



# HELMET SPC

Herbicide for weed control in cotton, peanuts, pod crops, potatoes, safflower, grain or forage sorghum, soybeans and tomatoes

**ACTIVE INGREDIENT:**

Metolachlor: 2-chloro-N-(2-ethyl-6-methylphenyl)-N-(2-methoxy-1-methylethyl)acetamide ..... 86.4%

**INERT INGREDIENTS:** ..... 13.6%

**TOTAL:** ..... 100.0%

HELMET SPC contains 8.0 lbs. of active ingredient per gallon.

EPA Reg. No. 74530-73

EPA Est. No. 39578-TX-001

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

See label booklet for First Aid, Precautionary Statements and Directions for Use including Storage and Disposal

**Net Contents: 2.5 Gallons**

**Manufactured for:**

**HELM AGRO US, Inc. 401 E Jackson St. • Suite 1400 • Tampa, Florida 33602**

## FIRST AID

<b>IF ON SKIN:</b>	<ul style="list-style-type: none"><li>• Take off contaminated clothing.</li><li>• Rinse skin immediately.</li><li>• Call a poison control center or doctor immediately for treatment advice.</li></ul>
<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"><li>• Call a poison control center or doctor immediately for treatment advice.</li><li>• Have person sip glass of water if able to swallow.</li><li>• Do not induce vomiting unless told by a poison control center or doctor.</li><li>• Do not give anything to an unconscious person.</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 by mouth-to-mouth, if possible.</li></ul>
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For chemical emergency: Spill, leak, fire, exposure, or accident, call CHEMTREC 1-800-424-9300.	

## PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

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

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical resistant to this product are listed below. If you want more options, follow the instructions for Category H on an EPA chemical resistance category selection chart.

#### Applicators and other handlers must wear:

- Coveralls over short-sleeved shirt and short pants
- Chemical-resistant gloves such as barrier laminate or Viton > 14mils
- Chemical-resistant footwear plus socks
- Chemical-resistant headgear for overhead exposure, and
- Chemical-resistant apron when cleaning equipment, mixing or loading

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

## ENGINEERING CONTROLS STATEMENT

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 170.240(d)(4)]. 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 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

## USER SAFETY RECOMMENDATIONS

#### Users should:

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

## ENVIRONMENTAL HAZARDS

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

#### Ground Water Advisory:

This chemical is known to leach through soil into ground water under certain conditions as a result of agricultural use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

#### Surface Water Advisory:

Metolachlor can contaminate surface water through ground spray drift. Under some conditions, metolachlor may also have a high potential for runoff into surface water - primarily via dissolution in runoff water - for several months post-application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas over-laying extremely shallow ground water, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas over-laying tile drainage systems that drain to surface water.

### Mixing/Loading Instructions:

Do not allow this product to back-siphon into wells, spills, or improper disposal of excess pesticide, spray mixtures, or rinsates. Check valves or anti-siphoning devices must be used on all mixing and/or irrigation equipment.

Do not mix or load this product 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 washwater, 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

This product is intended for use in weed control in cotton, peanuts, pod crops, potatoes, safflower, sorghum (grain or forage), soybeans, and tomatoes.

IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABEL.

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

### AGRICULTURAL USE REQUIREMENTS

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

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

- Coveralls
- Chemical-resistant gloves such as barrier laminate or Viton > 14mils
- 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.** IN NEW YORK STATE: DO NOT APPLY THIS PRODUCT BY AIR. DO NOT SELL, USE OR DISTRIBUTE THIS PRODUCT IN NASSAU AND SUFFOLK COUNTIES.

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

### PRODUCT INFORMATION

Observe all precautions and limitations 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.

When tank mixtures are recommended, branded products acceptable for tank mixes are listed. Additionally, generic equivalents of these branded products may be used as long as the conditions listed below as well as those on the tank mix partner are followed.

When an adjuvant is to be used with this product, Helm Agro suggests the use of a Chemical Producers and Distributors Association (CPDA) certified adjuvant.

HELMET SPC is a selective herbicide recommended 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 cotton, peanuts, pod crops, potatoes, safflower, grain or forage sorghum, soybeans and tomatoes. HELMET SPC is also recommended as a postemergence treatment in selected crops.

**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 non-target areas.

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

1. 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.
2. Do not apply to impervious substrates such as paved or highly compacted surfaces.
3. Do not use tail-water from the first flood or furrow irrigation of treated fields to treat non-target crops unless at least 1/2 inch of rainfall has occurred between application and the first irrigation.
4. When HELMET SPC is incorporated, DO NOT exceed the depth of incorporation with supplemental tillage or efficacy will be reduced.

Where directions specify a HELMET SPC tank mixture with AAtrex formulations, other brands of atrazine may be used. Follow the rates, recommendations, and limitations on the AAtrex or respective atrazine product label, if other brands of atrazine are used.

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.

Dry weather following preemergence application of HELMET SPC 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 poor to good, or consistent control at a level below that generally considered acceptable for commercial weed control.

Precaution: Injury may occur to crops following the use of HELMET SPC under abnormally high soil moisture conditions during early development of the crop.

## RESISTANCE MANAGEMENT

HELMET SPC is a GROUP 15 Herbicide containing the active ingredient metolachlor.

To prevent the risk of weeds developing resistance to HELMET SPC, always apply this product at the recommended rates and in accordance with the use directions. Do not use less than recommended label rates alone or in tank mixtures. Do not use reduced rates of the tank mix partner.

The development of herbicide resistance is well understood, however it is not easily predicted. When herbicides that affect the same biological site of action are used repeatedly over several years to control the same weed species in the same field, naturally-occurring resistant biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that field. Adequate control of these resistant weed biotypes cannot be expected. If weed control is unsatisfactory, it may be necessary to retreat the problem area using a product affecting a different site of action.

Herbicides should be used in conjunction with the resistance management strategies in the area to better manage herbicide resistance through delaying the proliferation and possible dominance of herbicide resistant weed biotypes. It may be necessary to change cultural practices within and between crop seasons such as using a combination of tillage, retreatment, tank-mix partners and/or sequential herbicide applications that have a different site of action. Weed escapes that are allowed to go to seed will promote the spread of resistant biotypes. It is advisable to keep accurate records of pesticides applied to individual fields to help obtain information on the spread and dispersal of resistant biotypes. Consult your agricultural dealer, consultant, applicator, and/or appropriate state agricultural extension service representative for specific alternative cultural practices or herbicide recommendations available in your area.

