



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

January 20, 2023

Alison Suffill  
Label Facilitator  
Avalaire, LLC  
1204 Village Market Place, #173  
Morrisville, NC 27560

Subject: Registration Review Label Amendments Incorporating Mitigation Measures from the Interim Decision for S-Metolachlor and the National Marine Fisheries Services' (NMFS) Biological Opinion on the Effects of S-Metolachlor on Pacific Salmonids  
*Product Name: Avalaire S-Moc II*  
*EPA Registration Number: 93930-39*  
*Application Date: 4/15/2021 and 8/6/2021*  
*Decision Number: 589305 and 589306*

Dear Alison Suffill:

The Agency, in accordance with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, has completed reviewing all the information submitted with your application to support the Registration Review of the above referenced product in connection with the S-Metolachlor Interim Decision. The Agency has concluded that your submission is acceptable.

This letter also addresses the label mitigation resulting from the NMFS' Biological Opinion on the effects of S-Metolachlor on Pacific salmonids. The Agency has concluded that your submission is also acceptable. The label referred to above, submitted in connection with registration under FIFRA, as amended, is acceptable.

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.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 12 months from the date of this letter. After 12 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

If you have any questions about this letter, please contact Ben Tweed at [tweed.benjamin@epa.gov](mailto:tweed.benjamin@epa.gov).

Sincerely,



Linda Arrington, Branch Chief  
Risk Management and Implementation Branch 4  
Pesticide Re-Evaluation Division  
Office of Pesticide Programs

Enclosure

[Note to reviewer: [Text] in brackets denotes optional or explanatory language]  
[Note to reviewer: {Text} in braces denotes where in the final label text will appear]  
{BOOKLET FRONT PANEL LANGUAGE}

S-METOLACHLOR	GROUP	15	HERBICIDE
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# Avalaire S-Moc II

[Alternate Brand Name: BorealiS II]

FOR WEED CONTROL IN BEANS, PEAS, AND LENTILS; CORN; COTTON; GRASSES GROWN FOR SEED; HORSERADISH; PEANUTS; POTATOES; PUMPKIN; RHUBARB; SAFFLOWERS; SWEET, GRAIN, OR FORAGE SORGHUM; SOYBEANS; SOYBEANS, IMMATURE SEED; SUGAR BEETS; SUGARCANE; SUNFLOWERS; AND TOMATOES.

SALE, USE AND DISTRIBUTION OF THIS PRODUCT IN NASSAU AND SUFFOLK COUNTIES IN THE STATE OF NEW YORK IS PROHIBITED.

ACTIVE INGREDIENT:	(% by weight)
S-metolachlor (CAS No. 87392-12-9) .....	82.4%
<b>OTHER INGREDIENTS</b> .....	<u>17.6%</u>
<b>TOTAL</b> .....	100.0%

Contains 7.64 lbs. of active ingredient per gallon. Formulated as an emulsifiable concentrate (EC).

**KEEP OUT OF REACH OF CHILDREN**

## CAUTION

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

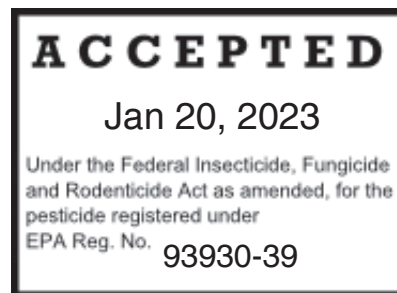
See [below] [inside label booklet] for [additional] [First Aid,] [Precautionary Statements] [and] [Directions for Use].

EPA Reg. No.: 93930-39

EPA Est. No.:

Net Contents:

Manufactured for:  
**Avalaire, LLC**  
1204 Village Market Place, #173  
Morrisville, NC 27560



## {LANGUAGE INSIDE BOOKLET}

<b>FIRST AID</b>	
<b>If swallowed:</b>	<ul style="list-style-type: none"><li>• Call a poison control center or doctor immediately for treatment advice.</li><li>• Have person sip a glass of water if able to swallow.</li><li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li><li>• Do not give anything by mouth to an unconscious person.</li></ul>
<b>If on skin or clothing:</b>	<ul style="list-style-type: none"><li>• Take off contaminated clothing.</li><li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
<b>If in eyes:</b>	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.</li><li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
<b>If inhaled:</b>	<ul style="list-style-type: none"><li>• Move person to fresh air.</li><li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.</li><li>• Call a poison control center or doctor for further treatment advice.</li></ul>
<b>HOT LINE NUMBER</b>	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact <b>844-685-9173</b> for emergency medical treatment information.	

**For Chemical Emergency**  
**Spill, Leak, Fire, Exposure, or Accident**  
**Call CHEMTREC Day or Night**  
**Within USA and Canada: 1-800-424-9300 or +1 703-527-3887 (collect calls accepted)**

## **PRECAUTIONARY STATEMENTS**

### **HAZARDS TO HUMANS & DOMESTIC ANIMALS**

#### **CAUTION**

Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. Avoid contact with eyes, skin, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

#### **PERSONAL PROTECTIVE EQUIPMENT (PPE):**

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of barrier laminate, Butyl Rubber ≥ 14 mils, Nitrile Rubber ≥ 14 mils, or Viton ≥ 14 mils.
- Shoes plus socks

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

#### **Engineering Control Statements**

Mixers and loaders supporting aerial applications are required to use closed systems. The closed system must be used in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.607(d-e)]. When using the closed system, the mixers' and loaders' PPE requirements may be reduced or modified as specified in the WPS.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.607(d-e)], the handler PPE requirements may be reduced or modified as specified in the WPS.

#### USER SAFETY RECOMMENDATIONS

##### Users should:

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

#### ENVIRONMENTAL HAZARDS:

Do not apply directly to water, 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.

#### Groundwater Advisory:

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

#### Surface Water Advisory:

This product may impact surface water quality due to runoff of rainwater. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having high potential for reaching surface water via runoff for several weeks or months after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of S-metolachlor from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall or irrigation is expected to occur within 48 hours.

#### Non-Target Organism Advisory

This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated site. Protect the forage and habitat of non-target organisms by following label directions intended to minimize spray drift.

#### PHYSICAL AND CHEMICAL HAZARDS:

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

#### Reporting Ecological Incidents:

To report ecological incidents, including mortality, injury, or harm to plants and animals, call 984-465-4800.

#### Mixing/Loading Instruction:

Care must be taken when using this product to prevent back-siphoning into wells, spills, or improper disposal of excess pesticide, spray mixtures, or rinsate.

Check-valves or anti-siphoning devices must be used on all mixing and/or irrigation equipment.

This product may not be mixed or loaded within 50 ft. of perennial or intermittent streams and rivers, natural or impounded lakes, and reservoirs. This product may not be mixed/loaded or used within 50 ft. of all wells, including abandoned wells, drainage wells, and sink holes. Operations that involve mixing, loading, rinsing, or washing of this product into or from pesticide handling or application equipment or containers within 50 ft. of any well are prohibited, unless conducted on an impervious pad constructed to withstand the weight of the heaviest load that may be positioned on or moved across the pad. Such a pad shall be designed and maintained to contain any product spills or equipment leaks, container or equipment rinse or wash water, and rain water that may fall on the pad.

Surface water shall not be allowed to either flow over or from the pad, which means the pad must be self-contained. The pad shall be sloped to facilitate material removal. An unroofed pad shall be of sufficient capacity to contain at a minimum 110% of the capacity of the largest pesticide container or application equipment on the pad. A pad that is covered by a roof of sufficient size to completely exclude precipitation from contact with the pad shall have a minimum containment capacity of 100% of the capacity of the largest pesticide container or application equipment on the pad. Containment capacities as described above shall be maintained at all times. The above-specified minimum containment capacities do not apply to vehicles when delivering pesticide shipments to the mixing/loading site.

### **DIRECTIONS FOR USE**

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

**Avalaire S-Moc II** must be used only in accordance with directions on this label or in separately published EPA accepted supplemental labeling directions for this product.

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.

#### **Endangered Species Protection Requirements:**

It is a Federal offense to use any pesticide in a manner that results in an unauthorized "take" (e.g., kill or otherwise harm) of an endangered species and certain threatened species, under the Endangered Species Act section 9. When using this product, you must follow the measures contained in the Endangered Species Protection Bulletin for the area in which you are applying the product. You must obtain a Bulletin no earlier than six months before using this product. To obtain Bulletins, consult <http://www.epa.gov/espp/>, call 1-844-447-3813, or email [ESPP@epa.gov](mailto:ESPP@epa.gov). You must use the Bulletin valid for the month in which you will apply the product.

#### **AGRICULTURAL USE REQUIREMENTS**

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

**Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 24 hours.** Exception: If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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

- Coveralls
- Chemical-resistant gloves made of barrier laminate, Butyl Rubber  $\geq$  14 mils, Nitrile Rubber  $\geq$  14 mils, or Viton  $\geq$  14 mils.
- Shoes plus socks

**FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN POOR WEED CONTROL, CROP INJURY, OR ILLEGAL RESIDUES.**

To avoid spray drift, do not apply under windy conditions. Avoid spray overlap, as crop injury may result.

**Sale, use and distribution of this product in Nassau and Suffolk Counties in the State of New York is prohibited.**

#### **PRODUCT INFORMATION**

Observe all precautions and restrictions on the labels of each product used in tank mixtures. Tank mixtures are permitted only in those states where the 'tank mix partner is registered. Refer to and follow the label for each tank mix product used for precautionary statements, directions for use, geographic and other restrictions.

**Avalaire S-Moc II** is a selective herbicide for use as a preplant surface-applied, preplant incorporated, or preemergence treatment in water or fluid fertilizer for control of most annual grasses and certain broadleaf weeds in beans, peas, and lentils; corn (all types); cotton; grasses grown for seed; peanuts; potatoes; safflowers; sweet, grain, or forage sorghum; soybeans; soybean, immature seed; sugar beets; sugarcane; sunflowers; and tomatoes.

**Restrictions:** Do not use in nurseries, turf, or landscape plantings.

Do not apply under conditions which favor runoff or wind erosion of soil containing this product to nontarget areas.

To prevent off-site movement due to runoff or wind erosion:

- A. Avoid treating powdery dry or light sand soils when conditions are favorable for wind erosion. Under these conditions, the soil surface should first be settled by rainfall or irrigation.
- B. Do not apply to impervious substrates, such as paved or highly compacted surfaces.
- C. Do not use tailwater from the first flood or furrow irrigation of treated fields to treat nontarget crops, unless at least ½ inch of rainfall has occurred between application and the first irrigation.

Where directions specify a **Avalaire S-Moc II** tank mixture with Aatrex<sup>®</sup> formulations, other brands of atrazine may be used. Follow the rates, recommendations, and restrictions on the Aatrex or respective atrazine product label, if other brands of atrazine are used.

**Restrictions:** Certain states may have established rate limitations for atrazine within specific geographical areas. Consult your state lead pesticide control agency for additional information. It is a violation of this label to deviate from state use regulations.

If **Avalaire S-Moc II** is incorporated, any supplemental tillage before planting must not exceed the depth of incorporation.

Dry weather following preemergence application of **Avalaire S-Moc II** or a tank mixture may reduce effectiveness. Cultivate if weeds develop.

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

**Precaution:** Injury may occur following the use of **Avalaire S-Moc II** under abnormally high soil moisture conditions during early development of the crop.

#### **WEED RESISTANCE MANAGEMENT**

For resistance management, **Avalaire S-Moc II** is a Group 15 herbicide. Any weed population may contain or develop plants naturally resistant to **Avalaire S-Moc II** and other Group 15 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Appropriate resistance-management strategies should be followed.

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

- Rotate the use of **Avalaire S-Moc II** or other Group 15 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds in a 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 weeds 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 after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include:
  - Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds.
  - A spreading patch of non-controlled plants of a particular weed species.
  - 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 such as 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.

Report any incidence of non-performance of this product against a particular weed species to your Avalaire, LLC retailer, representative or call 984-465-4754. If resistance is suspected, treat weed escapes with an herbicide having a different mechanism of action and/or use non-chemicals means to remove escapes, as practical, with the goal of preventing further seed production.

#### SOIL TEXTURES AND HERBICIDE RATES

Where rates are based on coarse-, medium-, or fine-textured soils, it is understood that soil textural classes are generally categorized as follows:

COARSE	MEDIUM	FINE	
Sand	Loam	Sandy clay loam	Sandy clay
Loamy sand	Silt loam	Silty clay loam	Silty clay
Sandy loam	Silt	Clay loam	Clay

Within rate ranges in the rate tables and elsewhere on this label, use the lower rate on soils relatively coarse-textured or low in organic matter; use the higher rate on soils relatively fine-textured or high in organic matter.

**Restrictions:** **Avalaire S-Moc II** may be applied preemergence alone, or in combination with tank mix partners specified on this label, following preplant incorporated herbicides when used according to their label directions, provided that such use is not prohibited on the respective labels.

Thoroughly clean sprayer or other application device before using. Dispose of cleaning solution in a responsible manner. Do not use a sprayer or applicator contaminated with any other materials, or crop damage or clogging of the application device may result.



## Avalaire S-Moc II APPLIED ALONE

### Weeds Controlled:

**Avalaire S-Moc II** is taken up by the shoots and/or roots of emerging weeds. This uptake results in the inhibition of shoot and root tissue growth soon after weed germination. Because of this, **Avalaire S-Moc II** will not control emerged weeds and should be applied prior to weed emergence.

If **Avalaire S-Moc II** is incorporated, do not exceed a 2- to 3-inch depth. Any tillage after the **Avalaire S-Moc II** incorporation and before planting should not exceed 2-3 inches.

Dry weather following application of **Avalaire S-Moc II** may reduce weed control. Cultivate if weeds develop.

Where reference is made to weeds partially controlled, partial control can either mean erratic control from good to poor or consistent control at a level below that generally considered acceptable for commercial weed control. Control of these weeds can be erratic, due partially to variable weather conditions. The following procedures may improve the control of weeds listed as partially controlled in Table 1:

- Thoroughly till soil to destroy germinating and emerged weeds.
- Plant crop into moist soil immediately after tillage. If **Avalaire S-Moc II** is to be used preemergence, apply at planting or immediately after planting.
- If available, sprinkler irrigate within 2 days after application. Apply 1/2-1 inch of water. Use lower water volume (1/2 inch) on *coarse-textured soils* and higher volume (1 inch) on *fine-textured soils*. Also, refer to the section on **Center Pivot Irrigation Application** for this method of applying **Avalaire S-Moc II**.
- If irrigation is not possible and rain does not occur within 2 days after planting and application, weed control may be decreased. Under these conditions, a uniform, shallow cultivation is recommended as soon as weeds emerge.

**Table 1: Weeds Controlled or Partially Controlled by Avalaire S-Moc II Applied Prior to Weed Emergence**

Common Name	Scientific Name	Weed Type	Control (C) or Partial Control (PC)
Amaranth, Palmer	<i>Amaranthus palmeri</i>	Broadleaf	C
Amaranth, Powell	<i>Amaranthus powellii</i>	Broadleaf	C
Barnyardgrass	<i>Echinochloa crus-galli</i>	Grass	C
Beggarweed, Florida	<i>Desmodium tortuosum</i>	Broadleaf	P
Carpetweed	<i>Mollugo verticillata</i>	Broadleaf	C
Crabgrass, large	<i>Digitaria ischaemum</i>	Grass	C
Crabgrass, smooth	<i>Digitaria sanguinalis</i>	Grass	C
Crowfootgrass	<i>Dactyloctenium aegyptium</i>	Grass	C
Cupgrass, Prairie	<i>Eriochloa contracta</i>	Grass	C
Cupgrass, Southwestern	<i>Eriochloa acuminata</i>	Grass	C
Cupgrass, woolly	<i>Eriochloa villosa</i>	Grass	PC <sup>1</sup>
Eclipta	<i>Eclipta prostrata</i>	Broadleaf	P
Foxtail, bristly	<i>Setaria verticillata</i>	Grass	C
Foxtail, giant	<i>Setaria faberi</i>	Grass	C
Foxtail, green	<i>Setaria viridis</i>	Grass	C
Foxtail, millet	<i>Setaria italica</i>	Grass	C
Foxtail, yellow	<i>Setaria pumila</i>	Grass	C
Galinsoga, hairy	<i>Galinsoga quadriradiata</i>	Broadleaf	C
Galinsoga, smallflower	<i>Galinsoga parviflora</i>	Broadleaf	C
Goosegrass	<i>Eleusine indica</i>	Grass	C
Johnsongrass (seedling)	<i>Sorghum halepense</i>	Grass	PC

Common Name	Scientific Name	Weed Type	Control (C) or Partial Control (PC)
Millet, wild-proso	<i>Panicum miliaceum</i>	Grass	PC <sup>1</sup>
Nightshade, Eastern black	<i>Solanum ptychanthum</i>	Broadleaf	C
Nightshade, hairy	<i>Solanum physalifolium</i>	Broadleaf	P
Nutsedge, yellow	<i>Cyperus esculentus</i>	Sedge	C
Panicum, fall	<i>Panicum dichotomiflorum</i>	Grass	C
Panicum, Texas	<i>Panicum texanum</i>	Grass	PC
Pigweed, prostrate	<i>Amaranthus blitoides</i>	Broadleaf	C
Pigweed, redroot	<i>Amaranthus retroflexus</i>	Broadleaf	C
Pigweed, smooth	<i>Amaranthus hybridus</i>	Broadleaf	C
Pigweed, tumble	<i>Amaranthus albus</i>	Broadleaf	C
Purslane, common	<i>Portulaca oleracea</i>	Broadleaf	P
Pusley, Florida	<i>Richardia scabra</i>	Broadleaf	C
Rice, red	<i>Oryza punctata</i>	Grass	C
Ryegrass, Italian	<i>Lolium multiflorum</i>	Grass	C
Sandbur, field	<i>Cenchrus spinifex</i>	Grass	PC
Sandbur, Southern	<i>Cenchrus spinifex</i>	Grass	PC
Shattercane	<i>Sorghum bicolor</i>	Grass	PC
Signalgrass, broadleaf	<i>Urochloa platyphylla</i>	Grass	C
Spiderwort, tropical	<i>Commelina benghalensis</i>	Broadleaf	C
Sorghum (volunteer)	<i>Sorghum bicolor</i>	Grass	PC
Waterhemp, common	<i>Amaranthus rudis</i>	Broadleaf	C
Waterhemp, tall	<i>Amaranthus tuberculatus</i>	Broadleaf	C
Witchgrass	<i>Panicum capillare</i>	Grass	C

<sup>1</sup> Refer to the corn section of this label for additional directions.

## REPLANT AND ROTATIONAL CROPS SECTION

### Replanted Crop Directions:

This section covers replant crops that may be planted following a lost crop that has had an application of **Avalaire S-Moc II**.

If a crop treated with **Avalaire S-Moc II** is lost, any crop on this label, or on a supplemental **Avalaire S-Moc II** label, may be replanted immediately provided that the rate of **Avalaire S-Moc II** applied to the previous crop was not greater than the labeled rate for the crop to be replanted. If the first application was banded and the replant crop is planted in the center of the untreated bands, a second banded treatment may be applied at the rate for the use pattern for the replant crop, provided the application does not overlap the first application band.

### Rotational Crop Directions:

Do not rotate to food or feed crops other than those listed below. For all crops not listed, wait at least 12 months following the last application of **Avalaire S-Moc II** before planting.

Barley, oats, rye, or wheat may be planted 4 1/2 months following treatment.

Alfalfa may be planted 4 months following application. Clover may be seeded 9 months following application.

If **Avalaire S-Moc II** is applied after June 1, rotating to crops other than corn (all types), grain sorghum or sugarcane the next spring, may result in crop injury.

**Restrictions:** To avoid injury to rotational alfalfa or clover, (1) Do not apply more than 2.0 pts. of **Avalaire S-Moc II** (1.9 lbs. active ingredient) per acre in the previous crop, and (2) Do not make lay-by or other postemergent applications of

**Avalaire S-Moc II** in the previous crop.

Tobacco, buckwheat, rice and sugarcane may be planted in the next spring following treatment.

Below in the rotational crop subsections A through C is a listing of rotational crop options that are made possible through S-metolachlor tolerances which were established by the EPA as crop groupings.

**Precautions:** 1) Rotating to crops within these crop groupings at less than 60 days may result in crop injury. 2) If the rate of **Avalaire S-Moc II** applied in the previous crops was greater than the rate listed here (Sections A-C below), these crops cannot be planted until the following spring.

1. **If not more than 1.33 pts./A of Avalaire S-Moc II was applied to the field, the following crops (as well as those listed under subsections B or C below) may be planted 60 days after the last application. A second application of any S-metolachlor-containing product to the following crops is prohibited within 60 days of the original application:**
  - a. **Crop Subgroup 1B – Root Vegetables:** garden beet, edible burdock, carrot, celeriac, turnip-rooted chervil, chicory, ginseng, horseradish, turnip-rooted parsley, parsnip, radish, oriental radish, rutabaga, salsify, black salsify, Spanish salsify, skirret, and turnip.
  - b. **Crop Subgroup 3 – Bulb Vegetables (if to be harvested green):** garlic, great-headed garlic, leek, green onion, Welsh onion, shallot.
  - c. Winter squash (including pumpkins).
2. **If not more than 1.67 pts./A of Avalaire S-Moc II was applied to the field, the following crops (as well as any listed under subsection C below) may be planted 60 days after the last application. A second application of an S-metolachlor-containing product to the following crops is prohibited within 60 days of the original applications:**
  - a. **Crop Group 8 – Fruiting Vegetables, except Cucurbits and Tabasco Peppers:** eggplant, groundcherry (*Physalis* spp.), pepino, peppers (bell, chili, cooking, pimento, and sweet), tomatillo, and tomato.
3. **If not more than 2.0 pts./A of Avalaire S-Moc II was applied to the field, the following crops may be planted 60 days after the last application. A second application of an S-metolachlor-containing product to the following crops is prohibited within 60 days of the original application:**
  - a. **Crop Subgroup 1C – Tuberos and Corm Vegetables:** arracacha; arrowroot; Chinese artichoke; Jerusalem artichoke; edible canna; bitter and sweet cassava; chayote (root); chufa; dasheen (taro); ginger; leren; potato; sweet potato; taniel; tumeric; yam bean; and yam, true.
  - b. **Crop Group 3 Bulb Vegetables (if to be harvested dry):** garlic, great-headed garlic, leek, dry bulb and green onion, Welsh onion, shallot.
  - c. **Crop Subgroup 4B - Leaf Petiole Vegetables:** cardoon, celery, Chinese celery, celtuce, Florence fennel, rhubarb, and Swiss chard.
  - d. **Crop Subgroup 5A - Head and Stem Brassica Vegetables:** broccoli; Chinese broccoli, Brussels sprouts, cabbage, Chinese (Napa) cabbage, Chinese mustard, cauliflower, cavalo broccolo, and kohlrabi.

#### APPLICATION PROCEDURES

##### **Application Timing:**

**Avalaire S-Moc II** alone or in some tank mixtures with other labeled herbicides may be applied for weed control in certain crops at various times. Refer to the given crop section of the label to determine if application timings listed below are permitted. 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.

**Preplant Surface-Applied:** For minimum-tillage or no-tillage systems only, **Avalaire S-Moc II** alone and some **Avalaire S-Moc II** tank mixtures may be applied up to 45 days before planting certain crops. Use only split applications for treatments made 30-45 days before planting, with 2/3 the broadcast rate for the crop and soil texture applied initially

and the remaining 1/3 at planting. Treatments less than 30 days before planting may be made either as a split or a single application. Refer to individual crop section on this label to determine if early preplant surface application is permitted. If weeds are present at the time of treatment, apply in a tank mixture combination with a contact herbicide (for example, Gramoxone® brands, Touchdown® brands, or Roundup® brands). Observe directions for use, precautions, and restrictions on the label of the contact herbicide. To the extent possible, do not move treated soil out of the row or move untreated soil to the surface during planting, or weed control will be diminished.

**Preplant Incorporated:** Apply **Avalaire S-Moc II** to the soil and incorporate into the top 2 inches of soil within 14 days before planting, using a finishing disk, harrow, rolling cultivator, or similar implement capable of providing uniform 2-inch incorporation. Use a preplant incorporated application if furrow irrigation is used or when a period of dry weather after application is expected. If crop will be planted on beds, apply and incorporate **Avalaire S-Moc II** after bed formation, unless specified otherwise.

**Preemergence:** Apply **Avalaire S-Moc II** during planting (behind the planter) or after planting, but before weeds or crops emerge.

**Postemergence:** **Avalaire S-Moc II** will not control emerged weeds so it must be applied to a weed-free soil surface or in tank mixture with products that provide postemergence control of weeds present at the time of application. Refer to the individual crop section of this label if a postemergence application is permitted.

