



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

August 1, 2022

Mary Beth Endres
Regulatory Manager
Liberty Crop Protection LLC
1880 Fall River Drive, Suite 100
Loveland, CO 80538

Subject: Notification per PRN 98-10 – Correct Typographical Error
Product Name: Liberty Mesotrione 4SC
EPA Registration Number: 89168-54
Application Date: November 01, 2021
Decision Number: 580401

Dear Ms. Endres,

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 for the above referenced product. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10.

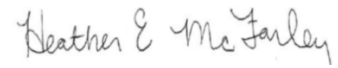
The label submitted with the application has been stamped “Notification” and will be placed in our records.

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.

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If you have any questions, you may contact please contact Ernest Kraka at (202)-566-2811 or by email at kraka.ernest@epa.gov.

Sincerely,

A handwritten signature in cursive script that reads "Heather E. McFarley".

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

Liberty Mesotrione 4SC

HERBICIDE

CONTROLS ANNUAL BROADLEAF WEEDS IN CORN (FIELD, SEED, YELLOW POP, SWEET), CRANBERRY, SORGHUM (GRAIN AND SWEET), SOYBEANS, SUGARCANE AND OTHER LISTED CROPS

ACTIVE INGREDIENT:	% BY WT.
Mesotrione:	40.0%
OTHER INGREDIENTS:	<u>60.0%</u>
TOTAL:	100.0%

Contains 4 pounds Mesotrione per gallon.

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

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

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300.

**[SEE INSIDE BOOKLET FOR ADDITIONAL PRECAUTIONARY STATEMENTS.]
[See inside booklet for additional Precautionary Statements and Directions for Use.]**

NOTIFICATION

89168-54

The applicant has certified that no changes, other than those reported to the Agency have been made to the labeling. The Agency acknowledges this notification by letter dated:

08/01/2022

EPA Reg. No.: 89168-54

EPA Est. No.: _____

Net Contents: _____ Gal (_____ L)

Manufactured By [For]:
Liberty Crop Protection, LLC
1880 Fall River Drive, Suite 100
Loveland, CO 80538

110121

[Inside label booklet]

FIRST AID	
IF IN EYES	<ul style="list-style-type: none">) Hold eye open and rinse slowly and gently with water for 15-20 minutes.) Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.) Call a poison control center or doctor for treatment advice.
IF ON SKIN	<ul style="list-style-type: none">) Take off contaminated clothing.) Rinse skin immediately with plenty of water for 15-20 minutes.) Call a poison control center or doctor for treatment advice.
IF INHALED	<ul style="list-style-type: none">) Move person to fresh air.) If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.) Call a poison control center or doctor for further treatment advice.
IF SWALLOWED	<ul style="list-style-type: none">) Call a poison control center or doctor immediately for treatment advice.) Have person sip a glass of water if able to swallow.) Do not induce vomiting unless told to do so by the poison control center or doctor.) Do not give anything by mouth to an unconscious person.
HOTLINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For emergency information concerning this product, call the National Pesticides Information Center (NPIC) at 1-800-858-7378 or your poison control center at 1-800-222-1222 . For Chemical Spill, Leak, Fire or Exposure, call CHEMTREC 800-424-9300 .	

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION**

Harmful if absorbed through skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact with skin, eyes, or clothing.

PERSONAL PROTECTION EQUIPMENT (PPE)

Applicators and Other Handlers much wear:

-) Long-sleeved shirt and long pants
-) Shoes plus socks
-) Chemical Resistant gloves

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS
Users should: <ul style="list-style-type: none">) 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 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 including ponds, streams, and springs will reduce the potential for contamination of water from runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. Sound erosion control practices will reduce this product's contribution to surface water contamination.

PHYSICAL AND CHEMICAL HAZARDS

Do not 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, including plants, soil or water, is:

-) coveralls
-) shoes plus socks
-) chemical resistant gloves

NON-AGRICULTURE USE REQUIREMENTS

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

Do not enter treated areas until sprays have dried.

PRODUCT INFORMATION

This product is a systemic pre-emergence and post-emergence herbicide for selective contact and residual control of broadleaf weeds in labeled crops. If used pre-emergence, weeds take up the product through the soil during emergence. Dry weather conditions can reduce pre-emergent effectiveness this product. If at least 1/4-inch of rainfall does not occur within 7 to 10 days of application, rotary hoeing is advised to activate the product. If used post-emergence, vulnerable 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. This product is absorbed by soil and/or through foliage of emerged weeds.

This product will not control most species of grass weeds. This product can be tank-mixed with other herbicides registered to control grass weeds (see tank-mix information in this label for additional

information). This product 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

For resistance management, this product is a Group 27 herbicide. Any weed population may contain plants naturally resistant to this product and other Group 27 herbicides. The resistant individual may dominate the weed population if these herbicides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

Weed Management

To delay herbicide resistance, take one or more of the following steps:

-) Rotate the use of this product or other Group 27 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds in the field.
-) Use tank mixtures with herbicides from a different group if such use is permitted; where information on resistance in target weed species is available, use the less resistance-prone partner at a rate that will control the target weed(s) equally as well as the more resistance-prone partner. Consult your local extension service or certified crop advisor if you are unsure as to which active ingredient is currently less prone to resistance.
-) Adopt an integrated weed-management program for herbicide use that includes scouting and uses historical information related to herbicide use and crop rotation, and that considers tillage (or other mechanical control methods), cultural (e.g., higher crop seeding rates; precision fertilizer application method and timing to favor the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.
-) Scout before and after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method including hoeing or tillage. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields, and planting clean seed.
-) If a weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.
-) Contact your local extension specialist or certified crop advisors for additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.
-) For further information or to report suspected resistance, contact LIBERTY CROP PROTECTION, LLC at [855-466-8428 or 844-425-8488 or other appropriate telephone number].

Management of Resistant Biotypes

Since the occurrence of resistant weeds cannot be determined until after product use and scientific confirmation, to the extent consistent with applicable law, manufacturer is not responsible for any losses that may result from the failure of this product to control resistant weed biotypes.

The following good agronomic practices are recommended to reduce the spread of resistant biotypes:

- If a naturally occurring resistant biotype is present in your application site, this product should be tank-mixed or applied sequentially with an appropriately labeled herbicide with a different mode of action to achieve control.
- Cultural and mechanical control practices (e.g. crop rotation or tillage) may also be used as appropriate.
- Scout treated application site after herbicide applications and control escaping weeds including resistant biotypes before they set seed.
- Thoroughly clean equipment before leaving fields known to contain resistant biotypes.
- Contact your local sales representative, crop advisor, or extension agent to find out if suspected resistant weeds to these Mode of Actions have been found in your region. Do not assume that each listed weed is being controlled by multiple mechanisms of action. Co-formulated active ingredients are

intended to broaden the spectrum of weeds that are controlled. Some weeds may be controlled by only one of the active ingredients in this product.

Integrated Pest (Weed) Management

This product may be integrated into an overall weed 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) should be followed wherever possible. Consult local agricultural and weed authorities for additional IPM strategies established for your area.

USE PRECAUTIONS

-) Severe corn injury can result from post-emergent application of this product to corn treated with chlorpyrifos or terbufos.
-) Severe corn injury and/or yield loss can occur if foliar post-emergent applications of this product are made to corn in a tank mix with any organophosphate 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 this product 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 this product is made following label directions when weeds are actively growing.
-) This product may be applied with pyrethroid type insecticides (e.g., Lambda cyhalothrin).
-) When applied post-emergence in a tank mix with emulsifiable concentrate grass herbicides crop injury can occur.

USE RESTRICTIONS

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

MANDATORY SPRAY DRIFT

Aerial Applications

-) Do not release spray at a height greater than 10 feet above the vegetative canopy, unless a greater application height is necessary for pilot safety.
-) For all applications, applicators are required to use a coarse to ultra coarse spray droplet size (ASABE S572.1).
-) The boom length must not exceed 65% of the wingspan for airplanes or 75% of the rotor blade diameter for helicopters.
-) Applicators must use 1/2 swath displacement upwind at the downwind edge of the field.
-) Nozzles must be oriented so the spray is directed toward the back of the aircraft.
-) Do not apply when wind speeds exceed 10 miles per hour at the application site.
-) Do not apply during temperature inversions.