If herbicide resistance should develop in the area to Group 15 herbicides, this product used alone may not continue to provide sufficient levels of weed control. If the reduced levels of control cannot be attributed to improper application techniques, improper use rates, improper application timing, unfavorable weather conditions or abnormally high weed pressure, a resistant strain of weeds may have developed. To reduce the potential for weed resistance use this product in a rotation program with other classes of chemistry and modes of action.

For optimum performance, scout fields carefully and begin applications when weeds are smaller rather than larger. If resistance is suspected, contact local or State agricultural advisors.

## MIXING INSTRUCTIONS

### HELMET SPC Alone:

- Mix HELMET SPC with water or fluid fertilizer and apply as a spray.
- Fill the spray tank 1/2 - 3/4 full with water or fluid fertilizer, add the proper amount of HELMET SPC, 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, Balan, Banvel, Basagran, Butyrac, Canopy, Caparol 4L, Command, Cotoran, Eptam, Lorox, Marksman, MSMA, Princep, Prowl, Pursuit, AAtrex + Princep, Scepter, Sencor, Sonalan, or Treflan, and allow it to become dispersed; then add HELMET SPC; then add Gramoxone Extra, Landmaster BW, or Roundup if these products are being used; and finally the rest of the water. For tank mixtures with AAtrex, 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 **Appendix A**.

### 1) 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 Loamy sand Sandy loam	Loam Silt loam Silt	Sandy clay loam Sandy clay Silty clay loam Silty clay 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.

**Note:** HELMET SPC may be applied preemergence alone or in tankmixes with partners specified on this label, following preplant incorporated herbicides when used according to their label recommendations, 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.

### 2) APPLICATION PROCEDURES

#### APPLICATION TIMING

HELMET SPC alone or in some tank mixtures with other labeled herbicides may be applied for weed control in certain crops at various times – preplant, preplant incorporated, preemergence and postemergence. Refer to the given crop section of the label to determine if application timings listed below are recommended.

- a) **Preplant Surface-Applied:** For minimum- or no-tillage systems only, HELMET SPC alone and some HELMET SPC tank mixtures may be applied up to 45 days before planting certain crops. For applications made 30 – 45 days before planting, use split applications with 2/3 the recommended broadcast rate for the crop and soil texture applied initially and the remaining 1/3 at planting. For applications made less than 30 days before planting, application may be made either as a split or a single application. Refer to individual crop to determine if early preplant surface application is recommended. When weeds are present at the time of treatment, apply in a tank mixture combination with a contact herbicide (for example, Gramoxone Extra 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.

**b) Preplant Incorporated:** Apply HELMET SPC to soil surface 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. When furrow irrigation will be used or when a period of dry weather is expected after application use a preplant incorporated application. If crop will be planted on beds, apply and incorporate HELMET SPC after bed formation, unless specified otherwise.

**c) Preemergence:** Apply HELMET SPC during planting (behind the planter) or after planting but before weeds or crops emerge.

### 3) SPECIAL APPLICATION PROCEDURES

**a) Preplant Incorporated: CA Only (Safflower, Pod Crops):**

Broadcast HELMET SPC to the soil and thoroughly incorporate with a disk or similar implement set to till 4-6 inches deep. Till the soil in 2 different directions (cross-till) for more thorough incorporation. Crops may be planted on flat surface or on beds. Caution should be used when forming the beds that only soil from the HELMET SPC treated zone is used - untreated soil should not be brought to soil surface or weed control will be decreased. If the application is made to preformed beds, incorporate HELMET SPC with tillage implement set to till 2-4 inches deep. Care should be taken during tilling to keep the treated/tilled soil on the beds. **Preemergence:** Apply HELMET SPC after planting. Water with sprinkler or flood irrigation within 7-10 days if at least ½ - 1 inch of rainfall does not occur (1/2 inch on coarse textured soil and 1 inch on fine textured soil).

**b) Fall Application (Only in IA, MN, ND, SD, WI, North of Route 20 in the state of NE, and North of Route 136 in the state of IL):** DO NOT apply to frozen ground. Use on medium and fine soils with greater than 2.5% organic matter that will be planted to 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.

**Restriction:** 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.

**c) Ground Application:** Apply HELMET SPC 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 HELMET SPC 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:

$$\text{Bandwidth in inches} \times \text{broadcast rate per acre} = \text{amount needed per acre}$$

$$\text{Row width in inches}$$

**Note:** For information on applying in lower volumes of carrier, see **Low Carrier Application** in Appendix B. For application by air or through center pivot systems, see Appendices C and D. Appendix C includes Aerial Drift Management and Aerial Drift Reduction Advisory sections. For information on impregnating dry fertilizer, see Appendix E.

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### HELMET SPC APPLIED ALONE

Weeds Controlled		
Barnyardgrass (watergrass)	Florida pusley	red rice
bristly foxtail	foxtail millet	robust foxtails (purple, white)
carpetweed	galinsoga	signalgrass (Brachiaria)
common waterhemp	giant foxtail	southwestern cupgrass
crabgrass	goosegrass	tall waterhemp
crowfootgrass	green foxtail	witchgrass
Eastern black nightshade	pigweed	yellow foxtail
fall panicum	prairie cupgrass	yellow nutsedge
Weeds Partially Controlled*		
common purslane	sandbur	volunteer sorghum
eclipta	seedling johnsongrass	wild proso millet
Florida beggarweed**	shattercane	woolly cupgrass
hairy nightshade	Texas panicum***	

\*See **Product Information** section. Control of these weeds can be erratic due partially to variable weather conditions.

Control may be improved by following these suggested procedures:

- Thoroughly, till moist soil to destroy germinating and emerged weeds. If HELMET SPC is to be applied preplant incorporated, this tillage may be used to incorporate HELMET SPC as long as uniform 2-inch incorporation is achieved as recommended under **Application Procedures**.
- Plant crop into moist soil immediately after tillage. If HELMET SPC 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 HELMET SPC.
- 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 (2 inches) is recommended as soon as weeds emerge.

\*\*For partial control of this weed, use a minimum of 2 pts. /A and apply preemergence.