#### **SPECIAL APPLICATION PROCEDURES**

##### **CA Only (Beans, Peas, and Lentils; Corn; Safflowers):**

**Preplant Incorporated:** Broadcast **Avalaire S-Moc II** alone or with tank mix partners listed on this label to the soil and thoroughly incorporate with a disk or similar implement set to till 4-6 inches deep. For more thorough incorporation, till the soil in 2 different directions (cross-till). Crops may be planted on flat surface or on beds. Use caution when forming the beds that only soil from the **Avalaire S-Moc II** treated zone is used (i.e., untreated soil should not be brought to soil surface). If the application is made to preformed beds, incorporate **Avalaire S-Moc II** with a tillage implement set to till 2-4 inches deep. Care should be taken during tilling to keep the tilled (**Avalaire S-Moc II**-treated) soil on the beds.

**Preemergence:** Apply **Avalaire S-Moc II** after planting. Water with sprinkler or flood irrigation within 7-10 days.

##### **Fall Application for Spring Weed Control (Only in IA, MN, ND, SD, WI, and portions of NE and IL – See specific instructions in the Beans, Peas, and Lentils; Corn; and Soybeans sections of this label for timing of application and other information):**

Do not apply to frozen ground. Use on medium and fine soils with greater than 2.5% organic matter that will be planted to corn or soybeans the next spring. Ground may be tilled before or after application. Do not exceed a 2 to 3-inch incorporation depth if tilled after treatment.

**Restrictions:** If a spring application is made, the total rate of the fall plus spring applications must not exceed the maximum total rate for the specific crop, or illegal residues may result.

##### **Fall Application for Italian Ryegrass Control (Corn, Cotton, Grain and Forage Sorghum, and Soybean Only - See specific instructions in the Corn, Cotton, Grain and Forage Sorghum, and Soybean sections of this label for timing of application and other information):**

**Avalaire S-Moc II** may be applied in the fall (September 1-December 1) for residual control of glyphosate-resistant Italian ryegrass (*Lolium multiflorum*). A tillage operation may precede the application. Do not incorporate to a depth greater than 2-3 inches if tillage follows the application of **Avalaire S-Moc II**.

##### **Restrictions:**

1. Do not apply **Avalaire S-Moc II** to frozen ground.
2. All crops on the **Avalaire S-Moc II** label may be planted the following spring after application.
3. If a spring application is made, the combined total amount of **Avalaire S-Moc II** applied in the fall plus the

spring must not exceed the maximum seasonal S-metolachlor rate for the specific crop planted, or illegal residues may result.

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

**Ground Application:**

Apply **Avalaire S-Moc II** alone or in tank mixtures by ground equipment in a minimum of 10 gals. of spray mixture per acre, unless otherwise specified.

Use sprayers that provide accurate and uniform application. For **Avalaire S-Moc II** tank mixtures with wettable powder or dry flowable formulations, screens and strainers should be no finer than 50-mesh. Rinse sprayer thoroughly with clean water immediately after use.

Calculate the amount of herbicide needed for band treatment by the formula:

$$\frac{\text{band width in inches}}{\text{row width in inches}} \times \text{broadcast rate per acre} = \text{amount needed per acre of field}$$

For information on applying in lower volumes of carrier, see **Low Carrier Application** section.

For application by air or through center pivot systems, see **Aerial Drift Management** and **Aerial Drift Reduction Advisory Information** sections.

For information on impregnating dry fertilizer, see **Dry Bulk Granular Fertilizer** section.

For information on application using variable-rate technologies, see **Variable-Rate Application** section.

## SPRAY EQUIPMENT

### LOW CARRIER APPLICATION

**For Broadcast Ground Application Only:**

Use sprayers, such as Ag-Chem RoGator<sup>®</sup>, Hagie, John Deere Hi-Cycle<sup>™</sup>, Melroe Spra-Coupe, Tyler Patriot<sup>™</sup>, or Willmar Air Ride<sup>®</sup>, that provide accurate and uniform application. **Only water may be used as a carrier.** Screens in suction and in-line strainers should be 50-mesh. Manufacturers may require that tip screens as fine as 100-mesh be used with some nozzles. Use a pump with capacity to: (1) maintain up to 35-40 psi at the nozzles, and (2) provide sufficient agitation in tank to keep mixture in suspension. Use a minimum of 5.0 gals. of spray mixture per acre. Maximum recommended sprayer speed is 15 mph. Rinse sprayer thoroughly with clean water immediately after each use.

**Precautions:**

Low pressure nozzles are recommended to reduce drift and increase application accuracy. Care should be taken when using automatic rate controlling devices to spray the material within the rated working pressure and flow ranges of the nozzles selected. Nozzle screens should be used when recommended by the manufacturer. All nozzles should be placed on 20-inch centers, except flooding types which should be placed on 40-inch centers. When Flat Fan-type nozzles are used, angles of 80° or 110° are recommended. Always read and follow the manufacturer's directions for optimum setup and performance of their nozzles or tips.

**Aerial Application:**

Apply **Avalaire S-Moc II** in water alone or in tank mixtures with AAtrex, Lorox<sup>®</sup>, or Sencor<sup>®</sup> in a minimum total volume of 2.0 gals./A by aircraft. **Avalaire S-Moc II** may also be applied by air in combination with Prowl<sup>®</sup>, or Treflan<sup>®</sup>. Avoid application under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur. In order to assure that spray will be controllable within the target area when used according to label directions, make applications at a maximum height of 10 ft., using low-drift nozzles at a maximum pressure of 40 psi, and restrict application to periods when wind speed does not exceed 10 mph. To assure that spray will not adversely affect adjacent

sensitive nontarget plants, apply **Avalaire S-Moc II** alone or **Avalaire S-Moc II** + AAtrex by aircraft at a minimum upwind distance of 400 ft. from sensitive plants, or apply **Avalaire S-Moc II** + Lorox or Sencor at a minimum upwind distance of 300 ft. from sensitive plants.

## **MANDATORY SPRAY DRIFT MANAGEMENT**

### **Aerial Applications:**

- Do not release spray at a height greater than 10 ft above the ground or vegetative canopy, unless a greater application height is necessary for pilot safety.
- Applicators are required to select the nozzle and pressure that deliver medium or coarser droplets (ASABE S641).
- If the wind speed is 10 miles per hour or less, applicators must use ½ swath displacement upwind at the downwind edge of the field. When the wind speed is between 11-15 miles per hour, applicators must use ¾ swath displacement upwind at the downwind edge of the field.
- Do not apply when wind speeds exceed 15 mph at the application site. If the wind speed is greater than 10 mph, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters.
- Do not apply during temperature inversions.

### **Ground Boom Applications:**

- User must only apply with the release height recommended by the manufacturer, but no more than 4 feet above the ground or crop canopy.
- Applicators are required to select the nozzles and pressure that deliver medium or coarser droplets (ASABE S572).
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- Do not apply during temperature inversions.

### **Boomless Ground Applications:**

- Applicators are required to select the nozzle and pressure that deliver medium or coarser droplet size (ASABE S572.3) for all applications.
- Do not apply when wind speeds exceed 15 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**

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.

### **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.

### **BOOMLESS GROUND APPLICATIONS:**

Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.

### **HANDHELD TECHNOLOGY APPLICATIONS:**

Take precautions to minimize spray drift.

### **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.

### **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.

### **CENTER PIVOT IRRIGATION APPLICATION**

**Avalaire S-Moc II** alone or in tank mixture with other herbicides on this label, which are registered for center pivot application, may be applied in irrigation water preemergence (after planting, but before weeds or crop emerge) at rates listed on this label. **Avalaire S-Moc II** also may be applied postemergence to the crop and preemergence to weeds in crops where postemergence applications are allowed on this label. Follow all restrictions (height, timing, rate, etc.) to avoid illegal residues. Apply this product only through a center pivot irrigation system. Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness, or illegal residues in the crop can result from nonuniform distribution of treated water. If you have questions about calibration, you should contact State Extension specialists, equipment manufacturers, or other experts. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system, unless the pesticide label-prescribed safety devices for public water systems are in place. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

### **Operating Instructions:**

1. The system must contain a functional check-valve, vacuum relief valve, and low pressure drain appropriately location on the irrigation pipeline to prevent water-source contamination from backflow.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check-valve to prevent the

flow of fluid back toward the injection pump.

3. 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.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump or piston pump), effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7. Do not apply when wind speed favors drift beyond the area intended for treatment.
8. Prepare a mixture with a minimum of 1-part water to 1-part herbicide(s) and inject this mixture into the center pivot system. Injecting a larger volume of a more dilute mixture per hour will usually provide more accurate calibration of metering equipment. Maintain sufficient agitation to keep the herbicide in suspension.
9. Meter into irrigation water during entire period of water application.
10. Apply in ½-1 inch of water. Use the lower water volume (1/2 inch) on *coarse-textured soils* and the higher volume (1 inch) on *fine-textured soils*. More than 1 inch of water at application may reduce weed control by moving the herbicide below the effective zone in the soil.

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

#### **DRY BULK GRANULAR FERTILIZERS**

Many dry bulk granular fertilizers may be impregnated or coated with **Avalaire S-Moc II** alone or selected **Avalaire S-Moc II** tank mixtures which are registered for preplant incorporated or preplant surface applications which are used to control weeds in crops on the **Avalaire S-Moc II** label and are not prohibited from use on dry bulk granular fertilizers.

When applying **Avalaire S-Moc II** or **Avalaire S-Moc II** mixtures with dry bulk granular fertilizers, follow all directions for use and precautions on the respective product labels, regarding target crops, rates per acre, soil texture, application methods (including timing of application), and rotational crops.

All individual state regulations relating to dry bulk granular fertilizers blending, registration, labeling, and application are the responsibility of the individual and/or company selling the herbicide/fertilizer mixture.

Prepare the herbicide/fertilizer mixtures by using any closed drum, belt, ribbon, or other commonly used dry bulk fertilizer blender. Nozzles used to spray **Avalaire S-Moc II** and **Avalaire S-Moc II** mixtures onto the fertilizer must be placed to provide uniform spray coverage. Care should be taken to aim the spray directly onto the fertilizer only and to avoid spraying the walls of the blender.

If the herbicide/fertilizer mixture is too wet, add a highly absorptive material, such as Agsorb® or Celatom MP-79®, or similar granular clay or diatomaceous earth materials, to obtain a dry, free-flowing mixture. Add absorptive materials only after the herbicide has been thoroughly blended into the fertilizer mixture. Best application results will be obtained by using a granule of 6/30 particle size or of a size similar to that of the fertilizer material being used. Generally, less than 2% by weight of absorptive material will be needed. Avoid using more than 5% absorptive material by weight.

Calculate amounts of **Avalaire S-Moc II**, AAtrex, AAttrex + Princep®, Balance® Pro, Princep, Sencor, or Sonalan® by the following formula:

$$\frac{2,000}{\text{lbs. of fertilizer per acre}} \times \text{pts./A of liquid or flowable product} = \text{pts. of liquid or flowable product per ton of fertilizer}$$



$$\frac{2,000}{\text{lbs. of fertilizer per acre}} \times \text{pts./A of dry product} = \text{pts. of dry product per ton of fertilizer}$$

**Pneumatic (Compressed Air) Application (Avalaire S-Moc II Alone):**

High humidity, high urea concentrations, low fertilizer use rates, and dusty fertilizer may cause fertilizer mixture to build up or plug the distributor head, air tubes, or nozzle deflector plates. To minimize buildup, premix **Avalaire S-Moc II** with Exxon Aromatic 200 at a rate of 1.0-4.0 pts./gals. of **Avalaire S-Moc II**. Aromatic 200 is a noncombustible/nonflammable petroleum product. Aromatic 200 may be used in either a fertilizer blender or through direct injection systems. Drying agents should not be used when using Aromatic 200.

**Restriction:**

1. Mixtures of **Avalaire S-Moc II** and Aromatic 200 must be used on dry fertilizer only. Poor results or crop injury may result if these mixtures are used in water or liquid fertilizer solutions for spraying applications.

**Precautions::**

1. To avoid potential for explosion, do not impregnate **Avalaire S-Moc II** or **Avalaire S-Moc II** mixtures on ammonium nitrate, potassium nitrate, or sodium nitrate, either alone or in blends with other fertilizers.
2. To avoid potential for explosion, do not use **Avalaire S-Moc II** or **Avalaire S-Moc II** mixtures on straight limestone, since absorption will not be achieved. Fertilizer blends containing limestone can be impregnated.
3. Drying agents are not recommended for use with On-The-Go impregnation equipment.
4. When impregnating **Avalaire S-Moc II** in a blender before application, a drier mixture can be attained by substituting a drying agent for Aromatic 200. The use of Agsorb FG or drying agents of 6/30 particle size are recommended.

**Application:**

Apply 200-700 lbs. of the herbicide/fertilizer mixture per acre. For best results, apply the mixture uniformly to the soil with properly calibrated equipment immediately after blending. Uniform application of the herbicide/fertilizer mixture is essential to prevent possible crop injury. Nonuniform application may also result in unsatisfactory weed control. In areas where conventional tillage is practiced, a shallow incorporation of the mixture into the soil may improve weed control. On fine- or medium-textured soils in areas where soil incorporation is not planned, i.e., reduced tillage situations or in some conventional till situations, make applications approximately 30 days before planting to allow moisture to move the herbicide/fertilizer mixture into the soil. On coarse-textured soils, make applications approximately 14 days prior to planting.

Precaution: To avoid crop injury, do not use the herbicide/fertilizer mixture on crops where bedding occurs.

**MIXING INSTRUCTIONS**

**Avalaire S-Moc II Alone:**

Mix **Avalaire S-Moc II** with water or fluid fertilizer and apply as a spray. Fill the spray tank ½-3/4 full with water or fluid fertilizer, add the proper amount of **Avalaire S-Moc II**, then add the rest of the water or fluid fertilizer. Provide sufficient agitation during mixing and application to maintain a uniform emulsion.

**Tank Mixtures:**

Fill the spray tank 1/4 full with water, and start agitation; add 2,4-D, AAtrex, Balance Pro, Banvel®, Basagran®, Butyrac®, Canopy®, Caparol® 4L, Command®, Cotoran®, Eptam®, Liberty® Herbicide, Lorox, Marksman®, MSMA, Princep, Prowl, Pursuit®, AAtrex + Princep, Scepter®, Sencor, Sonalan, or Treflan, and allow it to become dispersed; then add **Avalaire S-Moc II**; then add Gramoxone brands, Landmaster® BW, or Touchdown or Roundup (glyphosate products) if these products are being used; and finally the rest of the water. For tank mixtures with AAtrex, Balance, Banvel, Canopy, Caparol 4L, Command, Cotoran\*, Eptam, Lorox, Marksman, Princep, Prowl\*, Pursuit, AAtrex + Princep, Scepter, Sencor, Sonalan, or Treflan, fluid fertilizers may replace all or part of the water as carrier, except in the AAtrex postemergence and the Banvel postemergence tank mixes. For tank mixtures with AAtrex, see additional mixing instructions on the

AAtrex label. For each mixture, check compatibility with fluid fertilizer, as described below, before mixing in spray tank. For all tank mixtures, agitate during mixing and application to maintain a uniform suspension.

\*See **Special Mixing Instructions** for tank mixtures with Cotoran and with AAtrex or Princep + Prowl under the appropriate tank mixture section.

For directions on how to conduct a compatibility test, see the **Compatibility Test** section.

#### **COMPATIBILITY TEST**

A jar test is recommended before tank mixing to ensure compatibility of **Avalaire S-Moc II** with other pesticides. The following test assumes a spray volume of 25 gals/A. For other spray volumes, make appropriate changes in the ingredients.

#### **Restrictions:**

Nitrogen solutions or complete fluid fertilizers may replace all or part of the water in the spray. Because liquid fertilizers vary, even within the same analysis, **always check compatibility with pesticide(s) before use**. Incompatibility of tank mixtures is more common with suspensions of fertilizer and pesticides.

#### **Test Procedure:**

1. Add 1.0 pt. of carrier (fertilizer or water) to each of 2 one qt. jars with tight lids. **Restrictions:** Use the same source of water that will be used for the tank mix and conduct the test at the temperature the tank mix will be applied.
2. To one of the jars, add ¼ tsp. or 1.2 milliliters of a compatibility agent approved for this use, such as Compex® or Unite® (¼ tsp. is equivalent to 2.0 pts./100 gals. spray). Shake or stir gently to mix.
3. To both jars, add the appropriate amount of pesticide(s) in their relative proportions based on specified label rates. If more than one pesticide is used, add them separately with dry pesticides first, flowables next, and emulsifiable concentrates last. After each addition, shake or stir gently to thoroughly mix.
4. After adding all ingredients, put lids on and tighten, and invert each jar ten times to mix. Let the mixtures stand 15-30 minutes and then look for separation, large flakes, precipitates, gels, heavy oily film on the jar, or other signs of incompatibility. Determine if the compatibility agent is needed in the spray mixture by comparing the two jars. If either mixture separates, but can be remixed readily, the mixture can be sprayed as long as good agitation is used. If the mixtures are incompatible, test the following methods of improving compatibility: (a) Slurry the dry pesticide(s) in water before addition, or (b) add ½ the compatibility agent to the fertilizer or water and the other ½ to the emulsifiable concentrate or flowable pesticide before addition to the mixture. If incompatibility is still observed, do not use the mixture.
5. After compatibility testing is complete, dispose of any pesticide wastes in accordance with the **Storage and Disposal** section in this label.

## **CROP USE DIRECTIONS**

### **CORN (ALL TYPES) – Avalaire S-Moc II ALONE**

Apply **Avalaire S-Moc II**, either preplant surface, preplant incorporated, preemergence, postemergence, or lay-by, using the appropriate rate specified below.

#### **Preplant Surface Applied:**

Refer to instructions for use of **Avalaire S-Moc II** alone under **Application Procedures**.

#### **Fall Application for Spring Weed Control:**

1. Apply after September 30 in ND, SD, MN, WI and north of Route 30 in IA.
2. Apply after October 15 north of Route 91 in NE and south of Route 30 in IA.
3. Apply after October 31 north of Route 136 in IL.

In all locations, apply to crop stubble after harvest when the sustained soil temperature at a 4-inch depth is less than 55°F and falling. In minimum-till or no-tillage systems on soils having greater than 2.5% organic matter, use 1.67-2.0 pts./A on *medium-textured* and 2.0 pts./A on *fine-textured soils*. Do not apply to frozen ground. A tillage operation may precede the application. A fall and/or a spring tillage may follow application, but do not exceed an incorporation depth greater than 2-3 inches. Minimize furrow and ridge formation in the tillage operations.

**Restrictions:** If a spring application is made, the total rate of the fall plus spring applications must not exceed the maximum total rate for corn, or illegal residues may result.

#### **Fall Application for Italian Ryegrass Control:**

**Avalaire S-Moc II** may be applied for residual control of glyphosate-resistant Italian ryegrass (*Lolium multiflorum*). Apply **Avalaire S-Moc II** at 1.33-1.67 pts./A in the fall (September 1-December 1) after harvest of the previous crop and prior to Italian ryegrass emergence. Use the lower **Avalaire S-Moc II** rate for coarse-textured soils and the higher rate for fine-textured soils. A tillage operation may precede the application. Do not incorporate to a depth greater than 2-3 inches if tillage follows the application of **Avalaire S-Moc II**. For fall applications after emergence of glyphosate-resistant Italian ryegrass, Gramoxone brands can be tank mixed with **Avalaire S-Moc II** to control emerged ryegrass. Refer to the Gramoxone brands label for specific rates, application instructions, and restrictions. Other registered herbicides may be tank mixed with **Avalaire S-Moc II** for control or improved control of other weeds present at the time of application.

#### **Restrictions:**

1. Do not apply **Avalaire S-Moc II** to frozen ground.
2. If a spring application is made, the combined total amount of **Avalaire S-Moc II** applied in the fall plus the spring must not exceed the maximum seasonal rate for corn 3.9 pts./A (3.7 lbs. of s-metolachlor), depending on soil texture) or illegal residues may result.

#### **Fall Application for Control or Suppression of Yellow Nutsedge (ID, OR, and WA only):**

For preemergent control or suppression of yellow nutsedge the following spring, apply 1.33 pts./A (1.27 lbs. of s-metolachlor) of **Avalaire S-Moc II** in the fall after the harvest of the previous crop but before freeze-up. Fall applications of **Avalaire S-Moc II** can be surface-applied or incorporated.

#### **Restrictions:**

1. Make no more than one fall application per crop.
2. Apply not more than 1.33 pts./A **Avalaire S-Moc II** (1.27 lbs. of s-metolachlor) in a single fall preplant application.
3. Do not apply to frozen ground.
4. If a spring application is made, the combined total amount of **Avalaire S-Moc II** applied in the fall plus the spring must not exceed the maximum season rate for corn 3.9 pts./A **Avalaire S-Moc II** (3.7 lbs. of s-metolachlor), depending on soil texture), or illegal residues may result.
5. For all applications to corn, do not graze or feed forage from treated areas for 30 days following application and do not harvest sweet corn ears from treated areas for 30 days following application, or possible illegal residues may result.
6. Do not exceed a total of 2.0 pts. /A **Avalaire S-Moc II** (1.9 lbs. of s-metolachlor) in the preplant incorporated plus preemergence application on soils with less than 6% organic matter, or crop injury may result.

#### **EARLY PREPLANT APPLICATIONS**

Use on medium- and fine-textured soils with minimum-tillage or no-tillage systems in CO, IA, IL, IN, KS, KY, MN, MO, MT, ND, NE, SD, TN, WI, and WY. Apply 2/3 the labeled rate of **Avalaire S-Moc II** (1.67 pts./A on *medium soils* and 2.0 pts./A on *fine soils*) as a split treatment 30-45 days before planting and the remainder at planting. Applications made less than 30 days prior to planting may be as either a split or single treatment. Apply 1.33 pts./A on *coarse soils* not more than 2 weeks before planting.

On medium- and fine-textured soils with minimum- or no-tillage systems in CT, DE, MA, MD, ME, MI, NH, NY, OH, PA, RI, VA, VT, and WV, preplant surface applications may be applied following the directions for use above. If the amount of rainfall results in unsatisfactory length of weed control following the earlier treatment, a postemergence application of an appropriately labeled broadleaf and/or grass weed herbicide may be used, i.e., AAtrex, Beacon®, Bicep Magnum®, Bicep II Magnum®, Exceed®, Accent®, Banvel, Basagran, bromoxynil (Buctril®), or 2,4-D. If the postemergence treatment includes the herbicide used preplant surface-applied, do not exceed the total labeled rate for corn on a given soil texture. Observe all directions for use, precautions, and limitations on the label of the postemergent herbicide.

#### **PREPLANT INCORPORATED OR PREEMERGENCE**

Follow instructions for use of **Avalaire S-Moc II** alone under **Application Procedures**. On *coarse soils*, apply 1.0-1.33 pts./A of **Avalaire S-Moc II** if organic matter content is less than 3%, or 1.33 pts./A if organic matter content is 3% or greater. On *medium soils*, apply 1.33-1.67 pts./A of **Avalaire S-Moc II**. On *fine soils*, apply 1.33-1.67 pts./A of **Avalaire S-Moc II** if organic matter content is less than 3%, or 1.67-2.0 pts./A if organic matter content is 3% or greater.

#### **POSTEMERGENCE OR LAY-BY**

To extend the duration of weed control in corn, a maximum rate of 2.0 pts./A (1.9 lbs of s-metolachlor) of **Avalaire S-Moc II** may be applied after corn emergence until the corn plants reach 40 inches in height, following any preplant surface-applied, preplant incorporated, or preemergence herbicide application, including **Avalaire S-Moc II**. For best results, applications should be made to soil free of merged weeds and directed toward the base of corn plants in excess of 5 inches tall. The total **Avalaire S-Moc II** rate applied to corn during any one crop year should not exceed 3.9 pts./A (3.7 lbs s-metolachlor), depending on soil texture.

**Restrictions for all applications to corn:** To avoid possible illegal residues:

1. Do not graze or feed forage from treated areas for 30 days following application
2. Do not harvest sweet corn ears from treated areas for 30 days following application.

#### **PROBLEM WEED CONTROL DIRECTIONS**

##### **Shattercane, Wild Proso Millet, Woolly Cupgrass, and Eclipta - Partial Control:**

For more consistent partial control of shattercane, wild proso millet, woolly cupgrass, or eclipta, apply 1.0-1.33 pts./A of **Avalaire S-Moc II** preplant incorporated followed by 1.0-1.33 pts./A of **Avalaire S-Moc II** preemergence. Make the preemergence application during or after planting, but before weeds and corn emerge. Apply the 1.33 pts./A rate of **Avalaire S-Moc II** when a heavy infestation of shattercane, wild proso millet, woolly cupgrass, or eclipta is expected. A shallow cultivation may be needed to control any late emerging weeds.

