- Do not apply more than 6.4 fl. oz./A (0.20 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** in single application.
- Do not apply more than 1 pre-emergence application of **Axill Solutions Mesotrione 4SC** per year.
- Do not make an application of **Axill Solutions Mesotrione 4SC** to emerged sorghum or severe crop injury may occur.
- Do not use **Axill Solutions Mesotrione 4SC** in the production of forage sorghum, sudangrass, sorghum-sudangrass hybrids, or dual purpose sorghum.
- Do not make an application of **Axill Solutions Mesotrione 4SC** to sorghum that is grown on coarse-textured soils (e.g., sandy loam, loamy sand, sand).
- In the State of Texas, do not make an application of **Axill Solutions Mesotrione 4SC** to sorghum grown south of Interstate 20 (I-20) or east of Highway 277.

#### Post-Directed Application:

An application of **Axill Solutions Mesotrione 4SC** can be made post-directed to grain sorghum for control or partial control of the weeds listed in Table 1. For best results, make an application of **Axill Solutions Mesotrione 4SC** to actively growing weeds.

Make an application of **Axill Solutions Mesotrione 4SC** at a rate of 3.0 fl. oz./A (0.094 lb. a.i./A) as a post-directed application when the grain sorghum is a minimum of 8" tall. Make the application by directing the spray between the crop rows and towards the base of the grain sorghum plant. Direct application of **Axill Solutions Mesotrione 4SC** onto grain sorghum foliage can result in crop injury including temporary bleaching. If crop injury does occur, newly emerging leaves following treatment are typically unaffected.

Use a nonionic surfactant (NIS) type adjuvant at a rate of 0.25% v/v or a crop oil concentrate (COC) type adjuvant at a rate of 1% v/v

be added to the spray solution. In addition to COC or NIS, a spray grade Urea Ammonium Nitrate (UAN) at a rate of 2.5% v/v or ammonium sulfate (AMS) at a rate of 8.5 lbs./100 gals. of spray solution can be added to the spray solution.

**Axill Solutions Mesotrione 4SC** may be tank mixed with other herbicides registered for grain sorghum for improved spectrum of weed control. Additionally, these tank mixtures can be used to include a herbicide with a different mode of action to help control or manage the development of resistant weed biotypes.

#### Restrictions - Sorghum Post-Directed Application:

- Do not apply more than 1 post-directed application of **Axill Solutions Mesotrione 4SC** per year.
- Do not apply more than 3.0 fl. oz./A (0.094 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** post-directed and not more than 6.4 fl. oz./A (0.20 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** per year.
- Do not make an application of **Axill Solutions Mesotrione 4SC** broadcast over-the-top to emerged sorghum or severe crop injury may occur.
- Do not harvest grain sorghum for forage for 30 days following application.
- Do not harvest for grain or stover for 60 days following application.
- Do not make an application of **Axill Solutions Mesotrione 4SC** after the sorghum seedhead has begun to emerge.
- Do not use **Axill Solutions Mesotrione 4SC** in the production of forage sorghum, sudangrass, or sorghum-sudangrass hybrids.

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#### SOYBEANS (Mesotrione-Resistant Varieties Only.)

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Make an application of **Axill Solutions Mesotrione 4SC** can only be made pre-emergence and only to soybeans that are identified as mesotrione-resistant. Applications to soybeans that are not mesotrione-resistant will result in significant crop injury. For a list of mesotrione-resistant soybean varieties, contact your Seed provider.

#### Pre-Emergence Application:

For pre-emergence control of the weeds listed in Table 2, make an application of **Axill Solutions Mesotrione 4SC** before soybean emergence at a rate of 6.0 fl. oz./A (0.187 lb. a.i./A). Use the higher rate for longer residual control. This product may be tank mixed with other registered soybean herbicides including s-metolachlor, metolachlor and sodium salt of fomesafen. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

If weeds are emerged at the time of application, add either a nonionic surfactant (NIS) at 1 qt./100 gals. (0.25% v/v) or a crop oil concentrate (COC) at 1 gal./100 gals. (1% v/v). In addition to NIS or COC, also add either ammonium sulfate (AMS) at 8.5 - 17 lbs./100 gals. (or equivalent).

#### Restrictions - Soybeans:

- Do not apply more than 6.0 fl. oz./A (0.187 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** per year.
- Do not apply more than 6.0 fl. oz./A (0.187 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** in a single application.
- Do not apply more than 1 application of **Axill Solutions Mesotrione 4SC** per year.
- Do not make an application of **Axill Solutions Mesotrione 4SC** to emerged soybeans.
- Do not graze or feed soybean forage or hay to livestock.

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#### SUGARCANE

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An application of **Axill Solutions Mesotrione 4SC** can be made by ground for pre-emergence, post-emergence over-the-top or post-emergence directed weed control in sugarcane.

An application of **Axill Solutions Mesotrione 4SC** may also be made aerially for pre-emergence or post-emergence weed control only in the following states: Florida, Louisiana, and Texas.