\*\*\*For partial control of this weed, use a minimum of 2 pts. /A and apply through a center pivot irrigation system.

#### 4) Rotational Crops:

##### HELMET SPC Alone

###### Restrictions:

- If crop treated with HELMET SPC alone is lost, any labeled crop may be replanted immediately. DO NOT make a second broadcast application of HELMET SPC. If the original application was banded and the second crop is planted in the untreated row middles, a second banded treatment may be applied over untreated row middles. DO NOT make a second broadcast application over original banded area.
- Alfalfa may be planted 4 months following application.
- Barley, oats, rye, or wheat may be planted 4½ months following treatment.
- Tomatoes may be planted 6 months following application.
- Clover may be seeded 9 months following application.
- Any crop on this label, in addition to root crops, tobacco, barley, buckwheat, milo, oats, rice, rye, wheat, cabbage, or peppers, may be planted in the spring following treatment.
- All other rotational crops may be planted 12 months after a layby application.
- Following a lay-by treatment or multiple treatments applied the previous season, any crop on this label, in addition to tobacco, cabbage, or peppers, may be planted in the spring.
- DO NOT graze or feed forage or fodder from cotton to livestock.

##### HELMET SPC Tank Mixtures:

###### Rotational Crops

**Restrictions:** For HELMET SPC used in tank mixtures, refer to the statements/restrictions above for HELMET SPC and to the respective product labels of any mixing partner(s) for additional statements/restrictions.

To avoid injury to rotational alfalfa or clover:

- (1) DO NOT apply more than 3 lbs. a.i. of metolachlor per acre (3 pts. of HELMET SPC) preemergence (including preplant surface, preplant incorporated, postplant incorporated, etc.), and
- (2) DO NOT make lay-by or other postemergent applications of HELMET SPC.

## CROPS

## COTTON

### HELMET SPC ALONE

#### 1. Application:

Apply HELMET SPC preemergence only in Area 1 (AR, LA, MS, TN, and Bootheel of MO) at the rate of 0.75-1.0 pt./A on sandy loams, 1.0-1.33 pts./A on medium soils, or 1.0-1.33 pts./A on fine soils.

Apply HELMET SPC preplant incorporated or preemergence in Area 2 (NM, OK, and TX) 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 HELMET SPC postemergence to cotton and preemergence to weeds at 0.75-1.33 pts./A, according to the state rate limitations in the following **Postemergence** section.

### DO NOT use on sands and loamy sand.

**2. 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 weeds emerge. Uniformly incorporate use a rolling cultivator or similar implement to a depth of 1 inch or less (DO NOT incorporate 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. Plant cotton 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.

**Note:** For best yellow nutsedge control and seedling johnsongrass suppression, apply HELMET SPC preplant incorporated at the maximum rate for the soil texture, whether applied alone or mixed with Caparol 4L.

**3. Preemergence:** Apply to the soil surface at planting or after planting but before weeds or crop emerge.

**4. Postemergence:** Apply HELMET SPC broadcast over-the-top or directed to the soil surface, according to the rate and cotton height limitations listed below by state. HELMET SPC will not control emerged weeds so apply before weed emergence or after clean cultivation to remove existing weeds. HELMET SPC postemergence may be applied after 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 HELMET SPC. In furrow-irrigated areas, apply HELMET SPC, 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 HELMET SPC.

**AL, FL, GA, NC, SC and VA:** Apply HELMET SPC at 1.0-1.33 pts./A when cotton is 3-6 inches tall.

**AR, LA, MO, MS and TX:** Apply HELMET SPC at 0.75-1.33 pts./A when cotton is 3-12 inches tall.

**AR (clay soils), AZ, CA, OK, NM and TX:** Apply HELMET SPC at 1.0-1.33 pts./A when cotton is 3-12 inches tall but before August 1.

**5. Multiple Applications:** Use a weed control program with multiple applications of HELMET SPC when weed pressure is heavy, difficult to control species are expected, or if re-infestation may occur. 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 HELMET SPC will not control emerged weeds. Cotton must be at least 3 inches tall at the postemergence timing. Apply HELMET SPC postemergence over a previous preplant or preemergence HELMET SPC application as shown in Table 1.

**Table 1: Multiple HELMET SPC Applications to Cotton**

State	Multiple HELMET SPC Applications to Cotton		
	Preplant Incorporated or Preemergence pts./A	+	Postemergence and Cotton Height pts./A
AR, LA, MO, MS, TN	0.75 – 1.33 Preemergence Only	+	0.75 – 1.33 To 3 - 12" Cotton
NM, OK, TX	1.0 – 1.33	+	1.0 – 1.33 To 3 - 12" Cotton Before August 1
NC, VA	1.0 – 1.33 Preemergence Only	+	1.0 – 1.33 To 3 - 12" Cotton

In sprinkler-irrigated areas, apply HELMET SPC and 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 HELMET SPC. In furrow-irrigated areas, apply HELMET SPC, incorporate with a rolling cultivator or similar implement that provides uniform shallow incorporation (2 inches or less) - 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 HELMET SPC.

**Restrictions:** For best yellow nutsedge control and seedling johnsongrass suppression, apply HELMET SPC preplant incorporated, preemergence, or postemergence to cotton and preemergence to weeds at the maximum rate for the soil texture, whether applied alone or in combinations:

- Do not apply more than a total of 2.0 pts./A on coarse soils or 4 pts./A of HELMET SPC on medium and fine soils during a growing season. HELMET SPC treatments may be applied over previous registered herbicide treatments.

**Restrictions:**

- DO NOT apply HELMET SPC on sand or loamy sand soils.
- DO NOT apply HELMET SPC in areas where water is likely to “pond” over the bed.
- To avoid concentration of HELMET SPC in the seed furrow, DO NOT make broadcast applications 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.
- In furrow-planted cotton, to avoid concentration in the furrow and potential injury, DO NOT apply HELMET SPC postemergence until after first “knifing” or cultivation to level soil surface.
- DO NOT apply over-the-top in fluid fertilizer or any other adjuvant, surfactant, oil, or other pesticide not recommended in the cotton section of this label or injury may occur.
- DO NOT apply on Taloka silt loam.
- DO NOT use in Gaines County, TX.
- DO NOT graze or feed forage or fodder from cotton to livestock or illegal residues may result.