##### **Woolly Cupgrass and Wild Proso Millet Control Program:**

For control of these species, use the following 3-step program:

1. Apply **Avalaire S-Moc II** early preplant, preplant incorporated, or preemergence at 1.67 pts./A on *medium soils* and 2.0 pts./A on *fine-textured soils*, up to the maximum label rate. Lightly incorporate with a rotary hoe if rainfall does not occur within 5-7 days.
2. Apply a postemergence tank mix of Beacon at 0.38 oz./A or Exceed at 1 packet per 4 acres plus Accent SP at 0.33 oz./A plus 1.0 qt. of crop oil concentrate plus 1.0 gal./A of 28% nitrogen, or the equivalent amount of ammonium sulfate, when grasses are 2-3 inches tall and the corn is at least 4 inches tall.
3. Cultivate 14-21 days after the postemergence application.

##### **Restrictions:**

1. Do not apply more than the labeled application rate for a given soil texture per year, either as a single or split treatment, or illegal residues may result.
2. In corn, use up to 2.5 pts./A (2.4 lbs s-metolachlor) of **Avalaire S-Moc II** preplant surface, preplant incorporated, or preemergence treatment on soils having an organic matter content between 6% and 20%.
3. In the event of escape of annual weeds following a preplant surface, preplant incorporated, or preemergence treatment of **Avalaire S-Moc II**, follow with a postemergence application of an appropriately

labeled broadleaf and/or grass weed herbicide, i.e., AAtrex, Beacon, Bicep II Magnum, Accent, Banvel, Basagran, Buctril, or 2,4-D. If the postemergence treatment includes the herbicide used in the earlier treatment, do not exceed the total labeled rate for corn on a given soil texture.

4. Buctril may be applied postemergence alone or in tank mix combination with AAtrex. Do not exceed 1.2 lbs. a.i./A of AAtrex in tank mix combination with Buctril postemergence. Refer to the AAtrex and Buctril labels for specific rates and precautions.
5. Do not use **Avalaire S-Moc II** on peat or muck soils.

### CORN - Avalaire S-Moc II COMBINATIONS

**Avalaire S-Moc II** in any tank mixture for corn may be applied in water or fluid fertilizer before corn emerges. Use only water as a carrier when **Avalaire S-Moc II** is applied after corn emergence.

**Restrictions:** For all applications to corn:

1. Do not graze or feed forage from treated areas for 30 days following application.
2. Do not harvest sweet corn ears from treated areas for 30 days following application or possible illegal residues may result.

**IMPORTANT: FOR TANK MIXTURES WITH AATREX (OR OTHER BRANDS OF ATRAZINE) – IF APPLYING Avalaire S-Moc II IN TANK MIXTURE WITH AATREX, ALL THE RESTRICTIONS AND RATE LIMITATIONS ON THE AATREX LABEL MUST BE FOLLOWED IF MORE RESTRICTIVE/PROTECTIVE THAN THOSE ON THIS LABEL. IN ADDITION, IF AATREX IS/MUST BE APPLIED AT RATES LOWER THAN THOSE LISTED ON THIS LABEL, BROADLEAF WEED CONTROL MAY BE AFFECTED. REFER TO THE AATREX LABEL FOR WEEDS CONTROLLED AT THE REDUCED RATES.**

**Table 2: Avalaire S-Moc II Tank Mixtures for Corn – Additional Weeds Controlled and Special Instructions**

	Avalaire S-Moc II + AAtrex and/or Princep (Preplant Surface, PPI, PRE)	Avalaire S-Moc II + AAtrex (Post)	Avalaire S-Moc II + Banvel (Field Corn)	Avalaire S-Moc II + AAtrex + Lorox	Avalaire S-Moc II + AAtrex or Princep + Prowl	Avalaire S-Moc II + Marksman	Avalaire S-Moc II + Balance Pro
<b>Special Mixing Instructions</b>					1		
<b>Comments</b>	2, 3, 4, 5, 7, 8	2, 3, 4, 5		2, 3, 4, 5, 6	2, 3, 4, 5	7	2, 3, 7
Browntop panicum	X			X	X		X
Cocklebur	X	0	0	X	X		0-X
Common purslane	X			X	X	X	X
Hairy nightshade	X			X	X		X
Jimsonweed		X	0			X	X
Kochia		X				X	X
Lambsquarters	X	X	X	X	X	X	X
Morningglory	X	0	0	X	X		X
Mustard		X				X	X
Pigweed				X	X	X	X
Prickly sida		X					
Ragweed	X	X	X	X	X	X	X
Smartweed	X	X	X	X	X	X	X
Velvetleaf	X	X	0	X	X	0-X	0-X

X = control; 0 = partial control; 0-X = partial to full control depending on ratio of products used or on weed population

**Comments:**

1. Special Mixing Instructions for **Avalaire S-Moc II** + AAtrex or Princep and Prowl
  - a. Fill the spray tank ¼ full with water or fluid fertilizer and start agitation.

- b. To aid compatibility, add a compatibility agent, such as Unite or X-77®, at 4.0 pts./100 gals. of spray mixture.
  - c. Then add the AAtrex or Princep and allow it to become dispersed.
  - d. Then add **Avalaire S-Moc II** and Prowl 4E.
  - e. Add the rest of the water.
2. Although a single formulation for AAtrex or Princep is listed in the rate tables, other formulations may be substituted, using the following formula:
  - a. 1.0 lb. of AAtrex® Nine-O® or Princep® Caliber 90® = 1.8 pts. of AAtrex 4L or Princep 4L
3. Although direction specify AAtrex formulations in tank mixture with **Avalaire S-Moc II**, other brands of atrazine may be used. Follow the rates, recommendations, and limitations on the atrazine label.
4. See additional mixing instructions on the AAtrex label.
5. Precaution: Do not exceed a total of 2.5 lbs. a.i. of atrazine per acre per year. However, certain states may have established rate limitations for atrazine within specific geographical areas. Consult your state lead pesticide control agency for additional information. It is a violation of this label to deviate from state use regulations.
6. Other formulations of Lorax can be used: 1.0 lb. of Lorax DF = 1.0 pt. of Lorax L.
7. In Minimum-Tillage and No-Tillage systems, mix with Gramoxone brands for control of most emerged annual weeds and suppression of perennial weeds; or with Landmaster BW for suppression of emerged field bindweed and control or suppression of annual weeds; or with Touchdown brands or Roundup brands for control of most emerged annual and perennial weeds.
8. Refer to the **Corn – Avalaire S-Moc II Combinations – Tank Mixture with AAtrex; or AAtrex + 2,4-D; or AAtrex + 2,4-D + Banvel for Minimum-Tillage or No-Tillage Systems** sections for specific directions for 2,4-D or Banvel burndown combinations in Minimum-Tillage or No-Tillage systems.

**Avalaire S-Moc II** in any tank mixture for corn may be applied in water or fluid fertilizer, except as noted.

**Restrictions:**

1. When applying **Avalaire S-Moc II** in tank mixture with AAtrex, do not exceed a total of 2.6 pts. (2.5 lbs. a.i. of atrazine) per acre per year.
2. Do not apply more than the labeled rate for a given soil texture per year, either as a split or single treatment, or illegal residues may result.
3. The total **Avalaire S-Moc II** rate should not exceed 3.9 pts./A (3.7 lbs of s-metolachlor), nor the AAtrex rate more than 2.5 lbs. a.i./A during any one crop year, or illegal residues may result. Refer to the AAtrex label for geographic, soil-texture, and rotational restrictions.
4. Do not apply with aircraft.
5. Do not apply combinations containing Gramoxone brands in suspension-type liquid fertilizers, as the activity of paraquat will be reduced.

Refer to **Corn (All Types) – Avalaire S-Moc II Alone** for directions on sequential postemergence treatments if escape weeds develop.

**TANK MIXTURE WITH AATREX OR PRINCEP, OR AATREX + PRINCEP – PREPLANT SURFACE, PREPLANT INCORPORATED, OR PREEMERGENCE**

In addition to the weeds controlled by **Avalaire S-Moc II** alone, **Avalaire S-Moc II** + AAtrex or Princep, or **Avalaire S-Moc II** + AAtrex + Princep, applied preplant surface, preplant incorporated, or preemergence, also controls the following weeds: browntop panicum, cocklebur, common purslane, hairy nightshade, lambsquarters, morningglory, ragweed, smartweed, and velvetleaf.

Apply **Avalaire S-Moc II** + AAtrex or Princep, or **Avalaire S-Moc II** + AAtrex + Princep either preplant surface, preplant incorporated, or preemergence.

**Preplant Surface-Applied:**

Follow instructions for use of **Avalaire S-Moc II** alone under **Application Procedures** and under application instructions for **Avalaire S-Moc II** alone on corn. Apply **Avalaire S-Moc II** + AAtrex or Princep, or **Avalaire S-Moc II** + AAtrex + Princep on *medium soils* (1.67 pts./A of **Avalaire S-Moc II** + 3.2-4.0 pts./A of AAtrex 4L or Princep 4L, or AAtrex 4L + Princep 4L combined) and on *fine soils* (1.67-2.0 pts./A of **Avalaire S-Moc II** + 4.0 pts./A of AAtrex 4L or 4.0-5.0 pts./A of Princep 4L, or AAtrex 4L + Princep 4L combined) in minimum-tillage and no-tillage systems in CO, IA, IL, IN, KS, KY, MN, MO, MT, ND, NE, SD, TN, WI, and WY. Apply the tank mixtures as a split or single treatment in those states and as indicated in the **Avalaire S-Moc II Alone - Preplant Surface-Applied** section of the label for corn. On *coarse soils*, apply 1.33 pts./A of **Avalaire S-Moc II** and 3.2 pts./A of AAtrex 4L or Princep 4L, or AAtrex 4L + Princep 4L combined.

**Preplant Incorporated or Preemergence:** Follow instructions for use of **Avalaire S-Moc II** alone under **Application Procedures**. Apply **Avalaire S-Moc II** + AAtrex or Princep, or **Avalaire S-Moc II** + AAtrex + Princep, using the appropriate rates from Table 3.

**Shattercane and Wild Proso Millet – Partial Control**

For more consistent partial control of shattercane or wild proso millet where **Avalaire S-Moc II** is applied in tank mixture or sequentially with other registered corn herbicides, the following applications may be made:

1. Apply 1.0-1.33 pts./A of **Avalaire S-Moc II** + 2.0 lbs. a.i./A of AAtrex or Princep preplant incorporated, followed by 1.0-1.33 pts./A of **Avalaire S-Moc II** preemergence. Make the preemergence application during or after planting, but before weeds and corn emerge.
2. Apply **Avalaire S-Moc II** at 1.33 pts./A alone or in tank mix combination with up to 2.0 lbs. a.i./A of AAtrex, or Princep, preplant incorporated. Do not exceed the total rate of triazine herbicide labeled in combination with **Avalaire S-Moc II** for corn grown on a given soil texture. Follow with a post-directed application of Evik 80 WDG. Refer to the Evik 80 WDG label for specific directions for the post-directed application. Apply Eradicane® (or equivalent EPTC or butylate formulations) at labeled rates preplant incorporated, followed by a preemergence application of **Avalaire S-Moc II** at 1.0-1.33 pts./A. Do not use Eradicane on soils where rapid degradation has been shown to occur. Make the preemergence application during or after planting, but before weeds and corn emerge.

**Precautions:** When following the application regimes in numbers 1-3 above, a shallow cultivation may be needed after the preemergence or postemergence application to help control any late emerging shattercane or wild proso millet plants.

**Table 3: Avalaire S-Moc II + AAtrex or Princep, or Avalaire S-Moc II + AAtrex + Princep, Preplant Incorporated or Preemergence – Corn (All Types)**

Soil Texture	Broadcast Rates Per Acre			
	Less than 3% Organic Matter		3% Organic Matter or Greater	
	Avalaire S-Moc II + AAtrex Nine-O* OR Princep Caliber 90*	Avalaire S-Moc II + AAtrex Nine-O** OR Princep Caliber 90**	Avalaire S-Moc II + AAtrex Nine-O* OR Princep Caliber 90*	Avalaire S-Moc II + AAtrex Nine-O** OR Princep Caliber 90**
<b>COARSE</b>	0.8 – 1.0 pt. + 1.1 – 2.2 lbs.	0.8 – 1.0 pt. + 0.6 – 1.1 lbs. + 0.6 – 1.1 lbs.	1.0 pts. + 1.3 – 2.2 lbs.	1.0 pt. + 0.7 – 1.1 lbs. + 0.7 – 1.1 lbs.
<b>MEDIUM</b>	1.0-1.33 pts. + 1.3 – 2.2 lbs.	1.0 – 1.33 pts. + 0.7 – 1.1 lbs. +	1.33 pts. + 1.8 – 2.2 lbs.	1.33 pts. + 0.9-1.1 lbs. +

		0.7 – 1.1 lbs.		0.9 – 1.1 lbs.
<b>FINE</b>	1.33 pts. + 1.8 – 2.2 lbs.	1.33 pts. + 0.9 – 1.1 lbs. + 0.9 – 1.1 lbs.	1.33 – 1.67 pts. + 1.8 – 2.2 lbs.***	1.33 – 1.67 pts. + 0.9 – 1.1 lbs.*** + 0.9 – 1.1 lbs.***
<b>Muck or Peat (soils with more than 20% organic matter)</b>	DO NOT USE			

\* Use Princep in preference to AAtrex when heavy infestations of crabgrass or fall panicum are expected. On soils having between 6% and 20% organic matter, **Avalaire S-Moc II** may be used up to 2.33 pts./A in tank mix combination with 2.2 lbs./A of AAtrex Nine-O, or equivalent rates of AAtrex 4L. Refer to the AAtrex label for weeds controlled at this reduced rate.

\*\* When using the tank mixture of **Avalaire S-Moc II** + AAtrex Nine-O + Princep Caliber 90, use equal rates of each as shown when heavy broadleaf weed infestations are expected. When heavy infestations of crabgrass or fall panicum are expected, use a 1:2 ratio of AAtrex + Princep instead of the 1:1 ratio given in Table 3. (Example: Total AAtrex Nine-O + Princep Caliber 90 = 1.2 lbs./A, use 0.4 lb. of AAtrex + 0.8 lb. of Princep, respectively.) Refer to Comment No. 2 following Table 2 for AAtrex 4L and Princep 4L conversions.

\*\*\*For cocklebur, yellow nutsedge, and velvetleaf control on *fine-textured soils* above 3% organic matter, apply 2.25 lbs./A of AAtrex Nine-O, or equivalent rates of AAtrex 4L, or the same total amount of AAtrex +Princep with 1.33-1.67 pts./A of **Avalaire S-Moc II**.

#### TANK MIXTURE WITH AATREX – POSTEMERGENCE

	<u>Weeds Controlled</u>		<u>Weeds Partially Controlled</u>
Barnyardgrass (watergrass)	Green foxtail	Pigweed	Cocklebur
Crabgrass	Yellow foxtail	Prickly sida	Morningglory
Crowfootgrass	Jimsonweed	Purslane	Yellow nutsedge
Fall panicum	Kochia	Ragweed	
Giant foxtail	Lambsquarters	Smartweed	
	Mustard	Velvetleaf	

Apply 1.0 pt./A of **Avalaire S-Moc II** + 1.3 lbs./A of AAtrex Nine-O\* on *coarse* soils, 1.33 pts./A of **Avalaire S-Moc II** + 1.8 lbs./A of AAtrex Nine-O on *medium* soils, or 1.33-1.67 pts./A of **Avalaire S-Moc II** + 1.8-2.2 lbs./A\*\* of AAtrex Nine-O on *fine* soils. Apply this tank mixture before grass and broadleaf weeds pass the 2-leaf stage and before corn exceeds 5 inches in height. Application to weeds larger than the 2-leaf stage will generally result in unsatisfactory control.

#### Lay-by:

Apply to corn plants not more than 12 inches tall. Applications to corn in excess of 5 inches should be directed to the base of the corn plants; whereas, applications to corn plants less than 5 inches tall may be made over the top. Occasionally, some corn leaf burn may result, but this should not affect later growth or yield. Do not apply this postemergence tank mixture in fluid fertilizer, or severe crop injury may occur.

\* When using AAtrex 4L, use equivalent rates. One lb. of AAtrex Nine-O = 1.8 pts. of AAtrex 4L.

\*\* For better control of cocklebur, morningglory, velvetleaf, and yellow Nutsedge on *fine-textured soils* above 3% organic matter, apply 2.2 lbs./A of AAtrex Nine-O, or equivalent rate of AAtrex 4L with 1.33-1.67 pts./A of **Avalaire S-Moc II**.



Tank mixtures of **Avalaire S-Moc II** + AAtrex may be applied following use of any registered preplant surface-applied, preplant incorporated, or preemergence corn herbicide, including **Avalaire S-Moc II** + AAtrex.

**TANK MIXTURE WITH BANVEL**

**Preemergence:**

Use this tank mixture only on field corn which is flat-planted (no furrows) in CO, IA, IL, IN, KS, MN, NE, OH, SD, and WI.

In addition to the weeds controlled by **Avalaire S-Moc II** alone, **Avalaire S-Moc II** + Banvel, applied preemergence, also controls lambsquarters, ragweed, smartweed, cocklebur\*, jimsonweed\*, morningglory\*, and velvetleaf\*.

\*Partially controlled.

Apply **Avalaire S-Moc II** + Banvel preemergence. Broadcast 1.0 pt./A of Banvel with 1.33 pts./A of **Avalaire S-Moc II** on *medium soils*, or with 1.33-1.67 pts./A of **Avalaire S-Moc II** on *fine soils*. Do not apply on *coarse soils* or on soils with less than 2.5% organic matter. Apply this tank mixture to the soil surface at planting or after planting, but before corn emerges. Plant corn at least 1.5 inches deep and apply behind planting equipment, avoiding incorporation by the planter wheel or other seed covering device. Do not incorporate before corn emergence. If it is necessary to rotary hoe to break the soil crust, do not disturb the soil more than ½ inch deep.

**Precaution:**

1. Avoid drift to sensitive nontarget plants, such as soybeans, during application, or injury may occur.

**Postemergence for Control of Pigweed (Mid-Atlantic states, including DE, MD, PA, VA, and WV):**

Apply 1.0 – 1.5 pts./A of **Avalaire S-Moc II** + 0.5 – 1.0 pt./A of Banvel or Clarity® by ground equipment when pigweed plants are less than 3 inches tall and before corn exceeds 5 inches in height in a minimum of 20 gals. of spray per acre. Use the lower rate on coarse-textured and low organic matter soils. Use the higher rate on fine-textured and high organic matter soils.

**Precaution:**

1. Avoid drift to sensitive nontarget plants, such as soybeans, during application, or injury may occur.

**TANK MIXTURE WITH AATREX OR PRINCEP + PROWL FOR PROLONGED CONTROL OF LAMBSQUARTERS AND PIGWEED IN FIELD CORN ONLY (NORTHEAST U.S., INCLUDING MI, IN, KY, AND STATES EAST OF THESE)**

For prolonged control of lambsquarters and pigweed, in addition to a broad spectrum of annual broadleaf and grass weeds, **Avalaire S-Moc II** in tank mix combination with AAtrex\* or Princep + Prowl 4E may be applied after planting, but before corn or weeds emerge. Apply by ground equipment in a minimum of 10 gals. of water or 20 gals. of liquid fertilizer. Apply by air in a minimum of 5.0 gals. of water. Refer to Table 3 of this label for rates of **Avalaire S-Moc II**, AAtrex, or Princep to be applied. Apply Prowl 4E according to the rates in Table 4.

\*Do not apply **Avalaire S-Moc II** in tank mix combination with AAtrex 80W+ Prowl, as this combination is not compatible. Other AAtrex formulations may be used.

**Mixing Instructions:** See Comment No. 1 following Table 2.

**Table 4: Prowl 4E – Broadcast Rates Per Acre**

Soil Texture	Percent Organic Matter in Soil		
	Less Than 1.5%	1.5 – 3%	Over 3%
COARSE	1.5 – 2.0 pts.	2.0 pts.	3.0 pts.
MEDIUM	2.0 pts.	3.0 pts.	3.0 pts.
FINE	2.0 pts.	3.0 pts.	3.0 pts.

Observe all directions for use, precautions, and limitations on the respective product labels when applying these products in tank mix combination. Refer to the Prowl 4E label for replanting instructions in the event of crop loss.

#### **TANK MIXTURE WITH AATREX OR PRINCEP, OR AATREX + PRINCEP WITH GRAMOXONE BRANDS, LANDMASTER BW, TOUCHDOWN, OR ROUNDUP FOR MINIMUM-TILLAGE OR NO-TILLAGE SYSTEMS**

In minimum-tillage or no-tillage systems where corn is planted directly into a cover crop, stale seedbed, established sod, or previous crop residues, the contact herbicides Gramoxone brands, Landmaster BW, Touchdown brands, or Roundup brands should be tank mixed with **Avalaire S-Moc II + AAtrex**, **Avalaire S-Moc II + Princep**, or **Avalaire S-Moc II + AAtrex + Princep**. See Comment No. 7 following Table 2. The **Avalaire S-Moc II**, **Avalaire S-Moc II + AAtrex** or **Princep**, or **Avalaire S-Moc II + AAtrex + Princep** portion of the tank mixture provides preemergence control of the weeds listed on this label in the tank mixture section for **Avalaire S-Moc II**, **Avalaire S-Moc II + AAtrex or Princep**, or **Avalaire S-Moc II + AAtrex + Princep – Preplant Surface, Preplant incorporated, or Preemergence**.

#### **Application:**

Apply before, during, or after planting, but before the corn emerges. Add Gramoxone brands, Landmaster BW, Touchdown brands, or Roundup brands and apply as directed on the product label.

#### **Gramoxone Brands:**

Apply as directed on the product label. This treatment will not control weeds taller than 6 inches.

#### **Landmaster BW:**

27-54 oz./A depending on weed species and size. See the Landmaster BW label for weeds controlled, labeled rates for specific weeds, and other information concerning use.

#### **Touchdown Brands or Roundup Brands:**

See the Touchdown brand or Roundup brand label for weeds controlled, rates, and other use directions.

Apply in 20-60 gals. of water or fluid fertilizer per acre with ground equipment.

On *coarse soils*, apply 1.0 pt./A of **Avalaire S-Moc II** with 1.3 lbs. of AAtrex Nine-O\* or Princep Caliber 90\*, or with 0.7 lb. of AAtrex Nine-O\*\* + 0.7 lb. of Princep Caliber 90\*\*. On *medium soils*, apply 1.33 pts./A of **Avalaire S-Moc II** with 1.8 lbs. of AAtrex Nine-O or Princep Caliber 90, or with 0.9 lb. of AAtrex Nine-O + 0.9 lb. of Princep Caliber 90. On *fine soils\*\*\**, apply 1.33-1.67 pts./A of **Avalaire S-Moc II** with 1.8-2.2 lbs. of AAtrex Nine-O or Princep Caliber 90, or with 0.9-1.1 lbs. of AAtrex Nine-O + 0.9-1.1 lbs. of Princep Caliber 90.

\* Use Princep in preference to AAtrex when heavy infestations of crabgrass or fall panicum are expected.

\*\*When using the tank mixture of **Avalaire S-Moc II + AAtrex Nine-O + Princep Caliber 90**, use equal rates of AAtrex and Princep as shown when heavy broadleaf weed infestations are expected. When heavy infestations of crabgrass or fall panicum are expected, use a 1:2 ratio of AAtrex + Princep instead of the 1:1 ratio given. (*Example: Total AAtrex Nine-O + Princep Caliber 90 = 1.8 lbs./A, use 0.6 lb. of AAtrex + 1.2 lbs. of Princep, respectively.*) Refer to Comment No. 2 following Table 2 for AAtrex 4L and Princep 4L conversions.

\*\*\*For cocklebur, yellow nutsedge, and velvetleaf control on *fine-textured soils* above 3% organic matter, apply 2.25 lbs./A of AAtrex Nine-O, or equivalent rate of AAtrex 4L, or the same total amount of AAtrex + Princep with 1.33-1.67 pt./A of **Avalaire S-Moc II**.

#### **TANK MIXTURE WITH AATREX; OR AATREX + 2,4-D; OR AATREX + 2,4-D + BANVEL FOR MINIMUM-TILLAGE OR NO-TILLAGE SYSTEMS**

In minimum-tillage or no-tillage systems where corn is planted directly into a cover crop, stale seedbed, established sod, or previous crop residues, **Avalaire S-Moc II** applied in combination with AAtrex will kill most emerged small annual weeds. Apply **Avalaire S-Moc II + AAtrex** before, during, or after planting, but before corn emerges, according to the rates in Table 3.