Ground Applications

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

) Do not apply during temperature inversions.

SPRAY DRIFT ADVISORIES

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

IMPORTANCE OF DROPLET SIZE

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

Controlling Droplet Size - Ground Boom

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

Controlling Droplet Size - Aircraft

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

BOOM HEIGHT - Ground Boom

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

RELEASE HEIGHT - Aircraft

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

SHIELDED SPRAYERS

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

TEMPERATURE AND HUMIDITY

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

TEMPERATURE INVERSIONS

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

WIND

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

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

Aerial Application Instructions for Corn and Sugarcane

Aerial application of Liberty Mesotrione 4SC is permitted only on corn and sugarcane. Make aerial applications in a minimum of 2 gallons water per acre.

Corn: Liberty Mesotrione 4SC 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.

Sugarcane: Liberty Mesotrione 4SC is approved for aerial application for pre-emergence and post-emergence control in sugarcane in the states of: Florida, Louisiana, and Texas.

PRE-EMERGENCE GROUND APPLICATION INSTRUCTIONS

Apply **Liberty Mesotrione 4SC** pre-emergence with a carrier volume of 10 to 60 gallons per acre.

Space spray nozzles of the same size and type uniformly to provide accurate and uniform coverage. Apply in a spray volume of 10 to 60 gallons per acre with water or liquid fertilizer (excluding suspension fertilizer) as the carrier. Use a pump that will maintain pump pressure of 35 to 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, re-suspend 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 to 30 gallons per acre with water as the carrier. Use a pump that will maintain pump pressure of 35 to 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 gallons.

Apply with flat fan nozzles of 80 degrees or 100 degrees for optimum post-emergent coverage.

Angle nozzles forward 45° 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, re-suspend the spray solution by running on full agitation prior to spraying.

Restrictions

) **DO NOT** use flood jet nozzles or controlled droplet application equipment for post-emergence applications.

USE DIRECTIONS WITH SPRAY ADDITIVES

Post-Emergence Adjuvants

The following directions are mainly for use in corn. For other crops refer to the specific crop use directions.

Adjuvant Use in Post-Emergence applications to Field and Seed Corn

After corn has emerged, add 1.0 gallon per 100 gallons of water (1.0% v/v) Crop Oil Concentrate (COC) to the spray solution. 1 quart per 100 gallons of water (0.25% v/v) of a non-ionic surfactant (NIS) or Crop Oil Replacement product can be used, but better weed control is achieved with the use of a COC compared to NIS.

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 pounds per 100 gallons of ammonium sulfate (AMS), except if precluded elsewhere on this label

Restrictions

-) **DO NOT** use methylated seed oil (MSO) or MSO adjuvant blends for post-emergence applications of this product or severe crop injury can occur.
-) **DO NOT** use MSO adjuvants unless it is specifically permitted in the **Tank Mixtures for Corn** section of this label, or if permitted by a state-specific supplemental label.

Adjuvant Use Post-Emergence to Sweet and Yellow Corn

Use a 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.

Restriction

-) **DO NOT** use UAN or AMS on sweet and yellow corn as severe crop injury can occur.

Pre-Emergence Adjuvant Use

Any adjuvant approved for use on agriculture is permitted when making **Liberty Mesotrione 4SC** 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 **Liberty Mesotrione 4SC** is being tank-mixed with another registered herbicide, refer to the tank mix partner label for adjuvant precautions and restrictions.

SPRAY EQUIPMENT CLEANING

It is important to 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 gallon of household ammonia per 25 gallons 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 to 3 in an appropriate manner.
6. Repeat steps 2 to 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.

Always refer to labels of other pesticide products for mixing directions and precautions which may differ from those outlined here. Use in accordance with the most restrictive label limitations and precautions. If compatibility of the tank-mix combination is not known, test the compatibility of any tank-mix combination on a small scale including a jar test before actual tank-mixing.

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 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 **Liberty Mesotrione 4SC**. 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.
2. Use liquid fertilizer (excluding 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 **Liberty Mesotrione 4SC** slowly and agitate until completely dissolved. Wait at least 1 minute after the last of the **Liberty Mesotrione 4SC** 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.

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** use screens finer than 50-mesh.

LIBERTY MESOTRIONE 4SC WEED CONTROL TABLES

Liberty Mesotrione 4SC applied as directed in this label will control or partially control the weeds listed in Tables 1 and 2.

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

For best post-emergence results, apply **Liberty Mesotrione 4SC** to actively growing weeds.

Dry weather following pre-emergence applications may reduce efficacy of residual weed control. If irrigation is available, apply 1/2 to 1-inch water after pre-emergence application. If irrigation is not available, make a uniform shallow cultivation as soon as weeds emerge.

Liberty Mesotrione 4SC 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 this label for specific use directions and application rates.

Table 1. Weeds Controlled with Post-Emergence Applications of Liberty Mesotrione 4SC

Common Name	Scientific Name	Liberty Mesotrione 4SC 3 Fluid Ounces per Acre (0.094 lb ai) Applied Alone	Liberty Mesotrione 4SC ¹ 2.5 to 3.0 Fluid Ounces per Acre (0.078 to 0.094 lb ai) + Atrazine
		Apply to Weeds <5" Tall ²	
Amaranth, palmer	<i>Amaranthus palmeri</i>	PC ⁺	C ⁺
Amaranth, powell	<i>Amaranthus powellii</i>	C	C
Amaranth, spiny	<i>Amaranthus spinosus</i>	C	C
Atriplex	<i>Chenopodium orach</i>	C	C
Broadleaf signalgrass	<i>Urochloa platyphylla</i>	C ⁺	C ⁺
Buckwheat, wild	<i>Polygonum convolvulus</i>	PC	PC
Buffalobur	<i>Solanum rostratum</i>	C	C
Burcucumber	<i>Sicyos angulatus</i>	PC	C ⁺

Common Name	Scientific Name	Liberty Mesotrione 4SC 3 Fluid Ounces per Acre (0.094 lb ai) Applied Alone	Liberty Mesotrione 4SC ¹ 2.5 to 3.0 Fluid Ounces per Acre (0.078 to 0.094 lb ai) + Atrazine
		Apply to Weeds <5" Tall ²	
Carpetweed	<i>Mollugo verticillata</i>	C	C
Carrot, wild	<i>Daucus carota</i>	PC	C
Chickweed, common	<i>Stellaria media</i>	C	C
Cocklebur, common	<i>Xanthum strumarium</i>	C	C
Crabgrass, large	<i>Digitaria sanguinalis</i>	C ⁺	C ⁺
Dandelion	<i>Taraxacum officinale</i>	NC	PC
Dock, curly	<i>Rumex crispus</i>	PC	PC
Galinsoga	<i>Galinsoga parviflora</i>	C	C
Hemp	<i>Cannabis sativa</i>	C	C
Horsenettle	<i>Solanum carolinense</i>	PC	C
Jimsonweed	<i>Datura stramonium</i>	C	C
Horseweed (marestail)	<i>Conyza canadensis</i>	PC	C
Knotweed, prostrate	<i>Polygonum aviculare</i>	PC	PC
Kochia	<i>Kochia scoparia</i>	PC ⁺	C ⁺
Lambsquarters, common	<i>Chenopodium album</i>	C	C
Mallow, Venice	<i>Hibiscus trionum</i>	NC	C
Morningglory, entireleaf	<i>Ipomoea hederacea</i>	PC	C
Morningglory, ivyleaf	<i>Ipomoea hederacea</i>	PC	C
Morningglory, pitted	<i>Ipomoea lacunosa</i>	PC	C
Mustard, wild	<i>Brassica kaber</i>	C	C
Nightshade, black	<i>Solanum nigrum</i>	C	C
Nightshade, Eastern black	<i>Solanum ptychanthum</i>	C	C
Nightshade, hairy	<i>Solanum sarrachoides</i>	C	C
Nutsedge, yellow	<i>Cyperus esculentus</i>	PC	PC
Pigweed, redroot	<i>Amaranthus retroflexus</i>	C	C
Pigweed, smooth	<i>Amaranthus hybridus</i>	C	C
Pigweed, tumble	<i>Amaranthus albus</i>	C	C
Pokeweed, common	<i>Phytolacca americana</i>	PC	PC
Potatoes, volunteer	<i>Solanum spp.</i>	C	C
Pusley, Florida	<i>Richardia scabra</i>	C ⁺	C ⁺
Ragweed, common	<i>Ambrosia artemisiifolia</i>	PC	C
Ragweed, giant	<i>Ambrosia trifida</i>	C ⁺	C
Sesbania, hemp	<i>Sesbania exaltata</i>	C	C
Sida, prickly (teaweed)	<i>Sida spinosa</i>	NC	C ⁺
Smartweed, ladysthumb	<i>Polygonum persicaria</i>	C ⁺	C
Smartweed, pale	<i>Polygonum lapathifolium</i>	C ⁺	C
Smartweed, Pennsylvania	<i>Polygonum pennsylvanicum</i>	C ⁺	C
Sunflower, common	<i>Helianthus annuus</i>	C	C
Thistle, Canada	<i>Cirsium arvense</i>	NC	PC
Velvetleaf	<i>Abutilon theophrasti</i>	C	C