**HELMET SPC Tank Mixtures**

**1) Tank Mixture with Caparol 4L**

Tank mixtures of HELMET SPC + Caparol 4L may be applied preplant incorporated or preemergence in water or fluid fertilizer. When fluid fertilizer is used as a carrier for HELMET SPC, either alone or in combination with Caparol 4L, mix only the amount that will be sprayed in one operation. DO NOT allow these mixtures to stand without agitation. Only water may be used as a carrier for postemergence directed application.

In addition to those weeds controlled by HELMET SPC alone, HELMET SPC + Caparol 4L, applied preplant incorporated or preemergence, also controls the following weeds:

annual morningglory	jungerlice	purslane
cocklebur*	lambsquarters	ragweed
coffeedweed*	malva	wild oats
groundcherry	mustard	
hairy night shade	prickly sida (teaweed)	
*shallow-germinating seedlings		

As a postemergence directed application, HELMET SPC provides residual control of weed species on its label and Caparol 4L provides postemergence control and residual control of weeds on its label. HELMET SPC will not control emerged weeds.

**Preplant Incorporated or Preemergence:** Apply HELMET SPC + Caparol 4L, either preplant incorporated or preemergence, using the appropriate rate from Table 2. Cotton should be planted 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 2: HELMET SPC + Caparol 4L – Cotton (NM, OK, TX)**

USE AREAS	SOIL TEXTURE	BROADCAST RATES PER ACRE	
		HELMET SPC	Caparol 4L
ALL	Sand, loamy sand	DO NOT USE	
OK and Blacklands and Gulf Coast of TX	Loams	0.85 - 1.33 pts.	2.4 pts.
	Clays	1.33 pts.	4.8 pts.
Rio Grande Valley of TX	Loams	0.85 - 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	0.85 - 1.0 pt.	1.6 pts.
	Loams	0.85 - 1.33 pts.	2.4 pts.
	Sandy clay loams	1.33 pts.	2.4 pts.
	Other clay loams	1.33 pts.	3.2 pts.

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

Tank mix HELMET SPC with Caparol 4L in water and apply postemergence directed in cotton for control of emerged weeds listed on the Caparol 4L label and residual preemergence control of weeds controlled by HELMET SPC and Caparol 4L. Also, application may be made after cultivation for residual preemergence control. These treatments may be applied over previous registered treatments, including HELMET SPC, provided the maximum label rate of any product is not exceeded. DO NOT apply over-the-top of cotton or injury may occur.

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

**Restrictions:**

- DO NOT make broadcast applications of HELMET SPC + Caparol 4L to cotton planted in furrows more than 2 inches deep in order to avoid concentration in the seed furrow. Band applications may be made to cotton planted in furrows deeper than 2 inches, but to avoid crop injury band width should not exceed the width of the bottom of the furrow.
- DO NOT apply on sand or loamy sand soils.
- DO NOT apply HELMET SPC in areas where water is likely to "pond" over the bed.
- DO NOT apply in cut areas of newly leveled fields, or in areas of excess salt.
- DO NOT apply to glandless cotton varieties.
- DO NOT apply on Taloka silt loam.
- DO NOT use in Gaines County, TX.
- DO NOT graze or feed forage or fodder from cotton to livestock or illegal residues may result.
- Refer to the Caparol 4L label for further instructions and limitations.

**2) Tank Mixture with Cotoran DF**

Tank mixture of HELMET SPC + Cotoran DF may be applied preemergence for control of weeds controlled by HELMET SPC alone and those listed on the Cotoran DF label. Additionally, this combination will control spotted spurge, hyssop spurge, nodding spurge, and prostrate spurge. Apply to soil surface at planting or soon after planting but before weeds or crops emerge, using the appropriate rates from Table 3. The tank mixture may be applied postemergence to cotton but pre-emergence to weeds, or it may be applied postemergence to both cotton and broadleaf weeds for control of weeds on the Cotoran label. Apply as a directed, semi-directed, or over-the-top spray. HELMET SPC will not control emerged weeds but will provide preemergence control of species on its label.

**Mixing Instructions:** Incompatibility can occur when tank mixing HELMET SPC and Cotoran DF. To help overcome this condition mix as follows:

- Fill the spray tank ¼ full with water or fluid fertilizer.
- Start agitation.
- Add Cotoran DF and allow it to become dispersed.
- Add X-77 at 0.5% volume/volume final spray (4 pts./100 gals.).
- Add the HELMET SPC.
- Finish filling tank with 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 3: HELMET SPC + Cotoran DF-Cotton**

SOIL TEXTURE	BROADCAST RATES PER ACRE		
	HELMET SPC		Cotoran DF***
	AREA 1*	AREA 2**	
Sand, loamy sand	DO NOT USE		
Sandy loam	0.75 - 1.0 pt.	0.85 - 1.0 pt.	1.2 lbs.
Loam, silt, silt loam	1.0 - 1.33 pts.	1.0 - 1.33 pts.	1.2 - 1.9 lbs.
Fine soil	1.0 - 1.33 pts.	1.33 pts.	1.9 - 2.4 lbs.

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

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

\*\*\*When using Cotoran 4L, use equivalent rates. Multiply lbs. of Cotoran DF by 1.7 to get pts. of Cotoran 4L.

**Postemergence:** This tank mixture may be applied postemergence to cotton but preemergence to weeds or postemergence to both cotton and weeds for control of weeds on the Cotoran label. Apply as a directed, semi-directed, or over-the-top spray (over-the-top applications may cause cotton injury). HELMET SPC will not control emerged weeds but will provide preemergence control of species on its label. Apply when cotton is in the 3- to 12-inch stage. Where rate ranges are given for Cotoran DF, 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 HELMET SPC, provided the maximum label rate of any product is not exceeded.

