UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

February 24, 2020

KEEVA SHULTZ
AGENT
ROTAM AGROCHEMICAL COMPANY LTD.
WAGNER REGULATORY ASSOCIATES, INC.
P.O. BOX 640
HOCKESSIN, DE 19707

Subject: Label Amendment – Revise label and add crops
Product Name: ROTAM MESOTRIONE 480 SC
EPA Registration Number: 83100-41
Application Date: 02/12/2019
Decision Number: 548822

Dear Ms. Shultz:

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

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

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

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

with FIFRA section 6. If you have any questions, please contact Francisco Llarena-Arias by phone at 703-347-0459, or via email at llarena-arias.francisco@epa.gov.

Sincerely,

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

Enclosure

MESOTRIONE	GROUP	27	HERBICIDE

[Master Label: Page 1-26]

Rotam Mesotrione 480 SC

ABN: Rotam Mesotrione 480 SC Turf [only to be used with Sub-label B]

[Sub-Label A (Pages 27-48) Rotam Mesotrione 480 SC:] **Controls annual broadleaf weeds in Corn (field, seed, yellow pop, sweet), and other listed crops**

[Sub-Label B (Pages 49-56) ABN: Rotam Mesotrione 480 SC Turf:] **Provides selective and residual control of weeds in Ornamental Turfgrasses**

Active Ingredient:	**By Weight**
Mesotrione: 2-[4-(methylsulfonyl)-2-nitrobenzoyl]-1,3-cyclohexanedione	40.0%
Other Ingredients:	60.0%
TOTAL:	**100.0%**

Contains 4 lbs. active ingredient mesotrione per gallon.

KEEP OUT OF REACH OF CHILDREN

CAUTION

FIRST AID	
IF SWALLOWED	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
IF ON SKIN OR CLOTHING	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
IF INHALED	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
IF IN EYES	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
HOT LINE NUMBER 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**.	

EPA Reg. No.: 83100-41
EPA Est. No.:
Net Contents:

Manufactured By [For]:
Rotam Agrochemical Co. Ltd.
26/F, E-TRADE PLAZA
24 LEE CHEUNG STREET
CHAI WAN, HONG KONG

ACCEPTED
02/24/2020
Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 83100-41

[Table of Contents to be added before the Precautionary Statement]

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION

Harmful if swallowed, or absorbed through skin. 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 Protection Equipment (PPE)

Applicators and Other Handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical-resistant gloves (e.g., barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinyl chloride (PVC), or Viton ≥14 mils)

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.

USER SAFETY RECOMMENDATIONS

Users should:

- Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove and wash contaminated clothing before reuse.
- 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.

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.

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 or 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 such as 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 use or store near heat or open flame.

DIRECTIONS FOR USE

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

DO NOT apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. 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 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, such as plants, soil or water, is:

- coveralls
- shoes plus socks
- chemical-resistant gloves (barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinyl chloride (PVC), or Viton ≥14 mils)

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 for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

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

PRODUCT INFORMATION

Rotam Mesotrione 480 SC is a systemic pre-emergence and post-emergence herbicide for selective contact and residual control of broadleaf weeds in asparagus, bluegrass, ryegrass (annual and perennial) and tall fescue grown for seed, bush and caneberries (Crop Group 13-07A and 13-07B), citrus fruit (Crop Group 10-10), cranberry, field corn, flax, oats, okra, pearl millet, pome fruit (Crop Group 11-10), rhubarb, seed corn, yellow popcorn, sweet corn, soybean, sorghum (grain and sweet), stone fruit (Crop Group 12-12), sugarcane, and tree nuts (Crop Group 14-12). If used pre-emergence, weeds take up the product through the soil during emergence. Dry weather conditions can reduce pre-emergent effectiveness of **Rotam Mesotrione 480 SC.** If at least ¼-inch of rainfall does not occur within 7-10 days of application, rotary hoeing will activate the product. If used post-emergence weeds take up the product through treated foliage and stop growing soon after application. It may take up to two weeks for weeds to die. **Rotam Mesotrione 480 SC** is absorbed by soil and/or through foliage of emerged weeds.

Rotam Mesotrione 480 SC will not control most species of grass weeds. **Rotam Mesotrione 480 SC** can be tank-mixed with other herbicides registered to control grass weeds (see tank-mix information in this label for additional information). **Rotam Mesotrione 480 SC** can be used in combination with a burndown herbicide prior to planting to provide weed control in field corn, seed corn, yellow popcorn, and sweet corn.

RESISTANCE MANAGEMENT

Rotam Mesotrione 480 SC contains mesotrione and is classified in the triketone chemical class as a Group 27 herbicide, 4-hydroxyphenyl-pyruvatedioxygenase inhibitor. 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 **Rotam Mesotrione 480 SC** 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 **Rotam Mesotrione 480 SC** 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 such as mechanical cultivation, biological management practices, and crop rotation.
- Fields with difficult to control weeds must 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 must 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 two 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 registrant 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

Integrate **Rotam Mesotrione 480 SC** into an overall weed and pest management strategy whenever the use of an 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.

Rotam Mesotrione 480 SC Use Precautions

- Severe corn injury can result from post-emergent application of **Rotam Mesotrione 480 SC** to corn treated with terbufos or chlorpyrifos.
- **Applications of Rotam Mesotrione 480 SC** post-emergence in tank mixes with emulsifiable concentrate grass herbicides may cause severe corn injury or yield loss under adverse weather conditions.
- Severe corn injury and/or yield loss can occur if foliar post-emergent applications of **Rotam Mesotrione 480 SC** are made to corn in a tank mix with any organophosate or carbamate insecticide.
- Severe corn injury and/or yield loss can occur if an organophosphate or carbamate insecticide is applied foliar post-emergence within 7 days before or 7 days after **Rotam Mesotrione 480 SC** application.
- 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 application is made under prolonged stress conditions. Optimum weed control will be obtained if an application of **Rotam Mesotrione 480 SC** is made following label directions when weeds are actively growing.
- **Rotam Mesotrione 480 SC** may be applied with pyrethroid type insecticides (e.g., lambda-cyhalothrin).

Rotam Mesotrione 480 SC Use Restrictions

- **DO NOT** apply this product to white popcorn or ornamental (Indian) corn.
- **DO NOT** cultivate corn within 7 days before or after a **Rotam Mesotrione 480 SC** application as weed control from the **Rotam Mesotrione 480 SC** application may be reduced.
- **DO NOT** apply this product through any type of irrigation system unless specified otherwise under the specific crop section of the label.
- **DO NOT** apply **Rotam Mesotrione 480 SC** with suspension fertilizers as the carrier.
- **DO NOT** make aerial applications of **Rotam Mesotrione 480 SC** unless otherwise specified in the specific crop directions of this label.

MANDATORY SPRAY DRIFT MANAGEMENT

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 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 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 lower spray pressure recommended for the nozzle to product 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.

WINDBLOWN SOIL PARTICLES

Rotam Mesotrione 480 SC has the potential to move off-site due to wind erosion. Soils that are subject to wind erosion usually have a high silt and/or fine to very fine sand fractions and low organic matter content. Other factors which can affect the movement of windblown soil include the intensity and direction of prevailing winds, vegetative cover, site slope, rainfall, and drainage patterns. Avoid applying **Rotam Mesotrione 480 SC** if prevailing local conditions may be expected to result in off-site movement.

AERIAL APPLICATION INSTRUCTIONS FOR CORN AND SUGARCANE

Aerial application of **Rotam Mesotrione 480 SC** is permitted on **corn and sugarcane only**.

Rotam Mesotrione 480 SC is approved for aerial application for pre-emergence and post-emergence control in corn in the states of: **Alabama, Arizona, Arkansas, California, 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**.

Rotam Mesotrione 480 SC is approved for aerial application for pre-emergence and post-emergence control in sugarcane in the states of: **Florida, Louisiana, and Texas**.

Make aerial applications in a minimum of 2 gallons water per acre.

PRE-EMERGENCE GROUND APPLICATION INSTRUCTIONS

Apply **Rotam Mesotrione 480 SC** pre-emergence with a carrier volume of 10-60 gals./A.

Space spray nozzles of the same size and type uniformly to provide accurate and uniform coverage. Apply in a spray volume of 10-60 gals./A with water or liquid fertilizer (NOT suspension fertilizer) as the carrier. Use a pump that will maintain pump pressure of 35-40 PSI at the nozzles and provide proper agitation within the tank to keep the product dispersed. Lower pressures can be used with extended range or drift reduction nozzles.

Maintain constant agitation until spraying is complete, even if stopping for brief periods of time. If agitation is stopped for longer than 5 minutes, resuspend the spray solution by running on full agitation prior to spraying.

POST-EMERGENCE GROUND APPLICATION INSTRUCTIONS

Space spray nozzles of the same size and type uniformly to provide accurate and uniform coverage. Complete 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.

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

Apply with flat fan nozzles 80^0-100^0 for optimum post-emergent coverage. **DO NOT** use flood jet nozzles or controlled droplet application equipment for post-emergence applications.

Angle nozzles forward 45^0 to enhance product penetration and provide better coverage. In-line strainers and nozzle screens must be a minimum of 50-mesh or coarser.

Maintain constant agitation until spraying is complete, even if stopping for brief periods of time. If agitation is stopped for longer than 5 minutes, resuspend the spray solution by running on full agitation prior to spraying.

USE DIRECTIONS WITH SPRAY ADDITIVES

Post-Emergence Adjuvants

Any adjuvant used with **Rotam Mesotrione 480 SC** must meet the certification program requirements of the Chemical Producers and Distributors Association (CPDA).

Adjuvant Use Post-Emergence to Field and Seed Corn

After corn has emerged, add 1.0 gal./100 gals. of water (1.0% v/v) Crop Oil Concentrate (COC) to the spray solution. 1 qt./100 gals. of water (0.25% v/v) of a nonionic surfactant (NIS) can be used, but better weed control is achieved with the use of a COS versus a NIS.

DO NOT use methylated seed oil (MSO) or MSO adjuvant blends for post-emergence applications of **Rotam Mesotrione 480 SC** or severe crop injury can occur. **DO NOT** use MSO adjuvants unless it is specifically permitted in the **Rotam Mesotrione 480 SC Tank Mixtures for Corn** section of this label.

In addition to COC, add 2.5% (v/v) a spray grade UAN (e.g., 28-0-0) to the spray solution, or 8.5 lbs./100 gals. AMS, except if precluded elsewhere on this label.

Adjuvant Use Post-Emergence to Sweet and Yellow Corn
DO NOT use UAN or AMS on sweet and yellow corn as severe crop injury can occur.

Use a nonionic surfactant (NIS) instead of a COC to reduce the likelihood of crop injury. COCs will maximize weed control under dry growing conditions, but will significantly injure crops under lush growing conditions. To optimize weed control, add atrazine wherever rotational or local atrazine restrictions allow.

Pre-Emergence Adjuvant Use
Any adjuvant approved for use on agriculture is permitted when making **Rotam Mesotrione 480 SC** pre-plant or pre-emergence applications. MSO adjuvants perform better than COC and NIS adjuvants under pre-plant/pre-emergence conditions. UAN and AMS adjuvants will provide better weed control than not using any adjuvant. If **Rotam Mesotrione 480 SC** is being tank-mixed with another registered herbicide, refer to the tank mix partner label for adjuvant precautions and restrictions.

SPRAY EQUIPMENT CLEANING

Follow the procedures below for cleaning equipment before spraying a crop other than corn. Mix only as much spray solution as is needed.

1) Flush tank, hoses, boom, and nozzles with clean water.
2) Prepare cleaning solution of 1 gal. of household ammonia per 25 gals. of water. Commercial spray tank cleaners can be used in lieu of ammonia/water solution.
3) Using a pressure washer, clean the inside of the spray tank with the cleaning solution. Wash ALL parts of the tank, including the inside top surface. If a pressure washer is not available, 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 spray and recirculate the cleaning solution for a minimum of 15 minutes. All visible deposits of spray solution must be removed from the spray tank before making any other applications.
4) Flush hoses, spray lines, and nozzles with cleaning solution for a minimum of 1 minute.
5) Dispose of rinsate from steps 1-3 in an appropriate manner.
6) Repeat steps 2-5.
7) Remove nozzles, screens, and strainers and clean separately in the ammonia solution after completing the previous steps.
8) Rinse the complete spray system with clean water.

MIXING INSTRUCTIONS

See the **Crop Use Directions** sections of the 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.

MIXING RESTRICTIONS

- **DO NOT** exceed any dosage rates specified on labels.
- **DO NOT** mix this product with any product containing a label prohibition against such mixing.
- **DO NOT** tank mix **Rotam Mesotrione 480 SC** with any other insecticide, fungicide, fertilizer, or adjuvant not specified on this label without first testing compatibility, as poor mixing can occur. Test compatibility on a small scale (including a jar test) before actual tank mixing.

MIXING PROCEDURE

1. Use sprayers in good operating condition with good agitation. Ensure that the sprayer is cleaned according to the label instructions of the product label used prior to **Rotam Mesotrione 480 SC**. For post-emergence applications, use clean water only for the spray solution. Ensure that all in-line strainers and nozzle screens in the sprayer are 50-mesh or coarser. **DO NOT** use screens finer than 50-mesh.
2. Use liquid fertilizer (NOT suspension fertilizer) as the carrier for pre-emergence applications.
3. Start filling spray tank or pre-mix tank with clean water and begin agitation. Maintain constant agitation.

4. When sprayer or pre-mix is half full of water, add AMS, maintaining agitation until dispersed.
5. Add **Rotam Mesotrione 480 SC** slowly and agitate until completely dissolved. Wait at least 1 minute after the last of the **Rotam Mesotrione 480 SC** has been added to allow for complete dispersion. If using cold water, a longer agitation period may be required to ensure adequate dispersing.
6. If tank mixing, add the tank mix product.
7. Add the adjuvant and UAN, if needed, and continue to fill tank to desired level with water.

ROTAM MESOTRIONE 480 SC WEED CONTROL TABLES

Partial control means either erratic control (good to poor control) or control that is below what is accepted as acceptable control for commercial weed control.

For best post-emergence results, apply **Rotam Mesotrione 480 SC** to actively growing weeds.

For best pre-emergence results, avoid applying **Rotam Mesotrione 480 SC** in dry weather as residual weed control may be reduced. If irrigation is available, apply ½-1-inch water after pre-emergence application. If irrigation is not available, make a uniform shallow cultivation as soon as weeds emerge.

Rotam Mesotrione 480 SC applied alone or in a tank-mix with atrazine will not provide consistent or adequate control of weeds that are resistant to post-emergence HPPD inhibiting herbicides. Refer to the crop sections of the label for specific use directions and application rates.

Table 1. Weeds Controlled with Post-Emergence Applications of Rotam Mesotrione 480 SC

Common Name	Scientific Name	Rotam Mesotrione 480 SC 3 Fl. Oz./A (0.09 lb. a.i./A) Applied Alone	Rotam Mesotrione 480 SC 2.5-3.0 Fl. Oz./A (0.08-0.09 lb. a.i./A) + Atrazine
		Apply to Weeds <5" Tall^	
Amaranth, palmer	*Amaranthus palmeri*	PC+	C+
Amaranth, Powell	*Amaranthus powellii*	C	C
Amaranth, spiny	*Amaranthus spinosus*	C	C
Atriplex	*Chenopodium orach*	C	C
Broadleaf signalgrass	*Urochloa platyphylla*	C+	C+
Buckwheat, wild	*Polygonum convolvulus*	PC	PC
Buffalobur	*Solanum rostratum*	C	C
Burcucumber	*Sicyos angulatus*	PC	C+
Carpetweed	*Mollugo verticillata*	C	C
Carrot, wild	*Daucus carota*	PC	C
Chickweed, common	*Stellaria media*	C	C
Cocklebur, common	*Xanthum strumarium*	C	C
Crabgrass, large	*Digitaria sanguinalis*	C+	C+
Dandelion	*Taraxacum officinale*	NC	PC
Dock, curly	*Rumex crispus*	PC	PC
Galinsoga	*Galinsoga parviflora*	C	C
Hemp	*Cannabis sativa*	C	C
Horsenettle	*Solanum carolinense*	PC	C
Jimsonweed	*Datura stramonium*	C	C
Horseweed (marestail)	*Conyza canadensis*	PC	C
Knotweed, prostrate	*Polygonum aviculare*	PC	PC
Kochia	*Kochia scoparia*	PC+	C+
Lambsquarters, common	*Chenopodium album*	C	C
Mallow, Venice	*Hibiscus trionum*	NC	C
Morningglory, entireleaf	*Ipomoea hederacea*	PC	C
Morningglory, ivyleaf	*Ipomoea hederacea*	PC	C
Morningglory, pitted	*Ipomoea lacunosa*	PC	C
Mustard, wild	*Brassica kaber*	C	C
Nightshade, black	*Solanum nigrum*	C	C
Nightshade, Eastern black	*Solanum ptychanthum*	C	C
Nightshade, hairy	*Solanum sarrachoides*	C	C
Nutsedge, yellow	*Cyperus esculentus*	PC	PC
Pigweed, redroot	*Amaranthus retroflexus*	C	C
Pigweed, smooth	*Amaranthus hybridus*	C	C
Pigweed, tumble	*Amaranthus albus*	C	C

Pokeweed, common	*Phytolacca americana*	PC	PC
Potatoes, volunteer	*Solanum* spp.	C	C
Pusley, Florida	*Richardia scabra*	C+	C+
Ragweed, common	*Ambrosia artemisiifolia*	PC	C
Ragweed, giant	*Ambrosia trifida*	C+	C
Sesbania, hemp	*Sesbania exaltata*	C	C
Sida, prickly (teaweed)	*Sida spinosa*	NC	C+
Smartweed, ladysthumb	*Polygonum persicaria*	C+	C
Smartweed, pale	*Polygonum lapathifolium*	C+	C
Smartweed, Pennsylvania	*Polygonum pensylvanicum*	C+	C
Sunflower, common	*Helianthus annuus*	C	C
Thistle, Canada	*Circium arvense*	NC	PC
Velvetleaf	*Abutilon theophrasti*	C	C
Waterhemp, common	*Amaranthus rudis*	C+	C
Waterhemp, tall	*Amaranthus tuberculatus*	C+	C

^Weeds can be controlled at larger than listed sizes; however, to protect crop yield, manage weed resistance, and provide effective control, treat weeds before they reach 5" tall.
+Apply before weeds exceed 3" tall. C = Control NC = Not Controlled PC = Partial Control

Table 2. Weeds Controlled with Pre-Emergence Applications of Rotam Mesotrione 480 SC

Common Name	Scientific Name	Rotam Mesotrione 480 SC Applied Alone	Rotam Mesotrione 480 SC + Atrazine
Amaranth, palmer	*Amaranthus palmeri*	C	C
Amaranth, powell	*Amaranthus powellii*	C	C
Amaranth, spiny	*Amaranthus spinosus*	C	C
Broadleaf signalgrass	*Urochloa platyphylla*	PC	PC
Buffalobur	*Solanum rostratum*	C	C
Carpetweed	*Mollugo verticillata*	C	C
Chickweed, common	*Stellaria media*	C	C
Cocklebur, common	*Xanthum strumarium*	PC	C
Crabgrass, large	*Digitaria sanguinalis*	PC	PC
Galinsoga	*Galinsoga parviflora*	C	C
Jimsonweed	*Datura stramonium*	C	C
Kochia	*Kochia scoparia*	PC	C
Lambsquarters, common	*Chenopodium album*	C	C
Morningglory, entireleaf	*Ipomoea hederacea*	PC	C
Morningglory, ivyleaf	*Ipomoea hederacea*	PC	C
Morningglory, pitted	*Ipomoea lacunosa*	PC	C
Nightshade, Eastern black	*Solanum ptychanthum*	C	C
Nightshade, hairy	*Solanum sarrachoides*	C	C
Pigweed, redroot	*Amaranthus retroflexus*	C	C
Pigweed, smooth	*Amaranthus hybridus*	C	C
Pigweed, tumble	*Amaranthus albus*	C	C
Ragweed, common	*Ambrosia artemisiifolia*	C	C
Ragweed, giant	*Ambrosia trifida*	PC	C
Smartweed, ladysthumb	*Polygonum persicaria*	C	C
Smartweed, pale	*Polygonum lapathifolium*	C	C
Smartweed, Pennsylvania	*Polygonum pensylvanicum*	C	C
Sunflower, common	*Helianthus annuus*	PC	C
Velvetleaf	*Abutilon theophrasti*	C	C
Waterhemp, common	*Amaranthus rudis*	C	C
Waterhemp, tall	*Amaranthus tuberculatus*	C	C

ROTATIONAL CROP INTERVALS

If **Rotam Mesotrione 480 SC** is applied according to the enclosed label instructions, follow the crop rotation intervals listed below in Table 3. If **Rotam Mesotrione 480 SC** is tank-mixed with other products, follow the most restrictive product's crop rotation interval.