#### Pre-Emergence Application:

Make an application of **Axill Solutions Mesotrione 4SC** for pre-emergence weed control at 6.0 - 7.7 fl. oz./A (0.187 - 0.24 lb. a.i./A) after the planting of plant-cane or after harvest of ratoon-cane. For a list of weeds controlled pre-emergence, refer to Table 2. If some weeds are already emerged at the time of application, add a crop oil concentrate (COC) type adjuvant at a rate of 1% v/v or a nonionic surfactant (NIS) type adjuvant at a rate of 0.25% v/v to the spray solution. In addition to COC or NIS, a spray grade UAN at a rate of 2.5% v/v or ammonium sulfate (AMS) at a rate of 8.5 lbs./100 gals. of spray solution can be added to the spray solution. For improved pre-emergence weed control, atrazine or ametryn can be tank mixed with **Axill Solutions Mesotrione 4SC**. Refer to the tank mix partner label for specific rates and use directions.

#### Post-Emergence Application:

Make an application of **Axill Solutions Mesotrione 4SC** for post-emergence at 3.0 fl. oz./A (0.094 lb. a.i./A) for control of the weeds listed in Table 1. Post-emergence applications may be made as a post-over-the-top or as a post-directed spray to the base of the sugarcane. If a pre-emergence application was made earlier in the season, only 1 post-emergence application can be made. If no pre-emergence application was made earlier in the season, both a post-over-the-top and a post-directed application can be made. For best results, **Axill Solutions Mesotrione 4SC** must be applied to actively growing weeds.

For post-emergence applications, add either a crop oil concentrate (COC) type adjuvant at a rate of 1% v/v or a nonionic surfactant (NIS) type adjuvant to the spray solution. In addition to COC or NIS, the use of a spray grade UAN (e.g., 28-0-0) at 2.5% v/v or

ammonium sulfate (AMS) at a rate of 8.5 lbs./100 gals. of spray solution can be added for improved control of weeds.

For additional post-emergence weed control, **Axill Solutions Mesotrione 4SC** can be tank mixed with atrazine, asulam, and/or pyridinesulfonamide. Refer to the tank mix product labels for specific rates and use directions.

**Restrictions - Sugarcane:**

- Do not apply more than 7.7 fl. oz./A (0.24 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** as a pre-emergence application.
- Do not apply more than 3.0 fl. oz./A (0.094 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** in a post-emergence application.
- Do not apply more than 2 applications of **Axill Solutions Mesotrione 4SC** per year. If a pre-emergence application of **Axill Solutions Mesotrione 4SC** is made, only 1 post-emergence application is allowed.
- Do not apply 2 **Axill Solutions Mesotrione 4SC** applications less than 14 days apart.
- Do not apply more than 10.7 fl. oz./A (0.334 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** per year.
- Do not harvest sugarcane within 114 days following a post-over-the-top application of **Axill Solutions Mesotrione 4SC** (114-day PHI).
- Do not harvest sugarcane within 100 days following a post-directed application of **Axill Solutions Mesotrione 4SC** (100-day PHI).

**STORAGE AND DISPOSAL**

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

**PESTICIDE STORAGE:** Keep container tightly closed when not in use. Do not store near seed, fertilizers, or foodstuffs. Can be stored at temperatures as low as 20°F. Keep away from heat and flame.

**PESTICIDE DISPOSAL:** Open dumping is prohibited. Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**CONTAINER HANDLING [Less Than or Equal to 5 Gallons]:**

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or 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 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by State and local authorities.

**CONTAINER HANDLING [Greater Than 5 Gallons]:**

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the person refilling. To clean container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10% 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 by other procedures approved by State and local authorities.

**CONTAINER HANDLING [Greater Than 5 Gallons]:**

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by State and local authorities.

**CONDITION OF SALE AND LIMITATION OF WARRANTY AND LIABILITY**

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

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather, presence of other materials or other influencing factors in the use of the product, which are beyond the control of Axill Solutions LLC or Seller. To the extent consistent with applicable law, all such risks shall be assumed by Buyer and User, and Buyer and User agree to hold Axill Solutions LLC and Seller harmless for any claims relating to such factors.

Axill Solutions LLC warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or Axill Solutions LLC, and

Buyer and User assume the risk of any such use. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, AXILL SOLUTIONS LLC MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

To the extent consistent with applicable law, neither Axill Solutions LLC nor Seller shall be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF AXILL SOLUTIONS LLC AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF AXILL SOLUTIONS LLC OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

Axill Solutions LLC and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of Axill Solutions LLC.