**Restrictions:**

- DO NOT apply HELMET SPC + Cotoran on sand or loamy sand soils.
- DO NOT apply HELMET SPC in areas where water is likely to “pond” over the bed.
- DO NOT make broadcast applications of HELMET SPC + Cotoran to cotton planted in furrows more than 2 inches deep in order to avoid concentration in the seed furrow. Band applications may be made to cotton planted in furrows deeper than 2 inches, but to avoid crop injury band width should not exceed the width of the bottom of the furrow.
- The use of Cotoran following the use of a systemic insecticide at planting may result in crop injury.
- DO NOT use on Taloka silt loam, or crop injury may occur.
- DO NOT use in Gaines County, TX.
- DO NOT use fluid fertilizer as a carrier for postemergence applications.
- DO NOT graze or feed forage or fodder from cotton to livestock or illegal residues may result.
- Refer to the Cotoran labels for further instructions, precautions, and limitations.

**3) Tank Mixture of HELMET SPC or HELMET SPC + Cotoran with Gramoxone Extra or Roundup for Minimum-Tillage or No-Tillage Systems**

When cotton is planted into a cover crop, stale seedbed, or previous crop residues in minimum-tillage or no-tillage systems the contact herbicides - Gramoxone Extra or Roundup - may be added to a tank mix of either HELMET SPC or HELMET SPC + Cotoran. The Gramoxone Extra portion of the tank mixture controls most emerged weeds and suppresses many perennial weeds when used as directed. The Roundup portion of the tank mixture will control emerged annual and perennial weeds when applied as directed on the label. The HELMET SPC and HELMET SPC + Cotoran portion of the tank mixture will provide preemergence control of weeds listed on this label in the HELMET SPC and HELMET SPC + Cotoran sections, respectively.

Observe planting details, application information, geographical restrictions, and all other precautions and limitations on the label of each product used in tank mix. Refer to **Mixing Instructions** under the **Tank Mixture with Cotoran DF** section to reduce the potential of tank mix compatibility issues.

**Application:** Apply before, during, or after planting, but before the cotton emerges, at the rates specified below. Apply HELMET SPC at 0.85-1.0 pts./A on sandy loams, medium-, and fine-textured soils. Refer to Table 3 for the Cotoran DF rates.

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

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

**Roundup:** See the Roundup label for weeds controlled, recommended rates, and other use directions.

**Restriction:** Do not apply HELMET SPC + Cotoran 4L + Roundup in tank mixture because of compatibility problems.

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

**Precautions:**

- Crop injury may result if heavy rain occurs soon after application especially in poorly drained areas where water stands for several days, or where the seeding slit has not been properly closed.
- Refer to the Cotoran labels and the **Tank Mixture with Cotoran DF** section of this label for further instructions, precautions, and limitations.

**Restriction:**

- Do not use in Gaines County, TX.

**4) Tank Mixture with MSMA, MSMA + Caparol, or MSMA + Cotoran**

HELMET SPC may be applied as a postemergence directed tank mix with MSMA in water for control of emerged weeds listed on the MSMA product label and residual preemergence control of weeds controlled by HELMET SPC. The addition of Caparol or Cotoran will add control of weed species on their respective labels.

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

Apply HELMET SPC + MSMA postemergence-directed to 3- to 12-inch cotton according to the directions, limitations, and precautions on the MSMA product label as well as all directions, limitations, and precautions for use of HELMET SPC in the section for **Cotton-HELMET SPC Alone-Postemergence**. Do not apply after first cotton bloom. These treatments may be applied over previous registered treatments, including HELMET SPC, provided the maximum label rate of any product is not exceeded. Cotoran or Caparol may be added to the HELMET SPC + MSMA tank mixture according to the respective label directions for application to 3- to 12-inch cotton. When these mixtures are used, follow the mixing instructions for HELMET SPC + Caparol or Cotoran and then add the MSMA product.

Do not use HELMET SPC in tank mix with premixes of MSMA plus herbicides other than those registered for use in tank mixture with HELMET SPC on cotton.

## PEANUTS

### HELMET SPC ALONE

Apply HELMET SPC, either preplant incorporated, postplant incorporated, preemergence, or lay-by, using the appropriate rate specified below:

**Preplant Incorporated or Preemergence:** Follow instructions for use of HELMET SPC alone under **Application Procedures**.

**Postplant Incorporated:** Apply and shallowly incorporate HELMET SPC 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.

**Lay-by:** Apply HELMET SPC to soil surface immediately after the last cultivation.

In the Southeast, apply HELMET SPC alone, preplant incorporated, postplant incorporated, preemergence, or lay-by, at a broadcast rate of 1.0-1.33 pts./A. For partial control of Florida beggarweed apply preemergence at a broadcast rate of 1.33-2.0 pts./A.

In NM, OK and TX, apply HELMET SPC alone, preplant incorporated, postplant incorporated, preemergence, or lay-by, at a broadcast rate of 0.85-1.33 pts./A.

**Note:** HELMET SPC alone may be applied as directed after any of the following preplant incorporated herbicides when used according to their label recommendations: Balan at 3-4 qts./A; Prowl at 1-2 pts./A, Pursuit at 0.25 pt./A, Sonalan at 1.25-3 pts./A or Treflan EC at 1 pt./A.

**Restrictions:**

- DO NOT graze or feed peanut forage or fodder to livestock for 30 days following application.
- DO NOT apply within 90 days of harvest or illegal residues may result.

**HELMET SPC TANK MIXTURES****1) Tank Mixture with Balan L.C.**

HELMET SPC + Balan tank mixture applied preplant incorporated, controls those weeds listed under **HELMET SPC Applied Alone** and those weeds as listed on the Balan label.

Apply HELMET SPC at 1.0-1.33 pts./A + Balan at 3-4 qts./A by ground application in a minimum of 10 gals. of spray volume per acre or by aerial application in a minimum of 5.0 gals. of spray volume per acre. Follow the recommended procedures for Balan on the Balan label for soil preparation and incorporation of this tank mix. Apply and incorporate HELMET SPC + Balan up to 14 days prior to planting.

**Note:** Follow all restrictions and precautions on the Balan label.

**2) Multiple Applications**

In situations where weed pressure is expected to be heavy or where difficult to control species are expected, HELMET SPC is most effective when used as follows:

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

**1st Application:** Apply HELMET SPC **Preplant Incorporated** as directed under **Peanuts-HELMET SPC Alone** or apply HELMET SPC + Balan preplant incorporated as directed above in this section. Refer to the respective section for weeds controlled.

**2nd Application:** Apply HELMET SPC any time from **Preemergence up to "Ground Cracking"** at 1.0-2.0 pts./A for extended control of weeds not yet emerged. Refer to the **HELMET SPC Applied Alone** section for a list of weeds controlled.