Table 3. Time Interval Between Rotam Mesotrione 480 SC Application and Replanting/Planting of Rotational Crop

Replant/Rotational Interval	Crop
Anytime	Asparagus, Corn (all types), Cranberry, Flax, Kentucky bluegrass gown for seed, Pearl Millet, Oats, Rhubarb, Ryegrass (perennial and annual) grown for seed, Sorghum

	(grain and sweet), Sugarcane, Tall fescue grown for seed
4 Months	Small grain cereals (wheat, barley, rye)
10 Months	Alfalfa, Blueberry, Canola, Cotton, Currant, Lingonberry, Okra, Peanuts, Peas*, Potato, Rice, Snap Beans*, Non-Resistant Mesotrione Soybeans, Sunflowers, Tobacco
18 Months	Cucurbits, Dry beans, Red Clover, Sugar Beets, All other crops

*Plant these rotation crops ONLY if the criteria listed below have been met. If all criteria have NOT been met, plant peas and snap beans a minimum of 18 months following **Rotam Mesotrione 480 SC** application.

- A minimum of 20" of rainfall plus irrigation has occurred between application and planting of the rotational crop.
- Soil pH is >6.0.
- 3 fl. oz./A (0.09 lb. a.i./A) or less has been applied no later than June 30th the year preceding rotational crop planting.
- No other HPPD herbicides (e.g., Mesotrione, Glyphosate + Mesotrione + S-Metolachlor, + S-Metolachlor 19% + Atrazine 18.61% + Mesotrione 2.44%, S-Metolachlor 27.1% + Atrazine 9.94%+ Mesotrione 2.71%, Mesotrione + S-Metolachlor, Topramezone, Isoxaflutole, Thiencarbazone-methyl + Tembotrione, Thiencarbazone-methyl + Isoxaflutole, or Tembotrione) were applied the year prior to planting peas and snap beans.
- **DO NOT** plant peas or snap beans on sand, sandy loam, or loamy sand soils in Minnesota or Wisconsin.

CROP USE DIRECTIONS - CORN

Apply **Rotam Mesotrione 480 SC** by ground for pre-emergence or post-emergence weed control in field corn, seed corn, yellow popcorn, and sweet corn. Apply **Rotam Mesotrione 480 SC** to corn up to 30" tall or up to the 8-leaf stage of corn growth to control broadleaf and grass weeds listed in Tables 1 and 2.

Aerial applications of **Rotam Mesotrione 480 SC** can be made pre-emergence or post-emergence in the following states: **Alabama, Arizona, Arkansas, California, 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**.

See seed company instructions for use on field corn inbred lines. Special adjuvant restrictions must be followed for post-emergence applications of **Rotam Mesotrione 480 SC** in yellow popcorn or sweet corn (see the **Spray Additives** section of this label). **DO NOT** apply **Rotam Mesotrione 480 SC** to white popcorn or ornamental (Indian) corn.

Post-emergence application of **Rotam Mesotrione 480 SC** to yellow popcorn and sweet corn hybrids may cause crop bleaching. Bleach is transitory and will not affect final yield or quality. Herbicide sensitivity, however, can vary widely in yellow popcorn and sweet corn, and all hybrids of these have not been tested. Contact your local popcorn/sweet corn company, Fieldman, or University Specialist to learn about hybrid recommendations before making a post-emergence application of **Rotam Mesotrione 480 SC** to yellow popcorn or sweet corn. **DO NOT** include nitrogen based adjuvants (UAN or AMS) when making post-emergence applications of **Rotam Mesotrione 480 SC** to yellow popcorn or sweet corn.

Temporary transient bleaching may occur in field corn treated with **Rotam Mesotrione 480 SC** post-emergence under extreme weather conditions or when the crop is under stress. Field corn will quickly outgrow this condition and develop normally.

Corn Restrictions

- **DO NOT** apply more than 7.7 fl. oz. (0.24 lb. a.i./A) of **Rotam Mesotrione 480 SC** per year.
- **DO NOT** make more than 2 applications per year.
- **DO NOT** exceed 3.0 fl. oz. (0.09 lb. a.i./A) in a single post-emergence application.
- **RTI: DO NOT** make a second application of **Rotam Mesotrione 480 SC** within 14 days of the first application.
- **DO NOT** feed or harvest forage, grain, or stover within 45 days after application.

Rotam Mesotrione 480 SC Used Alone – Post-Emergence

Apply 3.0 fl. oz./A (0.09 lb. a.i./A) per application. Always add an appropriate adjuvant to the spray tank (see the **Spray Additives** section of this label).

Apply to actively growing weeds. See Table 1 for a complete list of weeds controlled. Susceptible weeds that emerge post-application may be controlled after the herbicide is absorbed into the soil. **Rotam Mesotrione 480 SC** will not control most grass weeds.

Two post-emergence applications of **Rotam Mesotrione 480 SC** may be made under the following restrictions:

- Only one post-emergence application may be made if **Rotam Mesotrione 480 SC** has been applied pre-emergence.
- **DO NOT** exceed a total of 7.7 fl. oz./A (0.24 lb. a.i./A) per year.
- **RTI: DO NOT** make a second application within 14 days of the first application.
- Applications made at rates lower than 3.0 fl. oz./A. (0.09 lb. a.i./A) post-emergence may not provide adequate weed control and no residual control.
- **DO NOT** exceed a total of 6.0 fl. oz./A (0.19 lb. a.i./A) for the two post-emergence applications.
- If a post-emergence application of **Rotam Mesotrione 480 SC** was made to ground that received pre-emergence treatment of another mesotrione-containing herbicide, atrazine must be tank mixed with **Rotam Mesotrione 480 SC**.
- If mixing **Rotam Mesotrione 480 SC** with atrazine, **DO NOT** apply to corn taller than 12”.
- Treat corn up to 30” tall or up to the 8-leaf stage of growth.
- **DO NOT** harvest, forage, or stover within 45 days post-application.

Rotam Mesotrione 480 SC Used Alone – Pre-Emergence
Apply 6.0-7.7 fl. oz./A (0.19-0.24 lb. a.i./A) by ground sprayer in 10-30 gals. of water per acre to control broadleaf weeds (up to 80 gals. if applied with liquid fertilizer). See Table 2 for a complete list of weeds controlled. **Rotam Mesotrione 480 SC** can be tank mixed with other approved pre-emergence grass herbicides to control grasses. Refer to the tank mix section for a list of tank-mix partners.

Rotam Mesotrione 480 SC Tank Mixtures for Corn
Apply **Rotam Mesotrione 480 SC** in tank mix with other registered herbicides to improve spectrum of weed control in burndown, pre-emergence, or post-emergence applications. These tank mixtures can also be used to include a different mode of action herbicide to control and manage the development of resistant weed biotypes.

Burndown Tank Mixtures in Corn
Apply **Rotam Mesotrione 480 SC** in tank mixture with other registered herbicides for burndown and residual weed control.

Apply 3.0 fl. oz./A (0.09 lb. a.i./A) **Rotam Mesotrione 480 SC** with paraquat, glyphosate, dicamba and/or 2,4-D for improved broadleaf weed control with limited residual control before planting corn and before corn emergence. For better residual control, apply 6.0-7.7 fl. oz./A (0.19-0.24 lb. a.i./A) **Rotam Mesotrione 480 SC** (see Table 2) with the products listed. 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 Mixture in Corn
Apply 5.3-7.7 fl. oz./A (0.17-.024 lb. a.i./A) of **Rotam Mesotrione 480 SC** in tank mixture with other registered herbicides (Table 4) for pre-emergence residual weed control. Refer to Table 2 for a list of weeds controlled by **Rotam Mesotrione 480 SC** and **Rotam Mesotrione 480 SC** + Atrazine applied pre-emergence.

Table 4. Rotam Mesotrione 480 SC Tank Mixtures for Pre-Emergence Application in Corn

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.

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

Post-Emergence Tank Mixtures in Corn
See Table 5 below for a list of tank mixtures that can be applied after corn has emerged. **DO NOT** apply less than 3.0 fl. oz./A (0.09 lb. a.i./A) of **Rotam Mesotrione 480 SC** unless specified on this label as a loss of residual control can occur.

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

Table 5. Rotam Mesotrione 480 SC Tank Mixtures for Post-Emergence Application to Corn

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

Tank Mix Partner	Use Directions
Atrazine	See Table 1 for application rates and list of weeds controlled. This mixture will control additional weeds. See product label for list of weeds controlled.
Nicosulfuron	This mixture will provide additional grass control. Refer to the product label for a list of weeds controlled.
Sodium Bentazon	This mixture will provide additional broadleaf weed control. Refer to the product label for a list of weeds controlled.
Thifensulfuron + Rimsulfuron	This mixture will provide additional weed control. Refer to the product label for a list of weeds controlled.
Metolachlor	Regarding tank mix adjuvants, it is advised to use non-nitrogen based products; or if using nitrogen based products (like UAN or AMS) apply as a post-directed spray to limit contact with crop foliage. To minimize risk of crop injury, the user may use nonionic surfactants (NIS) instead of the crop oil concentrates (COC). Control of emerged weeds can be reduced due to substandard adjuvant effect or poor weed coverage. This mixture will control additional weeds. See product label for list of weeds controlled.
Metolachlor + Atrazine	**DO NOT** use nitrogen based adjuvants (UAN or AMS); apply as post-directed spray. **DO NOT** use crop oil concentrate (COC); use a nonionic surfactant (NIS) to avoid crop injury. Control of emerged weeds can be reduced due to the adjuvant effect on weed coverage. This mixture will control additional weeds. See product label for list of weeds controlled.
Bromoxynil	This mixture will provide additional broadleaf weed control. Refer to product labels for use rates.
Atrazine + Glyphosate + S-Metoachlor	Use only on glyphosate resistant corn (e.g., Agrisure® GT, Roundup Ready®). Crop death will occur if this mixture is applied to a corn hybrid that is not glyphosate resistant. **DO NOT** add urea ammonium nitrate (UAN) or methylated seed oil (MSO) adjuvants to this mixture or crop injury can occur.
Glufosinate	Use only on corn designated as LibertyLink® or warranted as resistant to glufosinate. Use of this mixture on corn hybrids not tolerant to glufosinate will result in severe crop injury or death. **DO NOT** use crop oil concentrate (COC) as an adjuvant or crop injury can occur.
Imazethapyr + Imazapyr	Use only on corn designated at Clearfield® corn. Use of this mixture on corn hybrids not resistant to Lightning will result in severe crop injury or death. **DO NOT** use Methylated Seed Oil (MSO) or any MSO blend with this mixture or severe crop injury can occur.
Dicamba + Primisulfuron	This mixture will control additional weeds. See product label for list of weeds controlled.
Prosulfuron	This mixture will control additional weeds. See product label for list of weeds controlled.
Primisulfuron + Prosulfuron	This mixture will control additional weeds. See product label for list of weeds controlled.
Nicosulfuron + Rimsulfuron	This mixture will control additional weeds. See product label for list of weeds controlled.
Nicosulfuron + Thifensulfuron	This mixture will control additional weeds. See product label for list of weeds controlled.
Glyphosate	Use only on glyphosate resistant corn (e.g., Agrisure GT, Roundup Ready). Use of this mixture on corn hybrids that are 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 calls for an adjuvant in addition to AMS, add 0.25-0.5% v/v (1-2 quarts/100 gallons) of a non-ionic surfactant (NIS). **DO NOT** add urea ammonium nitrate (UAN), crop oil concentrate (COC) or methylated seed oil (MSO) adjuvants to this tank mixture or crop injury can occur.

CROP USE DIRECTIONS – ASPARAGUS

Apply **Rotam Mesotrione 480 SC** as broadcast or banded at a rate of 3.0-7.7 fl. oz./A (0.09-.024 lb. a.i./A) to asparagus as a spring application prior to spear emergence, as a post-harvest application (after final harvest), or both.

For post-emergence control or partial control of the emerged weeds listed in Table 1, use the 3.0 fl. oz/A (0.09 lb. a.i./A). For pre-emergence control or partial control of the weeds listed in Table 2, use the 6.0-7.7 fl. oz./A (0.19-0.24 lb. a.i./A) rate. For banded applications, the application must be made to account for band width, i.e. to deliver 3.0-7.7 fl. oz. per treated acre (0.09-0.24 lb. a.i./A). For the best pre-emergence weed control with spring applications, applications of **Rotam Mesotrione 480 SC** must be made after fern mowing, disking or other tillage operation but before asparagus spear emergence.

When treatments are made during 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/year (0.24 lb. a.i./A) 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. With post-harvest applications, the use of an adjuvant will increase the risk of crop injury.

If weeds are emerged at the time of application of **Rotam Mesotrione 480 SC**, 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 advised. 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 gallons of spray solution may be added for improved burndown of emerged weeds. If weeds have not yet emerged, no adjuvant is advised.

Restrictions:

- **DO NOT** apply more than 7.7 fl. oz./A (0.24 lb. a.i./A) of **Rotam Mesotrione 480 SC** per year.
- **DO NOT** apply more than 7.7. fl. oz./A (0.24 lb. a.i./A) in a single application.
- **DO NOT** make more than two **Rotam Mesotrione 480 SC** applications per year when using reduced applications rates.
- **RTI: DO NOT** make the second application within 14 days of the first application.

CROP USE DIRECTIONS – BLUEGRASS, RYEGRASS (ANNUAL AND PERENNIAL) AND TALL FESCUE GROWN FOR SEED

Make an application of **Rotam Mesotrione 480 SC** to bluegrass, annual ryegrass, perennial ryegrass, or tall fescue which is grown for seed. Make an application of **Rotam Mesotrione 480 SC** 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 **Rotam Mesotrione 480 SC** as a broadcast, surface spray at a rate of 6.0 fl. oz./A to a newly seeded crop. The application of **Rotam Mesotrione 480 SC** 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 **Rotam Mesotrione 480 SC**. Grass crop injury symptoms include temporary bleaching of newly emerged leaves, or in extreme conditions, stunting. See Table 2 for a list of pre-emergence weeds controlled or partially controlled. In addition to the weeds listed in Table 2, **Rotam Mesotrione 480 SC** will control mannagrass when applied pre-emergence.

Post-emergence Application: Make an application of **Rotam Mesotrione 480 SC** as a broadcast post-emergence spray at a rate of 3.0-6.0 fl. oz./A (0.09-0.19 lb. a.i./A) to emerged bluegrass, perennial ryegrass or tall fescue grown for seed. Use the 3.0 fl. oz./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, **Rotam Mesotrione 480 SC** will control mannagrass (up to 3 tillers) when applied post-emergence.

Use the 6.0 fl. oz./A (0.19 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 advised. Post-emergence applications of **Rotam Mesotrione 480 SC** 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 gallons 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 **Rotam Mesotrione 480 SC** rates greater than 3.0 fl. oz./A (0.09 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 **Rotam Mesotrione 480 SC** post-emergence may increase the risk of crop injury. Avoid adding pesticides with emulsifiable concentrate (EC) type formulations to **Rotam Mesotrione 480 SC** for applications made post-emergence to the crop.

Restrictions:

- **DO NOT** harvest the grass crop for seed or straw within 60 days following the application of **Rotam Mesotrione 480 SC**.
- **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 **Rotam Mesotrione 480 SC**.
- **DO NOT** make more than two applications of **Rotam Mesotrione 480 SC** per year.
- **RTI: DO NOT** make the second application within 14 days of the first application.
- **DO NOT** apply more than 6.0 fl. oz./A (0.19 lb. a.i./A) in a single application and not more than 9 fl. oz./A (0.281 lb. a.i./A) of **Rotam Mesotrione 480 SC** per year.
- Applying **Rotam Mesotrione 480 SC** to grasses grown for seed species not listed on this label may result in severe injury.

CROP USE DIRECTIONS – BUSH AND CANEBERRIES (CROP GROUP 13-07A and 13-07B)

Note: Not all cultivars and types of berries that are included within the Environmental Protection Agencies definition of bush and caneberries (Crop Subgroups 13-07A and 13-07B) have been tested and shown to have adequate crop safety to **Rotam Mesotrione 480 SC**. Those that have been tested, and are believed to be reasonably fit, are listed below along with use directions for that crop. If **Rotam Mesotrione 480 SC** is used on bush or caneberries not listed below, severe crop injury may occur.

Apply **Rotam Mesotrione 480 SC** 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. Apply **Rotam Mesotrione 480 SC** in bush or caneberries at a rate up to 6 fl. oz./A (0.19 lb. a.i./A). If a split application weed control program is desired, 3 fl. oz./A (0.19 lb. a.i./A) followed by 3 fl. oz./A (0.09 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 advised, but avoid using COC adjuvants that are injurious to bush or caneberry leaves.

In low bush blueberries, applications of **Rotam Mesotrione 480 SC** may only be made in the non-bearing year. Apply application as a broadcast application. Up to 6 fl. oz./A (0.19 lb. a.i./A) of **Rotam Mesotrione 480 SC** may be made in a single application, or 3 fl. oz./A (0.19 lb. a.i./A) followed by 3 fl. oz./A (0.09 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 advised. Applications of **Rotam Mesotrione 480 SC** during dry weather conditions and/or temperatures above 85° can cause injury to Lowbush blueberries. Applications of **Rotam Mesotrione 480 SC** can cause yellowing or necrosis of leaves and under severe conditions, leaf drop may occur especially on “Sourtop” variety blueberries.

Restrictions:

- **DO NOT** apply more than two applications of **Rotam Mesotrione 480 SC** per year when using reduced application rates.
- **DO NOT** apply more than 6.0 fl. oz./A (0.19 lb. a.i./A) of **Rotam Mesotrione 480 SC** per year.
- **DO NOT** apply more than 6.0 fl. oz./A (0.19 lb. a.i./A) in a single application.
- **RTI:** If two applications are made, they must be made no closer than 14 days apart.
- **DO NOT** apply **Rotam Mesotrione 480 SC** to bush or caneberries after the onset of the bloom stage or illegal residues may occur.