Where heavy crop residues exist, add 0.8-1.6 pts./A of an appropriately labeled 3.8 lbs. a.i./gals. of 2,4-D amine (such

as Weedar 64, Weedar 64A, DMA-4 Herbicide, Weedone® 638 or Formula 40) to the spray tank last and apply in a minimum of 25 gals. of carrier per acre.

As carriers, nitrogen solutions and complete liquid fertilizers, applied before corn emergence, enhance burndown of existing weeds, and therefore, are recommended instead of water. Add X-77 surfactant at 1.0-2.0 qts./100 gals. of diluted spray, or another appropriate surfactant at its recommended rate, or add crop oil concentrate plus 28% liquid nitrogen (or equivalent). Apply before weeds exceed 3 inches in height. If alfalfa is present, add Banvel to the spray mixture at 0.33-0.5 pt./A and apply before alfalfa exceeds 6 inches in height.

For fields with existing sod grasses (e.g., bromegrass, orchardgrass, rye, or timothy), when existing weeds exceed 3 inches in height or when very dry conditions exist, add Gramoxone brands at the rate indicated on the product label in place of or in addition to 2,4-D, as indicated above. Do not apply Gramoxone brands in suspension-type liquid fertilizer. Observe all directions for use, precautions, and limitations on the respective product labels when applying these products in tank mix combination.

#### **TANK MIXTURE WITH MARKSMAN IN CONSERVATION TILLAGE - FIELD AND SILAGE CORN**

In conservation tillage systems where corn is planted directly into a cover crop or previous crop residue, **Avalaire S-Moc II** + Marksman will kill most emerged small annual weeds. Apply **Avalaire S-Moc II** + Marksman before, during, or after planting, but before corn emergence on *medium* and *fine soils* with greater than 2.5% organic matter. For fields with existing vegetation exceeding 3 inches in height or when very dry conditions exist, add Gramoxone brands at its standard rate. **Avalaire S-Moc II** + Marksman may be applied postemergence to corn less than 3 inches tall and before weedy grasses exceed the 2-leaf stage.

As carriers, nitrogen solutions and complete liquid fertilizers, applied before corn emergence, enhance burndown of existing weeds. Do not apply Gramoxone brands in suspension-type liquid fertilizer or use on emerged corn.

Refer to the Marksman label and follow all directions, limitations, precautions, and information regarding application and use in corn.

#### **TANK MIXTURE WITH BALANCE PRO – FIELD CORN ONLY**

**Avalaire S-Moc II** and Balance Pro have a complementary response and weed control profile which allows various tank mix rate combinations to be considered. The addition of Balance Pro will improve the control of certain problem weeds, including Texas panicum, woolly cupgrass, and wild proso millet. **Avalaire S-Moc II** improves both the duration and spectrum of annual grass and small-seeded broadleaf weed control, in particular foxtails (yellow foxtail) and witchgrass, and yellow nutsedge.

To reduce the risk of an adverse crop response, the Balance Pro label does not allow applications to *coarse-textured soils* with less than 1.5% organic matter and warns about applications to all soils with less than 1.5% organic matter or with pH greater than 7.5, as well as applications made to areas in fields with clay knolls, eroded hillsides, and exposed subsoil. **Avalaire S-Moc II** has no adverse crop response warnings or use restrictions.

Listed below are compensating rate options for combinations of **Avalaire S-Moc II** and Balance Pro, i.e., higher rates of **Avalaire S-Moc II** are combined with lower rates of Balance Pro and vice versa. Select a rate option for **Avalaire S-Moc II** plus Balance Pro by weighing the intensity of problem weed pressure (population presence and density) and your acceptance for risk of an adverse crop response. For example, where Texas panicum, woolly cupgrass, or wild proso millet is a primary target weed, use a tank-mix combination with a higher Balance Pro rate for the given soil type.

Where your acceptance of an adverse crop response risk is low and/or a more general weed spectrum is targeted (especially yellow foxtail, witchgrass, or yellow nutsedge), use a tank-mix combination with a higher **Avalaire S-Moc II** rate for the given soil type. Where a target weed is listed as controlled on both product labels, a tank-mix combination option including intermediate rates of both products may be used. Where a target weed is listed as controlled on only one product label, do not apply a rate of that product below what is listed for that weed on the individual product label,

or unacceptable control may result. Follow all other directions for use, rate limitations, precautions, and restrictions on both the **Avalaire S-Moc II** and Balance Pro product labels.

**For coarse-textured soils:** Where 1.5 or 1.88 oz./A of Balance Pro is used, 1.0-1.33 pts./A of **Avalaire S-Moc II** may be applied. Do not use Balance Pro on *coarse-textured soils* with less than 1.5% organic matter.

**For medium-textured soils:** Where 1.5 oz./A of Balance Pro is used, rates as low as 1.33 pts./A of **Avalaire S-Moc II** may be applied. Where 1.88 or 2.25 oz./A of balance Pro is used, rates as low as 1.0 pts./A of **Avalaire S-Moc II** may be applied. **Avalaire S-Moc II** can be used in combinations with Balance Pro at rates up to 1.67 pts./A on *medium-textured soils*.

**For fine-textured soils:** Where 1.5 oz./A of Balance Pro is used, rates as low as 1.33 pts./A of **Avalaire S-Moc II** may be applied if the soil organic matter is less than 3%; if the soil organic matter is 3% or greater, 1.67 pts./A of **Avalaire S-Moc II** should be applied. Where 1.88 or 2.25 oz./A of Balance Pro is used, rates as low as 1.33 pts./A of **Avalaire S-Moc II** may be applied. Where 3.0 oz./A or more of Balance Pro is used, rates as low as 1.0 pt./A of **Avalaire S-Moc II** may be applied. **Avalaire S-Moc II** can be used in combinations with Balance Pro at rates up to 2.0 pts./A on *fine-textured soils* if the organic matter is 3% or greater.

#### **TANK MIXTURES FOR POSTEMERGENCE SALVAGE WEED CONTROL IN FIELD CORN ONLY**

For postemergence control of weeds in specific types of field corn, the **Avalaire S-Moc II** combinations listed below may be used. Full season weed control from early preplant, preplant incorporated, or preemergence treatments can lead to maximum yield potential under competition-free conditions. However, if control of emerged weeds is needed, a postemergence program listed below can be applied to provide residual control for the remainder of the season.

#### **Restrictions:**

1. 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.
2. Do not use fluid fertilizer with these mixtures or corn injury may occur.
3. For each tank mixture with **Avalaire S-Moc II**, apply only to the specific field corn type specified on the tank mix product label.

#### **Precaution:**

1. In-row weed control may be reduced because of lack of coverage when applied to corn over 4 inches tall.

#### **Avalaire S-Moc II + Liberty Herbicide or Ignite® 280 SL Herbicide: Postemergence Use in LibertyLink® Corn or Corn Warranted by Bayer CropScience as Being Tolerant to Liberty Herbicide or Ignite 280 SL Herbicide**

These tank mixtures can be applied postemergence to weeds and corn from seed designated as LibertyLink or corn warranted by Bayer CropScience as being tolerant to Liberty Herbicide or Ignite 280 SL Herbicide. Liberty provides postemergence control of a broad spectrum of grass and broadleaf weeds and the **Avalaire S-Moc II** provides residual control of grasses and certain broadleaf weeds listed in the label section **Avalaire S-Moc II Applied Alone - Weeds Controlled**. Refer to section **Avalaire S-Moc II Alone - Preplant Incorporated or Preemergence** and use the minimum rate per soil texture and organic matter classification for season-long residual control from this tank mix combination with Liberty Herbicide or Ignite 280 SL Herbicide. Refer to the Liberty Herbicide or Ignite 280 SL Herbicide label for the postemergence application rates according to weed species and their maximum height at the time of postemergence application. Where multiple weed species are present, use the highest rate listed to control the species and growth stages present.

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. Where difficult species and/or severe weed populations are expected, use the maximum rate where rate ranges are listed.

### **Avalaire S-Moc II + Touchdown Brands or Roundup Brands for Postemergence Application to Glyphosate-Tolerant Corn**

The tank mixture of **Avalaire S-Moc II** + Touchdown brands or Roundup brands can be applied postemergence to weeds and to corn designated as glyphosate-tolerant. Application may be applied postemergence to glyphosate-tolerant corn from emergence until corn reaches 30 inches tall or the V8 stage (8 leaves with collars), whichever comes first. This mixture will provide postemergence control of weed species on the Touchdown brand or Roundup brand label and residual control of weed species on the **Avalaire S-Moc II** label. Use the minimum **Avalaire S-Moc II** rate postemergence with Touchdown or Roundup in glyphosate-tolerant corn as specified in the **Corn - Avalaire S-Moc II - Preplant Incorporated or Preemergence** section of this label according to soil texture and organic matter. Refer to the Touchdown brand or Roundup brand label and follow appropriate use directions, application procedures, precautions, and limitations. Refer to the Touchdown brand or Roundup brand label for directions for control of problem species. Where difficult species and/or severe weed populations are expected, use the maximum rate where rate ranges are listed.

### **Avalaire S-Moc II + Touchdown Brands or Roundup Brands + AAtrex for Postemergence Application to Glyphosate-Tolerant Corn**

The tank mixture of **Avalaire S-Moc II** + AAtrex + Touchdown brands or Roundup brands can be applied postemergence to weeds and to corn designated as glyphosate-tolerant. Application may be applied postemergence to glyphosate-tolerant corn from emergence up to 12 inches in height. This mixture will provide postemergence control of weed species on the Touchdown brand or Roundup brand label and residual control of weed species on the **Avalaire S-Moc II** + AAtrex label. Use the minimum **Avalaire S-Moc II** + AAtrex rate postemergence with Touchdown or Roundup in glyphosate-tolerant corn as specified in the **Corn - Avalaire S-Moc II Combinations - Tank Mixture With AAtrex or Princep, or AAtrex + Princep - Preplant Incorporated or Preemergence** section and **Table 3** of this label according to soil texture and organic matter.

Follow all applicable use directions, limitations, precautions, and information regarding application to corn on the **Avalaire S-Moc II**, AAtrex, and Touchdown brand or Roundup brand labels for application to glyphosate-tolerant corn. Where difficult species and/or severe weed populations are expected, use the maximum rate where rate ranges are listed.

### **COTTON - Avalaire S-Moc II ALONE**

#### **Application:**

Apply **Avalaire S-Moc II** preemergence only in Area 1\* at the rate of 0.5 – 1.0 pts./A on sandy loams, 0.66 – 1.33 pts./A on *medium soils*, or 1.0 – 1.33 pts./A on *fine soils*. Apply **Avalaire S-Moc II** preplant incorporated or preemergence in Area 2\*\* at 1.0 pt./A on sandy loams, 1.0 – 1.33 pts./A on *medium soils*, or 1.33 pts./A on *fine soils*. Apply **Avalaire S-Moc II** postemergence to cotton and preemergence to weeds at 0.5 – 1.33 pts./A, according to the state limitations in the follow Postemergence section.

\* Area 1 = AR, KS, LA, MS, TN, and Bootheel of MO

\*\* Area 2 = NM, OK, and TX

#### **Fall Application for Italian Ryegrass Control:**

**Avalaire S-Moc II** may be applied for residual control of glyphosate-resistant Italian ryegrass (*Lolium multiflorum*). Apply **Avalaire S-Moc II** at 1.33-1.67 pts./A in the fall (September 1 - December 1) after harvest of the previous crop and prior to Italian ryegrass emergence. Use the lower **Avalaire S-Moc II** rate for coarse-textured soils and the higher rate for fine-textured soils. A tillage operation may precede the application. Do not incorporate to a depth greater than 2-3 inches if tillage follows the application of **Avalaire S-Moc II**. For fall applications after emergence of glyphosate-resistant Italian ryegrass, Gramoxone brands can be tank mixed with **Avalaire S-Moc II** to control emerged ryegrass. Refer to the Gramoxone brands label for specific rates, application instructions, and restrictions. Other registered herbicides may be tank mixed with **Avalaire S-Moc II** for control or improved control of other weeds present at the time of application.

**Restrictions:**

1. Do not apply **Avalaire S-Moc II** to frozen ground.
2. If a spring application is made, the combined total amount of **Avalaire S-Moc II** applied in the fall plus the spring must not exceed the maximum seasonal rate for cotton 2.6 pts./A **Avalaire S-Moc II** (2.47 lbs. of **s-metolachlor**), depending on soil texture), or illegal residues may result.

**Preplant Incorporated (NM, OK, and TX Only):**

Apply to the soil and incorporate into the top inch of soil immediately before planting, at planting, or after planting, but before crop or weed emerge. Use a rolling cultivator or similar implement to uniformly incorporate not more than 1 inch deep. Use a preplant incorporated application if furrow irrigation is used or when a period of dry weather after application is expected. Where furrow irrigation is used, wet the top of the bed for best results. If the crop is to be planted on beds, apply and incorporate after bed formation. Cotton should be planted below the zone of incorporation; i.e., at least 1 inch on *fine soils* and 1.5 inches on *coarse* and *medium soils*. If incorporated prior to planting, use a planter that will result in a minimum of soil disturbance.

**Precaution:** For best control of yellow nutsedge and suppression of seedling johnsongrass, apply **Avalaire S-Moc II** preplant incorporated at the maximum rate for the soil texture, whether applied alone or mixed with Caparol 4L.

**Preemergence:**

Apply to the soil surface at planting or after planting, but before weeds or crop emerge.

**Postemergence:**

Apply **Avalaire S-Moc II** broadcast over the top or directed to the soil surface according to the rate limitations listed below by state. Over-the-top postemergence application may be made not later than 100 days before harvest, and directed-postemergence application may be made not later than 80 days before harvest. Application before weeds emerge or after clean cultivation to remove existing weeds is necessary since **Avalaire S-Moc II** will not control emerged weeds. **Avalaire S-Moc II** postemergence may be applied over any previous registered herbicide treatment. In sprinkler-irrigated areas, sprinkler irrigate after application with ½-1 inch of water (½ inch on *coarse-textured soils* to 1 inch on *fine-textured soils*) to incorporate **Avalaire S-Moc II**. In furrow-irrigated areas, apply **Avalaire S-Moc II**, incorporate with a rolling cultivator or similar implement that provides uniform shallow incorporation (2 inches or less), and then irrigate. In non-irrigated areas, if at least ½ inch of rainfall does not occur within 10 days after application, cultivate with a rolling cultivator or similar implement that provides uniform shallow incorporation of **Avalaire S-Moc II**.

**VA, NC, SC, GA, FL, and AL:** Apply **Avalaire S-Moc II** postemergence at 1.0-1.33 pts./A.

**TN, AR, KS, MS, MO, and LA:** Apply **Avalaire S-Moc II** postemergence at 0.5-1.33 pts./A.

**TX, OK, NM, AZ, CA, and Clay Soils in AR:** Apply **Avalaire S-Moc II** postemergence at 1.0-1.33 pts./A before August 1.

**Multiple Applications:** Where weed pressure is heavy, difficult-to-control species are expected, or re-infestation may occur, and a weed control program is used, multiple applications of **Avalaire S-Moc II** are effective when used as part of the weed control program. Apply as a preplant incorporated or preemergence treatment and follow with an application postemergence to cotton before weeds emerge or after clean cultivation to remove existing weeds, since **Avalaire S-Moc II** will not control emerged weeds. Apply **Avalaire S-Moc II** postemergence over a previous preplant or preemergence **Avalaire S-Moc II** application as shown in the following table.

State	Multiple Avalaire S-Moc II Applications to Cotton		
	Preplant Incorporated or Preemergence (Pt./A)	+	Postemergence (Pt./A)
MS, LA, TN, AR, KS, MO	0.5 – 1.33 (Preemergence only)	+	0.5 – 1.33

TX, OK, NM	1.0 – 1.33	+	1.0 – 1.33 before August 1
NC, VA	1.0 – 1.33 (Preemergence only)	+	1.0 – 1.33

In sprinkler-irrigated areas, sprinkler irrigate after application with ½-1 inch of water (½ inch on *coarse-textured soils* to 1 inch on *fine-textured soils*) to incorporate **Avalaire S-Moc II**. In furrow-irrigated areas, apply **Avalaire S-Moc II**, incorporate with a rolling cultivator or similar implement that provides uniform shallow incorporation (2 inches or less), and then irrigate. In nonirrigated areas, if at least ½ inch of rainfall does not occur within 10 days after application, cultivate with a rolling cultivator or similar implement that provides uniform shallow incorporation of **Avalaire S-Moc II**.

**Precautions:** To avoid crop injury:

1. To avoid concentration in the seed furrow, do not make broadcast applications of **Avalaire S-Moc II** to cotton planted in furrows more than 2 inches deep. Band applications may be made to cotton planted in furrows deeper than 2 inches, but band width should not exceed the width of the bottom of the furrow;
2. In furrow-planted cotton, to avoid concentration in the furrow and potential injury, do not apply **Avalaire S-Moc II** postemergence until after first "knifing" or cultivation to level soil surface;

**Restrictions:**

1. Do not apply more than a total of 2.0 pts./A (1.9 lbs of s-metolachlor) on *coarse soils* or 2.6 pts./A of **Avalaire S-Moc II** (2.47 lbs. of s-metolachlor) on *medium* and *fine soils* during a growing season. These treatments may be applied over previous registered herbicide treatments.
2. Do not graze or feed forage or fodder from cotton to livestock, or illegal residues may result.
3. Do not apply **Avalaire S-Moc II** on sand or loamy sand soils, or in areas where water is likely to "pond" over the bed;
4. Do not apply over the top in fluid fertilizer or any other adjuvant, surfactant, oil, or other pesticide not listed in the cotton section of this label, or injury may occur;
5. Do not apply on Taloka silt loam;
6. Do not use in Gaines County, TX.

## COTTON - Avalaire S-Moc II COMBINATIONS

### TANK MIXTURE WITH CAPAROL 4L

**Avalaire S-Moc II** tank mixtures with Caparol 4L may be applied preplant incorporated or preemergence in water or fluid fertilizer. When fluid fertilizer is used as a carrier for **Avalaire S-Moc II**, either alone or in combination with Caparol 4L, mix only the amount that will be sprayed in one operation. These mixtures should not be allowed to stand without agitation. Only use water as a carrier for postemergence-directed application.

In addition to those weeds controlled by **Avalaire S-Moc II** alone, **Avalaire S-Moc II** + Caparol 4L, applied preplant incorporated or preemergence, also controls the following weeds: junglerice, wild oats, annual morningglory, groundcherry, hairy nightshade, lambsquarters, malva, mustard, prickly sida (teaweed), purslane, ragweed, and shallow-germinating seedlings of cocklebur and coffeeweed. As a postemergence-directed application, Caparol 4L provides postemergence control and residual control of weeds on its label, while **Avalaire S-Moc II** provides residual control of weed species on its label. **Avalaire S-Moc II** will not control emerged weeds.

**Preplant incorporated or Preemergence:**

Apply **Avalaire S-Moc II** + Caparol 4L, either preplant incorporated or preemergence, using the appropriate rate from Table 5. Plant cotton below the zone of incorporation; i.e., at least 1.0 inch on *fine soils* and 1.5 inches on *coarse* and *medium soils*. If incorporated before planting, use a planter that will result in a minimum of soil disturbance.

**Table 5: Avalaire S-Moc II + Caparol 4L – Cotton (NM, OK, TX)**

Use Areas	Soil Texture	Broadcast Rates Per Acre	
		Avalaire S-Moc II	Caparol 4L

ALL	Sand, loamy sand	DO NOT USE	
OK, Blacklands and Gulf Coast of TX	Loams	0.8-1.33 pts.	2.4 pts.
	Clays	1.33 pts.	4.8 pts.
Rio Grande Valley of TX	Loams	0.8-1.33 pts.	3.2 pts.
	Clays	1.33 pts.	4.8 pts.
NM; High Plains, Rolling Plains, Edwards Plateau of TX; and Southwest TX	Sandy loam	0.8-1.0 pt.	1.6 pts.
	Loams	0.8-1.33 pts.	2.4 pts.
	Sandy clay loams	1.33 pts.	2.4 pts.
	Other clay soils	1.33 pts.	3.2 pts.

**Postemergence Directed (AR, AZ, CA, LA, MS, NM, OK, TN, TX, and MO):**

**Avalaire S-Moc II** may be tank mixed with Caparol 4L in water and applied postemergence directed in cotton for control of emerged weeds listed on the Caparol 4L label and residual preemergence control of weeds controlled by **Avalaire S-Moc II** and Caparol 4L, or application may be made after cultivation for residual preemergence control. These treatments may be applied over previous registered treatments, including **Avalaire S-Moc II**, provided the maximum label rate of any product is not exceeded. Do not apply over the top of cotton or injury may occur.

Apply **Avalaire S-Moc II** + Caparol 4L in a minimum of 20 gals. of spray volume per acre. Follow the directions, limitations, and precautions on the Caparol 4L label when Caparol 4L is applied as a postemergence-directed application. Refer to the directions, limitations, and precautions for use of **Avalaire S-Moc II** under the **Cotton - Avalaire S-Moc II Alone - Postemergence** section.

**Precautions:**

To avoid concentration in the seed furrow, do not make broadcast applications of **Avalaire S-Moc II** + Caparol 4L to cotton planted in furrows more than 2 inches deep. Band applications may be made to cotton planted in furrows deeper than 2 inches, but band width should not exceed the width of the bottom of the furrow.

To avoid crop injury:

1. Avoid applying **Avalaire S-Moc II** on sand or loamy sand soils, or in areas where water is likely to "pond" over the bed;
2. Avoid applying **Avalaire S-Moc II** on in cut areas of newly leveled fields, or in areas of excess salt;
3. Avoid applying **Avalaire S-Moc II** on glandless cotton varieties;
4. Avoid applying **Avalaire S-Moc II** on on Taloka silt loam.

**Restrictions:**

1. Do not graze or feed forage or fodder from cotton to livestock, or illegal residues may result.
2. Do not use in Gaines County, TX.

Refer to the Caparol 4L label for further instructions and limitations.

**TANK MIXTURE WITH COTORAN 4L**

Apply **Avalaire S-Moc II** in tank mixture with Cotoran 4L preemergence for control of those weeds controlled by **Avalaire S-Moc II** alone and those as listed on the Cotoran 4L label. This combination will also control spotted spurge, hyssop spurge, nodding spurge, and prostrate spurge. Apply to the soil surface at planting or after planting, but before weeds or crop emerge, using the appropriate rates from Table 6. Apply the tank mixture postemergence to cotton but preemergence to weeds, or apply postemergence to both cotton and broadleaf weeds for control of weeds on the Cotoran 4L label. Apply as a directed, semi-directed, or over-the-top spray. **Avalaire S-Moc II** will not control emerged weeds but will provide preemergence control of species on its label. Where rate ranges are given for Cotoran 4L, use the higher rate when applying postemergence to weeds that are 2 inches or less. These treatments may be applied over previous registered treatments, including **Avalaire S-Moc II**, provided the maximum



label rate of any product is not exceeded.

**Mixing Instructions:** Incompatibility may occur when tank mixing **Avalaire S-Moc II** and Cotoran 4L. To help overcome this condition, fill the spray tank 1/4 full with water or fluid fertilizer and start agitation, add the Cotoran 4L and allow it to become dispersed. Add X-77 at 0.5% volume/volume final spray (4.0 pts./100 gals.), then add the **Avalaire S-Moc II** and finally the rest of the water or fluid fertilizer. Agitate during mixing and application to maintain a uniform suspension. Do not use fluid fertilizer as a carrier for postemergence applications.

**Table 6: Avalaire S-Moc II + Cotoran 4L – Cotton**

Soil Texture	Broadcast Rates Per Acre		
	Avalaire S-Moc II (pts.)		Cotoran 4L (pts.)
	Area 1*	Area 2**	
Sand, loamy sand	DO NOT USE		
Sandy loam	0.5-1.0	0.8-1.0	2.04
Loam, silt loam, silt	0.66-1.33	1.0-1.33	2.04 – 3.23
Fine soil	1.0-1.33	1.33	3.23 – 4.08

\* Area 1 = AR, LA, MS, Bootheel of MO and TN

\*\* Area 2 = Eastern OK, Gulf Coast, Rio Grande Valley, and Eastern TX

**Precautions:**

1. To avoid concentration in the seed furrow, do not make broadcast applications of **Avalaire S-Moc II** + Cotoran to cotton planted in furrows more than 2 inches deep. Band applications may be made to cotton planted in furrows deeper than 2 inches, but band width should not exceed the width of the bottom of the furrow.
2. The use of Cotoran following the use of a systemic insecticide at planting may result in crop injury.

Refer to the Cotoran labels for further instructions, precautions, and limitations.

**Restrictions:**

1. To avoid possible illegal residues, do not feed treated forage or gin trash to livestock, or graze treated areas.
2. Do not apply **Avalaire S-Moc II** + Cotoran on sand or loamy sand soils, or in areas where water is likely to “pond” over the bed, or crop injury may occur.
3. Do not use on Taloka silt loam or crop injury may occur.
4. Do not use in Gaines County, TX.