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MESOTRIONE GROUP 27 HERBICIDE

# Axill Solutions Mesotrione 4SC

**ABN: Axill Solutions Mesotrione SC****[Sub-Label C - Pages 46 - 55:]**

Turfgrass

**Active Ingredient:**

Mesotrione: 2-[4-(methylsulfonyl)-2-nitrobenzoyl]-1,3-cyclohexanedione ..... 40.0%

**Other Ingredients:** ..... 60.0%**Total:** ..... 100.0%

Axill Solutions Mesotrione 4SC is formulated as a soluble concentrate and contains 4 lbs. of active ingredient mesotrione per gallon.

## KEEP OUT OF REACH OF CHILDREN CAUTION / PRECAUCIÓN

Si usted no entiende la 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	
<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 eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF ON SKIN OR CLOTHING:</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>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 the poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>

**HOTLINE NUMBERS**

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For 24-Hour Medical Emergency Assistance (Human or Animal), call: **1-800-222-1222**. For Chemical Emergency Assistance (Spill, Leak, Fire, or Accident), call CHEMTREC: **1-800-424-9300**.

[Optional referral statements when booklets and container labels are used:

See label booklet for [complete] [additional] [First Aid,] [Precautionary Statements,] [Directions For Use,] and [Storage and Disposal].

EPA Reg. No.: 93809-XX

EPA Est. No.: \_\_\_\_\_

**Manufactured For:**

Axill Solutions, LLC  
P.O. Box 398  
Clinton, NC 28329

Net Contents: \_\_\_\_\_ [Gals./Liters]



## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

#### CAUTION

Causes moderate eye irritation. Harmful if absorbed through skin, inhaled or swallowed. Avoid contact with skin, eyes, or clothing. 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
- Shoes plus socks
- Chemical-resistant gloves

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.

#### ENGINEERING CONTROL STATEMENTS

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

#### USER SAFETY RECOMMENDATIONS

##### Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

#### ENVIRONMENTAL HAZARDS

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

#### SURFACE WATER ADVISORY

This product may contaminate water through drift of spray in wind. This product has a high potential for runoff for several weeks after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. A level, well maintained vegetative buffer strip between areas to which this product is applied and surface water features including ponds, streams, and springs will reduce the potential for contamination of water from runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. Sound erosion control practices will reduce this product's contribution to surface water contamination.

#### PHYSICAL AND CHEMICAL HAZARDS

Do not mix or allow contact with reducing and/or oxidizing agents. Hazardous chemical reaction may occur.

#### 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 12 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, including plants, soil, or water, is:

- Coveralls
- Shoes plus socks
- Chemical-resistant gloves

**NON-AGRICULTURAL USE REQUIREMENTS**

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard, 40 CFR Part 170. The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, and greenhouses.

Do not enter treated areas without protection clothing until sprays have dried.

**PRODUCT INFORMATION**

An application of **Axill Solutions Mesotrione 4SC** is made pre-emergence and post-emergence to provide selective contact and residual control of turfgrass weeds. If application is made pre-emergence, **Axill Solutions Mesotrione 4SC** is absorbed by the weeds as they emerge from the soil. Pre-emergence activity and control is reduced under dry conditions, and therefore **Axill Solutions Mesotrione 4SC** must be activated with 0.15" of irrigation if rain hasn't fallen within 10 days of application.

Post-emergent control is obtained by absorption into the soil and contact with foliage. Growth ceases post-application, weeds turn white from chlorophyll loss, and die within 21 days. A repeat application 14-21 days after the initial application will improve post-emergence weed control. Add a nonionic surfactant (NIS) when making post-emergence applications.

Turfgrass color can temporarily become white after treatment, typically occurring 5 to 7 days post-application and lasting for several weeks. A second application to the same site will cause less whitening of plant tissue.

**Axill Solutions Mesotrione 4SC** controls weeds before and during seeding of certain turfgrasses during turf renovation (see **New Seedings**).

If making pre-emergence application to established turf, tank mix **Axill Solutions Mesotrione 4SC** with other pre-emergence herbicides including those containing pendimethalin for longer residual and broad-spectrum control.

**USE RESTRICTIONS**

- Do not make application of this product through any type of irrigation system unless specified otherwise under the specific crop section on the label.
- Do not make application of this product with suspension fertilizers as the carrier.
- Do not make application of **Axill Solutions Mesotrione 4SC** post-emergence in a tank mix with emulsifiable concentrate grass herbicides, unless specifically addressed under one of the tank mix sections of this label, or injury may occur.
- Do not use aerial application to apply **Axill Solutions Mesotrione 4SC** unless specified otherwise under the specific crop section on the label.

**USE PRECAUTIONS**

- When weeds are stressed due to drought, heat, lack of fertility, flooding, or prolonged cool temperatures, control can be reduced or delayed since the weeds are not actively growing. Weed escapes or regrowth may occur when treatment is made under prolonged stress conditions. Optimum weed control will be obtained if an application of **Axill Solutions Mesotrione 4SC** is made following label directions when weeds are actively growing.
- An application of **Axill Solutions Mesotrione 4SC** may be made with pyrethroid type insecticides (e.g., lambda-cyhalothrin).