CROP USE DIRECTIONS - CITRUS FRUIT, POME FRUIT, STONE FRUIT AND TREE NUTS (CROP GROUP 10-10, 11-10, 12-12 AND 14-12)

Rotam Mesotrione 480 SC may be used for post-emergence and residual control of weeds listed in Tables 1 and 2 in the following crops.

Citrus fruit (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 (apple, azarole, crabapple, loquat, mayhaw, medlar, pear, Asian pear, quince, Chinese quince, Japanese quince, tejocote, cultivars, varieties and/or hybrids of these)

Stone fruit (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 (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)

Precautions

- To avoid crop injury, make application of the spray to the grove or orchard floor and to the weeds, avoiding contact with crop foliage, stems or fruit. Contact of **Rotam Mesotrione 480 SC** 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 **Rotam Mesotrione 480 SC** and carrier per acre in proportion to the area actually sprayed. (See Banded Applications Section.)
- Applying **Rotam Mesotrione 480 SC** in nectarine, plum or tree nuts grown in coarse soils may cause bleaching, especially when application is made during time of heavy water use and root growth including during bud break or rapid shoot expansion.

Restrictions

- Apply **Rotam Mesotrione 480 SC** only in pome fruit, stone fruit and nut trees that have been established for one full growing year and are in good health and vigor. Apply **Rotam Mesotrione 480 SC** in citrus trees or citrus tree 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 fl. oz. per acre (0.38 lb. a.i./A) of **Rotam Mesotrione 480 SC** per year or in a 12-month period.
- **DO NOT** exceed 6 fl. oz. per acre (0.19 lb. a.i./A) of **Rotam Mesotrione 480 SC** for the first application.
- **DO NOT** exceed 3 applications per year or in a 12-month period when using reduced application rates.
- **RTI:** Allow at least 12 weeks between applications of **Rotam Mesotrione 480 SC** at 6 fl. oz./A (0.19 lb. a.i./A) and at least 6 weeks between applications of 6 fl. oz./A and subsequent applications of 3 fl. oz./A (0.09 lb. a.i./A). (Applications must follow one of the four programs listed in Table 6 below.)
- **PHI: DO NOT** harvest pome fruit, stone fruit or tree nuts within 30 days after application.
- **PHI: DO NOT** harvest citrus fruit within 1 day after application.
- **DO NOT** use on soils with greater than 20% gravel.
- **DO NOT** apply **Rotam Mesotrione 480 SC** through any type of irrigation system.
- **DO NOT** apply **Rotam Mesotrione 480 SC** by air.

Spray Additives

For application to emerged weeds, the use of crop oil concentrate (COC) type adjuvant at 1% v/v or non-ionic surfactant (NIS) at 0.25% v/v is advised. 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 **Rotam Mesotrione 480 SC**, 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

Rotam Mesotrione 480 SC may be mixed and applied in combination with most commonly used herbicides registered for use in the approved crops in order to expand the postemergence (paraquat, glyphosate, glufosinate or oxyfluorfen) or residual (simazine, norflurazon, rimsulfuron, oryzalin, oxyfluorfen, pendimethalin, diuron, bromacil, bromacil + diuron 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. 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.

Weed Control (Table 1 and 2)
Rotam Mesotrione 480 SC 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 inches 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
Make an application as a directed or shielded spray. Avoid contact with trunk surfaces, fruit or crop foliage. **DO NOT** apply when nuts or fruits are on the ground at harvest. 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 **Rotam Mesotrione 480 SC** in late fall/early winter or spring and subsequent applications utilizing one of the programs noted in the Table 6.

Table 6. Rotam Mesotrione 480 SC Application Programs, Rates and Intervals

Program	Application Rate (fl. oz./A)*			Application Interval (wk)
	1st Application	2nd Application	3rd Application	
1	6	6	-	12
2	6	3	-	6
3	6	3	3	6
4	3	3	3	6

*3 fl. oz./A (0.09 lb. a.i./A); 6 fl. oz./A (0.19 lb. a.i./A)

For optimum post-emergence weed control, apply **Rotam Mesotrione 480 SC** to actively growing weeds in tank mixture with burndown herbicides including: paraquat, glyphosate, glufosinate or oxyfluorfen before weeds exceed 5 inches in height.

For effective residual weed control, **Rotam Mesotrione 480 SC** must be moved into the weed seed germination zone. For pre-emergence weed control, apply **Rotam Mesotrione 480 SC** before rainfall or irrigation. For optimum residual control **Rotam Mesotrione 480 SC** can be tank mixed with herbicides including: somazine, norflurazon, rimsulfuron, oxyfluorfen, pendimethlin, diuron, bromacil, bromacil + diuron or indaziflam, where approved for use.

Subsequent application(s) of **Rotam Mesotrione 480 SC** 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.

Make an application **Rotam Mesotrione 480 SC** in a spray volume of 10-40 gal/A.

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

CROP USE DIRECTIONS – CRANBERRY

Apply **Rotam Mesotrione 480 SC** to bearing or non-bearing cranberry beds to control or suppress the weeds listed in Tables 1 and 2, and:

- bog St. John's wort (*Hypericum boreala*)
- rushes (*Juncus canadensis, J. effuses, J. bufonlus, J. tenuis*)
- sedges spp. (*Carex* spp.)
- silverleaf (*Potentilla pacifica*)
- yellow loosestrife (*Lysimachia terrestris*)

Bearing/Non-Bearing Application rates:

- Apply up to 8 fl. oz./A (0.25 lb. a.i./A) in a single application, but **DO NOT** apply more than 16 fl. oz./A (0.5 lb. a.i./A) in total per year.
- **DO NOT** make more than two applications per year.
- **RTI:** If two applications are made, **DO NOT** make them closer than 14 days apart. Use 1% v/v of a crop oil concentrate (COC) or 0.25% v/v non-ionic surfactant (NIS).
- **DO NOT** use COC adjuvants that are known to injure cranberry leaves.
- **Non-bearing Cranberries:** Apply after the bud break stage no less than 45 days before flooding in fall or winter.
- **Bearing Cranberries:** Apply after the bud break stage no less than 45 days before flooding or harvest.

Rotam Mesotrione 480 SC can be applied through irrigation systems (chemigation) including center pivot or solid set.

Sprinkler Irrigation Application – Cranberries Only

Check the irrigation system to ensure uniform application of water to all areas. Thorough coverage of foliage is required for optimal control. Maintain good agitation in the pesticide supply tank prior to and during the entire application process. Inject the specified rate of **Rotam Mesotrione 480 SC** into the irrigation system with a metering device designed to introduce a constant flow and will distribute the product to target areas in 0.1-0.2 acre-inch of water. Use the least amount of water with this rate range required for proper distribution and coverage.

After application is complete, flush the entire irrigation and injection systems 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 **Rotam Mesotrione 480 SC** for the area covered must be injected into the system only during the end of the irrigation set for sufficient time to provide optimal coverage and distribution.

CHEMIGATION USE PRECAUTIONS – SPRINKLER IRRIGATION APPLICATION

Apply this product through center pivot or solid set sprinkler irrigation systems only. **DO NOT apply this product through any other type of irrigation system.**

Non-uniform distribution of treated water can cause crop injury, product ineffectiveness, and/or illegal pesticide residues in the crop. Contact State Extension Service Specialists, equipment manufacturers or other experts if you have questions about calibrating equipment.

DO NOT connect an irrigation system or greenhouse system used for pesticide application to any public water system. A public water system is any system used for 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. A person knowledgeable of the chemigation system and responsible for its operation or under the supervision of the responsible personal shall shut the system down and make necessary adjustments must 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 also 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.

CHEMIGATION USE RESTRICTIONS – SPRINKLER IRRIGATION APPLICATION

- **DO NOT** apply this product through any other type of irrigation system.
- **DO NOT** apply when wind speed favors drift beyond the area intended for treatment or non-uniform distribution of treated water.
- **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 washwater or rinsate.
- **DO NOT** apply within 10 feet of surface water outside the bog system.
- **DO NOT** spray to runoff.

CROP USE DIRECTIONS – FLAX

A pre-emergence application of **Rotam Mesotrione 480 SC** may be made in flax, i.e. after planting but before crop emergence, at a rate up to 6 fl. oz./A (0.19 lb. a.i./A). For a list of weeds controlled see Tables 1 and 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 advised. 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. Apply **Rotam Mesotrione 480 SC** to emerged flax can result in severe crop injury.

Restrictions:

- **DO NOT** apply more than one application of **Rotam Mesotrione 480 SC** per year.
- **DO NOT** apply more than 6 fl. oz./A (0.19 lb. a.i./A) per year in flax.
- **DO NOT** apply more than 6 fl. oz./A (0.19 lb. a.i./A) in a single application.

CROP USE DIRECTIONS – OATS

Applications of **Rotam Mesotrione 480 SC** can be made as 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, make a broadcast application of **Rotam Mesotrione 480 SC** at a rate of 6.0 fl. oz./A (0.19 lb. a.i./A) before oat emergence. For best pre-emergence weed control, the application of **Rotam Mesotrione 480 SC** must be made before weed emergence.

For post-emergence (after oat emergence) control or partial control of the weeds listed in Table 1, make the application of **Rotam Mesotrione 480 SC** at a rate of 3.0 fl. oz./A (0.09 lb. a.i./A). For best results, **Rotam Mesotrione 480 SC** must be applied to emerged weeds that are less than 5" tall. Post-emergence applications of **Rotam Mesotrione 480 SC** 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 **Rotam Mesotrione 480 SC** 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 advised. 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 gallons of spray solution may be added for improved weed control. If emerged weeds are not present at the time of the **Rotam Mesotrione 480 SC** 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.

Tank mixing other pesticides with **Rotam Mesotrione 480 SC** post-emergence may increase the risk of injury. Avoid adding pesticides with emulsifiable concentrate (EC) type formulations to **Rotam Mesotrione 480 SC** for applications made post-emergence to the crop.

Restrictions:

- **DO NOT** graze or feed forage from treated areas within 30 days following an application of **Rotam Mesotrione 480 SC**.
- **DO NOT** harvest oats within 50 days following the application of **Rotam Mesotrione 480 SC**.
- **DO NOT** apply more than one application of **Rotam Mesotrione 480 SC** per year.
- **DO NOT** apply **Rotam Mesotrione 480 SC** pre-emergence (prior to oat emergence) at more than 6 fl. oz./A (0.19 lb. a.i./A) per year.
- **DO NOT** apply more than 6 fl. oz./A (0.19 lb. a.i./A) in a single application when pre-emergence.
- **DO NOT** apply **Rotam Mesotrione 480 SC** postemergence at more than 3 fl. oz./A (0.09 lb. a.i./A) per year.
- **DO NOT** apply more than 3 fl. oz./A (0.09 lb. a.i./A) in a single application when postemergence.
- If the oat crop treated with **Rotam Mesotrione 480 SC** is lost or destroyed, oats may be replanted immediately. If **Rotam Mesotrione 480 SC** was applied to the lost oat crop, no additional **Rotam Mesotrione 480 SC** can be applied to the replanted oat crop.

CROP USE DIRECTIONS – OKRA

Apply **Rotam Mesotrione 480 SC** 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 **Rotam Mesotrione 480 SC** at a rate of 6.0 fl. oz./A (0.19 lb. a.i./A) as a banded application to the row middles prior to weed emergence. For this banded application, leave one 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 (0.19 lb. a.i.). **DO NOT** apply **Rotam Mesotrione 480 SC** directly over the planted okra row or severe crop injury may occur. Injury risk is greatest on coarse textured soils (sand, sandy loam or loamy sand).

Post-Emergence hooded application: Make an application of **Rotam Mesotrione 480 SC** at a rate of 3.0 fl. oz./A (0.09 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 at the time the product is applied. It is advised that a nonionic surfactant (NIS) type adjuvant at a rate of 0.25% v/v be added to the spray solution. For post-emergence hooded applications, the spray equipment must be set up to minimize the amount of **Rotam Mesotrione 480 SC** that contacts the okra foliage or crop injury will occur. For best post-emergence results, apply **Rotam Mesotrione 480 SC** actively growing weeds.

Restrictions:

- **DO NOT** harvest okra within 28 days following the application of **Rotam Mesotrione 480 SC**.
- **DO NOT** apply more than one application of **Rotam Mesotrione 480 SC** per year.
- **DO NOT** apply **Rotam Mesotrione 480 SC** as a row-middle application at more than 6 fl. oz./A (0.19 lb. a.i./A) per year.
- **DO NOT** apply **Rotam Mesotrione 480 SC** as a post-directed application at more than 3 fl. oz./A (0.09 lb. a.i./A) per year.
- **DO NOT** apply **Rotam Mesotrione 480 SC** as a broadcast pre-emergence or broadcast post-emergence application to okra or severe injury will occur.
- If the okra crop treated with **Rotam Mesotrione 480 SC** is lost or destroyed, okra can be replanted only in the soil band that was not treated with **Rotam Mesotrione 480 SC**.

CROP USE DIRECTIONS – PEARL MILLET

Make an pre-emergence application of **Rotam Mesotrione 480 SC** in pearl millet, i.e. after planting but before crop emergence, at a rate up to 6 fl. oz./A (0.19 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 advised. 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. Apply **Rotam Mesotrione 480 SC** to emerged pearl millet can result in severe crop injury.

Restrictions:

- **DO NOT** apply more than one application of **Rotam Mesotrione 480 SC** per year.
- **DO NOT** apply more than 6 fl. oz./A (0.19 lb. a.i./A) per year.
- **DO NOT** apply more than 6 fl. oz./A (0.19 lb. a.i./A) in a single application.

CROP USE DIRECTIONS – RHUBARB

Make an application of **Rotam Mesotrione 480 SC** before crop emergence for weed control in established rhubarb.

Make an application of **Rotam Mesotrione 480 SC** at a rate of 6.0 fl. oz./A (0.19 lb. a.i./A) to dormant (prior to 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 advised 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. Apply **Rotam Mesotrione 480 SC** to rhubarb that is not dormant may result in a temporary bleaching symptomology. Rainfall or irrigation after the **Rotam Mesotrione 480 SC** application may increase the risk of injury to emerging rhubarb.

Restrictions:

- **DO NOT** harvest rhubarb within 21 days following the application of **Rotam Mesotrione 480 SC**.
- **DO NOT** apply more than one application of **Rotam Mesotrione 480 SC** per year.
- **DO NOT** apply **Rotam Mesotrione 480 SC** at more than 6 fl. oz./A (0.19 lb. a.i./A) per year.
- **DO NOT** apply more than 6 fl. oz./A (0.19 a.i./A) in a single application.

CROP USE DIRECTIONS – SORGHUM (GRAIN and SWEET)

Pre-Emergence Application Directions

Make pre-emergence application of **Rotam Mesotrione 480 SC** or pre-plant non-incorporated applications up to 21 days before planting sorghum for control or partial control of the weeds listed in Table 2.

Apply 6.0-6.4 fl. oz./A (0.19-0.20 lb. a.i./A) broadcast non-incorporated application prior to sorghum emergence. Making the application less than 7 days before planting will increase the risk of plant injury, especially if rainfall or irrigation occurs after the application. Injury symptoms include temporary bleaching of newly emerged leaves. Making application of this product 8-21 days prior to planting will decrease risk of crop injury.

If **Rotam Mesotrione 480 SC** is applied prior to planting, minimize disturbance of soil treated with herbicide during the planting process in order to reduce the potential for weed emergence.

If emerged weeds are present at the time of pre-emergence application, use 0.25% v/v of a non-ionic surfactant (NIS) adjuvant or 1% v/v of crop oil concentrate (COC) and add it to the spray solution. A spray-grade UAN applied at a rate of 2.5% v/v or 8.5 lbs./100 gallons of spray solution of ammonium sulfate (AMS) can be added to the spray solution in addition to the COC or NIS.

Pre-Emergence Application Restrictions

- **DO NOT** apply more than one application per year.
- **DO NOT** apply more than 6.4 fl. oz./A (0.20 lb. a.i./A) per year.
- **DO NOT** apply more than 6.4 fl. oz./A (0.20 lb. a.i./A) in a single application.
- **DO NOT** apply to emerged sorghum or severe crop injury can occur.
- **DO NOT** use **Rotam Mesotrione 480 SC** in the production of forage sorghum, sudangrass, sorghum-sudangrass hybrids, or dual purpose sorghum.
- **DO NOT** apply to sorghum that is grown on coarse textured soils (e.g., sandy loam, loamy sand, sand).
- **Texas Restriction**: **DO NOT** apply to sorghum grown south of Interstate 20 (I-20) or east of Highway 277.

Post-Emergence Application Directions

Apply **Rotam Mesotrione 480 SC** post-directed to grain sorghum to control and/or partially control weeds listed in Table 1. Apply to actively growing weeds for optimal control.

Apply 3.0 fl. oz./A (0.09 lb. a.i./A) post-directed application when sorghum is at least 8” tall. Make the application by directing the spray between crop rows, and toward the base of the plant. Direct application of **Rotam Mesotrione 480 SC** onto foliage can result in crop injury including temporary bleaching. If leaves do bleach, newly emerged leaves following application will not be affected.

Use 0.25% v/v of a non-ionic surfactant (NIS) adjuvant or 1% v/v of crop oil concentrate (COC) and add it to the spray solution. A spray-grade UAN applied at a rate of 2.5% v/v or 8.5 lbs./100 gallons of spray solution of ammonium sulfate (AMS) can be added to the spray solution in addition to the COC or NIS.

Rotam Mesotrione 480 SC can be tank-mixed with herbicides registered for use on sorghum to improve weed control. These tank-mixtures can also include a herbicide with a different mode of action to help control or manage the development of resistant weed biotypes.

Post-Directed Restrictions

- **DO NOT** make more than one post-directed application.
- **DO NOT** apply more than 3 fl. oz./A (0.09 lb. a.i./A) post-directed.
- **DO NOT** apply more than 6.4 fl. oz./A (0.20 lb. a.i./A) per year.
- **DO NOT** apply broadcast over-the-top to emerged sorghum or severe crop injury can occur.
- **DO NOT** harvest sorghum for forage for 30 days following application.
- **DO NOT** harvest for grain or stover for 60 days following application.
- **DO NOT** apply after the sorghum seedhead emerges.
- **DO NOT** use in the production of forage sorghum, sudangrass, or sorghum-sudangrass hybrids.

CROP USE DIRECTIONS – MESOTRIONE RESISTANT SOYBEAN

A pre-emergence application of **Rotam Mesotrione 480 SC** can be a made to soybeans that are identified as mesotrione resistant. Applying treatments to soybeans that are not mesotrione resistant will result in significant crop injury. For a list of mesotrione resistant soybean varieties, contact a Rotam Technical Representative.

Pre-Emergence Application: For pre-emergence control of the weeds listed in Table 2, make an application of **Rotam Mesotrione 480 SC** before soybean emergence at a rate of 6.0 fl. oz./A (0.19 a.i./A). Make an application of the higher rate for longer residual control. **Rotam Mesotrione 480 SC** may be tank mixed with other registered soybean herbicides

including S-Metolachlor, and Sodium salt of fomesafen. Refer to the tank mix partner label and follow all precautions and restrictions.