**3rd Application:** Apply HELMET SPC at **Lay-by** as directed under **Peanuts-HELMET SPC Alone**. Use only when late germinating weeds are expected to be a problem. Refer to the **HELMET SPC Applied Alone** section for a list of weeds controlled.

**Restrictions:**

- DO NOT apply more than the equivalent of 2.67 lb of active ingredient of HELMET SPC per acre during any one year. If another metolachlor product is used as a sequential treatment, the total lb of metolachlor active ingredient must not exceed 2.67 lb.
- DO NOT use safened metolachlor products after peanuts have emerged.
- DO NOT graze or feed peanut forage or fodder to livestock for 30 days following application.
- DO NOT apply within 90 days of harvest or illegal residues may result.

**b) Southwest Only (NM, OK, TX)**

**1st Application:** Apply HELMET SPC **Preplant Incorporated** or **Preemergence** or **At-Cracking** as directed previously in this section. Refer to the respective section for weeds controlled.

**2nd Application:** Apply HELMET SPC at **Lay-by** as directed under **Peanuts-HELMET SPC Alone** on this label. Use only when late germinating weeds are expected to be a problem. Refer to the **HELMET SPC Applied Alone** section for a list of weeds controlled.

**Restrictions:**

- DO NOT apply more than the equivalent of 2.67 lb of active ingredient of HELMET SPC per acre during any one year. If another metolachlor product is used as a sequential treatment, the total lb of metolachlor active ingredient must not exceed 2.67 lb. DO NOT use safened metolachlor products after peanuts have emerged.
- DO NOT graze or feed peanut forage or fodder to livestock for 30 days following application.
- DO NOT apply within 90 days of harvest or illegal residues may result.

**3) Tank Mixture or Sequentially with Pursuit**

A tank mixture or sequential treatment of HELMET SPC and Pursuit controls all weeds controlled by HELMET SPC alone and by Pursuit alone.

Refer to the **HELMET SPC Applied Alone** section for weeds controlled by HELMET SPC and to the Pursuit label for weeds controlled by Pursuit. Refer to the respective labels and follow all directions\_application methods, timings, limitations, precautions, rates and restrictions for the use of these products on peanuts and follow the most restrictive. DO NOT exceed the label rate of either product. HELMET SPC will not control emerged weeds.

**4) Tank Mixture with Sonalan**

A tank mixture of **HELMET SPC + Sonalan** controls all weeds controlled by HELMET SPC alone and by Sonalan alone. Refer to the **HELMET SPC Applied Alone** section for weeds controlled by HELMET SPC and to the Sonalan label for weeds controlled by Sonalan. Apply tank mixture preplant incorporated, using the appropriate rate from Table 4. Follow recommended soil preparation procedures for Sonalan. Refer to the Peanut Sonalan/HELMET SPC Tank Mixture label for incorporation specifications.

**Table 4: HELMET SPC + Sonalan-Peanuts**

SOIL TEXTURE	BROADCAST RATES PER ACRE			
	Southeast		NM, OK, TX	
	HELMET SPC	Sonalan	HELMET SPC	Sonalan
Coarse	1.0 + 1.33 pts.	1.25 - 2.0 pts.	0.85 - 1.33 pts.	1.25 - 2.0 pts.
Medium	1.0 + 1.33 pts.	1.75 - 2.5 pts.	0.85 - 1.33 pts.	1.75 - 2.5 pts.
Fine	1.0 + 1.33 pts.	2.25 - 3.0 pts.	0.85 - 1.33 pts.	2.25 - 3.0 pts.

**Note:** Follow all use directions, limitations, restrictions, precautions, and information regarding application to peanuts on the HELMET SPC and Sonalan labels.

### 5) Tank Mixture with Prowl

A tank mixture of HELMET SPC + Prowl applied preplant incorporated controls all weeds controlled by HELMET SPC alone plus Texas panicum, field sandbur, johnsongrass from seed, lambsquarters, Kochia, annual spurge, and other species on the Prowl label. Apply HELMET SPC + Prowl by ground or by air within 14 days before planting. Incorporate into the top 1-2 inches of soil before planting and within 7 days of application. Use a finishing disk or similar implement set to provide 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 HELMET SPC + Prowl preplant incorporated using the appropriate rates from Table 5.

**Table 5: HELMET SPC + Prowl-Peanuts**

SOIL TEXTURE	BROADCAST RATES PER ACRE	
	NM, OK, TX	OTHER STATES
	HELMET SPC + PROWL	HELMET SPC + PROWL
Sand, loamy sand	0.85 + 1.0 - 1.5 pts.	1.0 - 1.33 + 1.5 - 2.0 pts.
Sandy loam	0.85 - 1.0 + 1.0 - 1.5 pts.	1.0 - 1.33 + 1.5 - 2.0 pts.
Fine soil	1.33 + 1.0 - 1.5 pts.	1.33 + 1.5 - 2.0 pts.

**Note:** Follow all use directions, limitations, restrictions, precautions, and information regarding application to peanuts on the HELMET SPC and Prowl labels.

### 6) Tank Mixture or Sequentially with Gramoxone Brands

Tank mixtures of HELMET SPC + Gramoxone brands applied at ground cracking or sequentially will control or suppress small (1-6 inch) emerged annual grass and broadleaf weeds and provide residual control of weed species listed in the **HELMET SPC Applied Alone** section of this label. Apply Gramoxone brands plus the appropriate Dual Magnum rate from the Peanuts - HELMET SPC Alone section in a minimum spray volume of 20 gal/A with ground equipment. A follow-up (2<sup>nd</sup>) application of HELMET SPC + Gramoxone brands may be made 28 days after ground cracking. (Refer to the Peanuts - HELMET SPC Combinations - Multiple Applications section of this label for geographical areas where multiple applications are allowed.) Refer to the respective labels and follow all directions, timings, limitations, precautions and restrictions for the use of these products on peanuts and follow the most restrictive.