Common Name	Scientific Name	Liberty Mesotrione 4SC 3 Fluid Ounces per Acre (0.094 lb ai) Applied Alone	Liberty Mesotrione 4SC ¹ 2.5 to 3.0 Fluid Ounces per Acre (0.078 to 0.094 lb ai) + Atrazine
		Apply to Weeds <5" Tall ²	
Waterhemp, common	<i>Amaranthus rudis</i>	C ⁺	C
Waterhemp, tall	<i>Amaranthus tuberculatus</i>	C ⁺	C

¹ Tank mixture of this product with atrazine is approved only for use on corn and sugarcane.
² 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 inches tall.
*Apply before weeds exceed 3 inches tall.
C = Control NC = Not Controlled PC = Partial Control

Table 2. Weeds Controlled with Pre-Emergence Applications of Liberty Mesotrione 4SC

Common Name	Scientific Name	Liberty Mesotrione 4SC Applied Alone	Liberty Mesotrione 4SC + Atrazine ¹
Amaranth, palmer	<i>Amaranthus palmeri</i>	C	C
Amaranth, powell	<i>Amaranthus powellii</i>	C	C
Amaranth, spiny	<i>Amaranthus spinosus</i>	C	C
Broadleaf signalgrass	<i>Urochloa platyphylla</i>	PC	PC
Buffalobur	<i>Solanum rostratum</i>	C	C
Carpetweed	<i>Mollugo verticillata</i>	C	C
Chickweed, common	<i>Stellaria media</i>	C	C
Cocklebur, common	<i>Xanthum strumarium</i>	PC	C
Crabgrass, large	<i>Digitaria sanguinalis</i>	PC	PC
Galinsoga	<i>Galinsoga parviflora</i>	C	C
Jimsonweed	<i>Datura stramonium</i>	C	C
Kochia	<i>Kochia scoparia</i>	PC	C
Lambsquarters, common	<i>Chenopodium album</i>	C	C
Morningglory, entireleaf	<i>Ipomoea hederacea</i>	PC	C
Morningglory, ivyleaf	<i>Ipomoea hederacea</i>	PC	C
Morningglory, pitted	<i>Ipomoea lacunosa</i>	PC	C
Nightshade, Eastern black	<i>Solanum ptychanthum</i>	C	C
Nightshade, hairy	<i>Solanum sarrachoides</i>	C	C
Pigweed, redroot	<i>Amaranthus retroflexus</i>	C	C
Pigweed, smooth	<i>Amaranthus hybridus</i>	C	C
Pigweed, tumble	<i>Amaranthus albus</i>	C	C
Ragweed, common	<i>Ambrosia artemisiifolia</i>	C	C
Ragweed, giant	<i>Ambrosia trifida</i>	PC	C
Smartweed, ladythumb	<i>Polygonum persicaria</i>	C	C
Smartweed, pale	<i>Polygonum lapathifolium</i>	C	C
Smartweed, Pennsylvania	<i>Polygonum pennsylvanicum</i>	C	C
Sunflower, common	<i>Helianthus annuus</i>	PC	C
Velvetleaf	<i>Abutilon theophrasti</i>	C	C

Common Name	Scientific Name	Liberty Mesotrione 4SC Applied Alone	Liberty Mesotrione 4SC + Atrazine ¹
Waterhemp, common	<i>Amaranthus rudis</i>	C	C
Waterhemp, tall	<i>Amaranthus tuberculatus</i>	C	C
¹ Tank mixture of this product with atrazine is approved only for use on corn, grain sorghum and sugarcane. Refer to the crop sections on this label for specific use directions. C = Control PC = Partial Control			

ROTATIONAL CROP INTERVALS

If **Liberty Mesotrione 4SC** is applied alone follow the crop rotation intervals listed below in Table 3. If this product is tank-mixed with other products, then follow the most restrictive product's crop rotation interval.

Table 3. Time Interval between Liberty Mesotrione 4SC Application and Replanting/Planting of Rotational Crop

Replant/Rotational Interval	Crop
Anytime	Asparagus, Corn (all types), Cranberry, Flax, Kentucky bluegrass grown 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 ^{1,2} , Potato, Rice, Snap Beans ^{1,2} Soybeans, Sunflowers, Tobacco
18 Months	Cucurbits, Dry beans, Red Clover, Sugar Beets, all other crops not listed
¹ 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 application of this product. <ul style="list-style-type: none">) A minimum of 20 inches of rainfall plus irrigation has occurred between application and planting of the rotational crop.) Soil pH is greater than 6.0.) 3.0 fluid ounces (0.094 lb ai) per acre or less of this product has been applied no later than June 30th the year preceding rotational crop planting.) No other HPPD herbicides (e.g., isoxaflutole, mesotrione, tembotrione or topramezone) were applied the year prior to planting peas and snap beans. ² DO NOT plant peas or snap beans on sand, sandy loam or loamy sand soils in Minnesota or Wisconsin.	

Rotational Crop Restriction:

-) **DO NOT** plant peas or snap beans on sand, sandy loam, or loamy sand soils in Minnesota or Wisconsin.

CROP USE DIRECTIONS

ASPARAGUS

Liberty Mesotrione 4SC can be applied broadcast or banded at a rate of 3.0 to 7.7 fluid ounces (0.094 to 0.24 lb ai) per acre to Asparagus as a Spring application prior to spear emergence, as a post-harvest application (after final harvest) or both.

Use the 3.0 fluid ounces (0.094 lb ai) per acre rate for post-emergence control or partial control of the emerged weeds listed in Table 1. Use the 6.0 to 7.7 fluid ounces (0.19 to 0.24 lb ai) per acre rate for pre-emergence control or partial control of the weeds listed in Table 2. For banded applications, the application must be made to account for band width, i.e., to deliver 3.0 to 7.7 fluid ounces (0.094 to 0.24 lb ai) per treated acre. For best pre-emergence weed control with Spring applications, **Liberty Mesotrione 4SC** must be applied after fern mowing, disking or other tillage operation but prior to Asparagus spear emergence.

When making post-harvest applications, the rate applied pre-emergence in the Spring must be taken into account so as not to exceed the 7.7 fluid ounces (0.24 lb ai) per acre per year rate limit. Post-harvest applications must be made in a way that minimizes contact with any standing Asparagus spears or ferns

and maximizes contact with the weeds and/or soil, e.g., by using a directed or semi-directed type application or crop injury may occur. 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 **Liberty Mesotrione 4SC**, 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 Urea Ammonium Nitrate (UAN) (e.g., 28-0-0) at the rate of 2.5% v/v or Ammonium Sulfate (AMS) at the rate of 8.5 pounds per 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 fluid ounces (0.24 lb ai) per acre per application.
-) **DO NOT** apply more than 7.7 fluid ounces (0.24 lb ai) per acre per year.
-) **DO NOT** make more than 2 applications of this product per year.
-) Minimum retreatment interval is 14 days.