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

Restrictions:

- Apply no more than 6.0 fl. oz./A (0.19 lb. a.i./A) per year.
- **DO NOT** apply more than one application of **Rotam Mesotrione 480 SC** per year.
- **DO NOT** apply more than 6.0 fl. oz./A (0.19 lb. a.i./A) in a single application.
- **DO NOT** apply **Rotam Mesotrione 480 SC** to emerged soybeans.
- **DO NOT** graze or feed soybean forage or hay to livestock.

CROP USE DIRECTIONS - SUGARCANE

Apply **Rotam Mesotrione 480 SC** by ground for pre-emergence, post-emergence over-the-top or post-emergence direct weed control in sugarcane.

Apply **Rotam Mesotrione 480 SC** aerially for pre-emergence and post-emergence weed control in the states of: **Florida, Louisiana, and Texas**.

Pre-Emergence Applications

Apply 6.0-7.7 fl. oz./A (0.19-0.24 lb. a.i./A) of **Rotam Mesotrione 480 SC** to control weeds listed in Table 2. Make application after the planting of plant-cane or after harvest of ratoon-cane. If weeds are emerged at the time of application, add a crop oil concentrate (COC) type adjuvant at 1% v/v OR a nonionic surfactant (NIS) type adjuvant at 0.25% v/v to the spray solution. In addition to the 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. Tank mix atrazine or ametryn with **Rotam Mesotrione 480 SC** to improve weed control. Refer to the tank mix partner label for specific rates and use directions.

Post-Emergence Applications

Apply 3.0 fl. oz./A (0.09 lb. a.i./A) of **Rotam Mesotrione 480 SC** to control weeds listed in Table 1. Apply 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 one single post-emergence application can be made. If no pre-emergence application was made earlier in the season, then both a post-over-the-top and a post-directed spray application can be made. For optimum weed control, apply to actively growing weeds.

Add either a crop oil concentrate (COC) adjuvant at 1% v/v OR a nonionic surfactant (NIS) adjuvant to the spray solution. In addition to the COC or NIS, use a spray grade UAN (e.g., 28-0-0) at 2.5% v/v OR ammonium sulfate (AMS) at 8.5 lbs./100 gals. of spray solution to improve weed control.

For additional post-emergence weed control, tank mix **Rotam Mesotrione 480 SC** with atrazine, asulam and/or trifloxysulfuron-sodium. Refer to the tank mix product label for specific rate and use directions.

Sugarcane Restrictions:

- **DO NOT** apply more than 7.7 fl. oz./A (0.24 lb. a.i./A) in a pre-emergence application.
- **DO NOT** apply more than 3.0 fl. oz./A (0.09 lb. a.i./A) in a post-emergence application.
- **DO NOT** make more than 2 applications per year. If a pre-emergence application is made, only one post-emergence application can be made.
- **DO NOT** make two applications less than 14 days apart.
- **DO NOT** apply more than 10.7 fl. oz./A (0.33 lb. a.i./A) per year.
- **DO NOT** harvest sugarcane within 114 days following a post-over-the-top treatment (114-day PHI).
- **DO NOT** harvest sugarcane with 100 days following a post-directed application (100-day PHI).

ROTAM MESOTRIONE 480 SC TURF PRODUCT USE INFORMATION

Make pre- and post-emergence applications to provide selective contact and residual control of turfgrass weeds. If applied pre-emergence, **Rotam Mesotrione 480 SC** is absorbed during weed emergence from the soil. Pre-emergence activity and control will be reduced in dry soil conditions. Activate **Rotam Mesotrione 480 SC** with 0.15 inches of irrigation if rain doesn't fall within 10 days of applying **Rotam Mesotrione 480 SC**. Post-emergent control is obtained through soil absorption and contact with foliage. Growth ceases, weeds whiten from loss of chlorophyll, and die within

three weeks. Repeat application of **Rotam Mesotrione 480 SC** after 2-3 weeks to improve post-emergence weed control. Use a non-ionic surfactant with **Rotam Mesotrione 480 SC** when making post-emergence applications.

Rotam Mesotrione 480 SC treatments cause temporary whitening of foliage during treatment. Whitening typically occurs 5-7 days after application and lasts for several weeks. A second application to the same site will cause less whitening of plant tissue.

Rotam Mesotrione 480 SC controls weeds prior to and during seeding of certain turfgrasses during turf renovation (see **New Seedings).** If applying **Rotam Mesotrione 480 SC** pre-emergence application to established turf, tank mix **Rotam Mesotrione 480 SC** with other pre-emergence herbicides including prodiamine for longer residual and broad spectrum control.

Approved Use Sites

Rotam Mesotrione 480 SC is approved for use on 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.

***Not for use in Arizona on grass grown for sod.**

Use Precautions:

Apply **Rotam Mesotrione 480 SC** at reduced rates of 4 fl. oz./A (0.13 lb. a.i./A) or less if tank mixing with atrazine, bentazon, or simazine. Before tank mixing **Rotam Mesotrione 480 SC** with other herbicides, conduct a compatibility, safety, and efficacy test prior to treating larger areas. See tank mix partner labels for directions and precautions. The most restrictive directions of the tank mix partner label 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 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.

To avoid injury to sensitive plants, thoroughly clean application equipment after use.

To avoid injury to sensitive species, keep traffic out of treated areas until sprays have dried; irrigate soil lightly to move **Rotam Mesotrione 480 SC** from turf foliage before resuming normal irrigation.

Use Restrictions:

- Residential Lawns: **DO NOT** make broadcast applications of **Rotam Mesotrione 480 SC** for pre- and post-emergent weed control unless the residential lawn is being reseeded and/or renovated as whitening of some turfgrasses may occur.
- **DO NOT** overspray or allow spray to drift to ornamentals or flower beds and gardens. Roses and daylilies are particularly sensitive to **Rotam Mesotrione 480 SC**.
- **DO NOT** apply more than 16 oz. **Rotam Mesotrione 480 SC** (or 0.50 lb. mesotrione per acre per year) per acre per year.
- **DO NOT** plant any crop other than turfgrass for 18 months post-application to avoid turfgrass injury.
- **DO NOT** apply organophosphate or carbamate insecticides within 7 days of applying **Rotam Mesotrione 480 SC**.
- **DO NOT** apply **Rotam Mesotrione 480 SC** through any type of irrigation system.
- **DO NOT** make aerial applications of **Rotam Mesotrione 480 SC**.
- **DO NOT** use clippings treated with **Rotam Mesotrione 480 SC** to mulch trees or vegetable/flower gardens.
- **DO NOT** apply **Rotam Mesotrione 480 SC** product on Bentgrass, *Poa annua*, kikuyugrass, zoysiagrass, seashore paspalum and bermudagrass if plant injury is unacceptable. Maintain a 5-foot buffer between treated areas and bentgrass or *Poa annua* greens.
- **DO NOT** apply **Rotam Mesotrione 480 SC** over the top of exposed roots of trees and ornamentals.
- **DO NOT** apply **Rotam Mesotrione 480 SC** to golf course putting greens; maintain a minimum of a 5-foot buffer between putting greens and treated areas.

Turfgrass Species & Application Rates

Species	Application Rate (Fl. Oz. per Acre)
Kentucky bluegrass (*Poa pertensis)* Centipedegrass (*Eremochloa ophiuroides)* Buffalograss (*Buchloe dactyloides*) Tall fescue (*Festuca arundinacea*)	5-8
Perennial ryegrass* (*Lolium perenne)* Fine fescue* (creeping red, chewings and hard) *Festuca* spp.	5

St. Augustinegrass* (grown for sod) *(Stenotaphrum secundatum*)	4

*See additional rate instructions below.

APPLICATION INSTRUCTIONS

Pre-Emergence Applications:
Apply 4-8 fl. oz. (0.13-0.25 lb. a.i./A) **Rotam Mesotrione 480 SC** per acre in 30 gallons of water per acre prior to seed germination yet as close to seed germination as possible. Combine **Rotam Mesotrione 480 SC** with another pre-emergence herbicide including prodiamine for extended control of crabgrass and foxtail.

Pre-Emergence Application Precautions:
Rotam Mesotrione 480 SC is more effective on established turf when applied post-emergence unless it is combined with another soil active herbicide.

Pre-Emergence Application Restrictions:
DO NOT exceed 5 fl. oz. (0.16 lb. a.i./A) **Rotam Mesotrione 480 SC** per acre per application to perennial ryegrass, fine fescues, or mixed stands that consist of >50% perennial ryegrass and/or fine fescue.
St. Augustinegrass sod restriction: **DO NOT** exceed 4 fl. oz. (0.13 lb. a.i./A) **Rotam Mesotrione 480 SC** per acre.

Application Instructions to New Seedings/New Lawns
Apply 5-8 fl. oz. (0.16-0.25 lb. a.i./A) **Rotam Mesotrione 480 SC** per acre in 30 gallons of water per acre prior to or after seeding of turfgrass species listed below, except fine fescue. Applying **Rotam Mesotrione 480 SC** to fine fescue can reduce grass density. **Rotam Mesotrione 480 SC** is effective on grass seed blends that contain <20% by weight hard/fine fescue. For optimal control, apply **Rotam Mesotrione 480 SC** at grass seeding or as close to seeding as possible.

New Seedings/New Lawns Restrictions:
DO NOT spray **Rotam Mesotrione 480 SC** on newly germinated turfgrass. Delay application until grass has been mowed 2-4 times and/or 4 weeks post-emergence (whichever is longer).

Post-Emergence Application Instructions:
Apply 4-8 fl. oz. (0.13-0.25 lb. a.i./A) **Rotam Mesotrione 480 SC** per acre in 30 gallons of water per acre with a NIS surfactant. Repeat application 2-3 weeks later for optimal weed control. Apply to young, actively growing weeds.

Post-Emergence Application Precautions:
Moisture stress and application to mature weeds can reduce herbicide efficacy.

Bentgrass (*Agrostis* spp.)/Nimbleweed (*Muhlenbergia schreberi*) Control:
Apply 5 fl. oz. (0.16 lb. a.i./A) **Rotam Mesotrione 480 SC** per acre in 30 gallons of water per acre combined with a NIS surfactant at 2-3 week intervals for a maximum of three applications. For optimal Bentgrass control, apply **Rotam Mesotrione 480 SC** in late summer/early fall just prior to new growth.

St. Augustinegrass (Sod uses only) and Centipedegrass Treatment:
Apply **Rotam Mesotrione 480 SC** to established turf ONLY.

St. Augustinegrass (Sod uses only) and Centipedegrass Restrictions:
DO NOT exceed 4 fl. oz. (0.13 lb. a.i./A) **Rotam Mesotrione 480 SC** if tank mixing with Atrazine or Simazine.
DO NOT exceed 0.5 lb. atrazine or simazine active ingredient. See atrazine/simazine labels for precautions and restrictions.

Dormant Bermudagrass Application Instructions:
Apply 5 fl. oz. per acre (0.16 lb. a.i./A) **Rotam Mesotrione 480 SC** to control winter weeds listed in the **Weeds Controlled** table below. Repeat application 2-3 weeks later. Applying **Rotam Mesotrione 480 SC** to semi-dormant turf will cause bermudagrass whitening.

Spot Applications Instructions:

Spray Mix	Application Rate	Rate of Rotam Mesotrione 480 SC	Rate of NIS adjuvant
2 gallons	1 gallon per 1,000 sq. ft.	1 teaspoon 0.17 oz. 5 mL	3 teaspoons 0.5 oz. 15 mL

Spot Application Restrictions:

DO NOT apply more than 16 oz. **Rotam Mesotrione 480 SC** per acre per year (equivalent to 0.5 lb. mesotrione per acre per year).

WEEDS CONTROLLED WITH PRE-EMERGENCE APPLICATIONS OF ROTAM MESOTRIONE 480 SC

Apply **Rotam Mesotrione 480 SC** with a grass pre-emergence herbicide including prodiamine, except when used to control weeds in new seedings. **Rotam Mesotrione 480 SC** will control the following weeds using pre-emergence application:

WEEDS CONTROLLED – PRE-EMERGENCE APPLICATIONS
Barnyardgrass (*Echinochloa crusgalli)*
Bentgrass (Creeping) (*Agrostis stolonifera)*
Bluegrass (Annual) (*Poa annua)**
Buckhorn Plantain (*Plantago lanceloata*)
Carpetweed (*Mollugo verticillata)*
Chickweed (Common) (*Stellaria media)*
Chickweed (Mouseear) (*Cerastium vulgatum)*
Clover (Large Hop) (*Trifolium aureum)*
Clover (White) (*Trifolium repens)*
Crabgrass (Large) (*Digitaria sanguinalis)*
Crabgrass (Smooth) (*Digitaria ischaemum)*
Crabgrass (Southern) (*Digitaria ciliaris)*
Foxtail (Yellow) (*Setaria glauca)*
Galinsoga (*Galinsoga ciliate)*
Lambsquarters (*Chenopodium album)*
Pigweed (Redroot)(*Amaranthus retroflexus)*
Pigweed (Smooth) (*Amaranthus hybridus)*
Purslane (Common) (*Portulaca oleracea)*
Shepherd's purse (*Capsella bursa-pastoris)*
Smartweed (Pale) (*Polygonum lapathifolium)*
Smartweed (Pennsylvania) (*Polygonum pensylvanicum)*
Speedwell (Persian) (*Veronica persica)*
Speedwell (Purslane) (*Veronica peregrine)*
Wild Carrot (*Daucus carota)*

*Suppression only.

WEEDS CONTROLLED USING POST-EMERGENCE APPLICATION

Make a second application of **Rotam Mesotrione 480 SC** 2-3 weeks after initial treatment. For optimal weed control, add a NIS-type surfactant with **Rotam Mesotrione 480 SC** and apply to young, actively growing weeds. **Rotam Mesotrione 480 SC** controls the following weeds using post-emergence application:

WEEDS CONTROLLED – POST EMERGENCE APPLICATIONS
Barnyardgrass *(Echinochloa crusgalli)*
Bentgrass (Creeping) *(Agrostis stolonifera)*
Buckhorn Plantain *(Plantago lanceloata)*
Carpetweed *(Mollugo verticillata)*
Chickweed (Common) *(Stellaria media)*
Chickweed (Mouseear) *(Cerastium vulgatum)*
Clover (Large Hop) *(Trifolium aureum)*
Clover (White) *(Trifolium repens)*
Crabgrass (Large) *(Digitaria sanguinalis)**
Crabgrass (Smooth) *(Digitaria ischaemum)**
Crabgrass (Southern) *(Digitaria ciliaris)**
Curly dock *(Rumex crispus)*
Dandelion (Catsear) *(Hypochoeris radicata)*
Dandelion (Common) *(Taraxacum officinale)*
Florida Betony *(Stachys floridana)*
Florida Pusley *(Richardia scabra)*
Foxtail (Yellow) *(Setaria glauca)*
Galinsoga *(Galinsoga ciliate)*
Goosegrass *(Eleusine indica)**
Ground Ivy *(Glechoma hederacea)*
Heal-All *(Prunella vulgaris)*
Henbit *(Lamium amplexicaule)*
Lambsquarters (Common) *(Chenopodium album)*

Lawn Burweed *(Soliva sessilis)*
Lovegrass (Tufted) *(Eragrostis pectinacea)*
Marestail *(Conyza Canadensis)*
Nimbleweed *(Muhlenbergia schreberi)*
Nutsedge (Yellow) *(Cyperus esculentus)*
Oxalis *(Oxalis stricta)*
Pigweed (Redroot) *(Amaranthus retroflexus)*
Pigweed (Smooth) *(Amaranthus hybridus)*
Purslane (Common) *(Portulaca oleracea)*
Shepherd's purse *(Capsella bursa-pastoris)*
Smartweed (Pale) *(Polygonum lapathifolium)*
Smartweed (Pennsylvania) *(Polygonum pensylvanicum)*
Sowthistle *(Sonchus oleraceus)*
Swinecress *(Coronopus didymus)*
Thistle (Canada) *(Cirsium arvense)*
Verbena *(Verbena hastate)*
Wild Carrot *(Daucus carota)*
Wild Violet *(Viola pratincola)*
Windmillgrass *(Chloris verticillata)*

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

STORAGE AND DISPOSAL

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

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

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

Container Handling ≤ 5 Gallons: Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into formulation equipment. Fill the container 1/4 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 formulation equipment 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, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Container Handling ≥ 5 Gallons: Refillable container. Refill this container with pesticide only. Do not use 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 mixt tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions for 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. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of this product, which are beyond the control of ROTAM AGROCHEMICAL CO. LTD., or Seller. The Buyer and User shall assume all such risks, and Buyer and User agree to hold ROTAM AGROCHEMICAL CO. LTD. and Seller harmless for any claims relating to such factors.

To the extent consistent with applicable law, ROTAM AGROCHEMICAL CO. LTD. 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 the product contrary to proper instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or ROTAM AGROCHEMICAL CO. LTD., and Buyer and User assume the risk of any such use. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, ROTAM AGROCHEMICAL CO. LTD. MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR NEITHER A PARTICULAR PURPOSE NOR ANY OTHER EXPENSES OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

To the extent consistent with applicable law, ROTAM AGROCHEMICAL CO. LTD. or Seller shall not 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 ROTAM AGROCHEMICAL CO. LTD. 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 ROTAM AGROCHEMICAL CO. LTD. OR SELLER, THE REPLACEMENT OF THE PRODUCT.

ROTAM AGROCHEMICAL CO. LTD. and Seller offer this product, and Buyer and User accept it, subject to the foregoing conditions of sales and limitations of warranty and of liability, which may not be modified except by written agreement signed by a duly authorized representative of ROTAM AGROCHEMICAL CO. LTD.

MESOTRIONE	GROUP	27	HERBICIDE

[Sub-Label A – Pages 27-48]

Rotam Mesotrione 480 SC

Controls annual broadleaf weeds in Corn (field, seed, yellow pop, sweet), and other listed crops

Active Ingredient:	**By Weight**
Mesotrione: 2-[4-(methylsulfonyl)-2-nitrobenzoyl]-1,3-cyclohexanedione	40.0%
Other Ingredients:	60.0%
TOTAL:	**100.0%**

Contains 4 lbs. active ingredient mesotrione per gallon.

KEEP OUT OF REACH OF CHILDREN

CAUTION

FIRST AID	
IF SWALLOWED	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
IF ON SKIN OR CLOTHING	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
IF INHALED	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
IF IN EYES	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
HOT LINE NUMBER 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**.	

EPA Reg. No.: 83100-41
EPA Est. No.:

Net Contents:

Manufactured By [For]:
Rotam Agrochemical Co. Ltd.
26/F, E-TRADE PLAZA
24 LEE CHEUNG STREET
CHAI WAN, HONG KONG

[Table of Contents to be added before the Precautionary Statement]

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION

Harmful if swallowed, or absorbed through skin. 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 Protection Equipment (PPE)

Applicators and Other Handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical-resistant gloves (e.g., barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinyl chloride (PVC), or Viton ≥14 mils)

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.

USER SAFETY RECOMMENDATIONS

Users should:

- Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove and wash contaminated clothing before reuse.
- 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.

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.

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 or 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 such as 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 use or store near heat or open flame.