### 7) Tank Mixture or Sequentially with Gramoxone Brands + Basagran

Adding Basagran to the HELMET SPC + Gramoxone Brands mixture will result in improved control of several problem broadleaf weeds such as prickly sida, cocklebur, smartweed, and bristly starbur. HELMET SPC + Gramoxone Brands + Basagran applied at ground cracking or sequentially will control or suppress small (1-6 inch) emerged annual grass and broadleaf weeds and provide residual control of weed species listed in the **HELMET SPC Applied Alone** section of this label. Apply Basagran + Gramoxone brands with the appropriate **HELMET SPC** rate from the Peanuts - **HELMET SPC** Alone section in a minimum spray volume of 20 gal/A with ground equipment. A follow-up (2<sup>nd</sup>) application of **HELMET SPC** + Gramoxone brands + Basagran may be made 28 days after ground cracking. (Refer to the Peanuts - **HELMET SPC** Combinations - Multiple Applications section of this label for geographical areas where multiple applications are allowed.) Refer to the respective labels and follow all directions, timings, limitations, precautions and restrictions for the use of these products on peanuts and follow the most restrictive.

### 8) Tank Mixture or Sequentially with Gramoxone brands + Butyrac 200 or Butoxone 200

Adding Butyrac 200 or Butoxone 200 to the HELMET SPC + Gramoxone brands mixture will result in improved control of such problem broadleaf weeds as sicklepod, morningglory, and cocklebur. HELMET SPC + Gramoxone brands + Butyrac 200 or Butoxone 200 applied at ground cracking or sequentially will control or suppress small (1-6 inch) emerged annual grass and broadleaf weeds and provide residual control of weed species listed in the **HELMET SPC Applied Alone** section of this label.

Apply Gramoxone brands + Butyrac 200 or Butoxone 200 with the appropriate **HELMET SPC** rate from the Peanuts - **HELMET SPC** Alone section in a minimum spray volume of 20 gal/A with ground equipment. A follow-up (2<sup>nd</sup>) application of **HELMET SPC** + Gramoxone brands + Butyrac 200 or Butoxone 200 may be made 28 days after ground cracking. (Refer to the Peanuts - **HELMET SPC** Combinations - Multiple Applications section of this label for geographical areas where multiple applications are allowed.) Refer to the respective labels and follow all directions, timings, limitations, precautions and restrictions for the use of these products on peanuts and follow the most restrictive.

### 9) TANK MIXTURE OR SEQUENTIALLY WITH BASAGRAN

HELMET SPC + Basagran applied at ground cracking or sequentially will control species on the Basagran label and provide residual control of species listed in the **HELMET SPC Applied Alone** section of this label. Apply 1-2 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 HELMET SPC rate from the **Peanuts-HELMET SPC** Alone section. A follow-up (2<sup>nd</sup>) application of the combination may be made before pegging. (Refer to the **Peanuts-HELMET SPC Combinations-Multiple Applications** section of this label for geographical areas where multiple applications are recommended.) A follow-up (2<sup>nd</sup>) Basagran application may be made in all peanut growing areas if needed. Refer to the respective labels and follow all directions, timings, limitations, precautions and restrictions for the use of these products on peanuts follow the most restrictive.

### 10) Tank Mixture or Sequentially with Basagran + Butyrac 200 or Butoxone 200

HELMET SPC + Basagran + Butyrac 200 or Butoxone 200 applied at ground cracking or sequentially will control species on the Basagran label and on the Butyrac or Butoxone labels, especially morningglories. Apply 1.5-2 pts./A of Basagran + 8 fl. oz./A of Butyrac 200 or Butoxone 200 in 20 gals./A, depending on weed species and stage of growth as specified on the Basagran label, with the appropriate HELMET SPC rate from the **Peanuts-HELMET SPC** Alone section. A follow-up (2<sup>nd</sup>) application of the combination may be made before peanut pegging. (Refer to the **Peanuts-HELMET SPC Combinations-Multiple Applications** section of this label for geographical areas where multiple applications are recommended.) A follow-up (2<sup>nd</sup>) Basagran + Butyrac 200 or Butoxone 200 application may be made in all peanut growing areas, if needed. Refer to the respective labels and follow all directions, timings, limitations, precautions and restrictions for the use of these products on peanuts follow the most restrictive.

### 11) Tank Mixture or Sequentially with Storm

HELMET SPC + Storm applied at ground cracking through 2 expanded tetrafoliate leaves or HELMET SPC applied according to the directions for **HELMET SPC Alone** and followed with an at-cracking through postemergence treatment of Storm as specified on its label will control species on the Storm label and provide residual control of species listed in the **HELMET SPC Applied Alone** section of this label. HELMET SPC will not control emerged weeds. Refer to the respective labels and follow all directions, timings, limitations, precautions and restrictions for the use of these products on peanuts and follow the most restrictive.

## POD CROPS

Pod crops - 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).

\* Use only preemergence applications on English peas. DO NOT use on English peas in northeastern U.S. or injury may occur. If soils are cold and wet during pea germination and emergence, the use of HELMET SPC may delay maturity and/or reduce yields.

### HELMET SPC ALONE

Apply HELMET SPC, either preplant incorporated or preemergence, using the appropriate rate specified below.

#### Fall Application:

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

In all locations, apply after harvest to crop stubble when the sustained soil temperature at a 4-inch depth is less than 55°F and falling.

#### HELMET SPC Fall Use Rates in Pod Crops:

- Minimum-till or no-tillage systems – OM > 2.5%
  - 1.67-2.0 pts./A on medium-textured
  - 2.0 pts./A on fine-textured soils.

DO NOT apply to frozen ground. Tillage prior to application is acceptable. 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.

**Restriction:** If a spring application is made, the total rate of the fall plus spring applications must not exceed the maximum total rate for beans, peas, and lentils.

#### Spring Application:

Apply HELMET SPC, either preplant incorporated or preemergence, using the appropriate rate specified below.

#### Preplant Incorporated or Preemergence:

Follow instructions for use of HELMET SPC alone under Application Procedures.

#### HELMET SPC Spring Use Rates in Pod Crops:

- Coarse soils
  - < 3% OM - 1.0-1.33 pts./A
  - > 3% OM - 1.33 pts./A

- Medium soils
  - 1.33-1.67 pt./A

- Fine soils
  - < 3% OM - 1.33-1.67 pts./A
  - > 3% OM - 1.67-2.0 pts./A

#### Restrictions:

- DO NOT cut for hay within 120 days following a HELMET SPC application or illegal residues may result.
- DO NOT use for forage within 60 days following a HELMET SPC application.
- DO NOT apply more than 3.0 pts./A of HELMET SPC during any one crop year.