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

Liberty Mesotrione 4SC can be applied to bluegrass, ryegrass (annual and perennial) or tall fescue which is grown for seed. This product can be applied as a pre-emergence application to bare soil (new seeding) or as a post-emergence application to an emerged grass crop.

For a list of weeds controlled or partially controlled by pre-emergence or post-emergence applications of **Liberty Mesotrione 4SC**, see Tables 1 and 2. In addition to the weeds listed in Tables 1 and 2, this product applied pre-emergence or post-emergence will control Mannagrass (*Glyceria* spp.) up to 3 tillers.

In Idaho, Oregon and Washington, **Liberty Mesotrione 4SC** applied pre-emergence or post-emergence will also control Lesser-seeded bittercress (*Cardamine* spp.), Lowland cudweed (*Gnaphalium* spp.), Shepherd's purse (*Capsella bursa-pastoris*) and Wild radish (*Raphanus* spp.). This product will also suppress Bentgrass (*Agrostis* spp.) seedlings, Toad rush (*Juncus* spp.) and Sharppoint fluevellin (*Kickxia elatine*).

Pre-Emergence Application

Apply **Liberty Mesotrione 4SC** as a broadcast, surface spray at a rate of 6.0 fluid ounces (0.19 lb ai) per acre to a newly seeded crop. Applications of this product must be made prior to crop and weed emergence. As the newly seeded grass crop emerges from the soil, rainfall or irrigation may increase the risk of injury from this product. Grass crop injury symptoms include temporary bleaching of newly emerged leaves or in extreme conditions, stunting.

Post-Emergence Application

Apply **Liberty Mesotrione 4SC** as a broadcast post-emergence spray at a rate of 3.0 to 6.0 fluid ounces (0.094 to 0.19 lb ai) per acre to emerged Bluegrass, Perennial ryegrass or Tall fescue grown for seed. Use the 3.0 fluid ounces (0.094 lb ai) per acre rate for post-emergence control or partial control of the weeds listed in Table 1.

Use the 6.0 fluid ounces (0.19 lb ai) per acre rate for post-emergence weed control plus extended residual weed control of weeds listed in Table 2. The addition of 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 is advised. Post-emergence applications of **Liberty Mesotrione 4SC** may result in temporary bleaching of the grass crop.

In addition to COC or NIS, a spray grade Urea Ammonium Nitrate (UAN) (e.g., 28-0-0) at the rate of 2.5% v/v or Ammonium Sulfate (AMS) at the rate of 8.5 pounds per 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 rates **Liberty Mesotrione 4SC** greater than 3.0 fluid ounces (0.094 lb ai) per acre. If grass crop injury is a concern, **DO NOT** add UAN or AMS to the spray solution.

Tank-mixing other pesticides with this product for post-emergence use may increase the risk of crop injury. Avoid adding pesticides with emulsifiable concentrate (EC) type formulations to this product for applications made post-emergence to the crop.

Restrictions

-) **DO NOT** apply more than 6 fluid ounces (0.019 lb ai) per acre per application.
-) **DO NOT** apply more than 9 fluid ounces (0.28 lb ai) per acre per year.
-) **DO NOT** make more than 2 applications of this product per year.
-) Retreatment interval is 14 days.
-) **Preharvest Interval (PHI): DO NOT** harvest the grass crop for seed or straw within 60 days following the application of this product.
-) **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 this product.
-) Applications of this product to grasses grown for seed species not listed on this label may result in severe injury.

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 Agency's definition of Bush and Caneberries (Crop Subgroups 13-07A and 13-07B) have been tested and shown to have adequate crop safety to **Liberty Mesotrione 4SC**. Those that have been tested and are believed to be reasonably fit are listed below along with use directions for that crop. If this product is used on Bush or Caneberries not listed below, severe crop injury may occur.

High bush blueberry, lingonberry, red currant, black raspberry, red raspberry and blackberry: For a list of weeds controlled see Tables 1 and 2. Apply **Liberty Mesotrione 4SC** as a pre-bloom post-directed spray in these crops. Apply to bush or caneberries at a rate up to 6 fluid ounces (0.19 lb ai) per acre. A split application of 3 fluid ounces (0.094 lb ai) per acre followed by another 3 fluid ounces (0.094 lb ai) per acre may be made used, with a 14-day spray interval. 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.

Low bush blueberries: Apply **Liberty Mesotrione 4SC** only in the non-bearing year. This application may be a broadcast application. Apply at a rate up to 6 fluid ounces (0.19 lb ai). A split application of 3 fluid ounces (0.094 lb ai) per acre followed by 3 fluid ounces (0.094 lb ai) per acre may used, with a 14-day spray interval. The use of a crop oil concentrate (COC) type adjuvant at 1% v/v is advised. Applications of this product during dry weather conditions and/or temperatures above 85° can cause injury to Lowbush blueberries. Applications of this product 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 6 fluid ounces (0.19 lb ai) per acre per application.
-) **DO NOT** apply more than 6 fluid ounces (0.19 lb ai) per acre per year.
-) **DO NOT** make more than 2 applications per year.
-) Minimum retreatment interval is 14 days
-) **DO NOT** apply this product to bush or caneberries after the onset of the bloom stage or illegal residues may occur.

CITRUS FRUIT, POME FRUIT, STONE FRUIT AND TREE NUTS

This may be used for post-emergence and residual control of weeds listed in Tables 1 and 2 in the following crops:

Citrus fruits – Group 10-10: Australian desert lime, Australian finger lime, Australian round lime, Brown River finger lime, Calamondin, Citron, Citrus hybrids, Grapefruit, Japanese summer grapefruit, Kumquat, Lemon, Lime, Mediterranean mandarin, Pummelo, Russell River lime, Satsuma mandarin, Sour orange, Sweet lime, Sweet orange, Tachibana orange, Tahiti lime, Tangelo, Tangerine (Mandarin), Tangor, Trifoliate orange, Uniq fruit, cultivars, varieties and/or hybrids of these.

Pome fruits – Group 11-10: Apple, Azarole, Crabapple, Loquat, Mayhaw, Medlar, Pear, Pear (Asian), Quince, Quince (Chinese, Japanese), tejocote, cultivars, varieties and/or hybrids of these.

Stone fruits – Group 12-12: Apricot, Apricot (Japanese), Capulin, Cherry (Black, Nanking, Sweet, Tart), Chinese jujube, Nectarine, Peach, Plum, Plum (American, Beach, Canada, Cherry, Chickasaw, Damson, Japanese, Klamath, Prune), Plumcot, Sloe, cultivars, varieties and/or hybrids of these.

Tree nuts – Group 14-12: African nut-tree, Almond, Almond (Tropical), 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, Walnut (Black, English), Yellowhorn, cultivars, varieties and/or hybrids of these.

Precautions

-) To avoid crop injury, apply the spray to the grove or orchard floor and to the weeds, avoiding contact with crop foliage, stems or fruit. Contact of this product 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 this product and carrier per acre in proportion to the area actually sprayed. (See **"Banded Applications"** section.)