**RESISTANCE MANAGEMENT**

**Axill Solutions Mesotrione 4SC** contains mesotrione and is classified in the triketone chemical class as a Group 27 herbicide, inhibitor of 4-hydroxyphenyl-pyruvatedioxygenase. Herbicide resistance is defined as the inherited ability of a plant to survive and reproduce following exposure to a dose of herbicide normally lethal to the wild type. In a plant, resistance may be naturally occurring or induced by such techniques as genetic engineering or selection of variants produced by tissue culture or mutagenesis. Any weed population may contain or develop plants that are naturally resistant to **Axill Solutions Mesotrione 4SC** and other Group 27 herbicides. Weed species with acquired resistance to Group 27 herbicides may eventually dominate the weed population if Group 27 herbicides are used repeatedly in the same field or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species by **Axill Solutions Mesotrione 4SC** or other Group 27 herbicides.

To delay herbicide resistance, consider the below best practices for resistance management:

- Plant into weed-free fields and keep fields as weed-free as possible.
- To the extent possible, use a diversified approach toward weed management. Whenever possible, incorporate multiple weed-control practices including mechanical cultivation, biological management practices, and crop rotation.
- Fields with difficult to control weeds should be rotated to crops that allow the use of herbicides with alternative mechanisms of action or different management practices.
- To the extent possible, do not allow weed escapes to produce seeds, roots or tubers. Manage weed seeds at harvest and post-harvest to prevent a buildup of the weed seed-bank.
- Prevent field-to-field and within-field movement of weed seed or vegetative propagules. Thoroughly clean plant residues from equipment before leaving fields.
- Prevent an influx of weeds into the field by managing field borders.
- Identify weeds present in the field through scouting and field history and understand their biology. The weed-control program should consider all of the weeds present.
- Difficult to control weeds may require sequential applications of herbicides with differing mechanisms of action.

- Apply this herbicide at the correct timing and rate needed to control the most difficult weed in the field.
- Use a broad-spectrum soil-applied herbicide with a mechanism of action that differs from this product as a foundation in a weed-control program. Do not use more than 2 applications of this or any other herbicide with the same mechanism of action within a single growing season unless mixed with an herbicide with another mechanism of action with an overlapping spectrum for the difficult-to-control weeds.
- If resistance is suspected, treat weed escapes with an herbicide with a different MOA or use non-chemical methods to remove escapes.
- Monitor treated weed populations for loss of field efficacy.
- Scout field(s) before and after application.
- Report lack of performance to Axill Solutions LLC or their representative.

Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species.

Contact your local sales representative, extension agent, or certified crop advisors to find out if suspected resistant weeds to this MOA have been found in your region. If resistant biotypes of target weeds have been reported, use the application rates of this product specified for your local conditions. Tank mix products so that there are multiple effective mechanisms of action for each target weed.

### INTEGRATED PEST (WEED) MANAGEMENT

**Axill Solutions Mesotrione 4SC** should be integrated into an overall weed and pest management strategy whenever the use of a herbicide is required. Practices known to reduce weed development (tillage, crop competition) and herbicide use (weed scouting, proper application timing, banding) must be followed wherever possible. Consult local agricultural and weed authorities for additional IPM strategies established for your area.

#### MANDATORY SPRAY DRIFT

##### Ground Applications

- Apply with the nozzle height recommended by the manufacturer, but no more than 3 feet above the ground or crop canopy.
- For all applications, applicators are required to use a coarse to coarser spray droplet size (ASABE S572.1).
- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- Do not apply during temperature inversions.

##### Spray Drift Advisories

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

##### IMPORTANCE OF DROPLET SIZE

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

##### Controlling Droplet Size - Ground Boom

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

##### BOOM HEIGHT - Ground Boom

Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. For ground equipment, the boom should remain level with the crop and have minimal bounce.

##### SHIELDED SPRAYERS

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

##### TEMPERATURE AND HUMIDITY

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

##### TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly

dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

## WIND

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS. Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

## APPLICATION INFORMATION

### PRE-EMERGENCE GROUND APPLICATION

Make application in a spray volume of 10 - 60 gals. per acre using water or liquid fertilizer (excluding suspension fertilizers) as the carrier. Use a pump that can maintain a pressure of at least 35 - 40 PSI at the nozzles and provide proper agitation within the tank to keep the product dispersed. Lower pressures may be used with extended range or drift reduction nozzles.

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

### POST-EMERGENCE GROUND APPLICATION

Good weed coverage is essential for optimum weed control. Boom height for broadcast over-the-top applications must be based on the height of the crop – at least 15 inches above the crop canopy.

Make application in a spray volume of 10 - 30 gals. per acre using water as a carrier. Use a pump that can maintain a pressure of at least 35 - 40 PSI at the nozzles and provide proper agitation within the tank to keep the product dispersed. Lower pressures may be used with extended range or drift reduction nozzles. When weed foliage is dense, use a minimum of 20 gals.