DIRECTIONS FOR USE

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

DO NOT apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. 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 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, such as plants, soil or water, is:

- coveralls
- shoes plus socks
- chemical-resistant gloves (barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinyl chloride (PVC), or Viton ≥14 mils)

PRODUCT INFORMATION

Rotam Mesotrione 480 SC is a systemic pre-emergence and post-emergence herbicide for selective contact and residual control of broadleaf weeds in asparagus, bluegrass, ryegrass (annual and perennial) and tall fescue grown for seed, bush and caneberries (Crop Group 13-07A and 13-07B), citrus fruit (Crop Group 10-10), cranberry, field corn, flax, oats, okra, pearl millet, pome fruit (Crop Group 11-10), rhubarb, seed corn, yellow popcorn, sweet corn, soybean, sorghum (grain and sweet), stone fruit (Crop Group 12-12), sugarcane, and tree nuts (Crop Group 14-12). If used pre-emergence, weeds take up the product through the soil during emergence. Dry weather conditions can reduce pre-emergent effectiveness of **Rotam Mesotrione 480 SC.** If at least ¼-inch of rainfall does not occur within 7-10 days of application, rotary hoeing will activate the product. If used post-emergence weeds take up the product through treated foliage and stop growing soon after application. It may take up to two weeks for weeds to die. **Rotam Mesotrione 480 SC** is absorbed by soil and/or through foliage of emerged weeds.

Rotam Mesotrione 480 SC will not control most species of grass weeds. **Rotam Mesotrione 480 SC** can be tank-mixed with other herbicides registered to control grass weeds (see tank-mix information in this label for additional information). **Rotam Mesotrione 480 SC** can be used in combination with a burndown herbicide prior to planting to provide weed control in field corn, seed corn, yellow popcorn, and sweet corn.

RESISTANCE MANAGEMENT

Rotam Mesotrione 480 SC contains mesotrione and is classified in the triketone chemical class as a Group 27 herbicide, 4-hydroxyphenyl-pyruvatedioxygenase inhibitor. 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 **Rotam Mesotrione 480 SC** 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 **Rotam Mesotrione 480 SC** 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 such as mechanical cultivation, biological management practices, and crop rotation.
- Fields with difficult to control weeds must 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 must 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 two 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 registrant 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

Integrate **Rotam Mesotrione 480 SC** into an overall weed and pest management strategy whenever the use of an 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.

Rotam Mesotrione 480 SC Use Precautions

- Severe corn injury can result from post-emergent application of **Rotam Mesotrione 480 SC** to corn treated with Terbufos or chlorpyrifos.
- Severe corn injury and/or yield loss can occur if foliar post-emergent applications of **Rotam Mesotrione 480 SC** are made to corn in a tank mix with any organophosate or carbamate insecticide.
- Severe corn injury and/or yield loss can occur if an organophosphate or carbamate insecticide is applied foliar post-emergence within 7 days before or 7 days after **Rotam Mesotrione 480 SC** application.
- 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 application is made under prolonged stress conditions. Optimum weed control will be obtained if an application of **Rotam Mesotrione 480 SC** is made following label directions when weeds are actively growing.
- **Rotam Mesotrione 480 SC** may be applied with pyrethroid type insecticides (e.g., lambda-cyhalothrin).

Rotam Mesotrione 480 SC Use Restrictions

- **DO NOT** apply this product to white popcorn or ornamental (Indian) corn.
- **DO NOT** cultivate corn within 7 days before or after a **Rotam Mesotrione 480 SC** application as weed control from the **Rotam Mesotrione 480 SC** application may be reduced.
- **DO NOT** apply this product through any type of irrigation system unless specified otherwise under the specific crop section of the label.
- **DO NOT** apply **Rotam Mesotrione 480 SC** with suspension fertilizers as the carrier.
- **DO NOT** apply **Rotam Mesotrione 480 SC** 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 crop injury can occur.
- **DO NOT** make aerial applications of **Rotam Mesotrione 480 SC** unless otherwise specified in the specific crop directions of this label.

MANDATORY SPRAY DRIFT MANAGEMENT

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 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 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 lower spray pressure recommended for the nozzle to product 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.

WINDBLOWN SOIL PARTICLES

Rotam Mesotrione 480 SC has the potential to move off-site due to wind erosion. Soils that are subject to wind erosion usually have a high silt and/or fine to very fine sand fractions and low organic matter content. Other factors which can affect the movement of windblown soil include the intensity and direction of prevailing winds, vegetative cover, site

slope, rainfall, and drainage patterns. Avoid applying **Rotam Mesotrione 480 SC** if prevailing local conditions may be expected to result in off-site movement.

AERIAL APPLICATION INSTRUCTIONS FOR CORN AND SUGARCANE

Aerial application of **Rotam Mesotrione 480 SC** is permitted on **corn and sugarcane only**.

Rotam Mesotrione 480 SC is approved for aerial application for pre-emergence and post-emergence control in corn in the states of: **Alabama, Arizona, Arkansas, California, 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**.

Rotam Mesotrione 480 SC is approved for aerial application for pre-emergence and post-emergence control in sugarcane in the states of: **Florida, Louisiana, and Texas**.

Make aerial applications in a minimum of 2 gallons water per acre.

PRE-EMERGENCE GROUND APPLICATION INSTRUCTIONS

Apply **Rotam Mesotrione 480 SC** pre-emergence with a carrier volume of 10-60 gals./A.

Space spray nozzles of the same size and type uniformly to provide accurate and uniform coverage. Apply in a spray volume of 10-60 gals./A with water or liquid fertilizer (NOT suspension fertilizer) as the carrier. Use a pump that will maintain pump pressure of 35-40 psi at the nozzles and provide proper agitation within the tank to keep the product dispersed. Lower pressures can be used with extended range or drift reduction nozzles.

Maintain constant agitation until spraying is complete, even if stopping for brief periods of time. If agitation is stopped for longer than 5 minutes, resuspend the spray solution by running on full agitation prior to spraying.

POST-EMERGENCE GROUND APPLICATION INSTRUCTIONS

Space spray nozzles of the same size and type uniformly to provide accurate and uniform coverage. Complete 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.

Apply in a spray volume of 10-30 gals./A with water as the carrier. Use a pump that will maintain pump pressure of 35-40 psi at the nozzles and provide proper agitation within the tank to keep the product dispersed. Lower pressures can be used with extended range or drift reduction nozzles. If weed foliage is dense, use a minimum of 20 gals.

Apply with flat fan nozzles 80^0-100^0 for optimum post-emergent coverage. **DO NOT** use flood jet nozzles or controlled droplet application equipment for post-emergence applications.

Angle nozzles forward 45^0 to enhance product penetration and provide better coverage. In-line strainers and nozzle screens must be a minimum of 50-mesh or coarser.

Maintain constant agitation until spraying is complete, even if stopping for brief periods of time. If agitation is stopped for longer than 5 minutes, resuspend the spray solution by running on full agitation prior to spraying.

USE DIRECTIONS WITH SPRAY ADDITIVES

Post-Emergence Adjuvants

Any adjuvant used with **Rotam Mesotrione 480 SC** must meet the certification program requirements of the Chemical Producers and Distributors Association (CPDA).

Adjuvant Use Post-Emergence to Field and Seed Corn

After corn has emerged, add 1.0 gal./100 gals. of water (1.0% v/v) Crop Oil Concentrate (COC) to the spray solution. 1 qt./100 gals. of water (0.25% v/v) of a nonionic surfactant (NIS) can be used, but better weed control is achieved with the use of a COS versus a NIS.

DO NOT use methylated seed oil (MSO) or MSO adjuvant blends for post-emergence applications of **Rotam Mesotrione 480 SC** or severe crop injury can occur. **DO NOT** use MSO adjuvants unless it is specifically permitted in the **Rotam Mesotrione 480 SC Tank Mixtures for Corn** section of this label.

In addition to COC, add 2.5% (v/v) a spray grade UAN (e.g., 28-0-0) to the spray solution, or 8.5 lbs./100 gals. AMS, except if precluded elsewhere on this label.

Adjuvant Use Post-Emergence to Sweet and Yellow Corn
DO NOT use UAN or AMS on sweet and yellow corn as severe crop injury can occur.

Use a nonionic surfactant (NIS) instead of a COC to reduce the likelihood of crop injury. COCs will maximize weed control under dry growing conditions, but will significantly injure crops under lush growing conditions. To optimize weed control, add atrazine wherever rotational or local atrazine restrictions allow.

Pre-Emergence Adjuvant Use
Any adjuvant approved for use on agriculture is permitted when making **Rotam Mesotrione 480 SC** pre-plant or pre-emergence applications. MSO adjuvants perform better than COC and NIS adjuvants under pre-plant/pre-emergence conditions. UAN and AMS adjuvants will provide better weed control than not using any adjuvant. If **Rotam Mesotrione 480 SC** is being tank-mixed with another registered herbicide, refer to the tank mix partner label for adjuvant precautions and restrictions.

SPRAY EQUIPMENT CLEANING

Follow the procedures below for cleaning equipment before spraying a crop other than corn. Mix only as much spray solution as is needed.

1) Flush tank, hoses, boom, and nozzles with clean water.
2) Prepare cleaning solution of 1 gal. of household ammonia per 25 gals. of water. Commercial spray tank cleaners can be used in lieu of ammonia/water solution.
3) Using a pressure washer, clean the inside of the spray tank with the cleaning solution. Wash ALL parts of the tank, including the inside top surface. If a pressure washer is not available, 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 spray and recirculate the cleaning solution for a minimum of 15 minutes. All visible deposits of spray solution must be removed from the spray tank before making any other applications.
4) Flush hoses, spray lines, and nozzles with cleaning solution for a minimum of 1 minute.
5) Dispose of rinsate from steps 1-3 in an appropriate manner.
6) Repeat steps 2-5.
7) Remove nozzles, screens, and strainers and clean separately in the ammonia solution after completing the previous steps.
8) Rinse the complete spray system with clean water.

MIXING INSTRUCTIONS

See the **Crop Use Directions** sections of the 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.

MIXING RESTRICTIONS

- **DO NOT** exceed any dosage rates specified on labels.
- **DO NOT** mix this product with any product containing a label prohibition against such mixing.
- **DO NOT** tank mix **Rotam Mesotrione 480 SC** with any other insecticide, fungicide, fertilizer, or adjuvant not specified on this label without first testing compatibility, as poor mixing can occur. Test compatibility on a small scale (including a jar test) before actual tank mixing.

MIXING PROCEDURE

1. Use sprayers in good operating condition with good agitation. Ensure that the sprayer is cleaned according to the label instructions of the product label used prior to **Rotam Mesotrione 480 SC**. For post-emergence applications, use clean water only for the spray solution. Ensure that all in-line strainers and nozzle screens in the sprayer are 50-mesh or coarser. **DO NOT** use screens finer than 50-mesh.
2. Use liquid fertilizer (NOT suspension fertilizer) as the carrier for pre-emergence applications.
3. Start filling spray tank or pre-mix tank with clean water and begin agitation. Maintain constant agitation.
4. When sprayer or pre-mix is half full of water, add AMS, maintaining agitation until dispersed.
5. Add **Rotam Mesotrione 480 SC** slowly and agitate until completely dissolved. Wait at least 1 minute after the last of the **Rotam Mesotrione 480 SC** has been added to allow for complete dispersion. If using cold water, a longer agitation period may be required to ensure adequate dispersing.

6. If tank mixing, add the tank mix product.
7. Add the adjuvant and UAN, if needed, and continue to fill tank to desired level with water.

ROTAM MESOTRIONE 480 SC WEED CONTROL TABLES

Partial control means either erratic control (good to poor control) or control that is below what is accepted as acceptable control for commercial weed control.

For best post-emergence results, apply **Rotam Mesotrione 480 SC** to actively growing weeds.

For best pre-emergence results, avoid applying **Rotam Mesotrione 480 SC** in dry weather as residual weed control may be reduced. If irrigation is available, apply ½-1-inch water after pre-emergence application. If irrigation is not available, make a uniform shallow cultivation as soon as weeds emerge.

Rotam Mesotrione 480 SC applied alone or in a tank-mix with atrazine will not provide consistent or adequate control of weeds that are resistant to post-emergence HPPD inhibiting herbicides. Refer to the crop sections of the label for specific use directions and application rates.

Table 1. Weeds Controlled with Post-Emergence Applications of Rotam Mesotrione 480 SC

Common Name	Scientific Name	Rotam Mesotrione 480 SC 3 Fl. Oz./A (0.09 lb. a.i./A) Applied Alone	Rotam Mesotrione 480 SC 2.5-3.0 Fl. Oz./A (0.08-0.09 lb. a.i./A) + Atrazine
		Apply to Weeds <5" Tall^	
Amaranth, palmer	*Amaranthus palmeri*	PC+	C+
Amaranth, powell	*Amaranthus powellii*	C	C
Amaranth, spiny	*Amaranthus spinosus*	C	C
Atriplex	*Chenopodium orach*	C	C
Broadleaf signalgrass	*Urochloa platyphylla*	C+	C+
Buckwheat, wild	*Polygonum convolvulus*	PC	PC
Buffalobur	*Solanum rostratum*	C	C
Burcucumber	*Sicyos angulatus*	PC	C+
Carpetweed	*Mollugo verticillata*	C	C
Carrot, wild	*Daucus carota*	PC	C
Chickweed, common	*Stellaria media*	C	C
Cocklebur, common	*Xanthum strumarium*	C	C
Crabgrass, large	*Digitaria sanguinalis*	C+	C+
Dandelion	*Taraxacum officinale*	NC	PC
Dock, curly	*Rumex crispus*	PC	PC
Galinsoga	*Galinsoga parviflora*	C	C
Hemp	*Cannabis sativa*	C	C
Horsenettle	*Solanum carolinense*	PC	C
Jimsonweed	*Datura stramonium*	C	C
Horseweed (marestail)	*Conyza canadensis*	PC	C
Knotweed, prostrate	*Polygonum aviculare*	PC	PC
Kochia	*Kochia scoparia*	PC+	C+
Lambsquarters, common	*Chenopodium album*	C	C
Mallow, Venice	*Hibiscus trionum*	NC	C
Morningglory, entireleaf	*Ipomoea hederacea*	PC	C
Morningglory, ivyleaf	*Ipomoea hederacea*	PC	C
Morningglory, pitted	*Ipomoea lacunosa*	PC	C
Mustard, wild	*Brassica kaber*	C	C
Nightshade, black	*Solanum nigrum*	C	C
Nightshade, Eastern black	*Solanum ptychanthum*	C	C
Nightshade, hairy	*Solanum sarrachoides*	C	C
Nutsedge, yellow	*Cyperus esculentus*	PC	PC
Pigweed, redroot	*Amaranthus retroflexus*	C	C
Pigweed, smooth	*Amaranthus hybridus*	C	C
Pigweed, tumble	*Amaranthus albus*	C	C
Pokeweed, common	*Phytolacca americana*	PC	PC
Potatoes, volunteer	*Solanum* spp.	C	C
Pusley, Florida	*Richardia scabra*	C+	C+
Ragweed, common	*Ambrosia artemisiifolia*	PC	C

Ragweed, giant	*Ambrosia trifida*	C+	C
Sesbania, hemp	*Sesbania exaltata*	C	C
Sida, prickly (teaweed)	*Sida spinosa*	NC	C+
Smartweed, ladysthumb	*Polygonum persicaria*	C+	C
Smartweed, pale	*Polygonum lapathifolium*	C+	C
Smartweed, Pennsylvania	*Polygonum pensylvanicum*	C+	C
Sunflower, common	*Helianthus annuus*	C	C
Thistle, Canada	*Circium arvense*	NC	PC
Velvetleaf	*Abutilon theophrasti*	C	C
Waterhemp, common	*Amaranthus rudis*	C+	C
Waterhemp, tall	*Amaranthus tuberculatus*	C+	C

^Weeds can be controlled at larger than listed sizes; however, to protect crop yield, manage weed resistance, and provide effective control, treat weeds before they reach 5" tall.
+Apply before weeds exceed 3" tall. C = Control NC = Not Controlled PC = Partial Control

Table 2. Weeds Controlled with Pre-Emergence Applications of Rotam Mesotrione 480 SC

Common Name	Scientific Name	Rotam Mesotrione 480 SC Applied Alone	Rotam Mesotrione 480 SC + Atrazine
Amaranth, palmer	*Amaranthus palmeri*	C	C
Amaranth, powell	*Amaranthus powellii*	C	C
Amaranth, spiny	*Amaranthus spinosus*	C	C
Broadleaf signalgrass	*Urochloa platyphylla*	PC	PC
Buffalobur	*Solanum rostratum*	C	C
Carpetweed	*Mollugo verticillata*	C	C
Chickweed, common	*Stellaria media*	C	C
Cocklebur, common	*Xanthum strumarium*	PC	C
Crabgrass, large	*Digitaria sanguinalis*	PC	PC
Galinsoga	*Galinsoga parviflora*	C	C
Jimsonweed	*Datura stramonium*	C	C
Kochia	*Kochia scoparia*	PC	C
Lambsquarters, common	*Chenopodium album*	C	C
Morningglory, entireleaf	*Ipomoea hederacea*	PC	C
Morningglory, ivyleaf	*Ipomoea hederacea*	PC	C
Morningglory, pitted	*Ipomoea lacunosa*	PC	C
Nightshade, Eastern black	*Solanum ptychanthum*	C	C
Nightshade, hairy	*Solanum sarrachoides*	C	C
Pigweed, redroot	*Amaranthus retroflexus*	C	C
Pigweed, smooth	*Amaranthus hybridus*	C	C
Pigweed, tumble	*Amaranthus albus*	C	C
Ragweed, common	*Ambrosia artemisiifolia*	C	C
Ragweed, giant	*Ambrosia trifida*	PC	C
Smartweed, ladysthumb	*Polygonum persicaria*	C	C
Smartweed, pale	*Polygonum lapathifolium*	C	C
Smartweed, Pennsylvania	*Polygonum pensylvanicum*	C	C
Sunflower, common	*Helianthus annuus*	PC	C
Velvetleaf	*Abutilon theophrasti*	C	C
Waterhemp, common	*Amaranthus rudis*	C	C
Waterhemp, tall	*Amaranthus tuberculatus*	C	C

ROTATIONAL CROP INTERVALS

If **Rotam Mesotrione 480 SC** is applied according to the enclosed label instructions, follow the crop rotation intervals listed below in Table 3. If **Rotam Mesotrione 480 SC** is tank-mixed with other products, follow the most restrictive product's crop rotation interval.

Table 3. Time Interval Between Rotam Mesotrione 480 SC Application and Replanting/Planting of Rotational Crop

Replant/Rotational Interval	Crop
Anytime	Asparagus, Corn (all types), Cranberry, Flax, Kentucky bluegrass gown for seed, Pearl Millet, Oats, Rhubarb, Ryegrass (perennial and annual) grown for seed, Sorghum (grain and sweet), Sugarcane, Tall fescue grown for seed
4 Months	Small grain cereals (wheat, barley, rye)
10 Months	Alfalfa, Blueberry, Canola, Cotton, Currant, Lingonberry, Okra, Peanuts, Peas*, Potato, Rice, Snap Beans*, Non-Resistant Mesotrione Soybeans, Sunflowers,

	Tobacco
18 Months	Cucurbits, Dry beans, Red Clover, Sugar Beets, All other crops

*Plant these rotation crops ONLY if the criteria listed below have been met. If all criteria have NOT been met, plant peas and snap beans a minimum of 18 months following **Rotam Mesotrione 480 SC** application.