Restrictions

-) This product can only be applied in Pome fruits, Stone fruits and Nut trees that have been established for a minimum of 12 months. This product can be applied in Citrus trees or plantings that are less than 12 months old and are exhibiting normal growth and vigor.
-) **DO NOT** apply in orchards that are stressed due to poor weather or other abiotic factors.
-) **DO NOT** exceed 6 fluid ounces (0.19 lb ai) per acre for the first application.
-) **DO NOT** exceed a total of 12 fluid ounces (0.38 lb ai) per acre per year or in a 12-month period.
-) **DO NOT** exceed 3 applications per year or in a 12-month period when using reduced application rates.
-) Allow at least 5 months between applications of this product at 6 fluid ounces (0.19 lb ai) per acre and at least 6 weeks between applications of 6 fluid ounces (0.19 lb ai) per acre and subsequent applications of 3 fluid ounces (0.094 lb ai) per acre. (Applications must follow one of the four programs listed in Table 4 below.)
-) **DO NOT** apply when nuts or fruits are on the ground at harvest.
-) **Preharvest Interval (PHI):**
 -) **DO NOT** harvest Pome fruits, Stone fruits or Tree nuts within 30 days after application.
 -) **DO NOT** harvest Citrus fruits within 1 day after application.
-) **DO NOT** use on soils with greater than 20% gravel.
-) **DO NOT** apply this product through any type of irrigation system.
-) **DO NOT** apply this product by air.

Spray Additives

For application to emerged weeds, the use of Crop Oil Concentrate (COC) type adjuvant at 1% v/v or Nonionic Surfactant (NIS) at 0.25% v/v is advised. Addition of Ammonium Sulfate (AMS) or other nitrogen-based adjuvants will increase efficacy when used in combination with COC or NIS. For more information, see **"Spray Additives"** section of this label.

Banded Applications

When applying a row or banded treatment of this product, 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

This product may be tank mixed and applied in combination with herbicides registered for the same use and timing in order to expand the post-emergence 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.

If compatibility of the tank-mix combination is not known, test the compatibility of any tank-mix combination on a small scale including a jar test before actual tank-mixing.

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 (Tables 1 and 2)

Liberty Mesotrione 4SC provides both post-emergence and pre-emergence control of susceptible weeds. Best control is obtained if post-emergence applications are made before weeds reach 5 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

Apply 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. Apply the first application of **Liberty Mesotrione 4SC** in late Fall/early Winter or Spring and subsequent applications utilizing one of the programs noted in Table 4. Apply this product in a spray volume of 10 to 40 gallons per acre.

Table 4. Application Programs for Liberty Mesotrione 4SC, Rates and Intervals

Program	Application Rate Fluid Ounces (lb ai) per Acre			Application Interval (Weeks)
	1 st Application	2 nd Application	3 rd Application	
1	6.0 (0.19)	6.0 (0.19)	--	20
2	6.0 (0.19)	3.0 (0.094)	--	6
3	6.0 (0.19)	3.0 (0.094)	3.0 (0.094)	6
4	3.0 (0.094)	3.0 (0.094)	3.0 (0.094)	6

For optimum post-emergence weed control, apply **Liberty Mesotrione 4SC** to actively growing weeds in tank-mixture with burndown herbicides before weeds exceed 5 inches in height.

For effective residual weed control, **Liberty Mesotrione 4SC** must be moved into the weed seed germination zone. For preemergence weed control, apply this product before rainfall or irrigation. For optimum residual control, this product can be tank-mixed with herbicides registered for the same use and timing.

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

CORN

Apply **Liberty Mesotrione 4SC** by ground for pre-emergence or post-emergence weed control in field corn, seed corn, yellow popcorn, and sweet corn. Apply **Liberty Mesotrione 4SC** to corn up to 30 inches 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 Liberty Mesotrione 4SC 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 **Liberty Mesotrione 4SC** in yellow popcorn or sweet corn (see the **Spray Additives** section of this label). **DO NOT** apply **Liberty Mesotrione 4SC** to white popcorn or ornamental (Indian) corn.

Post-emergence application of **Liberty Mesotrione 4SC** 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 specifications before making a post-emergence application of **Liberty Mesotrione 4SC** to yellow popcorn or sweet corn. **DO NOT** include nitrogen based adjuvants (UAN or AMS) when making post-emergence applications of **Liberty Mesotrione 4SC** to yellow popcorn or sweet corn.

Temporary transient bleaching may occur in field corn treated with **Liberty Mesotrione 4SC** 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** exceed 3.0 fluid ounces (0.094 lb ai) per acre in a single post-emergence application.
-) **DO NOT** exceed 7.7 fluid ounces (0.24 lb ai) per acre in a single pre-emergence application.
-) **DO NOT** apply more than 7.7 fluid ounces (0.24 lb ai) per acre per year.
-) **DO NOT** make more than 2 applications per year.
-) Minimum retreatment interval is 14 days.
-) **Preharvest Interval (PHI): DO NOT** feed or harvest forage, grain, or stover within 45 days after application.

Liberty Mesotrione 4SC Used Alone – Post-Emergence

Apply 3.0 fluid ounces (0.094 lb ai) per acre 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. **Liberty Mesotrione 4SC** will not control most grass weeds.

Two post-emergence applications of **Liberty Mesotrione 4SC** may be made under the following restrictions:

-) Only one post-emergence application may be made if this product has been applied pre-emergence. **DO NOT** exceed a total of 7.7 fluid ounces (0.24 lb ai) per acre per year.
-) Minimum retreatment interval is 14 days.
-) Applications made at rates lower than 3.0 fluid ounces (0.094 lb ai) per acre post-emergence may not provide adequate weed control and may result in reduced residual control.
-) **DO NOT** exceed a total of 6.0 fluid ounces (0.19 lb ai) per acre for the two post-emergence applications.
-) If a post-emergence application of this product was made to ground that received pre-emergence treatment of another mesotrione-containing herbicide, atrazine must be tank mixed with this product.
-) If mixing this product with atrazine, **DO NOT** apply to corn taller than 12 inches.
-) Treat corn up to 30 inches tall or up to the 8-leaf stage of growth.
-) **Preharvest Interval (PHI): DO NOT** harvest, forage, or stover within 45 days post-application.

Liberty Mesotrione 4SC Used Alone – Pre-Emergence

Apply 6.0 to 7.7 fluid ounces (0.19 to 0.2 lb ai) per acre by ground sprayer in 10 to 30 gallons 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. **Liberty Mesotrione 4SC** 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.

Liberty Mesotrione 4SC Tank Mixtures for Corn

Apply **Liberty Mesotrione 4SC** 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. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank-mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank-mixture.

Burndown Tank Mixtures in Corn

Apply **Liberty Mesotrione 4SC** in tank mixture with other registered herbicides for burndown and residual weed control. 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.

Apply 3.0 fluid ounces (0.094 lb ai) per acre of **Liberty Mesotrione 4SC** with Paraquat, Glyphosate, Dicamba and 2,4-D Ester for improved broadleaf weed control with limited residual control before planting corn and before corn emergence. For better residual control, apply 6.0 to 7.7 fluid ounces (0.19 to 0.24 lb ai) per acre of **Liberty Mesotrione 4SC** (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 to 7.7 fluid ounces (0.17 to 0.24 lb ai) per acre of **Liberty Mesotrione 4SC** in tank mixture with other registered herbicides for pre-emergence residual weed control. Refer to Table 2 for a list of weeds controlled by **Liberty Mesotrione 4SC** applied pre-emergence. 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.

Post-Emergence Tank Mixtures in Corn

Liberty Mesotrione 4SC may be applied in a tank mix with other herbicides registered for the same use and timing. Unless specified otherwise on this label or in a supplemental label, **DO NOT** apply **Liberty Mesotrione 4SC** at less than 3.0 fluid ounces (0.094 lb ai) per acre. Application of this product at rates less than 3.0 fluid ounces (0.094 lb ai) per acre may result in a loss of residual control.

Always add an appropriate adjuvant to the spray tank (See the **Spray Additives** section of this label). Refer to the 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.

CRANBERRY

Apply **Liberty Mesotrione 4SC** 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 fluid ounces (0.25 lb ai) per acre, but **DO NOT** apply more than 16 fluid ounces (0.50 lb ai) per acre in total per year.
-) **DO NOT** make more than 2 applications per year.
-) 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.

Liberty Mesotrione 4SC can be applied through irrigation systems (chemigation) including center pivot or solid set.

Cranberry Restrictions

-) **DO NOT** apply more than 8 fluid ounces (0.25 lb ai) per acre per application.
-) **DO NOT** apply more than 16 fluid ounces (0.50 lb ai) per acre per year.
-) **DO NOT** make more than 2 applications per year.
-) Minimum retreatment interval is 14 days.