Flat fan nozzles of 80° or 110° are needed for optimum post-emergence coverage. **DO NOT** use flood-jet nozzles or controlled droplet application equipment for post-emergence applications.

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

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

### SPRAY ADDITIVES: POST-EMERGENCE ADJUVANTS

When using an adjuvant with this product, an adjuvant that meets the standards of the Chemical Producers and Distributors Association (CPDA) adjuvant certification program is advised.

The following adjuvant specifications are intended primarily for **Axill Solutions Mesotrione 4SC** use in corn. Refer to the use directions section of each crop section for specific adjuvant specifications.

### PRE-EMERGENCE ADJUVANTS

When making applications of **Axill Solutions Mesotrione 4SC** for pre-plant or pre-emergence, and where weeds are present, the use of any adjuvant for agricultural use is permitted. In these situations, MSO type adjuvants are typically better than COC type adjuvants, which are typically better than NIS type adjuvants for enhancing weed control. UAN or AMS can be added and typically provides better weed control than not adding one of these. If **Axill Solutions Mesotrione 4SC** is being tank mixed with another registered herbicide in this situation, refer to the tank mix partner label for adjuvant precautions and restrictions. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

## SPRAY EQUIPMENT

### Cleaning Equipment after Axill Solutions Mesotrione 4SC Application

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

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

**MIXING PROCEDURES**

See the **CROP USE DIRECTIONS** sections of this label for specific tank mix instructions.

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

The compatibility of any tank mix combination is to be tested on a small scale including a jar test before actual tank mixing.

Follow the mixing instructions for adding **Axill Solutions Mesotrione 4SC** to the spray tank:

1. Only use sprayers in good running condition with good agitation. Ensure the sprayer is cleaned according to instructions on the label of the product used before **Axill Solutions Mesotrione 4SC**. For post-emergence applications, use only clean water for the spray solution. Ensure that all in-line strainer and nozzle screens in the sprayer are 50-mesh or coarser. **DO NOT** use screens finer than 50-mesh.
2. Liquid fertilizer (excluding suspension fertilizers) may be used as the carrier for pre-emergence applications.
3. Begin to fill sprayer tank or premix tank with clean water and engage agitator. Agitation must be continued throughout the entire mixing and spraying procedure.
4. When the sprayer or premix tank is half full of water, add AMS and agitate until completely dispersed.
5. Next add **Axill Solutions Mesotrione 4SC** slowly and agitate until completely dissolved. Wait at least 1 minute after the last of the **Axill Solutions Mesotrione 4SC** has been added to the tank to allow for complete dispersion. A longer agitation period may be required to disperse **Axill Solutions Mesotrione 4SC** when using cold water from sources including deep drilled wells.
6. If tank mixing, add the tank mix product next.
7. Finally, add adjuvant and UAN, if needed, and then continue to fill tank to desired level with water.

**Restriction:** This product cannot be mixed with any product containing a label prohibition against such mixing. **DO NOT** tank mix **Axill Solutions Mesotrione 4SC** with any other insecticide, fungicide, fertilizer solution, or adjuvant not specified on the label without testing compatibility, as poor mixing may result.

**WEEDS CONTROLLED**

Make applications of **Axill Solutions Mesotrione 4SC** as directed in this label will control or partially control the weeds listed in Tables 1 and 2.

Where reference is made to weeds partially controlled, partial control can either mean erratic control (good to poor) or consistent control at a level below that generally considered acceptable for commercial weed control.

For best post-emergence results, make application of **Axill Solutions Mesotrione 4SC** to actively growing weeds. Dry weather following pre-emergence application of **Axill Solutions Mesotrione 4SC** may reduce residual weed control effectiveness. If irrigation is available, apply ½ to 1" of water after pre-emergence application. If irrigation is not available, a uniform shallow cultivation is needed as soon as weeds emerge.

Make applications of **Axill Solutions Mesotrione 4SC** alone or in mixture with atrazine will not provide consistent or effective control of weeds identified as resistant to post-emergence HPPD-inhibiting herbicides.

Refer to the crop sections on this label for specific rates and use directions.

**WEEDS CONTROLLED****TABLE 1. PRE-EMERGENCE APPLICATION**

Make an application of **Axill Solutions Mesotrione 4SC** with a grass pre-emergence herbicide including pendimethalin, except when used to control weeds in new seedings. **Axill Solutions Mesotrione 4SC** will control the following weeds using pre-emergence application:

Common Name	Scientific Name	Common Name	Scientific Name
Barnyardgrass	<i>Echinochloa crusgalli</i>	Foxtail (Yellow)	<i>Setaria glauca</i>
Bentgrass (Creeping)	<i>Agrostis stolonifera</i>	Galinsoga	<i>Galinsoga ciliate</i>
Bluegrass (Annual) - suppression only	<i>Poa annua</i>	Lambsquarters (Common)	<i>Chenopodium album</i>
Buckhorn Plantain	<i>Plantago lanceolata</i>	Pigweed (Redroot)	<i>Amaranthus retroflexus</i>
Carpetweed	<i>Mollugo verticillata</i>	Pigweed (Smooth)	<i>Amaranthus hybridus</i>
Chickweed (Common)	<i>Stellaria media</i>	Purslane (Common)	<i>Portulaca oleracea</i>
Chickweed (Mouseear)	<i>Cerastium vulgatum</i>	Shepherd's Purse	<i>Capsella bursa-pastoris</i>
Clover (Large Hop)	<i>Trifolium aureum</i>	Smartweed (Pale)	<i>Polygonum lapathifolium</i>
Clover (White)	<i>Trifolium repens</i>	Smartweed (Pennsylvania)	<i>Polygonum pennsylvanicum</i>
Crabgrass (Large)	<i>Digitaria sanguinalis</i>	Speedwell (Persian)	<i>Veronica persica</i>
Crabgrass (Smooth)	<i>Digitaria ischaemum</i>	Speedwell (Purslane)	<i>Veronica peregrine</i>
Crabgrass (Southern)	<i>Digitaria ciliaris</i>	Wild Carrot	<i>Daucus carota</i>

**TABLE 2. POST-EMERGENCE APPLICATION**

Make a second application of **Axill Solutions Mesotrione 4SC** 7 to 14 days after initial treatment. For optimal control, add a NIS-

type surfactant and apply to young, actively growing weeds. <b>Axill Solutions Mesotrione 4SC</b> will control the following weeds using post-emergence application:			
Common Name	Scientific Name	Common Name	Scientific Name
Barnyardgrass	<i>Echinochloa crusgalli</i>	Henbit	<i>Lamium amplexicaule</i>
Bentgrass (Creeping)	<i>Agrostis stolonifera</i>	Lambsquarters (Common)	<i>Chenopodium album</i>
Buckhorn Plantain	<i>Plantago lanceolata</i>	Lawn Burweed	<i>Soliva sessilis</i>
Buttercup	<i>Ranunculus sardous</i>	Lovegrass (Tufted)	<i>Eragrostis pectinacea</i>
Carpetweed	<i>Mollugo verticillata</i>	Marestail	<i>Conyza Canadensis</i>
Chickweed (Common)	<i>Stellaria media</i>	Nimblewill	<i>Muhlenbergia schreberi</i>
Chickweed (Mouseear)	<i>Cerastium vulgatum</i>	Nutsedge (Yellow)	<i>Cyperus esculentus</i>
Clover (Large Hop)	<i>Trifolium aureum</i>	Oxalis	<i>Oxalis stricta</i>
Clover (White)	<i>Trifolium repens</i>	Pigweed (Redroot)	<i>Amaranthus retroflexus</i>
Crabgrass (Large)*	<i>Digitaria sanguinalis*</i>	Pigweed (Smooth)	<i>Amaranthus hybridus</i>
Crabgrass (Smooth)*	<i>Digitaria ischaemum*</i>	Purslane (Common)	<i>Portulaca oleracea</i>
Crabgrass (Southern)*	<i>Digitaria ciliaris*</i>	Shepherd's Purse	<i>Capsella bursa-pastoris</i>
Curly Dock	<i>Rumex crispus</i>	Smartweed (Pale)	<i>Polygonum lapathifolium</i>
Dandelion (Catsear)	<i>Hypochoeris radicata</i>	Smartweed (Pennsylvania)	<i>Polygonum pennsylvanicum</i>
Dandelion (Common)	<i>Taraxacum officinale</i>	Sowthistle	<i>Sonchus oleraceus</i>
Florida Betony	<i>Stachys floridana</i>	Swinecress	<i>Coronopus didymus</i>
Florida Pusley	<i>Richardia scabra</i>	Thistle (Canada)	<i>Cirsium arvense</i>
Foxtail (Yellow)	<i>Setaria glauca</i>	Verbena	<i>Verbena hastate</i>
Galinsoga	<i>Galinsoga ciliate</i>	Wild Carrot	<i>Daucus carota</i>
Goosegrass*	<i>Eleusine indica*</i>	Wild Violet	<i>Viola pratincola</i>
Ground Ivy	<i>Glechoma hederacea</i>	Windmillgrass	<i>Chloris verticillata</i>
Heal-All	<i>Prunella vulgaris</i>		

\*For optimal control, apply to less than 4 tiller crabgrass and goosegrass.

#### ROTATIONAL CROP INTERVALS

When making an application of **Axill Solutions Mesotrione 4SC** as directed on this label, and turf areas are converted to crop areas, follow the crop rotation intervals in Table 3. If **Axill Solutions Mesotrione 4SC** is tank mixed with other products, follow the most restrictive product's crop rotation interval.