**TANK MIXTURE OF Avalaire S-Moc II OR Avalaire S-Moc II + COTORAN WITH GRAMOXONE BRANDS, TOUCHDOWN BRANDS, OR ROUNDUP BRANDS FOR MINIMUM-TILLAGE OR NO-TILAGE SYSTEMS**

In minimum-tillage or no-tillage systems where cotton is planted directly into a cover crop, stale seedbed, or previous crop residues, the contact herbicides Gramoxone brands, Touchdown brands, or Roundup brands may be added to a tank mix of either **Avalaire S-Moc II** or **Avalaire S-Moc II** + Cotoran. When used as directed, the Gramoxone brands

portion of the tank mixture controls most emerged weeds and suppresses many perennial weeds. Touchdown or Roundup combinations will control emerged annual and perennial weeds when applied as directed on the Touchdown or Roundup label. The **Avalaire S-Moc II** and **Avalaire S-Moc II + Cotoran** portion of the tank mixture provides preemergence control of the weeds listed on this label in the **Avalaire S-Moc II** and **Avalaire S-Moc II + Cotoran** sections, respectively.

Refer to the label of each product used in combination and observe the planting details, information regarding application, geographical restrictions, and all other precautions and limitations. Refer to **Mixing Instructions** under **Tank Mixture with Cotoran 4L** section.

**Application:**

Apply before, during, or after planting, but before the cotton emerges. Apply **Avalaire S-Moc II** at 0.8-1.0 pt./A on sandy loams, *medium-*, and *fine-textured soils*. Refer to Table 6 for the Cotoran 4L rates.

**Gramoxone Brands:**

Apply as directed on the product label. This treatment will not control weeds taller than 6 inches.

**Restrictions:**

1. Do not apply combinations containing Gramoxone brands in suspension- type liquid fertilizers, as the activity of paraquat will be reduced.
2. Do not apply **Avalaire S-Moc II + Cotoran 4L + Roundup** in tank mixture because of compatibility problems.
3. Do not use in Gaines County, TX.

**Touchdown Brands or Roundup Brands:**

See the Touchdown or Roundup label for weeds controlled, rates, and other use directions.

Apply in 20-60 gals. of water or fluid fertilizer per acre with ground equipment.

**Precautions:**

1. If heavy rain occurs soon after application, crop injury may result, especially in poorly drained areas where water stand for several days, or where the seeding slit has not been properly closed.
2. Refer to the Cotoran labels and the **Tank Mixture with Cotoran 4L** section of this label for further instructions, precautions, and limitations.

**TANK MIXTURE WITH MSMA, MSMA + CAPAROL, OR MSMA + COTORAN**

**Avalaire S-Moc II** may be tank mixed with MSMA in water and applied postemergence directed for control of emerged weeds listed on the MSMA product label and residual preemergence control of weeds controlled by **Avalaire S-Moc II**. The addition of Caparol or Cotoran will add control of weed species on their respective labels.

**Postemergence Directed (AL, AR, AZ, CA, FL, GA, LA, MS, NC, NM, OK, SC, TN, TX, VA, and Bootheel of MO):** Apply **Avalaire S-Moc II + MSMA** postemergence directed to cotton at least 3 inches tall according to the directions, limitations, and precautions on the MSMA product label, as well as the directions, limitations, and precautions for use of **Avalaire S-Moc II** in the section for **Cotton - Avalaire S-Moc II Alone - Postemergence**. Do not apply after first cotton bloom. These treatments may be applied over previous registered treatments, including **Avalaire S-Moc II**, provided the maximum label rate of any product is not exceeded. Cotoran or Caparol may be added to the **Avalaire S-Moc II + MSMA** tank mixture according to the respective label directions for application to cotton at least 3 inches tall. When these mixtures are used, follow the mixing instructions for **Avalaire S-Moc II + Caparol** or **Cotoran** and then add the MSMA product.

Do not use **Avalaire S-Moc II** in tank mix with premixes of MSMA plus herbicides other than those registered for use in tank mixture with **Avalaire S-Moc II** on cotton.

#### **TANK MIXTURE WITH TREFLAN FOR POST-DIRECTED FOLLOWED BY SOIL INCORPORATION APPLICATIONS**

**Avalaire S-Moc II** may be applied as a tank mixture with Treflan in cotton for improved late-season weed control when used as an incorporated lay-by type application. This combination may be applied after the cotton is at least 3 inches tall and has reached the 4 true-leaf stage. Make the application directed to the soil surface and away from the crop foliage. Incorporate using a sweep or rolling type cultivator to provide uniform and shallow mixing into the top 2 inches of soil. Refer to each product label for the appropriate application rates by soil type and for this application timing, and follow all product use limitations and restrictions.

#### **TANK MIXTURE WITH TOUCHDOWN BRANDS OR ROUNDUP BRANDS FOR USE ON GLYPHOSATE-RESISTANT COTTON ONLY**

Apply **Avalaire S-Moc II** as a tank mixture with Touchdown or Roundup in water postemergence over-the-top or postemergence directed for control of emerged weeds listed on the Touchdown or Roundup labels and for residual preemergence control of weeds listed on the **Avalaire S-Moc II** label. See the **Cotton - Avalaire S-Moc II Alone – Postemergence** section of this label for rates and timings of **Avalaire S-Moc II** and follow the Touchdown and Roundup label for their respective rates, application methods, and application timing restrictions. Do not add additional spray adjuvants, surfactants, fertilizer additives, or pesticides to this tank mixture if applied postemergence over-the-top or unacceptable injury may occur. Refer to the Touchdown brand or Roundup brand label and follow appropriate use directions, application procedures, precautions, and limitations.

##### **Restrictions:**

1. Do not apply this tank mixture postemergence to any cotton variety unless it is designated glyphosate-resistant and unless the Touchdown or Roundup formulation being used is registered for postemergence use in Glyphosate-resistant Cotton.
2. Do not apply Touchdown or Roundup postemergence over-the-top to cotton past the growth stage limit specified on their respective labels.
3. Do not use on sand or loamy sand soils in Gaines County, TX.

##### **Precaution:**

1. Postemergence over-the-top applications of this tank mixture may cause temporary injury in the form of necrotic spotting to exposed cotton leaves, which will not affect normal plant development.

#### **SOYBEAN, IMMATURE SEED**

**Avalaire S-Moc II** may be applied preplant or preemergence for the control or suppression of grass and small-seeded weeds in immature-seed soybean or other food-grade soybeans. For specific rates, see the rate table listed below.

##### **Preplant Surface-Applied:**

For minimum-tillage or no-tillage systems only, **Avalaire S-Moc II** alone may be applied up to 45 days before planting. Use only split applications for treatments made 30-45 days before planting, with 2/3 the listed broadcast rate for the crop and soil texture applied initially and the remaining 1/3 applied at planting. Treatments less than 30 days before planting may be made either as a split or a single application. If weeds are present at the time of treatment, apply in a tank mixture combination with a contact herbicide (e.g., Gramoxone brands, Touchdown, or Roundup). Observe directions for use, precautions, and restrictions on the label of the contact herbicide. To the extent possible, do not move treated soil out of the row or move untreated soil to the surface during planting, or weed control will be diminished.

##### **Preplant Incorporated:**

Apply **Avalaire S-Moc II** to the soil and incorporate into the top 2 inches of soil within 14 days before planting, using a finishing disk, harrow, rolling cultivator, or similar implement capable of providing uniform 2-inch incorporation. Use a preplant incorporated application if furrow irrigation is used or when a period of dry weather after application is expected. If crop will be planted on beds, apply and incorporate **Avalaire S-Moc II** after bed formation, unless specified otherwise.

**Preemergence:**

Apply **Avalaire S-Moc II** during planting (behind the planter) or after planting, but before weeds emerge.

**Avalaire S-Moc II Broadcast Rates Per Acre**

Soil Texture	Percent Organic Matter in Soil	
	< 3%	≥ 3%
Medium	1.33-1.67 pts.	1.33-1.67 pts.
Fine	1.33-1.67 pts.	1.67-2.0 pts.

**Precautions:**

1. **Avalaire S-Moc II** will not control emerged weeds.

**Restrictions:**

1. Do not cut for hay within 120 days following a **Avalaire S-Moc II** application.
2. Do not use for forage within 60 days following a **Avalaire S-Moc II** application.
3. Do not apply more than 2.0 pts./A (1.9 lbs s-metolachlor) of **Avalaire S-Moc II** during any one crop year.

**GRASSES GROWN FOR SEED (ID, OR, WA) - Avalaire S-Moc II APPLIED ALONE**

To control weeds and volunteer grasses in established grasses grown for seed, apply **Avalaire S-Moc II** to established stands of tall fescue, orchard grass, perennial ryegrass, fine fescue, bentgrass, and Kentucky bluegrass just before, during, or immediately following the first fall rains or just before or during a late summer or early fall irrigation, but before target grasses emerge. The seed crop must have had one seed harvest or been established at least one year. The post-harvest residue (straw) should be evenly spread, removed, or burned before applying **Avalaire S-Moc II**. Rainfall or irrigation is required after application and before weed emergence for best control. **Avalaire S-Moc II** will provide preemergence control/suppression of volunteer seedlings of perennial ryegrass, fine fescue species, tall fescue, orchardgrass, bentgrass, and Kentucky bluegrass. **Avalaire S-Moc II** will control those weed species listed in the **Avalaire S-Moc II Alone** section of the **Avalaire S-Moc II** label and will suppress or control rattail fescue, annual bluegrass, Italian ryegrass, California brome, downy brome, and roughstalk bluegrass.

Apply **Avalaire S-Moc II** by ground equipment in a minimum of 10 gallons of water per acre using the rate listed below according to grass species.

Established Grass Crop Grown for Seed	Pt./A
Fine fescue species	1.0
Perennial ryegrass	1.0
Bentgrass	1.0-1.33
Kentucky bluegrass	1.0-1.33
Orchardgrass	1.0-1.33
Tall fescue	1.0-1.33

**Precautions:**

1. Tank mixtures with other pesticides, or the addition of an adjuvant, can increase the risk of crop injury.
2. Application to perennial ryegrass and fine fescue stands under stress may cause crop injury.
3. If weed escapes occur following **Avalaire S-Moc II** application, an application of a postemergence herbicide may be necessary to control escapes. When making such an application, follow all directions, precautions, and limitations on the label of the postemergence herbicide.
4. Control may be decreased if excessive straw from the previous harvest is present at application and/or insufficient rainfall/irrigation occurs.

**Restrictions:**

1. Do not apply **Avalaire S-Moc II** more than once per crop year.
2. Do not apply after November 15 or poor control may result.

To avoid possible illegal residues:

1. Do not graze forage regrowth for 60 days following application west of the Cascades.
2. In areas east of the Cascades, do not graze forage regrowth for 150 days following application.
3. Hay may be harvested anytime between seed harvest and the next application of S-metolachlor.

## HORSERADISH

Apply a single application of **Avalaire S-Moc II** at a broadcast rate of 1.0-1.33 pts./A to the soil surface after planting, but before weed or crop emergence (i.e., preemergence). Use lower rates on soils relatively coarse-textured and higher rates on fine-textured soils. A band application may also be used, applying proportionally less spray mixture on the area actually treated. **Avalaire S-Moc II** will not control emerged weeds. Control emerged weeds with an appropriate registered foliar herbicide or by mechanical means.

### Restrictions:

1. Make only one application of **Avalaire S-Moc II** per crop.
2. Do not apply more than 1.33 pts./A (1.27 lbs. s-metolachlor) of **Avalaire S-Moc II** per crop.
3. Harvest horseradish at normal timing.

## PEANUTS - Avalaire S-Moc II ALONE

Apply **Avalaire S-Moc II**, either preplant incorporated, postplant incorporated, or preemergence, using the appropriate rate specified below. **Preplant Incorporated or Preemergence:** Follow instructions for use of **Avalaire S-Moc II** alone under **Application Procedures**. **Postplant Incorporated:** Apply and shallowly incorporate **Avalaire S-Moc II** into the soil after planting, but before peanut germination. Incorporation depth and incorporating implements must be kept above the seed, or seed will be damaged.

Apply **Avalaire S-Moc II** alone, preplant incorporated, postplant incorporated, or preemergence, at a broadcast rate of 1.0-1.33 pts./A in the Southeast\* and 0.8-1.33 pts./A in NM, OK, and TX.

\*In the Southeast, use 1.33-2.0 pts./A and apply preemergence for partial control of Florida beggarweed.

### Restrictions:

1. **Avalaire S-Moc II** alone may be applied as directed after any of the following preplant incorporated herbicides when used according to their label directions: Treflan E.C. at 1.0 pts./A; Sonalan at 1.25-3.0 pts./A; Pursuit at 0.25 pt./A; or Prowl at 1.0-2.0 pts./A.
2. Do not graze or feed peanut forage or fodder to livestock for 30 days following application.
3. Do not apply within 90 days of harvest, or illegal residues may result.

## PEANUTS - Avalaire S-Moc II COMBINATIONS

### TANK MIXTURE OR SEQUENTIALLY WITH PURSUIT

The tank mixture or sequential treatment of **Avalaire S-Moc II** and Pursuit controls all weeds controlled by **Avalaire S-Moc II** alone and by Pursuit alone. Refer to the **Avalaire S-Moc II Applied Alone** section for weeds controlled by **Avalaire S-Moc II** and to the Pursuit label for weeds controlled by Pursuit.

Refer to the respective labels for application methods, timing, rates, restrictions, and precautions; and use in accordance with the more restrictive label. Do not exceed the label rate of either product **Avalaire S-Moc II** will not control emerged weeds.

### TANK MIXTURE WITH SONALAN

The tank mixture controls all weeds controlled by **Avalaire S-Moc II** alone and by Sonalan alone. Refer to the **Avalaire S-Moc II Applied Alone** section for weeds controlled by **Avalaire S-Moc II** and to the Sonalan label for weeds controlled by Sonalan.

Apply **Avalaire S-Moc II** + Sonalan preplant incorporated, using the appropriate rate from Table 7. Follow

recommended soil preparation procedures for Sonalan.

**Table 7: Avalaire S-Moc II + Sonalan – Peanuts**

Soil Texture	Broadcast Rates Per Acre			
	Southeast		NM, OK, TX	
	Avalaire S-Moc II	Sonalan	Avalaire S-Moc II	Sonalan
<b>COARSE</b>	1.0 – 1.33 pts.	1.25 – 2.0 pts.	0.8 – 1.33 pts.	1.25 – 2.0 pts.
<b>MEDIUM</b>	1.0 – 1.33 pts.	1.75 – 2.5 pts.	0.8 – 1.33 pts.	1.75 – 2.5 pts.
<b>FINE</b>	1.0 – 1.33 pts.	2.25 – 3.0 pts.	0.8 – 1.33 pts.	2.25 – 3.0 pts.

**Restrictions:** Follow all use directions, limitations, precautions, and information regarding application to peanuts on the **Avalaire S-Moc II** and Sonalan labels.

**TANK MIXTURE WITH PROWL**

**Avalaire S-Moc II** + Prowl applied preplant incorporated controls all weeds controlled by **Avalaire S-Moc II** alone plus Texas panicum, field sandbur, johnsongrass from seed, lambsquarters, kochia, annual spurge, and other species on the Prowl label. Apply **Avalaire S-Moc II** + Prowl by ground or by aerial equipment within 14 days before planting. Incorporate into the top 1-2 inches of soil before planting and within 7 days of application, using a finishing disk or similar implement capable of providing uniform incorporation. If peanuts will be planted on beds, apply and incorporate after bed formation. Refer to the **Incorporation** instructions of the respective labels for additional directions.

Apply **Avalaire S-Moc II** + Prowl preplant incorporated, using the appropriate rates from Table 8.

**Table 8: Avalaire S-Moc II + Prowl - Peanuts**

Soil Texture	Broadcast Rates Per Acre	
	NM, OK, TX	Other Peanut Growing States
	Avalaire S-Moc II + Prowl	Avalaire S-Moc II + Prowl
<b>Sand, loamy sand</b>	0.8 + 1.0 - 1.5 pts.	1.0 - 1.33 + 1.5 - 2.0 pts.
<b>Sandy loam</b>	0.8 - 1.0 - 1.5 pts.	1.0 - 1.33 + 1.5 - 2.0 pts.
<b>Fine soil</b>	1.33 + 1.0 - 1.5 pts.	1.33 + 1.5 - 2.0 pts.

**Restrictions:** Follow all use directions, limitations, precautions, and information regarding application to peanuts on the **Avalaire S-Moc II** and Prowl labels.

**TANK MIXTURE WITH GRAMOXONE BRANDS**

**Avalaire S-Moc II** + Gramoxone brands applied at ground cracking will control or suppress small (1- to 6-inch) emerged annual grass and broadleaf weeds and provide residual control of weed species listed in the **Avalaire S-Moc II Applied Alone** section of this label. Apply Gramoxone brands plus the appropriate **Avalaire S-Moc II** rate from the **Peanuts - Avalaire S-Moc II Alone** section in a minimum spray volume of 20 gals./A with ground equipment. Refer to the Gramoxone brands label and follow all directions, limitations, and restrictions.

**TANK MIXTURE WITH GRAMOXONE BRANDS + BASAGRAN**

The addition of Basagran to the **Avalaire S-Moc II** + Gramoxone brands mixture will result in improved control of such problem broadleaf weeds as prickly sida, cocklebur, smartweed, and bristly starbur. **Avalaire S-Moc II** + Gramoxone brands + Basagran applied at ground cracking will control or suppress small (1- to 6-inch) emerged annual grass and broadleaf weeds and provide residual control of weed species listed in the **Avalaire S-Moc II Applied Alone** section of this label. Apply Basagran + Gramoxone brands with the appropriate **Avalaire S-Moc II** rate

from the **Peanuts - Avalaire S-Moc II Alone** section in a minimum spray volume of 20 gals./A with ground equipment. Refer to the Gramoxone brands and Basagran labels and follow all directions, limitations, and restrictions.

#### **TANK MIXTURE WITH GRAMOXONE BRANDS + BUTYRAC 200**

The addition of Butyrac 200 to the **Avalaire S-Moc II** + Gramoxone brands mixture will result in improved control of such problem broadleaf weeds as sicklepod, morning glory, and cocklebur. **Avalaire S-Moc II** + Gramoxone brands + Butyrac 200 applied at ground cracking will control or suppress small (1- to 6-inch) emerged annual grass and broadleaf weeds and provide residual control of weed species listed in the **Avalaire S-Moc II Applied Alone** section of this label. Apply Gramoxone brands + Butyrac 200 with the appropriated **Avalaire S-Moc II** rate from the **Peanuts - Avalaire S-Moc II Alone** section in a minimum spray volume of 20 gals./A with ground equipment. Refer to the Gramoxone brands and Butyrac 200 labels and follow all directions, limitations, and restrictions.

#### **TANK MIXTURE WITH BASAGRAN**

**Avalaire S-Moc II** + Basagran applied at ground cracking will control species on the Basagran label and provide residual control of species listed in the **Avalaire S-Moc II Applied Alone** section of this label. Apply 1.0-2.0 pts./A of Basagran in 20 gals./A, depending on weed species and stage of growth as specified on the Basagran label, with the appropriate **Avalaire S-Moc II** rate from the **Peanuts - Avalaire S-Moc II Alone** section. A second Basagran application may be made in all peanut-growing areas, if needed. Refer to the respective labels and follow all directions, limitations, and restrictions for each product.

#### **TANK MIXTURE WITH BASAGRAN + BUTYRAC 200**

**Avalaire S-Moc II** + Basagran + Butyrac 200 applied at ground cracking will control species on the Basagran label and on the Butyrac 200 label, especially morning glories. Apply 1.5 – 2.0 pts./A of Basagran + 8.0 fl. oz./A of Butyrac 200 in 20 gals./A, depending on weed species and stage of growth as specified on the Basagran label, with the appropriate **Avalaire S-Moc II** rate from the **Peanuts - Avalaire S-Moc II Alone** section. A second Basagran + Butyrac 200 application may be made in all peanut-growing areas, if needed. Refer to the respective labels and follow all directions, limitations, and restrictions for each product.

#### **SEQUENTIALLY WITH STORM®**

Apply **Avalaire S-Moc II** according to the directions for **Avalaire S-Moc II Alone** and follow with a postemergence treatment of Storm as specified on its label for the control of weeds listed on the **Avalaire S-Moc II** label and on the Storm label. Refer to the **Avalaire S-Moc II - Peanuts - Alone** section and to the Storm label and follow all directions, limitations, and restrictions for each product.

#### **MULTIPLE APPLICATIONS**

Where weed pressure is heavy or where species difficult to control are expected, **Avalaire S-Moc II**, is most effective when used as follows:

##### **Southeast Only (AL, FL, GA, NC, SC, VA)**

##### **Preplant Incorporated:**

Apply **Avalaire S-Moc II** preplant incorporated as directed under **Peanuts - Avalaire S-Moc II Alone**. Refer to the respective section for weeds controlled.

**OR**

##### **Preemergence to before "ground cracking":**

Apply **Avalaire S-Moc II** any time from preemergence to before "ground cracking" at 1.0-2.0 pts./A for extended control of weeds not yet emerged. **Do not use Avalaire S-Moc II after peanut emergence.** If peanuts have emerged, use **Avalaire S-Moc II** according to its label: **Peanuts - Combinations - Multiple Applications.**

Follow the PPI or PRE application by:

**Lay-by:**

**Do not use Avalaire S-Moc II.** Apply **Avalaire S-Moc II** at lay-by as directed under the **Peanuts - Alone** section of the **Avalaire S-Moc II** label.

**Restrictions:**

1. Do not apply more than 2.8 pts/A (2.67 lbs. of s-metolachlor) of **Avalaire S-Moc II** per acre during any one year, or illegal residues may result. If **Avalaire S-Moc II** is used as a sequential treatment, the lbs. of active ingredient of the previously applied product containing S-metolachlor, plus the lbs. of active ingredient of **Avalaire S-Moc II** (1.0 pt. = 0.95 lb.) should not exceed 2.67 lbs.
2. **Do not use Avalaire S-Moc II after peanuts have emerged.**
3. Do not graze or feed peanut forage or fodder to livestock for 30 days following application.
4. Do not apply within 90 days of harvest, or illegal residues may result.

**Southwest Only (NM, OK, TX)****1st Application:**

Apply **Avalaire S-Moc II** preplant incorporated or preemergence to before "ground cracking" as directed under **Peanuts - Avalaire S-Moc II Alone**. **Do not use Avalaire S-Moc II after peanut emergence.** If peanuts have emerged, use **Avalaire S-Moc II** according to its label.

**2nd Application:**

**Do not use Avalaire S-Moc II.** Apply **Avalaire S-Moc II** at lay-by as directed under the **Peanuts - Alone** section of the **Avalaire S-Moc II** label. Use only when late germinating weeds are expected to be a problem. Refer to the product **Applied Alone** section for a list of weeds controlled.

**Restrictions:**

1. Do not apply more than 2.8 pts./A (2.67 lbs. of s-metolachlor) per acre during any one year, or illegal residues may result.
2. If **Avalaire S-Moc II** is used as a sequential treatment, the lbs. of active ingredient of the previously applied product containing S-metolachlor, plus the lbs. of active ingredient of **Avalaire S-Moc II** (1.0 pt. = 0.95 lb.) should not exceed 2.67 lbs. **Do not use Avalaire S-Moc II after peanuts have emerged.**
3. Do not graze or feed peanut forage or fodder to livestock for 30 days following application.
4. Do not apply within 90 days of harvest, or illegal residues may result.

**BEANS, PEAS, AND LENTILS - Avalaire S-Moc II ALONE**

Beans, peas, and lentils, including garbanzo, great northern beans, kidney beans, lima beans, mung beans, navy beans, peas (English\*; southern peas, such as blackeye, pinkeye, crowder, etc.), pinto beans, snap beans (green, wax, string), lentils, and lupines (sweet, white, white sweet, and grain).

**Fall Application:**

1. Apply after September 30 in ND, SD, MN, WI, and north of Route 30 in IA.
2. Apply after October 15 north of Route 91 in NE and south of Route 30 in IA.
3. Apply after October 31 north of Route 136 in IL.

In all locations, apply to crop stubble after harvest when the sustained soil temperature at a 4-inch depth is less than 55°F and falling. In minimum-till or no-tillage systems on soils having greater than 2.5% organic matter, use 1.67-2.0 pts./A on *medium-textured* and 2.0 pts./A on *fine-textured* soils. Do not apply to frozen ground. A tillage operation may precede the application. A fall and/or a spring tillage may follow application, but do not exceed an incorporation depth greater than 2-3 inches. Minimize furrow and ridge formation in the tillage operations.