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 **Liberty Mesotrione 4SC** 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 to 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 **Liberty Mesotrione 4SC** for the area covered must be injected into the system only during the end of the irrigation set for sufficient time to provide optimal coverage and distribution.

CHEMIGATION USE INSTRUCTIONS – 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 if the need arises.

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.

FLAX

Liberty Mesotrione 4SC may be applied pre-emergence in Flax, i.e., after planting but before crop emergence at a rate of up to 6 fluid ounces (0.19 lb ai) per acre. 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 Urea Ammonium Nitrate (UAN) (e.g., 28-0-0) at the rate of 2.5% (v/v) or Ammonium Sulfate (AMS) at the rate of 8.5 pounds per 100 gallons of spray solution may be added to improve the burndown of existing weeds. Applications of this product to emerged flax can result in severe crop injury.

Restrictions

-) **DO NOT** apply more than 6 fluid ounces (0.19 lb ai) per acre per application.
-) **DO NOT** apply more than 6 fluid ounces (0.19 lb ai) per acre per year.
-) **DO NOT** make more than 1 application per year.

OATS

Liberty Mesotrione 4SC can be applied pre-emergence or post-emergence (but not both) for weed control in oats.

For pre-emergence control or partial control of the weeds listed in Table 2, apply **Liberty Mesotrione 4SC** broadcast at a rate of 6.0 fluid ounces (0.19 lb ai) per acre prior to oat emergence. For best pre-emergence weed control, application of this product must be made prior to weed emergence.

For post-emergence (after oat emergence) control or partial control of the weeds listed in Table 1, apply **Liberty Mesotrione 4SC** at a rate of 3.0 fluid ounces (0.094 lb ai) per acre. For best results, this product must be applied to emerged weeds that are less than 5 inches tall. Post-emergence applications of this product 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 application of **Liberty Mesotrione 4SC**, 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 Urea Ammonium Nitrate (UAN) (e.g., 28-0-0) at the rate of 2.5% v/v or Ammonium Sulfate (AMS) at the rate of 8.5 pound per 100 gallons of spray solution may be added for improved weed control. If emerged weeds are not present at the time of application of this product, 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 this product for post-emergence use may increase the risk of injury. Avoid adding pesticides with emulsifiable concentrate (EC) type formulations to this product for applications made post-emergence to the crop.

Restrictions

-) **DO NOT** apply more than 6 fluid ounces (0.19 lb ai) per acre per application.
-) **DO NOT** apply more than 6 fluid ounces (0.19 lb ai) per acre per year.
-) **DO NOT** apply this product pre-emergence (prior to oat emergence) at more than 6.0 fluid ounces (0.19 lb ai) per acre per year.
-) **DO NOT** apply this product post-emergence at more than 3.0 fluid ounces (0.094 lb ai) per acre per year.
-) **DO NOT** make more than 1 application per year.
-) **DO NOT** graze or feed forage from treated areas within 30 days following an application of this product.
-) **Preharvest Interval (PHI): DO NOT** harvest oats within 50 days following the application of this product.
-) If the oat crop treated with this product is lost or destroyed, oats may be replanted immediately. If this product was applied to the lost oat crop, no additional this product can be applied to the replanted oat crop.

OKRA

Liberty Mesotrione 4SC can be applied as a row-middle or a hooded post-direct treatment (but not both) for weed control in okra.

Pre-emergence Row-Middle Application

Apply **Liberty Mesotrione 4SC** at a rate of 6.0 fluid ounces (0.19 lb ai) per acre 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 inches 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 fluid ounces (0.19 lb ai) per treated acre. **DO NOT** apply this product 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

Apply **Liberty Mesotrione 4SC** at a rate of 3.0 fluid ounces (0.094 lb ai) per acre as a post-emergence directed application using a hooded sprayer for control or partial control of the weeds listed in Table 1. kra must be at least 3 inches tall at the time of this application. 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 this product that contacts the okra foliage or crop injury will occur. For best post-emergence results, this product must be applied to actively growing weeds.

Restrictions

-) **DO NOT** apply more than 6.0 fluid ounces (0.019 lb ai) per acre per application.
-) **DO NOT** apply this product as a row middle application at more than 6.0 fluid ounces (0.19 lb ai) per acre per year.
-) **DO NOT** apply this product as a post-directed application at more than 3.0 fluid ounces (0.094 lb ai) per acre per year.

-] **DO NOT** make more than 1 application per year.
-] **Preharvest Interval (PHI): DO NOT** harvest okra within 28 days following the application of this product.
-] **DO NOT** apply this product as a broadcast pre-emergence or broadcast post-emergence application to okra or severe injury will occur.
-] If the okra crop treated with this product is lost or destroyed, okra can be replanted only in the soil band that was not treated with this product.

PEARL MILLET

Liberty Mesotrione 4SC may be applied pre-emergence in pearl millet, i.e., after planting but before crop emergence at a rate of up to 6 fluid ounces (0.19 lb ai) per acre. 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 Urea Ammonium Nitrate (UAN) (e.g., 28-0-0) at the rate of 2.5% (v/v) or Ammonium Sulfate (AMS) at the rate of 8.5 pounds per 100 gallons of spray solution may be added to improve the burndown of existing weeds. Applications of this product to emerged Pearl millet can result in severe crop injury.

Restrictions

-] **DO NOT** apply more than 6.0 fluid ounces (0.19 lb ai) per acre per application.
-] **DO NOT** apply more than 6.0 fluid ounces (0.19 lb ai) per acre per year.
-] **DO NOT** make more than 1 application per year.

RHUBARB

Liberty Mesotrione 4SC can be applied prior to crop emergence for weed control in established rhubarb.

Apply **Liberty Mesotrione 4SC** at a rate of 6.0 fluid ounces (0.19 lb ai) per acre 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. Applications of this product to rhubarb that is not dormant may result in a temporary bleaching symptomology. Rainfall or irrigation after application of this product may increase the risk of injury to emerging Rhubarb.

Restrictions

-] **DO NOT** apply this product at more than 6.0 fluid ounces (0.19 lb ai) per acre per application.
-] **DO NOT** apply this product at more than 6.0 fluid ounces (0.19 lb ai) per acre per year.
-] **DO NOT** make more than 1 application of this product per year.
-] **DO NOT** harvest rhubarb within 21 days following the application of this product.

SORGHUM (GRAIN and SWEET)

Pre-Emergence Application Directions

Make pre-emergence application of **Liberty Mesotrione 4SC** 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 to 6.4 fluid ounces (0.19 to 0.20 lb ai) per acre 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 **Liberty Mesotrione 4SC** 8 to 21 days prior to planting will decrease risk of crop injury.

If **Liberty Mesotrione 4SC** 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 pounds per 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 6.4 fluid ounces (0.20 lb ai) per acre per application.
-) **DO NOT** apply more than 6.4 fluid ounces (0.20 lb ai) per acre per year.
-) **DO NOT** make more than 1 application per year.
-) **DO NOT** apply to emerged sorghum or severe crop injury can occur.
-) **DO NOT** use this product 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 **Liberty Mesotrione 4SC** 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 fluid ounces (0.094 lb ai) per acre post-directed application when sorghum is at least 8 inches tall. Make the application by directing the spray between crop rows, and toward the base of the plant. Direct application of **Liberty Mesotrione 4SC** 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 pounds per 100 gallons of spray solution of ammonium sulfate (AMS) can be added to the spray solution in addition to the COC or NIS.

Liberty Mesotrione 4SC 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. 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.

Post-Directed Restrictions

-) **DO NOT** apply more than 3.0 fluid ounces (0.094 lb ai) per acre per application post-directed.
-) **DO NOT** apply more than 6.4 fluid ounces (0.20 lb ai) per acre per year.
-) **DO NOT** make more than 1 post-directed application.
-) **DO NOT** apply broadcast over-the-top to emerged sorghum or severe crop injury can occur.
-) **Preharvest Interval (PHI):**
 -) **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.