**Table 3. Time Interval Between Axill Solutions Mesotrione 4SC Application and Replanting or Planting of Rotational Crop**

Crop	Replant/Rotational Interval (Months)
Asparagus, Corn (all types), Cranberry, Flax, Kentucky bluegrass grown for seed, Millet (pearl), Oats, Rhubarb, Ryegrass (perennial and annual) grown for seed, Sorghum (grain and sweet), Sugarcane, and Tall fescue grown for seed	Anytime
Soybean	Immediate
Small grain cereals including wheat, barley, and rye	4
Alfalfa, Blueberry, Canola, Cotton, Currant, Lingonberry, Okra, Peanuts, Peas*, Potato, Rice, Snap beans*, Sunflowers, and Tobacco	10
Cucurbits, Dry beans, Red clover, Sugar beets, and All other rotational crops	18

\*Plant these rotational crops only if the following criteria below have been met. If all criteria are not met, plant peas and snap beans a minimum of 18 months following **Axill Solutions Mesotrione 4SC** application:

- A minimum of 20" of rainfall plus irrigation has been received between application and planting of the rotational crop.
- Soil pH is 6.0 or greater.
- Applying **Axill Solutions Mesotrione 4SC** at 3.0 fl. oz./A or less applied no later than June 30 the year preceding rotational crop planting.
- No other HPPD herbicides (such as, mesotrione, S-metolachlor, metolachlor, glyphosate, atrazine, topramezone, isoxaflutole, thiencazone-methyl, and tembotrione) were applied the year before planting peas and snap beans.

**Rotational Crop Restriction:**

- Do not plant peas or snap beans on sand, sandy loam, or loamy sand soils in Minnesota or Wisconsin.

#### TURFGRASSES

Make an application of **Axill Solutions Mesotrione 4SC** at reduced rates of 4 fl. oz./A (0.125 lb. a.i./A) or less if tank mixing with atrazine, bentazon, or simazine. Before tank mixing **Axill Solutions Mesotrione 4SC** with other herbicides, conduct a compatibility, safety, and efficacy test before treating larger areas.

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

#### Precautions - Turfgrass:

- Thoroughly clean application equipment after use to avoid injury to sensitive plants.
- To avoid injury to sensitive species, keep traffic out of treated areas until sprays have dried; irrigate soil lightly to move **Axill Solutions Mesotrione 4SC** from turf foliage before resuming normal irrigation.

**Restrictions - Turfgrass:**

- Do not overspray or allow spray to drift to ornamentals or flower beds and gardens. Roses and daylilies are particularly sensitive to **Axill Solutions Mesotrione 4SC**.
- Do not apply more than 8 fl. oz./A (0.125 lb. a.i./A) in a single application.
- Do not apply more than 16 fl. oz./A (or 0.50 lb. a.i.) of **Axill Solutions Mesotrione 4SC** per year.
- Do not apply more than 2 applications per acre per year.
- If multiple applications are made, they must be made no closer than 14 days apart.
- Do not plant any crop other than turfgrass for 18 months post-application of **Axill Solutions Mesotrione 4SC** to avoid turfgrass injury.
- Do not make an application of organophosphate or carbamate insecticides within 7 days of applying **Axill Solutions Mesotrione 4SC**.
- **Residential Lawns:** Do not make broadcast applications for pre-and post-emergent weed control unless the home lawn is being reseeded and/or renovated as whitening of some turfgrasses may occur.
- Do not make an application of **Axill Solutions Mesotrione 4SC** through any type of irrigation system.
- Do not make an application by air.
- Do not use treated clippings to mulch trees or vegetable/flower gardens.
- Do not make an application of this product on bentgrass, *Poa annua*, kikuyugrass, zoysiagrass, seashore paspalum, and bermudagrass, when plant injury is unacceptable. Maintain a 5-foot buffer between treated areas and bentgrass or *Poa annua* greens.
- Do not make an application over the top of exposed roots of trees and ornamentals.
- Do not use on golf course putting greens; maintain a minimum of a 5-foot buffer between putting greens and treated areas.

**Use Sites**

An application of **Axill Solutions Mesotrione 4SC** may be applied to commercial and residential turfgrasses. Non-crop area use sites include golf courses, sod farms, athletic fields, parks, residential and commercial properties, cemeteries, airports, and lawns.

**Turfgrass Species & Application Rates**

Species Application	Application Rate (Fl. Oz. per Acre)
Kentucky Bluegrass ( <i>Poa pratensis</i> )	5 - 8 fl. oz.
Centipedegrass ( <i>Eremochloa ophiuroides</i> )	5 - 8 fl. oz.
Buffalograss ( <i>Buchloe dactyloides</i> )	5 - 8 fl. oz.
Tall Fescue ( <i>Festuca arundinacea</i> )	5 - 8 fl. oz.
Perennial ryegrass* ( <i>Lolium perenne</i> )	5 fl. oz.
Fine Fescue* (Creeping Red, Chewing's, and Hard) ( <i>Festuca</i> spp.)	5 fl. oz.
St. Augustinegrass* (Grown For Sod) ( <i>Stenotaphrum secundatum</i> )	4 fl. oz.
*See additional rate instructions below.	