**Restrictions:** If a spring application is made, the total rate of the fall plus spring applications must not exceed 2.0 pts./A (1.9 lbs.) of **Avalaire S-Moc II** for beans, peas, and lentils or illegal residues may result.



To avoid possible illegal residues,

1. Do not cut for hay within 120 days following a **Avalaire S-Moc II** application.
2. Do not use for forage within 60 days following a **Avalaire S-Moc II** application.
3. Do not apply more than 2.0 pts./A (1.9 lbs. of s-metolachlor) of **Avalaire S-Moc II** during any one crop year.

#### **Spring Application:**

Apply **Avalaire S-Moc II**, either preplant incorporated or preemergence, using the appropriate rate specified below. **Preplant Incorporated or Preemergence:** Follow instructions for use of **Avalaire S-Moc II** alone under **Application Procedures**. On *coarse soils* with less than 3% organic matter, apply 1.0-1.33 pts./A of **Avalaire S-Moc II** or 1.33 pts./A if organic matter is 3% or greater. On *medium soils*, apply 1.33-1.67 pts./A of **Avalaire S-Moc II**. On *fine soils*, apply 1.33-1.67 pts./A of **Avalaire S-Moc II** if organic matter content is less than 3%, or 1.67-2.0 pts./A if organic matter content is 3% or greater.

\*On English peas, use only preemergence applications. If soils are cold and wet during pea germination and emergence, the use of **Avalaire S-Moc II** may delay maturity and/or reduce yields.

### **BEANS, PEAS, AND LENTILS - AVALAIRE S-MOC II COMBINATIONS**

#### **Restrictions:**

1. When applying **Avalaire S-Moc II** in combination on beans, peas, and lentils, do not cut for hay within 120 days following application, or illegal residues may result.
2. Do not exceed 3.5 pts./A of Eptam 7E on small white beans or green beans grown on coarse-textured soils.
3. Follow all restrictions and precautions on the respective Treflan label and in the **Beans, Peas, and Lentils - Avalaire S-Moc II Alone** section of this label.

### **TANK MIXTURE AND SEQUENTIAL APPLICATIONS WITH EPTAM - BEANS (GREEN OR DRY)**

This mixture controls all weeds controlled by **Avalaire S-Moc II** alone and by Eptam alone. Refer to the **Avalaire S-Moc II Applied Alone** section of this label for weeds controlled by **Avalaire S-Moc II** alone and to the Eptam label for weeds controlled by Eptam.

#### **Preplant Incorporated:**

Follow instructions for use of **Avalaire S-Moc II** alone under **Application Procedures**. **Sequential:** Apply Eptam alone preplant incorporated, as specified on that label. Follow with a preemergence application of **Avalaire S-Moc II**, at rates specified for **Avalaire S-Moc II** alone, during planting (behind the planter) or after planting, but before the weeds or crop emerge.

Refer to the **Product Information** section of this label and to the Eptam label for weather, cultural practices, and all other precautions and limitations that affect performance of these products.

Apply 2.5-4.5 pts./A of Eptam 7E\* with **Avalaire S-Moc II** as specified. On *coarse soils*, apply 0.8 pt./A of **Avalaire S-Moc II** if organic matter content is less than 3%, or 1.0 pt./A if organic matter content is 3% or greater. On *medium soils*, apply 1.0 pt./A of **Avalaire S-Moc II** if organic matter content is less than 3%, or 1.33 pts./A if organic matter content is 3% or greater. On *fine soils*, apply 1.33 pts./A of **Avalaire S-Moc II** if organic matter is less than 3%, or 1.33-1.67 pts./A if organic matter is 3% or greater.

\*Refer to the Eptam label for rate limitations depending on geographical area, and for species and varietal restrictions.

### **TANK MIXTURE WITH TREFLAN - BEANS (DRY - KIDNEY, NAVY, PINTO, ETC.; LIMA; AND SNAP)**

**Avalaire S-Moc II** + Treflan tank mix applied preplant incorporated controls those weeds listed under **Avalaire S-Moc II Applied Alone** and those weeds listed for Treflan alone on the Treflan label. **Avalaire S-Moc II** + Treflan may

be applied by ground or by aerial equipment and incorporated up to 14 days prior to planting. Follow the procedures on this label and on the respective Treflan label using equipment that provides uniform 2-inch incorporation.

Apply **Avalaire S-Moc II** + Treflan tank mix using the appropriate **Avalaire S-Moc II** rate specified for **Avalaire S-Moc II** alone, and the Treflan rate from the Dry Beans, and the Lima and Snap Beans sections of the respective Treflan label. Choose the product rate for the specific soil texture/organic matter classification and weed species expected.

## **POTATOES - Avalaire S-Moc II ALONE**

Apply **Avalaire S-Moc II**, either incorporated, preemergence, or postemergence to potatoes after hilling/lay-by, according to directions specified below for control of weeds listed under the **Product Information** section. Within a rate range, use the lower rate on soils relatively coarse-textured or low in organic matter; use the higher rate on soils relatively fine-textured or high in organic matter. Effectiveness will be reduced if later cultural practices expose untreated soil. For application by center pivot irrigation, see the **Center Pivot Irrigation Application** section of this label.

### **Incorporated:**

Apply **Avalaire S-Moc II** at 1.0-2.0 pts./A to the soil and incorporate into the top 3 inches before planting, using a finishing disk, harrow, rolling cultivator, or similar implement. Planting and later cultural practices should not bring untreated soil to the surface. Postplant incorporated application may be made any time after planting to drag-off, but before potato emergence. Use an implement that evenly distributes **Avalaire S-Moc II** in the top 2 inches of soil. Do not damage potato seed pieces or sprouts with incorporation equipment.

### **Preemergence:**

Apply **Avalaire S-Moc II** at 1.0-2.0 pts./A, either after planting as a preemergence, delayed preemergence, after drag-off or hilling treatment, but before weeds emerge. Up to 2.5 pts./A of **Avalaire S-Moc II** alone may be used where soil organic matter is between 6% and 20%.

### **Postemergence After Hilling/Lay-by:**

Apply 1.67 pts./A of **Avalaire S-Moc II** postemergence to potatoes through after hilling/at lay-by to control **Avalaire S-Moc II**-sensitive species for remainder of the growing season. This application will not control emerged weeds. It may be applied over a previous **Avalaire S-Moc II** application, but do not apply more than 3.6 pts./A of **Avalaire S-Moc II** in a single crop season.

### **Precautions:**

1. Do not use on muck or peat soils. If cool, wet soil conditions occur after application, **Avalaire S-Moc II** may delay maturity and/or reduce yield of Superior and other early maturing potato varieties.
2. These directions for use do not apply to sweet potatoes or yams.
3. Do not apply both as a preemergence and an incorporated treatment.

### **Restrictions:**

1. Potatoes treated with **Avalaire S-Moc II** should not be harvested within 60 days after the at-planting to drag-off application, or illegal residues may result.
2. **DO NOT** apply more than 3.6 pts./A (3.42 lbs. of s-metolachlor) of **Avalaire S-Moc II** in a single crop season.

## **POTATOES- AVALAIRE S-MOC II COMBINATIONS**

### **TANK MIXTURE WITH SENCOR**

In addition to those weeds controlled by **Avalaire S-Moc II** alone, **Avalaire S-Moc II** applied in tank mix combination with, or sequentially with, any of the registered Sencor formulations also controls the following broadleaf weeds: cocklebur\*, hairy nightshade\*, hemp sesbania, jimsonweed\*, lambsquarters, prickly sida, ragweed, smartweed,

velvetleaf, Venice mallow, and wild mustard.

\*Partially controlled.

**Avalaire S-Moc II** at 1.0-2.0 pts./A plus the labeled Sencor use rate may be used preemergence or postemergence to potatoes through after last hilling. Apply 1.0-1.33 pts./A of **Avalaire S-Moc II** on *coarse soils* and 1.33-2.0 pts./A on other soil textures. Within this rate range, use the lower rate on soils relatively coarse-textured or low in organic matter; use the higher rate on soils relatively fine-textured or high in organic matter. Effectiveness will be reduced if later cultural practices expose untreated soil. **Avalaire S-Moc II** will not control emerged weeds.

Refer to the Sencor label for precautionary statements, restrictions, application information, center pivot irrigation application, weeds controlled, and varietal limitations.

**Precautions:**

1. Postemergence applications to potatoes, except center pivot, should be made only as a directed or semi-directed spray to avoid chlorosis, minor necrosis, or leaf distortion.
2. These directions for use do not apply to sweet potatoes or yams.

**Restrictions:**

1. Potatoes treated with **Avalaire S-Moc II** in tank mixture with Sencor cannot be harvested within 60 days after application, or illegal residues may result.
2. Potatoes may not be harvested within 40 days after a lay-by application of **Avalaire S-Moc II**, or illegal residues may result.
3. Do not use this tank mixture on muck or peat soils.

**AVALAIRE S-MOC II + LOROX DF TANK MIXTURE (EAST OF ROCKY MOUNTAINS)**

**Avalaire S-Moc II** may be applied in a tank mix combination with any of the registered Lorox formulations as a preemergence broadcast application to potatoes. Apply to the soil surface after planting and before emergence of the crop or after final drag-off according to the rates specified in Table 9.

**Table 9: Avalaire S-Moc II + Lorox DF - Potatoes (East of Rocky Mountains)**

Soil Texture	Broadcast Rates Per Acre			
	1% to Less Than 3% Organic Matter		3-5% Organic Matter	
	Avalaire S-Moc II	Lorox DF	Avalaire S-Moc II	Lorox DF
<b>COARSE</b> Sandy loam	1.0 pt.	1.0-1.5 lbs.	1.33 pts.	1.5-2.0 lbs.
<b>MEDIUM</b> Loam, silt loam, silt	1.33 pts.	1.5-2.0 lbs.	1.67-2.0 pts.	2.0-2.5 lbs.

**Precautions:**

To avoid crop injury,

1. Do not use on sands or loamy sand.
2. Do not incorporate or spray over the top of emerged potatoes.

Refer to the **Product Information** section of this label and to the Lorox label for precautionary statements, restrictions, application information, and weeds controlled.

**TANK MIXTURE WITH PROWL 4E**

In addition to the weeds controlled by **Avalaire S-Moc II** alone, this tank mixture with Prowl 4E controls such problem species as kochia, lambsquarters, purslane, annual spurge, stinging nettle, and others specified on the Prowl 4E Alone label. Apply **Avalaire S-Moc II** + Prowl 4E preemergence, preemergence incorporated, or early postemergence, according to the specific directions on the Prowl 4E label, using the rates in Table 10.

**Table 10: Avalaire S-Moc II + Prowl 4E - Potatoes**

Soil Texture	Broadcast Rates Per Acre	
	Less Than 3% Organic Matter	More Than 3% Organic Matter
	Avalaire S-Moc II + Prowl 4E*	Avalaire S-Moc II + Prowl 4E*
<b>COARSE</b>	1.0-1.33 pts. + 1.0-1.5 pts.	1.0-1.33 pts. + 1.0-1.5 pts.
<b>MEDIUM</b>	1.33 pts. + 1.5-2.0 pts.	1.33-1.67 pts. + 2.0-3.0 pts.
<b>FINE</b>	1.33-1.67 pts. + 2.0-3.0 pts.	1.67-2.0 pts. + 3.0 pts.

\*When using other formulations of Prowl, use equivalent rates of active ingredient.

Refer to the **Avalaire S-Moc II** and Prowl 4E labels and observe all directions, timings, limitations, precautions, and restrictions concerning the use of these products on potatoes and follow the most restrictive.

#### **TANK MIXTURE WITH PROWL 4E + EPTAM**

In addition to the weeds controlled by **Avalaire S-Moc II** alone, this tank mixture will control those species on the Prowl 4E and Eptam labels. Refer to the **Avalaire S-Moc II + Prowl 4E** labels for rates of those products and add Eptam 7E at 3.5-7.0 pts./A, depending on geographical area. Refer to the respective **Avalaire S-Moc II**, Prowl 4E, and Eptam labels and observe all directions, limitations, precautions, and restrictions concerning the use of these products on potatoes and follow the most restrictive.

#### **PUMPKIN - Avalaire S-Moc II ALONE**

##### **Preemergence**

Apply **Avalaire S-Moc II** preemergence (before the weeds have emerged) at 1.0 to 1.33 pts./A as an inter-row or inter-hill application in pumpkin. Leave 1 foot of untreated area over the row, or 6 inches to each side of the planted hill and/or any emerged pumpkin foliage (inter-row or inter-hill means not directly over the planted seed or young pumpkin plants). Use the lower **Avalaire S-Moc II** rate on soils light in texture (loamy sand or lighter) and low in soil organic matter (less than 3%). **Avalaire S-Moc II** applied as a broadcast spray over the planted row or hill, or applications made directly to crop foliage, will increase the risk of injury (e.g., stand loss, delayed maturity, and loss of yield) to the pumpkin crop. Do not apply **Avalaire S-Moc II** closer than 30 days before pumpkin harvest.

**Avalaire S-Moc II** will not control emerged weeds, and thus should be applied before the weeds emerge. Weeds that are present should be controlled by another means, e.g., by mechanical means or by another herbicide.

##### **Restrictions:**

1. Make only one application of **Avalaire S-Moc II** per crop.
2. Do not apply more than 1.33 pts./A (1.27 lbs. s-metolachlor) of **Avalaire S-Moc II** per crop cycle.
3. Do not harvest pumpkin within 30 days of the **Avalaire S-Moc II** application.

#### **RHUBARB - AVALAIRE S-MOC II ALONE**

Apply **Avalaire S-Moc II** at a broadcast rate of 0.67-1.33 pts./A to the soil surface in early spring, prior to crop emergence. Use lower rates on soils relatively coarse-textured and higher rates on fine-textured soils. A band application may also be used, applying proportionally less spray mixture on the area actually treated. **Avalaire S-Moc II** will not control emerged weeds. Control emerged weeds with an appropriate registered foliar herbicide or by mechanical or physical means.

##### **Restrictions:**

4. Make only one application of **Avalaire S-Moc II** per crop.
5. Do not apply more than 1.33 pts./A (1.27 lbs. s-metolachlor) of **Avalaire S-Moc II** per crop.
6. Do not harvest rhubarb within 62 days of the **Avalaire S-Moc II** application.

#### **SAFFLOWERS - AVALAIRE S-MOC II ALONE**

**Preplant Incorporated or Preemergence:**

Follow instructions for use of **Avalaire S-Moc II** alone under **Application Procedures**.

On *coarse soils*, apply 1.0-1.33 pts./A of **Avalaire S-Moc II** if organic matter content is less than 3%, or 1.33 pts./A if organic matter is 3% or greater. On *medium soils*, apply 1.33-1.67 pts./A of **Avalaire S-Moc II**. On *fine soils*, apply 1.33-1.67 pts./A of **Avalaire S-Moc II** if organic matter content is less than 3%, or 1.67-2.0 pts./A if organic matter content is 3% or greater.

**Restriction:**

1. Do not apply more than 2 pts./A **Avalaire S-Moc II** (1.91 lbs. s-metolachlor) per year.

**GRAIN OR FORAGE SORGHUM (SEED TREATED WITH CONCEP®) – AVALAIRE S-MOC II ALONE**

Apply **Avalaire S-Moc II**, either preplant surface, preplant incorporated, preemergence, or postemergence using the appropriate rate specified below. Apply **Avalaire S-Moc II** alone only when the sorghum seed has been properly treated with Concep seed treatment. Preplant or preemergence applications of **Avalaire S-Moc II** not treated with Concep seed treatment will result in crop death.

**Fall Application for Italian Ryegrass Control:**

**Avalaire S-Moc II** may be applied for residual control of glyphosate-resistant Italian ryegrass (*Lolium multiflorum*). Apply **Avalaire S-Moc II** at 1.33-1.67 pts./A in the fall (September 1-December 1) after harvest of the previous crop and prior to Italian ryegrass emergence. Use the lower **Avalaire S-Moc II** rate for coarse-textured soils and the higher rate for fine-textured soils. A tillage operation may precede the application. Do not incorporate to a depth greater than 2-3 inches if tillage follows the application of **Avalaire S-Moc II**. For fall applications after emergence of glyphosate-resistant Italian ryegrass, Gramoxone brands can be tank mixed with **Avalaire S-Moc II** to control emerged ryegrass. Refer to the Gramoxone brands label for specific rates, application instructions, and restrictions. Other registered herbicides may be tank mixed with **Avalaire S-Moc II** for control or improved control of other weeds present at the time of application.

**Restrictions:**

1. Do not apply more than 1.67 pts./A **Avalaire S-Moc II** (1.59 lbs. s-metolachlor).
2. Do not apply **Avalaire S-Moc II** to frozen ground.
3. If a spring application is made, do not apply **Avalaire S-Moc II** or any other product containing S-metolachlor the following spring to grain or forage sorghum, or illegal residues may result.
4. Except for the split preplant surface treatment, do not make more than one application per year, or illegal residues may result.
5. Do not apply **Avalaire S-Moc II** postemergence within 75 days of harvest.

**Preplant Surface-Applied:**

Refer to instructions for use of **Avalaire S-Moc II** under **Application Procedures** section on this label. For minimum-tillage or no-tillage systems only, apply **Avalaire S-Moc II** up to 45 days before planting in CO, IA, IL, KS, MO, NE, and SD. Use only split applications for treatments made 30-45 days prior to planting, with 2/3 of the broadcast rate applied initially and the remaining 1/3 at planting. Apply 1.5 pts./A of **Avalaire S-Moc II** on *medium soils* or 1.67 pts./A on *fine soils*. Treatments less than 30 days prior to planting may be made either as a split or single application. Apply 1.33 pts./A of **Avalaire S-Moc II** on *coarse soils* not more than 2 weeks prior to planting. Under dry conditions, irrigation after application is recommended to move **Avalaire S-Moc II** into the soil.

**Preplant Incorporated or Preemergence:**

Refer to instructions for use of **Avalaire S-Moc II** under **Application Procedures** section on this label. Broadcast 1.0-1.33 pts./A of **Avalaire S-Moc II** on *coarse soils*, 1.33-1.5 pts./A on *medium soils*, or 1.33-1.67 pts./A on *fine soils*.

**Postemergence:** Refer to instructions for use of **Avalaire S-Moc II** under **Application Procedures** section on this

label. **Avalaire S-Moc II** may be applied broadcast postemergence at 1.0-1.33 pts./A on coarse soils, 1.33-1.5 pts./A on *medium* soils, or 1.33-1.67 pts./A on *fine soils*. **Avalaire S-Moc II** will not control emerged weeds. Therefore, emerged weeds must be controlled by cultural or chemical means. When applied alone, **Avalaire S-Moc II** will be safe to emerged sorghum. The risk of sorghum injury increases when adjuvants (e.g., non-ionic, crop oil), nitrogen sources (e.g., AMS, UAN), or fertilizers are applied with **Avalaire S-Moc II**.

**Precautions:**

1. If sorghum seed is not properly treated with Concep seed treatment, preplant and preemergence applications of **Avalaire S-Moc II** will severely injure the crop.
2. Under high soil moisture conditions prior to sorghum emergence, injury may occur following preplant and preemergence application of **Avalaire S-Moc II**. The crop will normally outgrow this effect.
3. Do not use **Avalaire S-Moc II** on sorghum grown under dry mulch tillage, or injury may occur.

**GRAIN OR FORAGE SORGHUM (SEED TREATED WITH CONCEP) – AVALAIRE S-MOC II TANK MIXTURES**

**Avalaire S-Moc II** preplant or preemergence (prior to sorghum emergence) tank mixtures with AAtrex may be applied in water or fluid fertilizer. Apply **Avalaire S-Moc II** preplant or preemergence in tank mixtures only when the sorghum seed has been properly treated with Concep seed treatment. Preplant or preemergence applications of **Avalaire S-Moc II** to sorghum not treated with Concep seed treatment will result in crop death.

**IMPORTANT: FOR TANK MIXTURES WITH AATREX (OR OTHER BRANDS OF ATRAZINE) - If applying Avalaire S-Moc II in tank mixture with AAtrex, all the restrictions and rate limitations on the AAtrex label must be followed if more restrictive/protective than those on this label. In addition, if AAtrex is/must be applied at rates lower than those listed on this label, broadleaf weed control may be affected. Refer to the AAtrex label for weeds controlled at the reduced rates.**

**Precautions:**

1. Applications of **Avalaire S-Moc II** + AAtrex on highly alkaline soils or on eroded areas where calcareous subsoils are exposed may cause sorghum injury.
2. If sorghum seed is not properly treated with Concep, **Avalaire S-Moc II** + AAtrex may severely injure the crop.
3. Under high soil moisture conditions prior to sorghum emergence, injury may occur following preplant and preemergence application of **Avalaire S-Moc II** + AAtrex. The crop will normally outgrow this effect.
4. Do not use **Avalaire S-Moc II** + AAtrex on sorghum grown under dry mulch tillage, or injury may occur.

**Restriction:**

1. Except for the split preplant surface treatment, do not make more than one application per year, or illegal residues may result.

**TANK MIXTURE WITH AATREX**

In addition to the weeds controlled by **Avalaire S-Moc II** alone, **Avalaire S-Moc II** + AAtrex also controls the following broadleaf weeds when applied either preplant surface, preplant incorporated, or preemergence: cocklebur, common purslane, hairy nightshade, lambsquarters, morningglory, ragweed, smartweed, and velvetleaf.

**Preplant Surface-Applied:**

Refer to instructions for use of **Avalaire S-Moc II** under **Application Procedures** section on this label. For minimum-tillage or no-tillage systems only, **Avalaire S-Moc II** + AAtrex may be applied up to 45 days prior to planting in IA, IL, eastern KS, MO, NE, and SD. Use only split applications for treatments made 30-45 days prior to planting, with 2/3 of the broadcast rate applied initially and the remaining 1/3 at planting. Apply 1.5 pts./A of **Avalaire S-Moc II** + 1.7-2.0 lbs./A of AAtrex Nine-O\* on *medium soils* with 1.5% organic matter or greater. Apply 1.5 pts./A of **Avalaire S-Moc II** + 1.7-2.0 lbs./A of AAtrex Nine-O on *fine soils* with less than 1.5% organic matter, or apply 1.67 pts./A of

**Avalaire S-Moc II** + 2.0-2.2 lbs./A of AAtrex Nine-O on *fine soils* with 1.5% organic matter or greater. Treatments less than 30 days prior to planting may be made either as a split or single application. Under dry conditions, irrigation after application is recommended to move **Avalaire S-Moc II** + AAtrex into the soil.

**Precautions:**

To avoid crop injury,

1. Do not use on coarse soils.
2. Do not use on medium soils with less than 1.5% organic matter.

**Preplant Incorporated or Preemergence:**

Refer to instructions for use of **Avalaire S-Moc II** under **Application Procedures** on this label. On *medium soils* with 1.5 organic matter or greater, apply 1.0 pt./A of **Avalaire S-Moc II** + 1.3 bs./A of AAtrex Nine-O\*. On *fine soils* with less than 1.5% organic matter, apply 1.0 pt./A of **Avalaire S-Moc II** + 1.3 lbs./A of AAtrex Nine-O; on *fine soils* with 1.5% organic matter or greater, apply 1.2-1.33 pts./A of **Avalaire S-Moc II** + 1.6-1.8 lbs./A of AAtrex Nine-O.

\*When using AAtrex 4L, use equivalent rates. One lb. of AAtrex Nine-O equals 1.8 pts. of AAtrex 4L.

**Restrictions:**

To avoid crop injury,

1. Do not use on coarse soils.
2. Do not use on medium soils with less than 1.5% organic matter.
3. Do not use in NM, OK, or TX, except in northeast OK and the TX Gulf Coast and Blacklands areas.
4. Do not apply preplant incorporated in AZ or the Imperial Valley of CA.

**TANK MIXTURE OF Avalaire S-Moc II OR Avalaire S-Moc II+ AATREX, WITH GRAMOXONE BRANDS, LANDMASTER BW, TOUCHDOWN BRANDS, OR ROUNDUP BRANDS FOR MINIMUM-TILLAGE OR NO-TILLAGE SYSTEMS**

In minimum-tillage or no-tillage systems where sorghum (seed treated with Concep) is planted directly into a cover crop, stale seedbed, established sod, or previous crop residues, the contact herbicides Gramoxone brands, Landmaster BW, Touchdown, or Roundup may be tank mixed with **Avalaire S-Moc II** or **Avalaire S-Moc II** + AAtrex. See Comment No. 7 following Table 2. The **Avalaire S-Moc II** or **Avalaire S-Moc II** + AAtrex portion of the tank mixture provides preemergence control of the weeds listed on this label under the respective sections.

Refer to the label of each product used in combination and observe the planting details, restrictions, and all other precautions and limitations.

**Application:**

Apply before, during, or after planting, but before sorghum emerges. Add Gramoxone brands, Landmaster BW, Touchdown brands, or Roundup brands and apply as directed on the product labels.