- A minimum of 20" of rainfall plus irrigation has occurred between application and planting of the rotational crop.
- Soil pH is >6.0.
- 3 fl. oz./A (0.09 lb. a.i./A) or less has been applied no later than June 30th the year preceding rotational crop planting.
- No other HPPD herbicides (e.g., **Rotam Mesotrione 480 SC,** Mesotrione, Glyphosate + Mesotrione + S-Metolachlor, S-Metolachlor 19% + Atrazine 18.61% + Mesotrione 2.44%, S-Metolachlor 27.1% + Atrazine 9.94% + Mesotrione 2.71%, Mesotrione + S-Metolachlor, Topramezone, Isoxaflutole, Thiencarbazone-methyl + Tembotrione, Thiencarbazone-methyl + Isoxaflutole, or Tembotrione) were applied the year prior to planting peas and snap beans.
- **DO NOT** plant peas or snap beans on sand, sandy loam, or loamy sand soils in Minnesota or Wisconsin.

CROP USE DIRECTIONS - CORN

Apply **Rotam Mesotrione 480 SC** by ground for pre-emergence or post-emergence weed control in field corn, seed corn, yellow popcorn, and sweet corn. Apply **Rotam Mesotrione 480 SC** to corn up to 30" tall or up to the 8-leaf stage of corn growth to control broadleaf and grass weeds listed in Tables 1 and 2.

Aerial applications of **Rotam Mesotrione 480 SC** can be made pre-emergence or post-emergence in the following states: **Alabama, Arizona, Arkansas, California, 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**.

See seed company instructions for use on field corn inbred lines. Special adjuvant restrictions must be followed for post-emergence applications of **Rotam Mesotrione 480 SC** in yellow popcorn or sweet corn (see the **Spray Additives** section of this label). **DO NOT** apply **Rotam Mesotrione 480 SC** to white popcorn or ornamental (Indian) corn.

Post-emergence application of **Rotam Mesotrione 480 SC** to yellow popcorn and sweet corn hybrids may cause crop bleaching. Bleach is transitory and will not affect final yield or quality. Herbicide sensitivity, however, can vary widely in yellow popcorn and sweet corn, and all hybrids of these have not been tested. Contact your local popcorn/sweet corn company, Fieldman, or University Specialist to learn about hybrid recommendations before making a post-emergence application of **Rotam Mesotrione 480 SC** to yellow popcorn or sweet corn. **DO NOT** include nitrogen based adjuvants (UAN or AMS) when making post-emergence applications of **Rotam Mesotrione 480 SC** to yellow popcorn or sweet corn.

Temporary transient bleaching may occur in field corn treated with **Rotam Mesotrione 480 SC** post-emergence under extreme weather conditions or when the crop is under stress. Field corn will quickly outgrow this condition and develop normally.

Corn Restrictions

- **DO NOT** apply more than 7.7 fl. oz. (0.24 lb. a.i./A) of **Rotam Mesotrione 480 SC** per year.
- **DO NOT** make more than 2 applications per year.
- **DO NOT** exceed 3.0 fl. oz. (0.09 lb. a.i./A) in a single post-emergence application.
- **RTI: DO NOT** make a second application of **Rotam Mesotrione 480 SC** within 14 days of the first application.
- **DO NOT** feed or harvest forage, grain, or stover within 45 days after application.

Rotam Mesotrione 480 SC Used Alone – Post-Emergence

Apply 3.0 fl. oz./A (0.09 lb. a.i./A) per application. Always add an appropriate adjuvant to the spray tank (see the **Spray Additives** section of this label).

Apply to actively growing weeds. See Table 1 for a complete list of weeds controlled. Susceptible weeds that emerge post-application may be controlled after the herbicide is absorbed into the soil. **Rotam Mesotrione 480 SC** will not control most grass weeds.

Two post-emergence applications of **Rotam Mesotrione 480 SC** may be made under the following restrictions:

- Only one post-emergence application may be made if **Rotam Mesotrione 480 SC** has been applied pre-emergence.
- **DO NOT** exceed a total of 7.7 fl. oz./A (0.24 lb. a.i./A) per year.
- **RTI: DO NOT** make a second application within 14 days of the first application.
- Applications made at rates lower than 3.0 fl. oz./A. (0.09 lb. a.i./A) post-emergence may not provide adequate weed control and no residual control.
- **DO NOT** exceed a total of 6.0 fl. oz./A (0.19 lb. a.i./A) for the two post-emergence applications.
- If a post-emergence application of **Rotam Mesotrione 480 SC** was made to ground that received pre-emergence treatment of another mesotrione-containing herbicide, atrazine must be tank mixed with **Rotam Mesotrione 480 SC**.
- If mixing **Rotam Mesotrione 480 SC** with atrazine, do not apply to corn taller than 12".
- Treat corn up to 30" tall or up to the 8-leaf stage of growth.
- **DO NOT** harvest, forage, or stover within 45 days post-application.

Rotam Mesotrione 480 SC Used Alone – Pre-Emergence
Apply 6.0-7.7 fl. oz./A (0.19-0.24 lb. a.i./A) by ground sprayer in 10-30 gals. of water per acre to control broadleaf weeds (up to 80 gals. if applied with liquid fertilizer). See Table 2 for a complete list of weeds controlled. **Rotam Mesotrione 480 SC** can be tank mixed with other approved pre-emergence grass herbicides to control grasses. Refer to the tank mix section for a list of tank-mix partners.

Rotam Mesotrione 480 SC Tank Mixtures for Corn
Apply **Rotam Mesotrione 480 SC** in tank mix with other registered herbicides to improve spectrum of weed control in burndown, pre-emergence, or post-emergence applications. These tank mixtures can also be used to include a different mode of action herbicide to control and manage the development of resistant weed biotypes.

Burndown Tank Mixtures in Corn
Apply **Rotam Mesotrione 480 SC** in tank mixture with other registered herbicides for burndown and residual weed control.

Apply 3.0 fl. oz./A (0.19 lb. a.i./A) **Rotam Mesotrione 480 SC** with paraquat, glyphosate, dicamba and/or 2,4-D for improved broadleaf weed control with limited residual control before planting corn and before corn emergence. For better residual control, apply 6.0-7.7 fl. oz./A (0.19-0.24 lb. a.i./A) **Rotam Mesotrione 480 SC** (see Table 2) with the products listed. 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 Mixture in Corn
Apply 5.3-7.7 fl. oz./A (0.17-0.24 lb. a.i./A) of **Rotam Mesotrione 480 SC** in tank mixture with other registered herbicides (Table 4) for pre-emergence residual weed control. Refer to Table 2 for a list of weeds controlled by **Rotam Mesotrione 480 SC** and **Rotam Mesotrione 480 SC** + Atrazine applied pre-emergence.

Table 4. Rotam Mesotrione 480 SC Tank Mixtures for Pre-Emergence Application in Corn
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.

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

Post-Emergence Tank Mixtures in Corn
See Table 5 below for a list of tank mixtures that can be applied after corn has emerged. **DO NOT** apply less than 3.0 fl. oz./A (0.09 lb. a.i./A) of **Rotam Mesotrione 480 SC** unless specified on this label as a loss of residual control can occur.

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

Table 5. Rotam Mesotrione 480 SC Tank Mixtures for Post-Emergence Application to Corn
Refer to the individual product labels for products listed for precautionary statements, restrictions, use rates, approved uses, and a list of weeds controlled.

Tank Mix Partner	Use Directions
Atrazine	See Table 1 for application rates and list of weeds controlled. This mixture will control additional weeds. See product label for list of weeds controlled.

Nicosulfuron	This mixture will provide additional grass control. Refer to the product label for a list of weeds controlled.
Sodium Bentazon	This mixture will provide additional broadleaf weed control. Refer to the product label for a list of weeds controlled.
Thifensulfuron + Rimsulfuron	This mixture will provide additional weed control. Refer to the product label for a list of weeds controlled.
Metolachlor	Regarding tank mix adjuvants, it is advised to use non-nitrogen based products; or if using nitrogen based products (like UAN or AMS) apply as a post-directed spray to limit contact with crop foliage. To minimize risk of crop injury, the user may use nonionic surfactants (NIS) instead of the crop oil concentrates (COC). Control of emerged weeds can be reduced due to substandard adjuvant effect or poor weed coverage. This mixture will control additional weeds. See product label for list of weeds controlled.
Metolachlor + Atrazine	**DO NOT** use nitrogen based adjuvants (UAN or AMS); apply as post-directed spray. **DO NOT** use crop oil concentrate (COC); use a nonionic surfactant (NIS) to avoid crop injury. Control of emerged weeds can be reduced due to the adjuvant effect on weed coverage. This mixture will control additional weeds. See product label for list of weeds controlled.
Bromoxynil	This mixture will provide additional broadleaf weed control. Refer to product labels for use rates.
Atrazine + Glyphosate + S-Metoachlor	Use only on glyphosate resistant corn (e.g., Agrisure® GT, Roundup Ready®). Crop death will occur if this mixture is applied to a corn hybrid that is not glyphosate resistant. **DO NOT** add urea ammonium nitrate (UAN) or methylated seed oil (MSO) adjuvants to this mixture or crop injury can occur.
Glufosinate	Use only on corn designated as LibertyLink® or warranted as resistant to glufosinate. Use of this mixture on corn hybrids not resistant to glufosinate will result in severe crop injury or death. **DO NOT** use crop oil concentrate (COC) as an adjuvant or crop injury can occur.
Imazethapyr + Imazapyr	Use only on corn designated at Clearfield® corn. Use of this mixture on corn hybrids not resistant to Lightning will result in severe crop injury or death. **DO NOT** use Methylated Seed Oil (MSO) or any MSO blend with this mixture or severe crop injury can occur.
Dicamba + Primisulfuron	This mixture will control additional weeds. See product label for list of weeds controlled.
Prosulfuron	This mixture will control additional weeds. See product label for list of weeds controlled.
Primisulfuron + Prosulfuron	This mixture will control additional weeds. See product label for list of weeds controlled.
Nicosulfuron + Rimsulfuron	This mixture will control additional weeds. See product label for list of weeds controlled.
Nicosulfuron + Thifensulfuron	This mixture will control additional weeds. See product label for list of weeds controlled.
Glyphosate	Use only on glyphosate resistant corn (e.g., Agrisure GT, Roundup Ready). Use of this mixture on corn hybrids that are 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 calls for an adjuvant in addition to AMS, add 0.25-0.5% v/v (1-2 quarts/100 gallons) of a non-ionic surfactant (NIS). **DO NOT** add urea ammonium nitrate (UAN), crop oil concentrate (COC) or methylated seed oil (MSO) adjuvants to this tank mixture or crop injury can occur.

CROP USE DIRECTIONS – ASPARAGUS

Apply **Rotam Mesotrione 480 SC** as broadcast or banded at a rate of 3.0-7.7 fl. oz./A (0.09-.024 lb. a.i./A) to asparagus as a spring application prior to spear emergence, as a post-harvest application (after final harvest), or both.

For post-emergence control or partial control of the emerged weeds listed in Table 1, use the 3.0 fl. oz/A (0.09 lb. a.i./A). For pre-emergence control or partial control of the weeds listed in Table 2, use the 6.0-7.7 fl. oz./A (0.19-0.24 lb. a.i./A) rate. For banded applications, the application must be made to account for band width, i.e. to deliver 3.0-7.7 fl. oz. per treated acre (0.09-0.24 lb. a.i./A). For the best pre-emergence weed control with spring applications, applications of

Rotam Mesotrione 480 SC must be made after fern mowing, disking or other tillage operation but before asparagus spear emergence.

When treatments are made during 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/year (0.24 lb. a.i./A) 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. With post-harvest applications, the use of an adjuvant will increase the risk of crop injury.

If weeds are emerged at the time of application of **Rotam Mesotrione 480 SC**, 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 advised. 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 gallons of spray solution may be added for improved burndown of emerged weeds. If weeds have not yet emerged, no adjuvant is advised.

Restrictions:

- **DO NOT** apply more than 7.7 fl. oz./A (0.24 lb. a.i./A) of **Rotam Mesotrione 480 SC** per year.
- **DO NOT** apply more than 7.7 fl. oz./A (0.24 lb. a.i./A) in a single application.
- **DO NOT** make more than two **Rotam Mesotrione 480 SC** applications per year when using reduced application rates.
- **RTI: DO NOT** make the second application within 14 days of the first application.

CROP USE DIRECTIONS – BLUEGRASS, RYEGRASS (ANNUAL AND PERENNIAL) AND TALL FESCUE GROWN FOR SEED

Make an application of **Rotam Mesotrione 480 SC** to bluegrass, annual ryegrass, perennial ryegrass, or tall fescue which is grown for seed. Make an application of **Rotam Mesotrione 480 SC** 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 **Rotam Mesotrione 480 SC** as a broadcast, surface spray at a rate of 6.0 fl. oz./A (0.19 lb. a.i./A) to a newly seeded crop. The application of **Rotam Mesotrione 480 SC** 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 **Rotam Mesotrione 480 SC**. Grass crop injury symptoms include temporary bleaching of newly emerged leaves, or in extreme conditions, stunting. See Table 2 for a list of pre-emergence weeds controlled or partially controlled. In addition to the weeds listed in Table 2, **Rotam Mesotrione 480 SC** will control mannagrass when applied pre-emergence.

Post-emergence Application: Make an application of **Rotam Mesotrione 480 SC** as a broadcast post-emergence spray at a rate of 3.0-6.0 fl. oz./A (0.09-0.19 lb. a.i./A) to emerged bluegrass, perennial ryegrass or tall fescue grown for seed. Use the 3.0 fl. oz./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, **Rotam Mesotrione 480 SC** will control mannagrass (up to 3 tillers) when applied post-emergence.

Use the 6.0 fl. oz./A (0.19 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 advised. Post-emergence applications of **Rotam Mesotrione 480 SC** 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 gallons 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 **Rotam Mesotrione 480 SC** rates greater than 3.0 fl. oz./A (0.09 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 **Rotam Mesotrione 480 SC** post-emergence may increase the risk of crop injury. Avoid adding pesticides with emulsifiable concentrate (EC) type formulations to **Rotam Mesotrione 480 SC** for applications made post-emergence to the crop.

Restrictions:

- **DO NOT** harvest the grass crop for seed or straw within 60 days following the application of **Rotam Mesotrione 480 SC**.

- **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 **Rotam Mesotrione 480 SC**.
- **DO NOT** make more than two applications of **Rotam Mesotrione 480 SC** per year.
- **RTI: DO NOT** make the second application within 14 days of the first application.
- **DO NOT** apply more than 6 fl. oz./A (0.19 lb. a.i./A) in a single application and not more than 9 fl. oz./A (0.281 lb. a.i./A) of **Rotam Mesotrione 480 SC** per year.
- Applying **Rotam Mesotrione 480 SC** to grasses grown for seed species not listed on this label may result in severe injury.

CROP USE DIRECTIONS – BUSH AND CANEBERRIES (CROP GROUP 13-07A and 13-07B)

Note: Not all cultivars and types of berries that are included within the Environmental Protection Agencies definition of bush and caneberries (Crop Subgroups 13-07A and 13-07B) have been tested and shown to have adequate crop safety to **Rotam Mesotrione 480 SC**. Those that have been tested, and are believed to be reasonably fit, are listed below along with use directions for that crop. If **Rotam Mesotrione 480 SC** is used on bush or caneberries not listed below, severe crop injury may occur.

Apply **Rotam Mesotrione 480 SC** 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. Apply **Rotam Mesotrione 480 SC** in bush or caneberries at a rate up to 6 fl. oz./A (0.19 lb. a.i./A). If a split application weed control program is desired, 3 fl. oz./A (0.19 lb. a.i./A) followed by 3 fl. oz./A (0.09 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 advised, but avoid using COC adjuvants that are injurious to bush or caneberry leaves.

In low bush blueberries, applications of **Rotam Mesotrione 480 SC** may only be made in the non-bearing year. Apply application as a broadcast application. Up to 6 fl. oz./A (0.19 lb. a.i./A) of **Rotam Mesotrione 480 SC** may be made in a single application, or 3 fl. oz./A (0.09 lb. a.i./A) followed by 3 fl. oz./A (0.09 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 advised. Applications of **Rotam Mesotrione 480 SC** during dry weather conditions and/or temperatures above 85° can cause injury to Lowbush blueberries. Applications of **Rotam Mesotrione 480 SC** can cause yellowing or necrosis of leaves and under severe conditions, leaf drop may occur especially on “Sourtop” variety blueberries.

Restrictions:

- **DO NOT** apply more than two applications of **Rotam Mesotrione 480 SC** per year when using reduced application rates.
- **DO NOT** apply more than 6.0 fl. oz./A (0.19 lb. a.i./A) of **Rotam Mesotrione 480 SC** per year.
- **DO NOT** apply more than 6.0 fl. oz/A (0.19 lb. a.i./A) in a single application.
- **RTI:** If two applications are made, they must be made no closer than 14 days apart.
- **DO NOT** apply **Rotam Mesotrione 480 SC** to bush or caneberries after the onset of the bloom stage or illegal residues may occur.

CROP USE DIRECTIONS - CITRUS FRUIT, POME FRUIT, STONE FRUIT AND TREE NUTS (CROP GROUP 10-10, 11-10, 12-12 AND 14-12)

Rotam Mesotrione 480 SC may be used for post-emergence and residual control of weeds listed in Tables 1 and 2 in the following crops.

Citrus fruit (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 (apple, azarole, crabapple, loquat, mayhaw, medlar, pear, Asian pear, quince, Chinese quince, Japanese quince, tejocote, cultivars, varieties and/or hybrids of these)

Stone fruit (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 (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)

Precautions

- To avoid crop injury, make application of the spray to the grove or orchard floor and to the weeds, avoiding contact with crop foliage, stems or fruit. Contact of **Rotam Mesotrione 480 SC** 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 **Rotam Mesotrione 480 SC** and carrier per acre in proportion to the area actually sprayed. (See Banded Applications Section.)
- Applying **Rotam Mesotrione 480 SC** in nectarine, plum or tree nuts grown in coarse soils may cause bleaching, especially when application is made during time of heavy water use and root growth including during bud break or rapid shoot expansion.

Restrictions

- Apply **Rotam Mesotrione 480 SC** only in pome fruit, stone fruit and nut trees that have been established for one full growing year and are in good health and vigor. Apply **Rotam Mesotrione 480 SC** in citrus trees or citrus tree 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 fl. oz. per acre (0.38 lb. a.i./A) of **Rotam Mesotrione 480 SC** per year or in a 12-month period.
- **DO NOT** exceed 6 fl. oz. per acre (0.19 lb. a.i./A) of **Rotam Mesotrione 480 SC** for the first application.
- **DO NOT** exceed 3 applications per year or in a 12-month period when using reduced application rates.
- **RTI:** Allow at least 12 weeks between applications of **Rotam Mesotrione 480 SC** at 6 fl. oz./A (0.19 lb. a.i./A) and at least 6 weeks between applications of 6 fl. oz./A and subsequent applications of 3 fl. oz./A (0.09 lb. a.i./A). (Applications must follow one of the four programs listed in Table 6 below.)
- **PHI: DO NOT** harvest pome fruit, stone fruit or tree nuts within 30 days after application.
- **PHI: DO NOT** harvest citrus fruit within 1 day after application.
- **DO NOT** use on soils with greater than 20% gravel.
- **DO NOT** apply **Rotam Mesotrione 480 SC** through any type of irrigation system.
- **DO NOT** apply **Rotam Mesotrione 480 SC** by air.