**Pre-Emergence Application:**

Make an application of **Axill Solutions Mesotrione 4SC** at 4 - 8 fl. oz./A (0.125 – 0.25 lb. a.i./A) in at least 30 gals. of water per acre before seeds germinate and as close to seed germination as possible. Combine this product with another pre-emergence herbicide including UP-End® Hydrocap for extended control of crabgrass and foxtail.

**Precaution - Pre-Emergence**

- **Axill Solutions Mesotrione 4SC** is most effective on established turf when applied post-emergence unless it is combined with another soil active herbicide.

**Restrictions - Pre-Emergence**

- Do not exceed 5 fl. oz./A (0.156 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** per application to perennial ryegrass, fine fescues, or mixed stands that consist of >50% perennial ryegrass and/or fine fescue.
- **St. Augustinegrass Sod:** Do not exceed 4 fl. oz. per acre (0.125 lb. a.i./A) per application.

**New Seedlings / New Lawns Application:**

Make an application of **Axill Solutions Mesotrione 4SC** at 5 - 8 fl. oz./A (0.156 - 0.25 lb. a.i./A) in at least 30 gals. of water per acre before seeding or after seeding of non-sensitive turfgrass species listed below, except fine fescue, as application to fine fescue can reduce grass density. **Axill Solutions Mesotrione 4SC** can be effectively used on grass seed blends that contain <20% by weight hard/fine fescue. For optimal control, apply at grass seeding or as close to seeding as possible.

**Restriction - New Seedlings / New Lawns**

- Do not spray on newly germinated turfgrass. Delay treatment until grass has been mowed 2 to 4 times and/or 28 days after emergence, whichever is longer.

**Post-Emergence Application:**

Make an application of **Axill Solutions Mesotrione 4SC** at 4 - 8 fl. oz./A (0.125 – 0.25 lb. a.i./A) in at least 30 gals. of water per acre with a NIS surfactant. Make a repeat application 14 to 21 days later for optimal weed control. Apply to young, actively growing weeds.

**Precaution - Post-Emergence**

- Moisture stress and application to mature weeds can reduce herbicide efficacy.

**Bentgrass (*Agrostis* spp.) / Nimbleweed (*Muhlenbergia schreberi*) Control:**

Make an application of **Axill Solutions Mesotrione 4SC** at 5 fl. oz./A (0.156 lb. a.i./A) in at least 30 gals. of water per acre combined with a NIS surfactant at 14 to 21 days intervals for a maximum of 3 applications. For optimal Bentgrass control, apply in late summer/early fall just before new growth.

**St. Augustinegrass (Sod Uses Only) and Centipedegrass Treatment:**

Make applications to established turf ONLY.

**Restrictions - St. Augustinegrass (Sod Uses Only) and Centipedegrass**

- Do not exceed 4 fl. oz./A (0.125 lb. a.i./A) of **Axill Solutions Mesotrione 4SC** if tank mixing with atrazine or simazine.
- Do not exceed 0.5 lb./A atrazine or simazine active ingredient. See atrazine/simazine labels for precautions and restrictions.

**Dormant Bermudagrass Application Only:**

Make an application of **Axill Solutions Mesotrione 4SC** at 5 fl. oz./A (0.156 lb. a.i./A) to control winter weeds listed in the **WEEDS CONTROLLED** table below. Make a repeat application 14 to 21 days later. Applying **Axill Solutions Mesotrione 4SC** to semi-dormant turf will cause bermudagrass whitening.

**Spot Applications of Axill Solutions Mesotrione 4SC:**

Spray Mix	Application Rate	Rate of this Product	Rate of NIS Adjuvant
2 gallons	1 gallon per 1,000 sq. ft.	1 teaspoon	3 teaspoons

**Restriction - Spot Application**

- Do not apply more than 16 fl. oz./A of **Axill Solutions Mesotrione 4SC** per year (equivalent to 0.5 lb. a.i. per acre per year).

## STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Keep container tightly closed when not in use. Do not store near seed, fertilizers, or foodstuffs. Can be stored at temperatures as low as 20°F. Keep away from heat and flame.

**PESTICIDE DISPOSAL:** Open dumping is prohibited. Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**CONTAINER HANDLING [Less Than or Equal to 5 Gallons]:**

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or 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 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by State and local authorities.

**CONTAINER HANDLING [Greater Than 5 Gallons]:**

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the person refilling. To clean container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10% 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 by other procedures approved by State and local authorities.

**CONTAINER HANDLING [Greater Than 5 Gallons]:**

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by State and local authorities.

## CONDITION OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

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



The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather, presence of other materials or other influencing factors in the use of the product, which are beyond the control of Axill Solutions LLC or Seller. To the extent consistent with applicable law, all such risks shall be assumed by Buyer and User, and Buyer and User agree to hold Axill Solutions LLC and Seller harmless for any claims relating to such factors.

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