**Gramoxone Brands:**

Apply as directed on the product label. This treatment will not control weeds taller than 6 inches.

**Landmaster BW:**

27-54 oz./A depending on weed species and size. See the Landmaster BW label for weeds controlled, rates for specific weeds, and other information concerning use.

**Touchdown Brands or Roundup Brands:**

See the Touchdown brand or Roundup brand labels for weeds controlled, rates, and other use directions.

**SWEET SORGHUM (SEED TREATED WITH CONCEP)**

Apply **Avalaire S-Moc II** preplant surface, preplant incorporated, preemergence, or postemergence using the

appropriate rate specified below. Apply **Avalaire S-Moc II** only when the sweet sorghum seed has been properly treated with Concep seed treatment. Preplant or preemergence applications of **Avalaire S-Moc II** to sweet sorghum not treated with Concep seed treatment will result in crop death.

**Soil-Applied:**

Apply **Avalaire S-Moc II** up to 45 days before planting. Use only split applications for treatments made 30-45 days prior to planting, with 2/3 of the broadcast rate applied initially and the remaining 1/3 at planting. Treatments less than 30 days prior to planting may be made either as a split or single application. Under dry conditions, irrigation after application is recommended to move **Avalaire S-Moc II** into the soil.

**Avalaire S-Moc II Rates for Soil Applications to Sweet Sorghum**

Soil Type	30-45 Days Prior to Planting <sup>1</sup>	<30 Days Prior to Planting	At Planting <sup>2</sup>
Coarse	Not Recommended	1.33 pts./A	1.0-1.33 pts./A
Medium	1.5 pts./A	1.5 pts./A	1.33-1.5 pts./A
Fine	1.67 pts./A	1.67 pts./A	1.33-1.67 pts./A

<sup>1</sup> Use only as a split application with 2/3 of the broadcast rate applied initially and the remaining 1/3 applied at planting.

<sup>2</sup> Preplant incorporated or preemergence.

**Post-Applied:**

**Avalaire S-Moc II** may be applied postemergence to sweet sorghum for residual control of grasses and small-seeded broadleaf weeds. Postemergence application to sweet sorghum may be made to crop up to 5 inches in height. **Avalaire S-Moc II** will not control emerged weeds. Therefore, emerged weeds must be controlled by cultural or other chemical methods. When applied alone, **Avalaire S-Moc II** will be safe to emerged sweet sorghum. Use of adjuvants is prohibited on sweet sorghum.

**Avalaire S-Moc II Rates for Postemergence Applications to Sweet Sorghum**

Soil Type	Postemergence Rate
Coarse	1.0-1.33 pts./A
Medium	1.33 pts./A
Fine	1.33 pts./A

**Precautions:**

1. If sweet sorghum seed is not properly treated with Concep seed treatment, soil applications of **Avalaire S-Moc II** prior to sorghum emergence will severely injure the crop.
2. Under high soil moisture conditions prior to sweet sorghum emergence, injury may occur following soil applications of **Avalaire S-Moc II**. The crop will normally outgrow this effect.
3. Do not use **Avalaire S-Moc II** on sorghum grown under dry mulch tillage, or injury may occur.

**Restrictions:**

1. Only one application per season is allowed. **Avalaire S-Moc II** may be applied either as a soil-applied treatment or a postemergence treatment, but not both.
2. Do not apply **Avalaire S-Moc II** postemergence within 90 days of harvest.

**SOYBEANS - Avalaire S-Moc II ALONE**

Apply **Avalaire S-Moc II** preplant surface-applied, preplant incorporated, preemergence, or postemergence using the appropriate rate specified below. Follow instructions for use of **Avalaire S-Moc II** alone under **Application Procedures** section of this label.

**Fall Application for Spring Weed Control:**



1. Apply after September 30 in ND, SD, MN, WI, and north of Route 30 in IA.
2. Apply after October 15 north of Route 91 in NE and south of Route 30 in IA.
3. Apply after October 31 north of Route 136 in IL.

In all locations, apply to crop stubble after harvest when the sustained soil temperature at a 4-inch depth is less than 55°F and falling. In minimum-till or no-tillage systems on soils having greater than 2.5% organic matter, use 1.67-2.0 pts./A of **Avalaire S-Moc II** on *medium-textured* and 2.0 pts./A of **Avalaire S-Moc II** on *fine-textured soils*. Do not apply to frozen ground. A tillage operation may precede the application. A fall and/or a spring tillage may follow application, but do not exceed an incorporation depth greater than 2-3 inches. Minimize furrow and ridge formation in the tillage operations.

**Restrictions:**

1. If a spring application is made, the total rate of the fall plus spring applications must not exceed the maximum total rate for soybeans of 2.5 pts./A **Avalaire S-Moc II** (2.375 lbs.s-metolachlor) depending on soil texture, or illegal residues may result.

**Fall Application for Italian Ryegrass Control:**

**Avalaire S-Moc II** may be applied for residual control of glyphosate-resistant Italian ryegrass (*Lolium multiflorum*). Apply **Avalaire S-Moc II** at 1.33-1.67 pts./A in the fall (September 1-December 1) after harvest of the previous crop and prior to Italian ryegrass emergence. Use the lower **Avalaire S-Moc II** rate for *coarse-textured soils* and the higher rate for *fine-textured soils*. A tillage operation may precede the application. Do not incorporate to a depth greater than 2-3 inches if tillage follows the application of **Avalaire S-Moc II**. For fall applications after emergence of glyphosate-resistant Italian ryegrass, Gramoxone brands can be tank mixed with **Avalaire S-Moc II** for control of emerged ryegrass. Refer to the Gramoxone brands label for specific rates, application instructions, and restrictions. Other registered herbicides may be tank mixed with **Avalaire S-Moc II** for control of improved control of other weeds present at the time of application.

**Restrictions:**

1. Do not apply **Avalaire S-Moc II** to frozen ground.
2. If a spring application is made, the combined total amount of **Avalaire S-Moc II** applied in the fall plus the spring must not exceed the maximum seasonal rate for soybeans 2.5 pts./A **Avalaire S-Moc II** (2.375 lbs. s-metolachlor), depending on soil texture), or illegal residues may result.

**Preplant Surface – Spring Application:**

Use on medium and fine soils with minimum-tillage or no-tillage systems in CO, CT, DE, IA, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, MT, ND, NE, NH, NY, OH, PA, RI, SD, TN, VA, VT, WI, WV, and WY. Apply 2/3 the listed rate of **Avalaire S-Moc II** (1.67 pts./A on *medium soils* and 2.0 pts./A on *fine soils*) as a split treatment 30-45 days prior to planting and the remainder at planting. Applications made less than 30 days before planting may be as either a split or single treatment. Apply 1.33 pts./A of **Avalaire S-Moc II** on *coarse soils* not more than 2 weeks prior to planting.

**Preplant Incorporated or Preemergence:**

On *coarse soils*, apply 1.0-1.33 pts./A of **Avalaire S-Moc II** if organic matter content is less than 3%, or 1.33 pts./A if organic matter content is 3% or greater. On *medium soils*, apply 1.33-1.67 pts./A of **Avalaire S-Moc II**. On *fine soils*, apply 1.33-1.67 pts./A of **Avalaire S-Moc II** if organic matter content is less than 3%, or 1.67-2.0 pts./A if organic matter content is 3% or greater.

**Restrictions:**

1. On soybeans, use up to 2.5 pts./A (2.38 lbs.s-metolachlor) of **Avalaire S-Moc II** preplant incorporated or preemergence treatment on soils having an organic matter content between 6% and 20%.
2. The total **Avalaire S-Moc II** rate applied to soybeans during any one crop should not exceed 2.5 pts./A.
3. Do not graze or feed treated soybean forage, hay, or straw to livestock 30 days following treatment, or illegal residues may result.

**Postemergence:**

Apply 1.0-1.33 pts./A as a postemergence treatment to soybeans from emergence up through the third trifoliolate leaf stage. **Avalaire S-Moc II** will not control emerged weeds so it must be applied to a weed-free soil surface or in a tank mixture with products that provide postemergence control of weeds present at the time of application.

**Avalaire S-Moc II** can also be applied as part of a sequential soybean weed control program. If **Avalaire S-Moc II** was applied as a preplant surface, preplant incorporated, or a preemergence treatment, a second treatment of **Avalaire S-Moc II** can be applied postemergence provided that the total **Avalaire S-Moc II** rate during any one crop does not exceed 2.5 pts./A.

**Restrictions:** To avoid possible illegal residues when **Avalaire S-Moc II** is applied postemergence to soybeans:

1. Do not apply more than 1.33 pts./A **Avalaire S-Moc II** (1.27 lbs. s-metolachlor) postemergence.
2. The total **Avalaire S-Moc II** rate applied preplant, preemergence or postemergence to soybeans during any one crop should not exceed 2.5 pts./A **Avalaire S-Moc II** (2.4 lbs. a.i./A of S-metolachlor).
3. Make postemergence application at least 90 days before harvest.
4. Do not graze or feed treated forage or hay from soybeans to livestock following a postemergence application of **Avalaire S-Moc II**.

**SOYBEANS - AVALAIRE S-MOC II COMBINATIONS**

Water or fluid fertilizer may be used as carrier for **Avalaire S-Moc II** in combination with Sencor, Lorox, Canopy, Pursuit, Scepter, Sonalan, or Command.

**Restrictions:**

For all of the following combinations, do not apply more than 2.5 pts./A **Avalaire S-Moc II** preplant incorporated or preemergence treatment on soils having an organic matter content between 6% and 20%. The total **Avalaire S-Moc II** rate applied to soybeans during any one crop year should not exceed 2.5 pts./A **Avalaire S-Moc II** (2.4 lbs. s-metolachlor).

**TANK MIXTURE WITH SENCOR**

In addition to those weeds controlled by **Avalaire S-Moc II** alone, **Avalaire S-Moc II** + Sencor, when applied as directed, also controls the following broadleaf weeds: cocklebur\*, hairy nightshade, hemp sesbania, jimsonweed\*, lambsquarters, prickly sida, ragweed, smartweed, velvetleaf, Venice mallow, and wild mustard.

\*Partially controlled.

Apply **Avalaire S-Moc II** and Sencor preplant incorporated or preemergence, using the appropriate rates from Table 11. **Preplant Incorporated or Preemergence:** Follow instructions for use of **Avalaire S-Moc II** alone under **Application Procedures**.

**Sequential:**

Apply **Avalaire S-Moc II** alone **Preplant Incorporated**, as specified in Table 11 for this tank mixture. Follow with a preemergence application of Sencor during planting (behind the planter) or after planting, but before weeds or soybeans emerge.

Refer to the Sencor label for planting details and soybean variety restrictions.

**Table 11: Avalaire S-Moc II + Sencor - Soybeans**

Soil Texture**	Broadcast Rates Per Acre	
	0.5% to Less Than 3% Organic Matter	3% Organic Matter or Greater
	Avalaire S-Moc II + Sencor*	Avalaire S-Moc II + Sencor*

<b>COARSE</b> Loamy sand (over 2% organic matter), sandy loam	0.8-1.0 pt. + 0.33 lb.	1.0 pt. + 0.5 lb.
<b>MEDIUM</b>	1.0-1.33 pts. + 0.5 lb.	1.33 pts. + 0.67 lb.
<b>FINE</b>	1.33 pts. + 0.67 lb.	1.33-1.67 pts. + 0.67 lb.
<b>Mississippi Delta only</b> Silty clay, clay	1.33 pts. + 1.0 lb.	1.33-1.67 pts. + 1.0 lb.
Muck or Peat (soils with more than 20% organic matter)	DO NOT USE	

\* When using Sencor 4, multiply lbs. of DF by 1.5 to get pts./A.

\*\*On all sand and on loamy sand with less than 2% organic matter, do not use this tank mixture preemergence, or the sequential treatment. Do not use the tank mixture preplant incorporated on any sand, loamy sand, or sandy loam, or crop injury may occur.

\*\*\*Use 0.5 lb./A if applied preplant incorporated.

**Precautions:**

1. Do not use the tank mix or sequential application on soil with less than 0.5% organic matter or on alkaline soil with a pH over 7.4, or crop injury may occur.
2. If heavy rain occurs soon after application, crop injury may result, especially in poorly drained areas where water stands for several days.

**Restrictions:**

Follow most restrictive limitations and precautions on the **Avalaire S-Moc II - Soybeans Alone** section of the **Avalaire S-Moc II** label and the Soybean directions on the Sencor label.

**TANK MIXTURE WITH LOROX**

In addition to those weeds controlled by **Avalaire S-Moc II** alone, **Avalaire S-Moc II + Lorox**, applied preemergence, also controls the following broadleaf weeds: cocklebur\*, jimsonweed\*, lambsquarters, morningglory\*, prickly sida, ragweed, smartweed, velvetleaf\*, Venice mallow, and wild mustard.

\*Partially controlled.

**Preemergence:** Apply during planting (behind planter) or after planting, but before weeds or soybeans emerge. Refer to the Lorox label for planting details. Apply the appropriate rates from Table 12.

**Restriction:** Do not use on soil with less than 0.5% organic matter, or crop injury may occur.

**Table 12: Avalaire S-Moc II + Lorox-Soybeans**

Soil Texture*	Broadcast Rates Per Acre	
	0.5% to Less Than 3% Organic Matter	3% Organic Matter or Greater
	Avalaire S-Moc II + Lorox DF	Avalaire S-Moc II + Lorox DF
<b>COARSE**</b>	0.8 pt. + 1.0 lb.	1.0 pt. + 1.0-1.5 lbs.
<b>MEDIUM</b>	1.0 pt. + 1.0-1.5 lbs.	1.33 pts. + 1.5-2.0 lbs.
<b>FINE</b>	1.33 pts. + 2.0 lbs.	1.33-1.67 pts. + 2.5-3.0 lbs.
Muck or Peat (soils with more than 20% organic matter)	DO NOT USE	

\* Do not use on sand, gravelly soils, or exposed subsoils.

\*\* Do not use on loamy sand, except in the northeastern U.S. on loamy sand with over 1% organic matter.

#### TANK MIXTURE WITH TREFLAN

**Avalaire S-Moc II** + Treflan tank mix applied preplant incorporated controls those weeds listed under **Avalaire S-Moc II Applied Alone** and those weeds listed for Treflan Alone on the Treflan label. **Avalaire S-Moc II** + Treflan may be applied by ground or aerial equipment and incorporated up to 14 days before planting. Follow the recommended procedures on the Treflan and **Avalaire S-Moc II** labels, using equipment that provides uniform 2-inch incorporation.

Apply **Avalaire S-Moc II** + Treflan tank mix using the appropriate rate from the **Soybeans - Avalaire S-Moc II Alone** section of this label and the Treflan Alone section of the Treflan label for the specific soil texture/organic matter classification and weed species expected.

To control DNA-resistant goosegrass\* and other species on the respective labels where the soil organic matter is 3% or less, apply the rate in Table 13.

**Table 13: Avalaire S-Moc II + Treflan - Organic Matter Content Less Than 3%**

Soil Texture	Broadcast Rates Per Acre		
	Avalaire S-Moc II	Treflan E.C.**	
	Organic Matter Less Than 3%	Organic Matter	
Less Than 2%		2-3%	
<b>COARSE*</b>	0.8-1.0 pt.	1.0 pt.	1.5 pts.
<b>MEDIUM</b>	1.0 pt.	1.5 pts.	1.5 pts.
<b>FINE</b>	1.33 pts.	2.0 pts.	2.0 pts.

\*Where a range of rates is given for **Avalaire S-Moc II**, use the minimum rate where DNA-resistant goosegrass is the predominant species.

\*\*When Treflan 5 is used, use comparable rates. Multiply pts. of Treflan E.C. by 0.8 for Treflan 5.

**Restrictions:** Follow the most restrictive limitations and precautions on the **Soybeans – Avalaire S-Moc II Alone** section of the **Avalaire S-Moc II** label and the Soybean directions on the Treflan labels.

#### TANK MIXTURE WITH SCEPTER

This tank mixture controls all weeds controlled by **Avalaire S-Moc II** alone and by Scepter alone. Refer to the **Avalaire S-Moc II Applied Alone** section for weeds controlled by **Avalaire S-Moc II** and to the Scepter label for weeds controlled by Scepter. Refer to the Scepter label for geographical locations where this tank mixture may be applied.

Apply **Avalaire S-Moc II** + Scepter preplant incorporated or preemergence, using rates in Table 14. Follow use directions under **Application Instructions** on the Scepter label. For preplant incorporated applications, apply and incorporate within 30 days before planting. Observe all other precautions and limitations on the Scepter labels.

**Table 14: Avalaire S-Moc II + Scepter – Soybeans**

Soil Texture	Broadcast Rates Per Acre			
	Less Than 3% Organic Matter		3% or More Organic Matter	
	Avalaire S-	Scepter	Avalaire S-Moc	Scepter
<b>COARSE</b>	0.8 pt.	0.67 pt.	1.0 pt.	0.67 pt.
<b>MEDIUM</b>	1.0 pt.	0.67 pt.	1.33 pts.	0.67 pt.
<b>FINE</b>	1.33 pts.	0.67 pt.	1.33-1.67* pts.	0.67 pt.

Muck or Peat (soils with more than 20% organic matter)	DO NOT USE
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\*Use the higher rate of **Avalaire S-Moc II** if heavy weed infestations are expected.

**Restrictions:**

Follow the most restrictive limitations and precautions on the **Avalaire S-Moc II - Soybeans Alone** section of the **Avalaire S-Moc II** label and the Soybean directions on the Scepter label.

**TANK MIXTURE WITH CANOPY**

This tank mixture controls all weeds controlled by **Avalaire S-Moc II** alone and by Canopy alone. Refer to the **Avalaire S-Moc II Applied Alone** section for weeds controlled by **Avalaire S-Moc II** and to the Canopy label for weeds controlled by Canopy.

Apply preplant incorporated or preemergence, using the appropriate rates from Table 15. **Preplant Incorporated:** Apply within 2 weeks of planting. Uniformly incorporate into the top 1-2 inches of soil before planting soybeans. **Preemergence:** Apply after planting, but before soybeans emerge.

**Restrictions:**

1. Follow the most restrictive limitations and precautions on the **Avalaire S-Moc II - Soybeans Alone** section of the **Avalaire S-Moc II** label and the Soybean directions on the Canopy label, including varietal restrictions.
2. Do not apply to sand, or to any soil with less than 0.5% organic matter, or to any soil with pH greater than 7.0, except as noted on the Canopy label.

**Table 15: Avalaire S-Moc II + Canopy - Soybeans**

Soil Texture	Broadcast Rates Per Acre		
	Less Than 3% Organic Matter	3% or More Organic Matter	
	Avalaire S-Moc II	Avalaire S-Moc II	Canopy
COARSE	0.8 pt.	1.0 pt.	*
MEDIUM	1.0 pt.	1.33 pts.	*
FINE	1.33 pts.	1.33-1.67 pts.	*

\*Refer to the Canopy label for appropriate rate according to geographical location, soil and organic matter classification, and pH limitations.

**TANK MIXTURE WITH COMMAND\***

This tank mixture controls all weeds controlled by **Avalaire S-Moc II** alone and by Command alone. Refer to the **Avalaire S-Moc II Applied Alone** section for weeds controlled by **Avalaire S-Moc II** and to the Command label for weeds controlled by Command.

Apply **Avalaire S-Moc II** + Command preplant incorporated, using rates in Table 16. Follow all Command application instructions as to incorporation interval, geographical location, equipment operation, soil moisture conditions, etc.

**\*Restrictions:** Follow the most restrictive limitations and precautions on the **Avalaire S-Moc II - Soybeans Alone** section of the **Avalaire S-Moc II** label and the Soybean directions on the Command label, including rotational.

**Table 16: Avalaire S-Moc II + Command - Soybeans**

Soil Texture	Broadcast Rates Per Acre	
	Avalaire S-Moc II	
	0.5-3% Organic Matter	Greater Than 3% Organic Matter

<b>COARSE</b>	0.8 pt.	1.0 pt.
<b>MEDIUM</b>	1.0 pt.	1.33 pts.
<b>FINE</b>	1.33 pts.	1.33-1.67 pts.

**TANK MIXTURE WITH SONALAN**

This tank mixture controls all weeds controlled by **Avalaire S-Moc II** alone and by Sonalan alone. Refer to the **Avalaire S-Moc II Applied Alone** section for weeds controlled by **Avalaire S-Moc II** and to the Sonalan label for weeds controlled by Sonalan.

Apply **Avalaire S-Moc II** and Sonalan preplant incorporated, using the appropriate rates from Table 17.

**Preplant Incorporated:** Follow recommended soil preparation procedures for Sonalan.

**Sequential:** Apply Sonalan alone preplant incorporated as specified on the Sonalan label. Follow with a preemergence application of **Avalaire S-Moc II** during planting (behind the planter) or after planting, but before weeds or soybeans emerge.

**Table 17: Avalaire S-Moc II + Sonalan – Soybeans**

Soil Texture	Broadcast Rates Per Acre			
	Less Than 3% Organic Matter		3% or More Organic Matter	
	Avalaire S-Moc II	Sonalan	Avalaire S-Moc II	Sonalan
<b>COARSE</b>	1.0-1.33 pts.	1.25-2.0 pts.	1.33 pts.	1.25-2.0 pts.
<b>MEDIUM*</b>	1.33-1.67 pts.	1.75-2.5 pts.	1.33-1.67 pts.	1.75-2.5 pts.
<b>FINE*</b>	1.33-1.67 pts.	2.25-3.0 pts.	1.67-2.0 pts.	2.25-3.0 pts.
Muck or Peat (soils with more than 20% organic matter)	DO NOT USE			

\*For eastern black nightshade on these soils, apply Sonalan at 3.0 pts./A on *medium* and 3.5 pts./A on *fine-textured soils*, and follow with 2 incorporation passes.

**Restrictions:**

Follow the most restrictive limitations and precautions on the **Avalaire S-Moc II - Soybeans Alone** section of the **Avalaire S-Moc II** label and the Soybean directions on the Sonalan label.

**TANK MIXTURE WITH PURSUIT**

This tank mixture controls all weeds controlled by **Avalaire S-Moc II** alone and by Pursuit alone. Refer to the **Avalaire S-Moc II Applied Alone** section for weeds controlled by **Avalaire S-Moc II** and to the Pursuit label for weeds controlled by Pursuit. Refer to the Pursuit label for geographical locations where this tank mixture may be applied. Apply **Avalaire S-Moc II** + Pursuit early preplant, preplant incorporated, or preemergence after planting, using rates in Table 18. Application can be made in water or liquid fertilizer. Follow all use directions under Soil Applications on the Pursuit label. For early preplant and preplant incorporated applications, apply within 30 days before planting.

**Restrictions:**

Follow the most restrictive limitations and precautions on the **Avalaire S-Moc II - Soybeans Alone** section of the **Avalaire S-Moc II** label and the Soybean directions on the Pursuit label, including rotational restrictions.

**Table 18: Avalaire S-Moc II + Pursuit – Soybeans**

Soil Texture	Broadcast Rates Per Acre
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	Less Than 3% Organic Matter	3% or More Organic Matter	Less Than 3% - 3% or More Organic Matter
	Avalaire S-Moc II	Avalaire S-Moc II	Pursuit
COARSE	0.8 pt.	1.0 pt.	0.25 pt.
MEDIUM	1.0 pt.	1.33 pts.	0.25 pt.
FINE	1.33 pts.	1.33-1.67 pts.	0.25 pt.

**Sequential:**

Apply **Avalaire S-Moc II** early preplant, preplant incorporated, or preemergence after planting at 0.8 pt./A on coarse soils and 1.0 pt./A on *medium-* and *fine-textured soils*. Follow with a sequential postemergence application of Pursuit to control emerged weeds according to the Pursuit label. **Avalaire S-Moc II** will improve the consistency and level of control from Pursuit on most grass species. Refer to the Pursuit postemergence label for a listing of weeds controlled, application rate, and growth stage limitations.

**TANK MIXTURE WITH SENCOR, SCEPTER, LOROX, CANOPY, OR PURSUIT, PLUS GRAMOXONE BRANDS, TOUCHDOWN BRANDS, OR ROUNDUP BRANDS FOR MINIMUM-TILLAGE OR NO-TILLAGE SYSTEMS**

In minimum-tillage or no-tillage systems where soybeans are planted directly into a cover crop, stale seedbed, established sod, or previous crop residues, the contact herbicides Gramoxone brands, Touchdown brands, or Roundup brands may be added to a tank mix of either **Avalaire S-Moc II + Sencor**, **Avalaire S-Moc II + Scepter**, **Avalaire S-Moc II + Lorox**, **Avalaire S-Moc II + Canopy**, or **Avalaire S-Moc II + Pursuit**. When used as directed, the Gramoxone brands portion of the tank mixture controls most emerged weeds and suppresses many perennial weeds. Touchdown or Roundup combinations will control emerged annual and perennial weeds when applied as directed on the Touchdown or Roundup label. The **Avalaire S-Moc II + Sencor**, **Avalaire S-Moc II + Scepter**, **Avalaire S-Moc II + Lorox**, **Avalaire S-Moc II + Canopy**, or **Avalaire S-Moc II + Pursuit** portion of the tank mixture provides preemergence control of the weeds listed on this label in the tank mixture section for **Avalaire S-Moc II + Sencor**, **Avalaire S-Moc II + Scepter**, **Avalaire S-Moc II + Lorox**, **Avalaire S-Moc II + Canopy**, and **Avalaire S-Moc II + Pursuit**, respectively.