Spray Additives

For application to emerged weeds, the use of crop oil concentrate (COC) type adjuvant at 1% v/v or non-ionic surfactant (NIS) at 0.25% v/v is advised. 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 **Rotam Mesotrione 480 SC**, 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

Rotam Mesotrione 480 SC may be mixed and applied in combination with most commonly used herbicides registered for use in the approved crops in order to expand the postemergence (paraquat, glyphosate, glufosinate or oxyfluorfen) or residual (somazine, norflurazon, rimsulfuron, oryzalin, oxyfluorfen, pendimethlin, diuron, bromacil, bromacil + diuron 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. 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.

Weed Control (Table 1 and 2)

Rotam Mesotrione 480 SC 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 inches 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

Make an application as a directed or shielded spray. Avoid contact with trunk surfaces, fruit or crop foliage. **DO NOT** apply when nuts or fruits are on the ground at harvest. 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 **Rotam Mesotrione 480 SC** in late fall/early winter or spring and subsequent applications utilizing one of the programs noted in the Table 6.

Table 6. Rotam Mesotrione 480 SC Application Programs, Rates and Intervals

Program	Application Rate (fl. oz./A)*			Application Interval (wk)
	1st Application	2nd Application	3rd Application	
1	6	6	-	12
2	6	3	-	6
3	6	3	3	6
4	3	3	3	6

*3 fl. oz./A (0.09 lb. a.i./A); 6 fl. oz./A (0.19 lb. a.i./A)

For optimum post-emergence weed control, apply **Rotam Mesotrione 480 SC** to actively growing weeds in tank mixture with burndown herbicides including: paraquat, glyphosate, glufosinate or oxyfluorfen before weeds exceed 5 inches in height.

For effective residual weed control, **Rotam Mesotrione 480 SC** must be moved into the weed seed germination zone. For pre-emergence weed control, apply **Rotam Mesotrione 480 SC** before rainfall or irrigation. For optimum residual control **Rotam Mesotrione 480 SC** can be tank mixed with herbicides including: somazine, norflurazon, rimsulfuron, oxyfluorfen, pendimethlin, diuron, bromacil, bromacil + diuron or indaziflam, where approved for use.

Subsequent application(s) of **Rotam Mesotrione 480 SC** 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.

Make an application **Rotam Mesotrione 480 SC** in a spray volume of 10-40 gal/A.

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

CROP USE DIRECTIONS – CRANBERRY

Apply **Rotam Mesotrione 480 SC** to bearing or non-bearing cranberry beds to control or suppress the weeds listed in Tables 1 and 2, and:

- bog St. John's wort (*Hypericum boreala*)
- rushes (*Juncus canadensis, J. effuses, J. bufonlus, J. tenuis*)
- sedges spp. (*Carex* spp.)
- silverleaf (*Potentilla pacifica*)
- yellow loosestrife (*Lysimachia terrestris*)

Bearing/Non-Bearing Application rates:

- Apply up to 8 fl. oz./A (0.25 lb. a.i./A), but **DO NOT** apply more than 16 fl. oz./A (0.50 lb. a.i./A) in total per year.
- Make no more than two 8 fl. oz./A (0.25 lb. a.i./A) applications per year.
- **RTI:** If two applications are made, **DO NOT** make them closer than 14 days apart. Use 1% v/v of a crop oil concentrate (COC) or 0.25% v/v non-ionic surfactant (NIS).
- **DO NOT** use COC adjuvants that are known to injure cranberry leaves.

- **Non-bearing Cranberries**: Apply after the bud break stage no less than 45 days before flooding in fall or winter.
- **Bearing Cranberries**: Apply after the bud break stage no less than 45 days before flooding or harvest.

Rotam Mesotrione 480 SC can be applied through irrigation systems (chemigation) including center pivot or solid set.

Sprinkler Irrigation Application – Cranberries Only

Check the irrigation system to ensure uniform application of water to all areas. Thorough coverage of foliage is required for optimal control. Maintain good agitation in the pesticide supply tank prior to and during the entire application process. Inject the specified rate of **Rotam Mesotrione 480 SC** into the irrigation system with a metering device designed to introduce a constant flow and will distribute the product to target areas in 0.1-0.2 acre-inch of water. Use the least amount of water with this rate range required for proper distribution and coverage.

After application is complete, flush the entire irrigation and injection systems 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 **Rotam Mesotrione 480 SC** for the area covered must be injected into the system only during the end of the irrigation set for sufficient time to provide optimal coverage and distribution.

CHEMIGATION USE PRECAUTIONS – SPRINKLER IRRIGATION APPLICATION

Apply this product through center pivot or solid set sprinkler irrigation systems only. **DO NOT apply this product through any other type of irrigation system.**

Non-uniform distribution of treated water can cause crop injury, product ineffectiveness, and/or illegal pesticide residues in the crop. Contact State Extension Service Specialists, equipment manufacturers or other experts if you have questions about calibrating equipment.

DO NOT connect an irrigation system or greenhouse system used for pesticide application to any public water system. A public water system is any system used for 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. A person knowledgeable of the chemigation system and responsible for its operation or under the supervision of the responsible personal shall shut the system down and make necessary adjustments must 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 also 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.

CHEMIGATION USE RESTRICTIONS – SPRINKLER IRRIGATION APPLICATION

- **DO NOT** apply this product through any other type of irrigation system.
- **DO NOT** apply when wind speed favors drift beyond the area intended for treatment or non-uniform distribution of treated water.
- **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 washwater or rinsate.
- **DO NOT** apply within 10 feet of surface water outside the bog system.
- **DO NOT** spray to runoff.

CROP USE DIRECTIONS – FLAX

A pre-emergence application of **Rotam Mesotrione 480 SC** may be made in flax, i.e. after planting but before crop emergence, at a rate up to 6 fl. oz./A (0.19 lb. a.i./A). For a list of weeds controlled see Tables 1 and 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 advised. 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. Apply **Rotam Mesotrione 480 SC** to emerged flax can result in severe crop injury.

Restrictions:

- **DO NOT** apply more than one application of **Rotam Mesotrione 480 SC** per year.
- **DO NOT** apply more than 6.0 fl. oz./A (0.19 lb. a.i./A) per year in flax.
- **DO NOT** apply more than 6.0 oz./A (0.19 lb. a.i./A) in a single application.

CROP USE DIRECTIONS – OATS

Applications of **Rotam Mesotrione 480 SC** can be made as 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, make a broadcast application of **Rotam Mesotrione 480 SC** at a rate of 6.0 fl. oz./A (0.19 lb. a.i./A) before oat emergence. For best pre-emergence weed control, the application of **Rotam Mesotrione 480 SC** must be made before weed emergence.

For post-emergence (after oat emergence) control or partial control of the weeds listed in Table 1, make the application of **Rotam Mesotrione 480 SC** at a rate of 3.0 fl. oz./A (0.09 lb. a.i./A). For best results, **Rotam Mesotrione 480 SC** must be applied to emerged weeds that are less than 5" tall. Post-emergence applications of **Rotam Mesotrione 480 SC** 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 **Rotam Mesotrione 480 SC** 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 advised. 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 gallons of spray solution may be added for improved weed control. If emerged weeds are not present at the time of the **Rotam Mesotrione 480 SC** 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.

Tank mixing other pesticides with **Rotam Mesotrione 480 SC** post-emergence may increase the risk of injury. Avoid adding pesticides with emulsifiable concentrate (EC) type formulations to **Rotam Mesotrione 480 SC** for applications made post-emergence to the crop.

Restrictions:

- **DO NOT** graze or feed forage from treated areas within 30 days following an application of **Rotam Mesotrione 480 SC**.
- **DO NOT** harvest oats within 50 days following the application of **Rotam Mesotrione 480 SC**.
- **DO NOT** apply more than one application of **Rotam Mesotrione 480 SC** per year.
- **DO NOT** apply **Rotam Mesotrione 480 SC** pre-emergence (prior to oat emergence) at more than 6.0 fl. oz./A (0.19 lb. a.i./A) per year.
- **DO NOT** apply **Rotam Mesotrione 480 SC** postemergence at more than 3.0 fl. oz./A (0.09 lb. a.i./A) per year.
- If the oat crop treated with **Rotam Mesotrione 480 SC** is lost or destroyed, oats may be replanted immediately. If **Rotam Mesotrione 480 SC** was applied to the lost oat crop, no additional **Rotam Mesotrione 480 SC** can be applied to the replanted oat crop.

CROP USE DIRECTIONS – OKRA

Apply **Rotam Mesotrione 480 SC** 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 **Rotam Mesotrione 480 SC** at a rate of 6.0 fl. oz./A (0.19 lb. a.i./A) as a banded application to the row middles prior to weed emergence. For this banded application, leave one 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 (0.19 lb. a.i.). **DO NOT** apply **Rotam Mesotrione 480 SC** directly over the planted okra row or severe crop injury may occur. Injury risk is greatest on coarse textured soils (sand, sandy loam or loamy sand).

Post-Emergence hooded application: Make an application of **Rotam Mesotrione 480 SC** at a rate of 3.0 fl. oz./A (0.09 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 at the time the product is applied. It is advised that a nonionic

surfactant (NIS) type adjuvant at a rate of 0.25% v/v be added to the spray solution. For post-emergence hooded applications, the spray equipment must be set up to minimize the amount of **Rotam Mesotrione 480 SC** that contacts the okra foliage or crop injury will occur. For best post-emergence results, apply **Rotam Mesotrione 480 SC** actively growing weeds.

Restrictions:

- **DO NOT** harvest okra within 28 days following the application of **Rotam Mesotrione 480 SC**.
- **DO NOT** apply more than one application of **Rotam Mesotrione 480 SC** per year.
- **DO NOT** apply **Rotam Mesotrione 480 SC** as a row-middle application at more than 6.0 fl. oz./A (0.19 lb. a.i./A) per year.
- **DO NOT** apply **Rotam Mesotrione 480 SC** as a post-directed application at more than 3.0 fl. oz./A (0.09 lb. a.i./A) per year.
- **DO NOT** apply **Rotam Mesotrione 480 SC** as a broadcast pre-emergence or broadcast post-emergence application to okra or severe injury will occur.
- If the okra crop treated with **Rotam Mesotrione 480 SC** is lost or destroyed, okra can be replanted only in the soil band that was not treated with **Rotam Mesotrione 480 SC**.

CROP USE DIRECTIONS – PEARL MILLET

Make an pre-emergence application of **Rotam Mesotrione 480 SC** in pearl millet, i.e. after planting but before crop emergence, at a rate up to 6 fl. oz./A (0.19 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 advised. 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. Apply **Rotam Mesotrione 480 SC** to emerged pearl millet can result in severe crop injury.

Restrictions:

- **DO NOT** apply more than one application of **Rotam Mesotrione 480 SC** per year.
- **DO NOT** apply more than 6.0 fl. oz./A (0.19 lb. a.i./A) per year.
- **DO NOT** apply more than 6.0 fl. oz./A (0.19 lb. a.i./A) in a single application.

CROP USE DIRECTIONS – RHUBARB

Make an application of **Rotam Mesotrione 480 SC** before crop emergence for weed control in established rhubarb.

Make an application of **Rotam Mesotrione 480 SC** at a rate of 6.0 fl. oz./A (0.19 lb. a.i./A) to dormant (prior to 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 advised 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. Apply **Rotam Mesotrione 480 SC** to rhubarb that is not dormant may result in a temporary bleaching symptomology. Rainfall or irrigation after the **Rotam Mesotrione 480 SC** application may increase the risk of injury to emerging rhubarb.

Restrictions:

- **DO NOT** harvest rhubarb within 21 days following the application of **Rotam Mesotrione 480 SC**.
- **DO NOT** apply more than one application of **Rotam Mesotrione 480 SC** per year.
- **DO NOT** apply **Rotam Mesotrione 480 SC** at more than 6.0 fl. oz./A (0.19 lb. a.i./A) per year.
- **DO NOT** apply more than 6.0 fl. oz./A (0.19 lb. a.i./A) in a single application.

CROP USE DIRECTIONS – SORGHUM (GRAIN and SWEET)

Pre-Emergence Application Directions

Make pre-emergence application of **Rotam Mesotrione 480 SC** or pre-plant non-incorporated applications up to 21 days before planting sorghum for control or partial control of the weeds listed in Table 2.

Apply 6.0-6.4 fl. oz./A (0.19-0.20 lb. a.i./A) broadcast non-incorporated application prior to sorghum emergence. Making the application less than 7 days before planting will increase the risk of plant injury, especially if rainfall or irrigation occurs after the application. Injury symptoms include temporary bleaching of newly emerged leaves. Making application of this product 8-21 days prior to planting will decrease risk of crop injury.

If **Rotam Mesotrione 480 SC** is applied prior to planting, minimize disturbance of soil treated with herbicide during the planting process in order to reduce the potential for weed emergence.

If emerged weeds are present at the time of pre-emergence application, use 0.25% v/v of a non-ionic surfactant (NIS) adjuvant or 1% v/v of crop oil concentrate (COC) and add it to the spray solution. A spray-grade UAN applied at a rate of 2.5% v/v or 8.5 lbs./100 gallons of spray solution of ammonium sulfate (AMS) can be added to the spray solution in addition to the COC or NIS.

Pre-Emergence Application Restrictions

- **DO NOT** make more than one application per year.
- **DO NOT** apply more than 6.4 fl. oz./A (0.20 lb. a.i./A) per year.
- **DO NOT** apply more than 6.4 fl. oz./A (0.20 lb. a.i./A) in a single application.
- **DO NOT** apply to emerged sorghum or severe crop injury can occur.
- **DO NOT** use **Rotam Mesotrione 480 SC** in the production of forage sorghum, sudangrass, sorghum-sudangrass hybrids, or dual purpose sorghum.
- **DO NOT** apply to sorghum that is grown on coarse textured soils (e.g., sandy loam, loamy sand, sand).
- **Texas Restriction**: **DO NOT** apply to sorghum grown south of Interstate 20 (I-20) or east of Highway 277.

Post-Emergence Application Directions

Apply **Rotam Mesotrione 480 SC** post-directed to grain sorghum to control and/or partially control weeds listed in Table 1. Apply to actively growing weeds for optimal control.

Apply 3.0 fl. oz./A (0.09 lb. a.i./A) post-directed application when sorghum is at least 8" tall. Make the application by directing the spray between crop rows, and toward the base of the plant. Direct application of **Rotam Mesotrione 480 SC** onto foliage can result in crop injury including temporary bleaching. If leaves do bleach, newly emerged leaves following application will not be affected.

Use 0.25% v/v of a non-ionic surfactant (NIS) adjuvant or 1% v/v of crop oil concentrate (COC) and add it to the spray solution. A spray-grade UAN applied at a rate of 2.5% v/v or 8.5 lbs./100 gallons of spray solution of ammonium sulfate (AMS) can be added to the spray solution in addition to the COC or NIS.

Rotam Mesotrione 480 SC can be tank-mixed with herbicides registered for use on sorghum to improve weed control. These tank-mixtures can also include a herbicide with a different mode of action to help control or manage the development of resistant weed biotypes.

Post-Directed Restrictions

- **DO NOT** make more than one post-directed application.
- **DO NOT** apply more than 3.0 fl. oz./A (0.09 lb. a.i./A) post-directed.
- **DO NOT** apply more than 6.4 fl. oz./A (0.20 lb. a.i./A) per year.
- **DO NOT** apply broadcast over-the-top to emerged sorghum or severe crop injury can occur.
- **DO NOT** harvest sorghum for forage for 30 days following application.
- **DO NOT** harvest for grain or stover for 60 days following application.
- **DO NOT** apply after the sorghum seedhead emerges.
- **DO NOT** use in the production of forage sorghum, sudangrass, or sorghum-sudangrass hybrids.

CROP USE DIRECTIONS – MESOTRIONE RESISTANT SOYBEAN

A pre-emergence application of **Rotam Mesotrione 480 SC** can be a made to soybeans that are identified as mesotrione resistant. Applying treatments to soybeans that are not mesotrione resistant will result in significant crop injury. For a list of mesotrione resistant soybean varieties, contact a Rotam Technical Representative.

Pre-Emergence Application: For pre-emergence control of the weeds listed in Table 2, make an application of **Rotam Mesotrione 480 SC** before soybean emergence at a rate of 6.0 fl. oz./A. Make an application of the higher rate for longer residual control. **Rotam Mesotrione 480 SC** may be tank mixed with other registered soybean herbicides including S-Metolachlor and S-Metolachlor + Sodium salt of fomesafen. Refer to the tank mix partner label and follow all precautions and restrictions.

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

Restrictions:

- **DO NOT** apply more than 6.0 fl. oz./A (0.19 lb. a.i./A) per year.
- **DO NOT** apply more than 6.0 fl. oz./A (0.19 lb. a.i./A) in a single application
- **DO NOT** apply more than one application of **Rotam Mesotrione 480 SC** per year.

- **DO NOT** apply **Rotam Mesotrione 480 SC** to emerged soybeans.
- **DO NOT** graze or feed soybean forage or hay to livestock.

CROP USE DIRECTIONS - SUGARCANE

Apply **Rotam Mesotrione 480 SC** by ground for pre-emergence, post-emergence over-the-top or post-emergence direct weed control in sugarcane.

Apply **Rotam Mesotrione 480 SC** aerially for pre-emergence and post-emergence weed control in the states of: **Florida, Louisiana, and Texas**.

Pre-Emergence Applications
Apply 6.0-7.7 fl. oz./A (0.19-0.24 lb. a.i./A) of **Rotam Mesotrione 480 SC** to control weeds listed in Table 2. Make application after the planting of plant-cane or after harvest of ratoon-cane. If weeds are emerged at the time of application, add a crop oil concentrate (COC) type adjuvant at 1% v/v OR a nonionic surfactant (NIS) type adjuvant at 0.25% v/v to the spray solution. In addition to the 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. Tank mix atrazine or ametryn with **Rotam Mesotrione 480 SC** to improve weed control. Refer to the tank mix partner label for specific rates and use directions.

Post-Emergence Applications
Apply 3.0 fl. oz./A (0.09 lb. a.i./A) of **Rotam Mesotrione 480 SC** to control weeds listed in Table 1. Apply 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 one single post-emergence application can be made. If no pre-emergence application was made earlier in the season, then both a post-over-the-top and a post-directed spray application can be made. For optimum weed control, apply to actively growing weeds.

Add either a crop oil concentrate (COC) adjuvant at 1% v/v OR a nonionic surfactant (NIS) adjuvant to the spray solution. In addition to the COC or NIS, use a spray grade UAN (e.g., 28-0-0) at 2.5% v/v OR ammonium sulfate (AMS) at 8.5 lbs./100 gals. of spray solution to improve weed control.

For additional post-emergence weed control, tank mix **Rotam Mesotrione 480 SC** with atrazine, asulam and/or trifloxysulfuron-sodium. Refer to the tank mix product label for specific rate and use directions.