MESOTRIONE RESISTANT SOYBEANS

Liberty Mesotrione 4SC can be applied pre-emergence to soybeans that are identified as mesotrione resistant. Applications to soybeans that are not mesotrione resistant will result in significant crop injury. For a list of mesotrione resistant Soybean varieties, contact a Liberty sales representative or your soybean seed dealer.

Pre-emergence Application

For pre-emergence control of the weeds listed in Table 2, apply **Liberty Mesotrione 4SC** prior to soybean emergence at a rate of 6.0 fluid ounces (0.94 0.19 lb ai) per acre. Apply the higher rate for longer residual control.

Liberty Mesotrione 4SC may be tank-mixed with other herbicides registered for the same use and timing. If compatibility of the tank-mix combination is not known, test the compatibility of any tank-mix combination on a small scale including a jar test before actual tank-mixing. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank-mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank- mixture.

If weeds are emerged at the time of application, add either a non-ionic surfactant (NIS) at 1 quart per 100 gallons (0.25% v/v) or a Crop Oil Concentrate (COC) at 1 gallon per 100 gallons (1% v/v). In addition to NIS or COC, you may also add either Ammonium Sulfate (AMS) at 8.5 to 17 pounds per 100 gallons (or equivalent).

Restrictions

-) **DO NOT** apply more than 6.0 fluid ounces (0.94 0.19 lb ai) per acre per application.
-) **DO NOT** apply more than 6.0 fluid ounces (0.94 0.19 lb ai) per acre per year.
-) **DO NOT** make more than 1 application per year.
-) **DO NOT** apply to emerged soybeans.
-) **DO NOT** graze or feed soybean forage or hay to livestock.

SUGARCANE

Apply **Liberty Mesotrione 4SC** by ground for pre-emergence, post-emergence over-the-top or post-emergence direct weed control in sugarcane.

Apply **Liberty Mesotrione 4SC** aerially for pre-emergence and post-emergence weed control in the states of: **Florida, Louisiana, and Texas.**

Pre-Emergence Applications

Apply 6.0 to 7.7 fluid ounces (0.188 to 0.24 lb ai) per acre of **Liberty Mesotrione 4SC** 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 non-ionic 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 pounds per 100 gals. of spray solution can be added to the spray solution. Tank mix ametryn or atrazine with **Liberty Mesotrione 4SC** to improve weed control. Refer to the tank mix partner label for specific rates and use directions.

Post-Emergence Applications

Apply 3.0 fluid ounces (0.094 lb ai) per acre of **Liberty Mesotrione 4SC** 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 year, only one single post-emergence application can be made. If no pre-emergence application was made earlier in the year, 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 non-ionic 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 pounds per 100 gals. of spray solution to improve weed control.

For additional post-emergence weed control, tank mix **Liberty Mesotrione 4SC** with other herbicides registered for the same use and timing. 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.

Restrictions:

-) **DO NOT** apply more than 7.7 fluid ounces (0.24 lb ai) per acre in a pre-emergence application.
-) **DO NOT** apply more than 3.0 fluid ounces (0.094 lb ai) per acre 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.
-) Minimum retreatment interval is 14 days.
-) **DO NOT** apply more than 10.7 fluid ounces (0.33 lb ai) per acre per year.
-) **Preharvest Interval (PHI):**
 -) **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).

TURFGRASS

Liberty Mesotrione 4SC is applied pre-emergence and post-emergence to provide selective contact and residual control of turfgrass weeds. When applied pre-emergence, weeds absorb this product during emergence from the soil. Pre-emergence activity may be reduced under dry conditions. Activate this product with 0.15 inch of irrigation if rain has not occurred within 10 days of application. When used post-emergence, this product is absorbed by susceptible weeds through foliar contact and soil absorption. Foliage of treated weeds cease to grow after application of this product, then turn white from loss of chlorophyll and die within three weeks. Make a repeat application after 2 to 3 weeks to improve post-emergence weed control. Add a nonionic surfactant (NIS) when making post-emergence applications.

Liberty Mesotrione 4SC may cause temporary whitening of turfgrass foliage. Whitening typically occurs 5 to 7 days after application and lasts for several weeks. Repeat application to the same site causes less whitening of plant tissue.

Liberty Mesotrione 4SC controls weeds prior to and during seeding of certain turfgrasses during turf renovation (see "NEW SEEDINGS" section). If applied pre-emergence to established turf, tank-mix this product with other pre-emergence herbicides for longer residual and broad spectrum control.

Precautions

-) Residential Lawn Applications: Unless renovating and/or reseeding home lawns, avoid broadcast application of this product for pre-emergence and post-emergence weed control as undesirable whitening of some Turfgrasses may occur.
-) Bentgrass, Bermudagrass, Kikuyugrass, Poa annua, Seashore paspalum and Zoysiagrass are sensitive to applications of this product. **DO NOT** apply to these types of turf where plant injury is unacceptable. Maintain a five foot buffer between treated areas and Bentgrass or Poa annua greens.
-) To reduce movement into sensitive species including Bentgrass, keep people and pets off treated areas until spray has dried and irrigate lightly to move product from Turf foliage before resuming normal irrigation.
-) Clean sprayer thoroughly after an application of this product if the same equipment is used to apply products to Bentgrass/Poa annua turf areas.
-) Avoid over-spray or drift of spray applications onto ornamentals or flower beds and gardens. Roses and Daylilies are sensitive to this product.
-) Avoid applications over-the-top of exposed roots of trees and ornamentals.

Restrictions

-) **DO NOT** apply more than 8 fluid ounces (0.25 lb ai) per acre per application. Refer to sections below for details on specific grasses.
-) **DO NOT** apply more than 16 fluid ounces (0.5 lb. a.i.) per acre per year.
-) **DO NOT** make more than 4 applications per acre per year when using the lowest rate.
-) Minimum retreat interval is 14 days.
-) **DO NOT** use on golf course putting greens and maintain a five foot buffer between treated areas and putting greens.
-) **DO NOT** plant any crop other than turfgrass species for 18 months after the last application of this product or injury may occur.

-) **DO NOT** apply by air.
-) **DO NOT** apply through any type of irrigation system.
-) **DO NOT** use grass clippings from treated turf as mulch around trees or in vegetable/flower gardens.
-) **DO NOT** apply an organophosphate or carbamate insecticide within 7 days of application of this product as injury to turf may occur.

Tank Mixing

Liberty Mesotrione 4SC has been tested in many tank-mixtures with products containing atrazine, bentazon, carfentrazone, dicamba, fluroxypyr, prodiamine, simazine and triclopyr for safety and efficacy on turfgrasses. Apply this product at reduced rates of 4 fluid ounces (0.13 lb ai) per acre or less if tank-mixed with atrazine, bentazon or simazine. Other tank-mixtures may be safe but have not been tested. Test on a small scale for compatibility, safety and efficacy before treating large areas if wanting to tank-mix this product with other herbicides.

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.

Use Sites

Liberty Mesotrione 4SC may be applied in turfgrass species listed on this label in commercial and residential sites to control weeds. Use sites include noncrop areas including golf course, sod farms, athletic fields, parks, residential and commercial properties, cemeteries, airports and lawns.

Turfgrass Species

Liberty Mesotrione 4SC has been tested on the following species of turfgrass and found to be safe under trial conditions:

Species	Application Rate Fluid Ounces per Acre (lb ai per acre)
Kentucky bluegrass (<i>Poa pertensis</i>) Centipedegrass (<i>Eremochloa ophiuroides</i>) Buffalograss (<i>Buchloe dactyloides</i>) Tall fescue (<i>Festuca arundinacea</i>)	5 to 8 (0.16 to 0.25)
Perennial ryegrass* (<i>Lolium perenne</i>) Fine fescue* (creeping red, chewings and hard) Festuca spp.	5 (0.16)
St. Augustinegrass* (grown for sod) (<i>Stenotaphrum secundatum</i>)	4 (0.13)
*See additional rate instructions below.	