Refer to the label of each product used in combination and observe the planting details, soybean variety restrictions, information regarding application to soybeans, geographical restrictions, and all other precautions and limitations.

**Application:**

Apply before, during, or after planting, but before the soybeans emerge. Add Gramoxone brands, Touchdown brands, or Roundup brands and apply as directed on the product labels.

**Gramoxone Brands:**

Apply as directed on the product label. This treatment will not control weeds taller than 6 inches.

**Restrictions:**

Do not apply combinations containing Gramoxone brands in suspension-type liquid fertilizers, as the activity of paraquat will be reduced.

**Touchdown or Roundup:**

See the Touchdown brand or Roundup brand label for weeds controlled, rates, and other use directions.

Apply in 20-60 gals. of water or fluid fertilizer per acre with ground equipment.

**Avalaire S-Moc II + Sencor + Gramoxone Brands, Touchdown Brands, or Roundup Brands**

On loamy sand with over 2% organic matter, apply 1.0 pt./A of **Avalaire S-Moc II** + 0.33-0.5 lb./A of Sencor. On *medium soils*, apply 1.33 pts./A of **Avalaire S-Moc II** + 0.5-0.67 lb./A of Sencor. On *fine soils*, apply 1.33-1.67 pts./A of **Avalaire S-Moc II** + 0.67 lb./A of Sencor.

\*When using Sencor 4 or Lexone® 4L, multiply lbs. of DF by 1.5 to get pts./A.

**Precautions:** To avoid crop injury,

1. Do not use this tank mixture on soil with less than 0.5% organic matter, on alkaline soil with a pH over 7.4, or on all sand and on loamy sand with less than 2% organic matter.
2. If heavy rain occurs soon after application, crop injury may result, especially in poorly drained areas where water stands for several days, or where the seeding slit has not been properly closed.

**Avalaire S-Moc II + Scepter + Gramoxone Brands, Touchdown Brands, or Roundup Brands**

On *coarse soils*, apply 1.0 pt./A of **Avalaire S-Moc II** + 0.67 pt./A of Scepter. On *medium soils*, apply 1.33 pts./A of **Avalaire S-Moc II** + 0.67 pt./A of Scepter. On *fine soils*, apply 1.67 pts./A of **Avalaire S-Moc II** + 0.67 pt./A of Scepter.

**Restrictions:**

1. Do not apply within 90 days of harvest, and (2)
2. Do not graze or feed treated soybean forage, hay, or straw to livestock, or illegal residues may result.
3. Do not use on soil with less than 0.5% organic matter, or crop injury may occur.

**Avalaire S-Moc II + Lorox + Gramoxone Brands, Touchdown Brands, or Roundup Brands**

On *coarse soils*\*, apply 1.0 pt./A of **Avalaire S-Moc II** + 1.0-1.5 lbs./A of Lorox DF. On *medium soils*, apply 1.33 pts./A of **Avalaire S-Moc II** + 1.0-2.0 lbs./A of Lorox DF. On *fine soils*, apply 1.33-1.67 pts./A of **Avalaire S-Moc II** + 2.0-3.0 lbs./A of Lorox DF.

\*Do not use on loamy sand, except in the northeastern U.S. on loamy sand with over 1 % organic matter, or injury may occur. Do not use on sand, gravelly soils, or exposed subsoils, or injury may occur.

**Avalaire S-Moc II + Canopy + Gramoxone Brands, Touchdown Brands, or Roundup Brands**

Use only where soils have 0.5-5% organic matter. On *coarse soils* (except sand), apply 1.0 pt./A of **Avalaire S-Moc II**, on *medium soils*, apply 1.33 pts./A of **Avalaire S-Moc II**, and on *fine soils*, apply 1.33-1.67 pts./A of **Avalaire S-Moc II**. Refer to the Canopy label for appropriate rate, according to geographical location, soil and organic matter classification, pH limitations, and all other use directions.

**Restriction:** Do not apply to sand, or to any soil with less than 0.5% organic matter, or to any soil with pH greater than 7.0, except as noted on the Canopy label.

**Avalaire S-Moc II + Pursuit + Gramoxone Brands, Touchdown Brands, or Roundup Brands**

On *coarse soils*, apply 1.0 pt./A of **Avalaire S-Moc II** + 0.25 pt./A of Pursuit. On *medium soils*, apply 1.33 pts./A of **Avalaire S-Moc II** + 0.25 pt./A of Pursuit. On *fine soils*, apply 1.67 pts./A of **Avalaire S-Moc II** + 0.25 pt./A Pursuit.

**POSTEMERGENCE USE ON SOYBEANS - Avalaire S-Moc II TANK MIXTURES**

**Tank Mixture with Glyphosate Products (e.g., Touchdown Brands or Roundup Brands)**

**Avalaire S-Moc II** at 1.0-1.33 pts./A may be tank mixed with glyphosate products at labeled rates and applied from emergence up through the third trifoliolate leaf stage of glyphosate-tolerant soybeans. **Avalaire S-Moc II** alone will not control emerged weeds. Use this treatment only on soybeans designated for use with glyphosate (e.g., glyphosate-tolerant soybeans). The glyphosate product must be registered for postemergence use in glyphosate-tolerant soybeans.

**Tank Mixture with Pursuit**

**Avalaire S-Moc II** at 1.0-1.33 pts./A may be tank mixed with Pursuit at labeled rates and applied from emergence up through the third trifoliolate leaf stage of soybeans. **Avalaire S-Moc II** alone will not control emerged weeds.

**Tank Mixture with Liberty Herbicide or Ignite 280 SL**

**Avalaire S-Moc II** at 1.0-1.33 pts./A may be tank mixed with Liberty Herbicide or Ignite 280 SL Herbicide at labeled rates and applied from emergence up through the third trifoliolate leaf stage of soybeans. **Avalaire S-Moc II** alone will



not control emerged weeds. Use this treatment only on soybeans designated for use with glufosinate (e.g., LibertyLink).

**Restrictions:** Follow the tank mix product label for adjuvant recommendations. The use of COC or UAN with **Avalaire S-Moc II** may result in temporary crop injury. To avoid possible illegal residues when **Avalaire S-Moc II** is applied postemergence to soybeans:

1. Do not apply more than 1.33 pts./A postemergence.
2. Make postemergence application at least 90 days before harvest.
3. Do not graze or feed treated forage or hay from soybeans to livestock following a postemergence application of **Avalaire S-Moc II**.

## SUGAR BEETS - AVALAIRE S-MOC II ALONE

### Postemergence Applications

**Avalaire S-Moc II** may be applied postemergence to sugar beets after the sugar beets have reached the first true-leaf stage. However, because **Avalaire S-Moc II** is primarily a soil-active herbicide, it must be applied prior to weed emergence in order to provide consistent control of listed weeds. As such, weeds that are emerged with or before the crop, or that are present at the time **Avalaire S-Moc II** is applied, must be controlled with another appropriately labeled herbicide. Apply **Avalaire S-Moc II** at 1 pt./A on *coarse soils*, 1.33 pts./A on *medium soils*, and 1.67 pts./A on *fine soils*. More than one postemergence application may be applied, but the total should not exceed 2.6 pts./A. Weeds present at the time of application will not be controlled.

### Restrictions:

To avoid possible illegal residues:

- Do not apply more than 2.6 pts./A **Avalaire S-Moc II** (2.47 lbs.s-metolachlor) postemergence.
- Do not harvest within 60 days after the last application.

**Precaution:** In coarse soils, **Avalaire S-Moc II** applied before emergence of sugar beets (i.e., other than postemergence) may cause injury.

## SUGAR BEETS - AVALAIRE S-MOC II TANK MIX COMBINATIONS

**Avalaire S-Moc II** may be tank mixed with Assure® II, Betamix®, Poast®, Progress®, Stinger®, or Upbeet® and applied to sugar beets. Tank mixtures of these products with **Avalaire S-Moc II** will increase the risk of crop injury over that of either product applied alone, as the **Avalaire S-Moc II** formulation has some adjuvant properties. The addition of a spray adjuvant such as crop oil concentrates (COC's) or methylated seed oils (MSO's) can further increase the risk of crop injury. Injury risk can be reduced by using the lowest effective rate of the tank mix partner(s) and/or adjuvant and by avoiding applications under adverse growing conditions or high soil or air humidity. Refer to the individual product labels and follow all use restrictions and limitations.

## SUGARCANE – AVALAIRE S-MOC II ALONE

**Avalaire S-Moc II** can be applied as a preplant, preemergence, or postemergence treatment for weed control in sugarcane. **Avalaire S-Moc II** can also be used in a treatment program that includes a preplant/preemergence application followed by a postemergence/post-directed application.

### Preplant and Preemergence Applications

Apply **Avalaire S-Moc II** at a rate of 0.89 – 1.22 qt/A prior to planting, preemergence after new plantings, or after harvest, but prior to re-emergence of ratoon-cane. Apply the higher rate on heavier soils and soils with higher organic matter content. For a list of weeds controlled preemergence, refer to Table 1.

If weeds are emerged at the time of application, add a crop oil concentrate (COC) type adjuvant at a rate of 1% v/v (1 gallon/100 gallon) or a nonionic surfactant (NIS) type adjuvant at a rate of 0.25% v/v (1 quart/100 gallon) to the spray solution. In addition to COC or NIS, a spray grade UAN (e.g. 28-0-0) at a rate of 2.5% v/v (2.5 gal/100 gal spray

solution) **or** ammonium sulfate (AMS) at a rate of 8.5 lb/100 gallons of spray solution can be added to the spray solution.

#### **Postemergence Applications**

Apply **Avalaire S-Moc II** at a rate of 0.49 - 0.98 qt/A postemergence before the sugarcane reaches 60 inches in height. Refer to Table 1 for a list of weeds controlled.

Postemergence applications may be made as broadcast post-over-the-top or as a post-directed spray to soil between the rows and the base of the sugarcane. For best postemergence weed control, apply **Avalaire S-Moc II** to actively growing weeds.

If a preemergence application was made earlier in the season (not to exceed 1.22 qt/A), only 0.49 qt/A may be applied postemergence. The total amount of **Avalaire S-Moc II** applied (preemergence + postemergence) cannot exceed 1.71 qt/A/year.

If weeds are emerged at the time of application, add a crop oil concentrate (COC) type adjuvant at a rate of 1% v/v (1 gallon/100 gallon) **or** a nonionic surfactant (NIS) type adjuvant at a rate of 0.25% v/v (1 quart/100 gallon) to the spray solution. In addition to COC or NIS, a spray grade UAN (e.g. 28-0-0) at a rate of 2.5% v/v (2.5 gal/100 gal spray solution) **or** ammonium sulfate (AMS) at a rate of 8.5 lb/100 gallons of spray solution can be added to the spray solution.

#### **Avalaire S-Moc II Tank Mix Combinations**

**Avalaire S-Moc II** may be tank mixed with other registered sugarcane herbicides, insecticides and fungicides. The tank-mix partners are to be applied by the same methods and at the same timings as **Avalaire S-Moc II** unless otherwise specified in the tank-mix product label. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. Perform a compatibility test prior to spraying the tank-mix application.

#### **Restrictions:**

To avoid possible illegal residues:

1. Do not apply more than 1.71 qt/A of **Avalaire S-Moc II** (3.27 lbs. s-metolachlor) per year.
2. Do not apply more than 1.22 qt/A of **Avalaire S-Moc II** (2.33 lbs. s-metolachlor) as a preplant or preemergence application per year.
3. Do not apply more than 0.98 qt/A of **Avalaire S-Moc II** (1.87 lbs. s-metolachlor) as a postemergence application per year.
4. Do not apply more than 0.49 qt/A of **Avalaire S-Moc II** (0.94 lbs. s-metolachlor) as a postemergence application if a preplant or preemergence application was made.
5. Do not make more than two applications per year.
6. Do not make applications less than 14 days apart.
7. Do not apply **Avalaire S-Moc II** to sugarcane greater than 60 inches in height.
8. Do not make a postemergence application within 100 days of harvest.
9. Do not exceed the total combined maximum annual sugarcane rates for S-metolachlor containing products (3.34 lb S-metolachlor ai/A).

#### **SUNFLOWERS - AVALAIRE S-MOC II ALONE**

##### **Preplant Incorporated or Preemergence**

Within the rate ranges given below, use the higher rate of **Avalaire S-Moc II** if heavy weed infestations are expected. On *coarse soils* with organic matter less than 3%, apply 1.0-1.33 pts./A of **Avalaire S-Moc II**; apply 1.33 pts./A if organic matter is 3% or greater. On *medium soils*, apply 1.33-1.67 pts./A of **Avalaire S-Moc II**. On *fine soils* with

organic matter of less than 3%, apply 1.33-1.67 pts./A of **Avalaire S-Moc II**; apply 1.67-2.0 pts./A if organic matter is 3% or greater.

**Restrictions:**

1. Do not allow livestock to graze or feed in treated area.
2. Do not exceed 2.0 pts/A **Avalaire S-Moc II** (1.9 lbs. s-metolachlor) for sunflowers in fine soils with organic matter of 3% or greater.

**TOMATOES - AVALAIRE S-MOC II ALONE**

**Transplanted**

**Avalaire S-Moc II** may be applied preplant incorporated or preplant before transplanting. If the latter method is used, keep soil disturbance to a minimum during the transplanting operation. Application may also be post directed to transplants after the first settling rain or irrigation. When an application is made post-directed, apply in a minimum of 20 gallons of water per acre and minimize contact with tomato plants. **Avalaire S-Moc II** will not control emerged weeds. In bedded transplanted tomatoes, apply **Avalaire S-Moc II** preplant non-incorporated to the top of the pressed bed as the last step prior to laying plastic. **Avalaire S-Moc II** may also be used to treat row-middles in bedded tomatoes, as long as the total amount of **Avalaire S-Moc II** does not exceed the maximum allowed per crop.

**Seeded**

**Avalaire S-Moc II** may be applied post-directed to direct-seeded tomatoes: Tomato plants must be at least 4 inches tall at the time of application, and the product must be applied in a minimum of 20 gallons of water per acre. Minimize spray contact with tomato plants. **Avalaire S-Moc II** will not control emerged weeds.

**Tomato Use Rates:**

On *coarse soils*, apply 1.0-1.33 pts./A of **Avalaire S-Moc II** if organic matter is less than 3% or 1.33 pts./A if organic matter is 3% or greater. On *medium soils*, apply 1.33-1.67 pts./A of **Avalaire S-Moc II**. On *fine soils*, apply 1.33-1.67 pts./A of **Avalaire S-Moc II** if organic matter is less than 3% or 1.67-2.0 pts./A if organic matter is 3% or greater.

**Precautions:**

- **Avalaire S-Moc II** may damage transplants that have been weakened by any cause. To prevent damage, plant only healthy transplants. Do not plant when wet, cool, or unfavorable growing conditions exist.
- In transplanted tomatoes, if **Avalaire S-Moc II** is applied preplant incorporated, incorporate to a depth less than the depth of transplanting, and use the lower end of the rate range for the given soil type, or damage may occur.
- For row-middle applications where tomatoes are grown on sandy soils and where high soil moisture conditions can exist (e.g., low binding and high evaporation conditions), as may be found in the States of Florida, Georgia, Maryland, and Virginia, there is potential for crop injury in the form of leaf epinasty. The risk of this type of injury can be reduced by: a) incorporating the **Avalaire S-Moc II** immediately following application, b) applying the **Avalaire S-Moc II** seven or more days before transplanting (but only after the beds have been formed), c) minimizing the application of **Avalaire S-Moc II** onto the plastic of the bed, or d) any combination of the above.

**Restrictions:**

1. Do not apply to varieties or cultivars with unknown tolerance to **Avalaire S-Moc II**.
2. 90-Day PHI - If the single application rate of **Avalaire S-Moc II** is greater than 1.33 pts./A (up to 2.0 pt./A), do not harvest tomatoes within 90 days of application.
3. 30-Day PHI - If the application of **Avalaire S-Moc II** does not exceed 1.33 pts./A, do not harvest tomatoes within 30 days of application.
4. When applying at 1.33 pts./A **Avalaire S-Moc II** (1.26 lbs. s-metolachlor) with a 30-day PHI, the following restrictions apply:
  - Do not exceed two applications per growing season.
  - The use of adjuvants is prohibited.

- Applications may be made using ground equipment, in concentrated spray volumes.
- Applications may be made as a foliar broadcast spray to the soil within 1 week of transplanting and again at blooming/fruiting to the row middles as a banded/directed application 38-77 days after the first treatment.

To avoid possible illegal residues:

1. Do not exceed 2.0 pts **Avalaire S-Moc II** (1.9 lbs. s-metolachlor) for tomatoes in fine soils with organic matter of 3% or greater.
2. Apply only by ground application.

#### Tank Mix Partner Information

Product Name	Active Ingredient	EPA Registration Number
AAtrex 4L	atrazine	100-497
Aatrex Nine-O	atrazine	100-585
Accent	nicosulfuron	352-560
Assure II	quizalofop-p-ethyl	5481-646
Balance Pro	isoxaflutole	264-600
Banvel®	dicamba	66330-276
Basagran®	sodium bentazon	7969-45
Beacon	primisulfuron-methyl	100-705
Betamix	desmedipham	264-621
Bicep Magnum	atrazine + S-metolachlor	100-886
Bicep II Magnum	atrazine + S-metolachlor	100-817
Buctril	bromoxynil	264-437
Butyrac® 200	butyric acid, dimethylamine salt	42750-38
Canopy®	metribuzin + chlorimuron ethyl	352-444
Caparol® 4L	prometryn	100-620
Clarity	diglycolamine salt	7969-137
Command	clomazone	279-3158, 279-3150, 279-3151
Concep	fluxofenim	
Cotoran 4L	fluometuron	66222-181
Eptam® 7E	S-ethyl dipropylthiocarbamate	10163-283
Eradicane	S-ethyl dipropylthiocarbamate	10163-284
Gramoxone brands	paraquat	100-1652, 100-1431
Ignite 280 SL Herbicide	glufosinate	7969-448
Landmaster BW	glyphosate + 2,4-D	524-351
Lexone 4L	metribuzin	352-382
Liberty® Herbicide	glufosinate	7969-447
Lorox DF	linuron	61842-23
Marksman®	atrazine + dicamba	7969-136
Poast	sethoxydim	7969-176
Princep 4L	simazine	100-526
Princep Caliber 90	simazine	100-603
Progress	phenmedipham + desmedipham + ethofumesate	264-632
Prowl	pendimethalin	241-418
Pursuit®	imazethapyr	241-310
Roundup brands	glyphosate	524-445, 524-343, 524-539
Scepter® 70 DG	imazaquin	5481-610
Sencor 4	metribuzin	264-735
Sonalan	ethalfluralin	10163-356

Stinger	clopyralid	62719-73
Storm	sodium salt of bentazon + sodium salt of acifluorfen	70506-59
Touchdown brands	glyphosate	100-1169, 100-1157, 100-1212
Treflan	trifluralin	10163-360
Upbeet	triflusulfuron-methyl	279-9584

### STORAGE AND DISPOSAL

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

**Pesticide Storage:** This product may be stored at temperatures down to -30°F.

**Pesticide Disposal:** Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited. Wastes resulting from the use of this product are toxic. Improper disposal of unused pesticide, spray mixture, or rinsate is a violation of federal law. Pesticide, spray mixture, or rinsate that cannot be used according to label instructions must be disposed of according to federal, state, or local procedures. For guidance in proper disposal methods, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office.

#### CONTAINER HANDLING

**Nonrefillable Containers (≤ 5 gallons):** Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application 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 and disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**Nonrefillable Containers (> 5 gallons):** Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 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 2 more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill or by incineration.

### LIMITATION OF WARRANTY AND LIABILITY

**IMPORTANT: READ BEFORE USE.** Read the entire Directions for Use, Conditions of Warranties and Limitations of Liability before using this product. If these terms and conditions are not acceptable, return the unopened product container at once. By using this product, user or buyer accepts the following Disclaimer of Warranties and Limitations of Liability. **CONDITIONS:** The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Ineffectiveness, injury, and other unintended consequences may result because of such factors as manner of use or application (including misuse), the presence of other materials, weather conditions, and other unknown factors, all of which are beyond the control of AVALAIRE, LLC. All such risks shall be assumed by the user or buyer.

**DISCLAIMER OF WARRANTIES:** To the extent consistent with applicable law, AVALAIRE, LLC makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond statements on this label. **LIMITATIONS OF LIABILITY:** To the extent consistent with applicable law, neither AVALAIRE, LLC the manufacturer, nor the Seller shall be liable for any indirect, special, incidental or consequential damages resulting from the use, handling, application, storage, or disposal of this product. To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries or damages resulting from the use, handling, application, or storage of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid.

[Avalaire S-Moc II is a trademark of Avalaire, LLC]

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Weedone<sup>®</sup> trademark of NuFarm, Inc.

Willmar Air Ride® trademark of Willmar Manufacturing

X-77® trademark of Loveland Industries, Inc.

# Avalaire S-Moc II

[Alternate Brand Name: BorealiS II]

FOR WEED CONTROL IN BEANS, PEAS, AND LENTILS; CORN; COTTON; GRASSES GROWN FOR SEED; HORSERADISH; PEANUTS; POTATOES; PUMPKIN; RHUBARB; SAFFLOWERS; SWEET, GRAIN, OR FORAGE SORGHUM; SOYBEANS; SOYBEANS, IMMATURE SEED; SUGAR BEETS; SUGARCANE; SUNFLOWERS; AND TOMATOES.

SALE, USE AND DISTRIBUTION OF THIS PRODUCT IN NASSAU AND SUFFOLK COUNTIES IN THE STATE OF NEW YORK IS PROHIBITED.

**ACTIVE INGREDIENT:** ( % by weight)  
S-metolachlor (CAS No. 87392-12-9):..... 82.4%  
**OTHER INGREDIENTS:**..... 17.6%  
**TOTAL:**..... 100.0%

Contains 7.64 lbs. of active ingredient per gallon.

**KEEP OUT OF REACH OF CHILDREN**

## CAUTION

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.)

FIRST AID	
<b>If swallowed:</b>	<ul style="list-style-type: none"><li>• Call a poison control center or doctor immediately for treatment advice.</li><li>• Have person sip a glass of water if able to swallow.</li><li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li><li>• Do not give anything by mouth to an unconscious person.</li></ul>
<b>If on skin or clothing:</b>	<ul style="list-style-type: none"><li>• Take off contaminated clothing.</li><li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
<b>If in eyes:</b>	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li><li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
<b>If inhaled</b>	<ul style="list-style-type: none"><li>• Move person to fresh air.</li><li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.</li><li>• Call a poison control center or doctor for further treatment advice.</li></ul>
<b>HOT LINE NUMBER</b> Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact SafetyCall at 1-844-685-9173 for emergency medical treatment information.	

### For Chemical Emergency

**Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night**

**Within USA and Canada: 1-800-424-9300 or +1 703-527-3887 (collect calls accepted)**

### PRECAUTIONARY STATEMENTS

**HAZARDS TO HUMANS & DOMESTIC ANIMALS**

#### CAUTION

Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. Avoid contact with eyes, skin, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

**ENVIRONMENTAL HAZARDS:** Do not apply directly to water, 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. **PHYSICAL AND CHEMICAL HAZARDS:** Do not mix or allow contact with oxidizing agents. Hazardous chemical reaction may occur.

### STORAGE AND DISPOSAL

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

**Pesticide Storage:** This product may be stored at temperatures down to -30°F.

**Pesticide Disposal:** Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited. Wastes resulting from the use of this product are toxic. Improper disposal of unused pesticide, spray mixture, or rinsate is a violation of federal law. Pesticide, spray mixture, or rinsate that cannot be used according to label instructions must be disposed of according to federal, state, or local procedures. For guidance in proper disposal methods, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office.

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See inside label booklet for additional Precautionary Statements and Directions for Use.

Manufactured for:  
**Avalaire, LLC**  
1204 Village Market Place, #173  
Morrisville, NC 27560

**EPA Reg. No. 93930-39**  
**EPA Est. No. \_\_\_\_\_**  
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