Sugarcane Restrictions:
- **DO NOT** apply more than 7.7 fl. oz./A (0.24 lb. a.i./A) in a pre-emergence application.
- **DO NOT** apply more than 3.0 fl. oz./A (0.09 lb. a.i./A) in a post-emergence application.
- **DO NOT** make more than 2 applications per year. If a pre-emergence application is made, only one post-emergence application can be made.
- **RTI: DO NOT** make two applications less than 14 days apart.
- **DO NOT** apply more than 10.7 fl. oz./A (0.33 lb. a.i./A) per year.
- **DO NOT** harvest sugarcane within 114 days following a post-over-the-top treatment (114-day PHI).
- **DO NOT** harvest sugarcane with 100 days following a post-directed application (100-day PHI).

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage and disposal.
Pesticide Storage: Keep container tightly closed when not in use. Keep away from heat and flame. Do not store near seed, fertilizers, or foodstuffs. Can be stored at temperatures as low as minus 20°F. Keep away from heat and flame.
Pesticide Disposal: Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Open dumping is prohibited.
Container Handling ≤ 5 Gallons: Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into formulation equipment. Fill the container 1/4 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 formulation equipment 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, if allowed by state and local authorities, by burning. If burned, stay out of smoke.
Container Handling ≥ 5 Gallons: Refillable container. Refill this container with pesticide only. Do not use 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 mixt tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture

and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions for 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. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of this product, which are beyond the control of ROTAM AGROCHEMICAL CO. LTD., or Seller. The Buyer and User shall assume all such risks, and Buyer and User agree to hold ROTAM AGROCHEMICAL CO. LTD. and Seller harmless for any claims relating to such factors.

To the extent consistent with applicable law, ROTAM AGROCHEMICAL CO. LTD. 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 the product contrary to proper instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or ROTAM AGROCHEMICAL CO. LTD., and Buyer and User assume the risk of any such use. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, ROTAM AGROCHEMICAL CO. LTD. MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR NEITHER A PARTICULAR PURPOSE NOR ANY OTHER EXPENSES OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

To the extent consistent with applicable law, ROTAM AGROCHEMICAL CO. LTD. or Seller shall not 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 ROTAM AGROCHEMICAL CO. LTD. 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 ROTAM AGROCHEMICAL CO. LTD. OR SELLER, THE REPLACEMENT OF THE PRODUCT.

ROTAM AGROCHEMICAL CO. LTD. and Seller offer this product, and Buyer and User accept it, subject to the foregoing conditions of sales and limitations of warranty and of liability, which may not be modified except by written agreement signed by a duly authorized representative of ROTAM AGROCHEMICAL CO. LTD.

MESOTRIONE	GROUP	27	HERBICIDE

[Sub-Label B – Pages 49-56]

Rotam Mesotrione 480 SC

ABN: Rotam Mesotrione 480 SC Turf

Provides selective and residual control of weeds in Ornamental Turfgrasses

Active Ingredient:	**By Weight**
Mesotrione: 2-[4-(methylsulfonyl)-2-nitrobenzoyl]-1,3-cyclohexanedione	40.0%
Other Ingredients:	60.0%
TOTAL:	**100.0%**

Contains 4 lbs. active ingredient mesotrione per gallon.

KEEP OUT OF REACH OF CHILDREN

CAUTION

FIRST AID	
IF SWALLOWED	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
IF ON SKIN OR CLOTHING	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
IF INHALED	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
IF IN EYES	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
HOT LINE NUMBER 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**.	

EPA Reg. No.: 83100-41
EPA Est. No.:

Net Contents:

Manufactured By [For]:
Rotam Agrochemical Co. Ltd.
26/F, E-TRADE PLAZA
24 LEE CHEUNG STREET
CHAI WAN, HONG KONG

[Table of Contents to be added before the Precautionary Statement]

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION

Harmful if swallowed, or absorbed through skin. 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 Protection Equipment (PPE)

Applicators and Other Handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical-resistant gloves (e.g., barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinyl chloride (PVC), or Viton ≥14 mils)

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.

USER SAFETY RECOMMENDATIONS

Users should:

- Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove and wash contaminated clothing before reuse.
- 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.

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.

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 or 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 such as 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 use or store near heat or open flame.

DIRECTIONS FOR USE

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

DO NOT apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. 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 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, such as plants, soil or water, is:

- coveralls
- shoes plus socks
- chemical-resistant gloves (barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinyl chloride (PVC), or Viton ≥14 mils)

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 for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

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

ROTAM MESOTRIONE 480 SC TURF PRODUCT USE INFORMATION

Make pre- and post-emergence applications to provide selective contact and residual control of turfgrass weeds. If applied pre-emergence, **ROTAM MESOTRIONE 480 SC TURF** is absorbed during weed emergence from the soil. Pre-emergence activity and control will be reduced in dry soil conditions. Activate **ROTAM MESOTRIONE 480 SC TURF** with 0.15 inches of irrigation if rain doesn't fall within 10 days of applying **ROTAM MESOTRIONE 480 SC TURF**. Post-emergent control is obtained through soil absorption and contact with foliage. Growth ceases, weeds whiten from loss of chlorophyll, and die within three weeks. Repeat application of **ROTAM MESOTRIONE 480 SC TURF** after 2-3 weeks to improve post-emergence weed control. Use a non-ionic surfactant with **ROTAM MESOTRIONE 480 SC TURF** when making post-emergence applications.

ROTAM MESOTRIONE 480 SC TURF treatments cause temporary whitening of foliage during treatment. Whitening typically occurs 5-7 days after application and lasts for several weeks. A second application to the same site will cause less whitening of plant tissue.

ROTAM MESOTRIONE 480 SC TURF controls weeds prior to and during seeding of certain turfgrasses during turf renovation (see **New Seedings).** If applying **ROTAM MESOTRIONE 480 SC TURF** pre-emergence application to established turf, tank mix **ROTAM MESOTRIONE 480 SC TURF** with other pre-emergence herbicides including prodiamine for longer residual and broad spectrum control.

Approved Use Sites

ROTAM MESOTRIONE 480 SC TURF is approved for use on 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.

***Not for use in Arizona on grass grown for sod.**

Use Precautions:

Apply **ROTAM MESOTRIONE 480 SC TURF** at reduced rates of 4 fl. oz./A (0.13 lb. a.i./A) or less if tank mixing with atrazine, bentazon, or simazine. Before tank mixing **ROTAM MESOTRIONE 480 SC TURF** with other herbicides, conduct a compatibility, safety, and efficacy test prior to treating larger areas. See tank mix partner labels for directions and precautions. The most restrictive directions of the tank mix partner label 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 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.

To avoid injury to sensitive plants, thoroughly clean application equipment after use.

To avoid injury to sensitive species, keep traffic out of treated areas until sprays have dried; irrigate soil lightly to move **ROTAM MESOTRIONE 480 SC TURF** from turf foliage before resuming normal irrigation.

Use Restrictions:

- Residential Lawns: **DO NOT** make broadcast applications of **ROTAM MESOTRIONE 480 SC TURF** for pre- and post-emergent weed control unless the residential lawn is being reseeded and/or renovated as whitening of some turfgrasses may occur.
- **DO NOT** overspray or allow spray to drift to ornamentals or flower beds and gardens. Roses and daylilies are particularly sensitive to **ROTAM MESOTRIONE 480 SC TURF**.
- **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 oz. **ROTAM MESOTRIONE 480 SC TURF** (or 0.50 lb. mesotrione per acre per year) per acre per year.
- **DO NOT** make more than 4 applications of **ROTAM MESOTRIONE 480 SC TURF** per year when using reduced application rates.
- **RTI:** 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 to avoid turfgrass injury.
- **DO NOT** apply organophosphate or carbamate insecticides within 7 days of applying **ROTAM MESOTRIONE 480 SC TURF**.
- **DO NOT** apply **ROTAM MESOTRIONE 480 SC TURF** through any type of irrigation system.
- **DO NOT** make aerial applications of **ROTAM MESOTRIONE 480 SC TURF**.
- **DO NOT** use clippings treated with **ROTAM MESOTRIONE 480 SC TURF** to mulch trees or vegetable/flower gardens.
- **DO NOT** apply **ROTAM MESOTRIONE 480 SC TURF** product on Bentgrass, *Poa annua*, kikuyugrass, zoysiagrass, seashore paspalum and bermudagrass if plant injury is unacceptable. Maintain a 5-foot buffer between treated areas and bentgrass or *Poa annua* greens.
- **DO NOT** apply **ROTAM MESOTRIONE 480 SC TURF** over the top of exposed roots of trees and ornamentals.
- **DO NOT** apply **ROTAM MESOTRIONE 480 SC TURF** to golf course putting greens; maintain a minimum of a 5-foot buffer between putting greens and treated areas.

Turfgrass Species & Application Rates

Species	Application Rate (Fl. Oz. per Acre)
Kentucky bluegrass (*Poa pertensis)* Centipedegrass (*Eremochloa ophiuroides)* Buffalograss (*Buchloe dactyloides*) Tall fescue (*Festuca arundinacea*)	5-8
Perennial ryegrass* (*Lolium perenne)* Fine fescue* (creeping red, chewings and hard) *Festuca* spp.	5
St. Augustinegrass* (grown for sod) *(Stenotaphrum secundatum*)	4

*See additional rate instructions below.

RESISTANCE MANAGEMENT

Rotam Mesotrione 480 SC contains mesotrione and is classified in the triketone chemical class as a Group 27 herbicide, 4-hydroxyphenyl-pyruvatedioxygenase inhibitor. 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 **Rotam Mesotrione 480 SC** 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 **Rotam Mesotrione 480 SC** 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 such as mechanical cultivation, biological management practices, and crop rotation.
- Fields with difficult to control weeds must 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 must 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 two 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 registrant 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.

APPLICATION INSTRUCTIONS

Pre-Emergence Applications:
Apply 4-8 fl. oz. (0.13-0.25 lb. a.i./A) **ROTAM MESOTRIONE 480 SC TURF** per acre in 30 gallons of water per acre prior to seed germination yet as close to seed germination as possible. Combine **ROTAM MESOTRIONE 480 SC TURF** with another pre-emergence herbicide including prodiamine for extended control of crabgrass and foxtail.

Pre-Emergence Application Precautions:
ROTAM MESOTRIONE 480 SC TURF is more effective on established turf when applied post-emergence unless it is combined with another soil active herbicide.

Pre-Emergence Application Restrictions:
DO NOT exceed 5 fl. oz. (0.16 lb. a.i./A) **ROTAM MESOTRIONE 480 SC TURF** per acre per application to perennial ryegrass, fine fescues, or mixed stands that consist of >50% perennial ryegrass and/or fine fescue.
St. Augustinegrass sod restriction: **DO NOT** exceed 4 fl. oz. (0.13 lb. a.i./A) **ROTAM MESOTRIONE 480 SC TURF** per acre.

Application Instructions to New Seedings/New Lawns
Apply 5-8 fl. oz. (0.16-0.25 lb. a.i./A) **ROTAM MESOTRIONE 480 SC TURF** per acre in 30 gallons of water per acre prior to or after seeding of turfgrass species listed below, except fine fescue. Applying **ROTAM MESOTRIONE 480 SC TURF** to fine fescue can reduce grass density. **ROTAM MESOTRIONE 480 SC TURF** is effective on grass seed blends that contain <20% by weight hard/fine fescue. For optimal control, apply **ROTAM MESOTRIONE 480 SC TURF** at grass seeding or as close to seeding as possible.

New Seedings/New Lawns Restrictions:
DO NOT spray **ROTAM MESOTRIONE 480 SC TURF** on newly germinated turfgrass. Delay application until grass has been mowed 2-4 times and/or 4 weeks post-emergence (whichever is longer).

Post-Emergence Application Instructions:
Apply 4-8 fl. oz. (0.13-0.25 lb. a.i./A) **ROTAM MESOTRIONE 480 SC TURF** per acre in 30 gallons of water per acre with a NIS surfactant. Repeat application 2-3 weeks later for optimal weed control. Apply to young, actively growing weeds.

Post-Emergence Application Precautions:
Moisture stress and application to mature weeds can reduce herbicide efficacy.

Bentgrass (*Agrostis* spp.)/Nimbleweed (*Muhlenbergia schreberi*) Control:
Apply 5 fl. oz. (0.16 lb. a.i./A) **ROTAM MESOTRIONE 480 SC TURF** per acre in 30 gallons of water per acre combined with a NIS surfactant at 2-3 week intervals for a maximum of three applications. For optimal Bentgrass control, apply **ROTAM MESOTRIONE 480 SC TURF** in late summer/early fall just prior to new growth.

St. Augustinegrass (Sod uses only) and Centipedegrass Treatment:
Apply **ROTAM MESOTRIONE 480 SC TURF** to established turf ONLY.

St. Augustinegrass (Sod uses only) and Centipedegrass Restrictions:
DO NOT exceed 4 fl. oz. (0.13 lb. a.i./A) **ROTAM MESOTRIONE 480 SC TURF** if tank mixing with Atrazine or Simazine.
DO NOT exceed 0.5 lb. atrazine or simazine active ingredient. See atrazine/simazine labels for precautions and restrictions.

Dormant Bermudagrass Application Instructions:
Apply 5 fl. oz. per acre (0.17 lb. a.i./A) **ROTAM MESOTRIONE 480 SC TURF** to control winter weeds listed in the **Weeds Controlled** table below. Repeat application 2-3 weeks later. Applying **ROTAM MESOTRIONE 480 SC TURF** to semi-dormant turf will cause bermudagrass whitening.

Spot Applications Instructions:

Spray Mix	Application Rate	Rate of ROTAM MESOTRIONE 480 SC TURF	Rate of NIS adjuvant
2 gallons	1 gallon per 1,000 sq. ft.	1 teaspoon 0.17 oz. 5 mL	3 teaspoons 0.5 oz. 15 mL

Spot Application Restrictions:
DO NOT apply more than 16 oz. **ROTAM MESOTRIONE 480 SC TURF** per acre per year (equivalent to 0.5 lb. mesotrione per acre per year).

WEEDS CONTROLLED WITH PRE-EMERGENCE APPLICATIONS OF ROTAM MESOTRIONE 480 SC TURF

Apply **ROTAM MESOTRIONE 480 SC TURF** with a grass pre-emergence herbicide including prodiamine, except when used to control weeds in new seedings. **ROTAM MESOTRIONE 480 SC TURF** will control the following weeds using pre-emergence application:

WEEDS CONTROLLED – PRE-EMERGENCE APPLICATIONS
Barnyardgrass (*Echinochloa crusgalli)*
Bentgrass (Creeping) (*Agrostis stolonifera)*
Bluegrass (Annual) (*Poa annua)**
Buckhorn Plantain (*Plantago lanceloata*)
Carpetweed (*Mollugo verticillata)*
Chickweed (Common) (*Stellaria media)*
Chickweed (Mouseear) (*Cerastium vulgatum)*
Clover (Large Hop) (*Trifolium aureum)*
Clover (White) (*Trifolium repens)*
Crabgrass (Large) (*Digitaria sanguinalis)*
Crabgrass (Smooth) (*Digitaria ischaemum)*
Crabgrass (Southern) (*Digitaria ciliaris)*
Foxtail (Yellow) (*Setaria glauca)*
Galinsoga (*Galinsoga ciliate)*
Lambsquarters (*Chenopodium album)*
Pigweed (Redroot)(*Amaranthus retroflexus)*
Pigweed (Smooth) (*Amaranthus hybridus)*
Purslane (Common) (*Portulaca oleracea)*
Shepherd's purse (*Capsella bursa-pastoris)*
Smartweed (Pale) (*Polygonum lapathifolium)*
Smartweed (Pennsylvania) (*Polygonum pensylvanicum)*
Speedwell (Persian) (*Veronica persica)*
Speedwell (Purslane) (*Veronica peregrine)*
Wild Carrot (*Daucus carota)*

*Suppression only.

WEEDS CONTROLLED USING POST-EMERGENCE APPLICATION

Make a second application of **ROTAM MESOTRIONE 480 SC TURF** 2-3 weeks after initial treatment. For optimal weed control, add a NIS-type surfactant with **ROTAM MESOTRIONE 480 SC TURF** and apply to young, actively growing weeds. **ROTAM MESOTRIONE 480 SC TURF** controls the following weeds using post-emergence application:

WEEDS CONTROLLED – POST EMERGENCE APPLICATIONS
Barnyardgrass *(Echinochloa crusgalli)*
Bentgrass (Creeping) *(Agrostis stolonifera)*
Buckhorn Plantain *(Plantago lanceloata)*
Carpetweed *(Mollugo verticillata)*
Chickweed (Common) *(Stellaria media)*
Chickweed (Mouseear) *(Cerastium vulgatum)*
Clover (Large Hop) *(Trifolium aureum)*
Clover (White) *(Trifolium repens)*
Crabgrass (Large) *(Digitaria sanguinalis)**
Crabgrass (Smooth) *(Digitaria ischaemum)**
Crabgrass (Southern) *(Digitaria ciliaris)**

Curly dock *(Rumex crispus)*
Dandelion (Catsear) *(Hypochoeris radicata)*
Dandelion (Common) *(Taraxacum officinale)*
Florida Betony *(Stachys floridana)*
Florida Pusley *(Richardia scabra)*
Foxtail (Yellow) *(Setaria glauca)*
Galinsoga *(Galinsoga ciliate)*
Goosegrass *(Eleusine indica)**
Ground Ivy *(Glechoma hederacea)*
Heal-All *(Prunella vulgaris)*
Henbit *(Lamium amplexicaule)*
Lambsquarters (Common) *(Chenopodium album)*
Lawn Burweed *(Soliva sessilis)*
Lovegrass (Tufted) *(Eragrostis pectinacea)*
Marestail *(Conyza Canadensis)*
Nimbleweed *(Muhlenbergia schreberi)*
Nutsedge (Yellow) *(Cyperus esculentus)*
Oxalis *(Oxalis stricta)*
Pigweed (Redroot) *(Amaranthus retroflexus)*
Pigweed (Smooth) *(Amaranthus hybridus)*
Purslane (Common) *(Portulaca oleracea)*
Shepherd's purse *(Capsella bursa-pastoris)*
Smartweed (Pale) *(Polygonum lapathifolium)*
Smartweed (Pennsylvania) *(Polygonum pensylvanicum)*
Sowthistle *(Sonchus oleraceus)*
Swinecress *(Coronopus didymus)*
Thistle (Canada) *(Cirsium arvense)*
Verbena *(Verbena hastate)*
Wild Carrot *(Daucus carota)*
Wild Violet *(Viola pratincola)*
Windmillgrass *(Chloris verticillata)*

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

STORAGE AND DISPOSAL

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

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

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

Container Handling ≤ 5 Gallons: Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into formulation equipment. Fill the container 1/4 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 formulation equipment 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, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Container Handling ≥ 5 Gallons: Refillable container. Refill this container with pesticide only. Do not use 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 mixt tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions for 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. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of this product, which are beyond the control of ROTAM AGROCHEMICAL CO. LTD., or Seller. The Buyer and User shall assume all such risks, and Buyer and User agree to hold ROTAM AGROCHEMICAL CO. LTD. and Seller harmless for any claims relating to such factors.

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