Weeds Controlled

Common Name	Scientific Name	Pre-emergence ¹	Post-emergence ²
Barnyardgrass	<i>Echinochloa crus-galli</i>	Y	Y
Bentgrass, Creeping	<i>Agrostis stolonifera</i>	Y	Y
Bluegrass, Annual	<i>Poa annua</i>	Suppression	N
Buckhorn plantain	<i>Plantago lanceolata</i>	Y	Y
Buttercup	<i>Ranunculus sardous</i>	- ³	Y
Carpetweed	<i>Mollugo verticillata</i>	Y	Y
Chickweed, Common	<i>Stellaria media</i>	Y	Y
Chickweed, Mouseear	<i>Cerastium vulgatum</i>	Y	Y
Clover, Large hop	<i>Trifolium aurem</i>	Y	Y
Clover, White	<i>Trifolium repens</i>	Y	Y
Crabgrass, Large	<i>Digitaria sanguinalis</i>	Y	Y ⁴
Crabgrass, Smooth	<i>Digitaria ischaemum</i>	Y	Y ⁴
Crabgrass, Southern	<i>Digitaria ciliaris</i>	Y	Y ⁴

Common Name	Scientific Name	Pre-emergence ¹	Post-emergence ²
Curly dock	<i>Rumex crispus</i>	-	Y
Dandelion, Catsear	<i>Hypochoeris radicata</i>	-	Y
Dandelion, Common	<i>Taraxacum officinale</i>	-	Y
Florida betony	<i>Stachys floridana</i>	-	Y
Florida pusley	<i>Richardia scabra</i>	-	Y
Foxtail, Yellow	<i>Setaria glauca</i>	Y	Y
Galinsoga	<i>Galinsoga ciliata</i>	Y	Y
Goosegrass	<i>Eleusine indica</i>	-	Y ⁴
Ground ivy	<i>Glechoma hederacea</i>	-	Y
Healall	<i>Prunella vulgaris</i>	-	Y
Henbit	<i>Lamium amplexicaule</i>	-	Y
Lambsquarters, Common	<i>Chenopodium album</i>	Y	Y
Lawn burweed	<i>Soliva sessilis</i>	-	Y
Lovegrass, Tufted	<i>Eragrostis pectinacea</i>	-	Y
Marestail	<i>Conyza canadensis</i>	-	Y
Nimblewill	<i>Muhlenbergia schreberi</i>	-	Y
Nutsedge, Yellow	<i>Cyperus esculentus</i>	-	Y
Oxalis	<i>Oxalis stricta</i>	-	Y
Pigweed, Redroot	<i>Amaranthus retroflexus</i>	Y	Y
Pigweed, Smooth	<i>Amaranthus hybridus</i>	Y	Y
Purslane, Common	<i>Portulaca oleracea</i>	Y	Y
Shepherd's purse	<i>Capsella bursa-pastoris</i>	Y	Y
Smartweed, Pale	<i>Polygonum lapathifolium</i>	Y	Y
Smartweed, Pennsylvania	<i>Polygonum pensylvanicum</i>	Y	Y
Speedwell, Persian	<i>Veronica persica</i>	Y	-
Speedwell, Purslane	<i>Veronica peregrina</i>	Y	-
Sowthistle	<i>Sonchus oleraceus</i>	-	Y
Swinecress	<i>Coronopus didymus</i>	-	Y
Thistle, Canada	<i>Cirsium arvense</i>	-	Y
Verbena	<i>Verbena hastata</i>	-	Y
Wild carrot	<i>Daucus carota</i>	Y	Y
Wild Violet	<i>Viola pranticola</i>	-	Y
Windmillgrass	<i>Chloris verticillata</i>	-	Y

¹ For broad spectrum pre-emergence activity, apply with a grass pre-emergence herbicide including prodiamine except when used for weed control in new seedings.

² Weed control with post-emergence applications require a second application after 2 to 3 weeks. Apply to young, actively growing weeds with nonionic type of surfactant.

³ Not tested.

⁴ For best post-emergence control, apply at less than 4 tiller Crabgrass and Goosegrass.

APPLICATION INSTRUCTIONS

Pre-Emergence Application

Apply **Liberty Mesotrione 4SC** at 4 to 8 fluid ounces (0.13 to 0.25 lg ai) per acre in at least 30 gallons of water prior to weed seed germination. Combine this product with another pre-emergence herbicide for extended control of key annual monocot weeds including Crabgrass and Foxtail. In established turf, this product is more effective as a post-emergence application unless combined with another soil active herbicide.

Restrictions - Pre-Emergence Application

-) **DO NOT** exceed 5 fluid ounces (0.16 lb ai) per acre per application to perennial ryegrass or fine fescues or mixed stands that contain greater than 50% perennial ryegrass and/or fine fescue.
-) **DO NOT** exceed 4 fluid ounces (0.13 lb ai) per acre to St. Augustinegrass sod.

New Seedings / New Lawn Establishment

Apply **Liberty Mesotrione 4SC** at 5 to 8 fluid ounces (0.15 to 0.25 lb ai) per acre in at least 30 gallons of water prior to seeding or post seeding of resistant turfgrass species listed on this label, except fine fescue. This product may reduce density of Fine fescue seedings. This product can be used on grass seed blends that contain less than 20% by weight of hard or fine fescue. This product will control many monocot and dicot weeds that compete with and slow the establishment of the turfgrass stands. For best results, apply at grass seeding or close to seeding.

Restrictions - New Seedings / New Lawn Establishment

DO NOT spray on newly germinated turfgrass. Delay treatment until grass has been mowed 2 to 4 times and/or 4 weeks after emergence (whichever is longer).

Post-Emergence Application

Apply **Liberty Mesotrione 4SC** at 4 to 8 fluid ounces (0.13 to 0.25 lb ai) per acre in at least 30 gallons of water. Apply with a nonionic type of surfactant. A repeat application at two to three weeks may be required for adequate weed control. Weed control is most effective on young, actively growing weeds. Efficacy will be reduced under moisture stress or from applications to mature weeds.

Control of Bentgrass and Nimblewill

Apply **Liberty Mesotrione 4SC** at 5 fluid ounces (0.16 lb ai) per acre in at least 30 gallons of water at 2 to 3 week intervals for up to three applications. Apply with a nonionic type of surfactant. Bentgrass control may be more effective in the late Summer/early Fall just before onset of renewed Bentgrass growth than Spring/early Summer applications.

On St. Augustinegrass (sod uses only) and Centipedegrass

Apply to established turf only.

Restrictions - St. Augustinegrass (sod uses only) and Centipedegrass:

-) **DO NOT** exceed 4.0 fluid ounces (0.13 lb ai) per application if tank mixing with atrazine or simazine.
-) **DO NOT** exceed 0.5 lb atrazine or simazine active ingredient per acre. See atrazine/simazine labels for precautions and restrictions.

Dormant Bermudagrass Applications Only

Apply **Liberty Mesotrione 4SC** at 5 fluid ounces (0.16 lb ai) per acre to control Winter weeds listed in the "WEEDS CONTROLLED" table on dormant Bermudagrass. Repeat application in two to three weeks. Applications made to semi-dormant Turf will cause whitening of the Bermudagrass.

Spot Application of Liberty Mesotrione 4SC

Spray Mix	Rate of Liberty Mesotrione 4SC	Nonionic Surfactant (NIS)
2 gals.	1 tsp.	3 tsps.

Apply the spray mix at 1 gallon per 1,000 square feet.

Restriction – Spot Application

-) **DO NOT** apply more than 16 fluid ounces (0.5 lb ai) per acre per year.

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:

NONREFILLABLE CONTAINER (EQUAL TO OR LESS THAN 5 GALLONS): DO NOT reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling, if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

NONREFILLABLE CONTAINER (GREATER THAN 5 GALLONS): DO NOT reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container 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 application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Offer for recycling, if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Pressure rinse as follows (all sizes): Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

REFILLABLE CONTAINER: Refill this container with pesticide only. **DO NOT** reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. After triple rinsing is complete, and the container is not suitable for refilling or reconditioning, offer the container for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

CONDITION OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

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

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

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