### HELMET SPC COMBINATIONS

**Restrictions:** When applying HELMET SPC in combination on pod crops, DO NOT cut for hay within 120 days following application or illegal residues may result.

#### 1) Tank Mixture and Sequential Applications with Eptam-Beans (Green or Dry)

HELMET SPC + Eptam mixture controls all weeds controlled by HELMET SPC alone and by Eptam alone. Refer to the **HELMET SPC Applied Alone** section of this label for weeds controlled by HELMET SPC alone and to the Eptam label for weeds controlled by Eptam.

**Preplant Incorporated:** Follow instructions for use of HELMET SPC alone under **Application Procedures**.

**Sequential:** Apply Eptam alone preplant incorporated as specified on that label. Follow with a preemergence application of HELMET SPC at rates specified for HELMET SPC 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 HELMET SPC as specified below.

#### HELMET SPC Use Rates when Tank Mixed with Eptam:

- Coarse soils
  - < 3% OM – 0.85 pt./A
  - > 3% OM - 1.0 pt./A

- Medium soils
  - < 3% OM –1.0 pt./A
  - > 3% OM - 1.33 pts./A

- Fine soils
  - < 3% OM - 1.33 pts./A
  - > 3% OM – 1.33 - 1.67 pts./A

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

**Precautions:** Do not exceed 3.5 pts./A of Eptam 7E on small white beans or green beans grown on coarse-textured soils. Follow all restrictions and precautions on the respective Eptam 7E label and in the Beans, Peas, and Lentils – HELMET SPC Alone section of this label.

## 2) Tank Mixture with Treflan-Beans (Dry-Kidney, Navy, Pinto, etc.; Lima; and Snap)

HELMET SPC + Treflan tank mix applied preplant incorporated controls those weeds listed under **HELMET SPC Applied Alone** and those weeds listed for Treflan alone on the Treflan label. HELMET SPC + Treflan may be applied by ground or air and incorporated up to 14 days prior to planting. Follow the recommended procedures on this label and on the respective Treflan label using equipment that provides uniform 2-inch incorporation. Apply HELMET SPC + Treflan tank mix using the appropriate HELMET SPC rate specified for HELMET SPC 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.

**Note:** Refer to the respective labels and follow all directions, timings, limitations, precautions and restrictions for the use of these products on pod crops and follow the most restrictive.

## POTATOES

### HELMET SPC ALONE

Apply HELMET SPC alone, either soil incorporated, preemergence, or 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 coarse textured soil or low in organic matter; use the higher rate on fine-textured soils or high in organic matter. Effectiveness will be reduced if later cultural practices expose untreated soil.

**Soil Incorporated:** Apply HELMET SPC at 1.0-2.0 pts./A to the soil and uniformly incorporate into the top 3 inches before planting using a finishing disk, harrow, rolling cultivator, or similar implement. DO NOT bring untreated soil to the surface at planting and during later cultural practice (or weed control will be decreased). Postplant incorporated application may be made any time after planting to drag-off but before potato emergence. Use an implement that evenly distributes HELMET SPC in the top 2 inches of soil. Avoid damaging potato seed pieces or sprouts with incorporation equipment.

**Preemergence:** Apply HELMET SPC 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 2.75 pts./A of HELMET SPC alone may be used where soil organic matter is between 6% and 20%.

**After Hilling/Lay-by:** Apply 1.67 pts./A of HELMET SPC after hilling/at lay-by to control HELMET SPC sensitive species for remainder of the growing season. This hilling/at lay-by application of HELMET SPC will not control emerged weeds. It may be applied over a previous HELMET SPC application but do not apply more than 3.7 pts./A of HELMET SPC in a single crop season.

#### Precautions:

- If cool, wet soil conditions occur after application, HELMET SPC may delay maturity and/or reduce yield of Superior and other early maturing potato varieties.
- DO NOT apply to sweet potatoes or yams.

#### Restrictions:

- Preharvest interval: DO NOT harvest potatoes treated with HELMET SPC within 60 days after the at-planting to drag-off application, or within 40 days after a lay-by application or illegal residues may result.
- DO NOT use on muck or peat soils.
- DO NOT apply both as a preemergence and an incorporated treatment.
- Do not use in Kern County, CA.

### HELMET SPC COMBINATIONS

#### 1. Tank Mixture with Sencor

In addition to those weeds controlled by HELMET SPC alone, HELMET SPC 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.

Apply HELMET SPC at 1.0-2.0 pts./A plus the labeled Sencor use rate preemergence through after last hilling.

#### HELMET SPC Use Rates when Tank Mixed With Sencor:

- Coarse soils
  - 1.0 - 1.33 pts./A
- Other soil types
  - 1.33 – 2.0 pts./A

Within these rate ranges, 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. HELMET SPC will not control emerged weeds. Refer to the respective labels and follow all directions, timings, limitations, precautions and restrictions for the use of these products on potatoes and follow the most restrictive.

#### Precautions:

- To avoid crop injury postemergence applications, with the exception of center pivot application, to potatoes should be made only as a directed or semi-directed spray to avoid chlorosis, minor necrosis, or leaf distortion.

#### Restrictions:

- Preharvest interval: DO NOT harvest potatoes treated with HELMET SPC within 60 days after the at-planting to drag-off application, or within 40 days after a lay-by application or illegal residues may result.
- DO NOT use on muck or peat soils.
- DO NOT apply both as a preemergence and an incorporated treatment.
- Do not use in Kern County, CA.

Do not apply to sweet potatoes or yams.

## 2. HELMET SPC + Lorox Tank Mixture (East of Rocky Mountains)

HELMET SPC may be tank-mixed with any registered Lorox formulations as a preemergence broadcast application to potato east of the Rocky Mountains. 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 6.

**Table 6: HELMET SPC + Lorox-Potatoes (East of Rocky Mountains)**

SOIL TEXTURE	BROADCAST RATES PER ACRE			
	1% to Less Than 3% Organic Matter		3 to 5% Organic Matter	
	HELMET SPC	Lorox*	HELMET SPC	Lorox*
<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.

\*When using Lorox L or Lorox DF, use equivalent rates. One pt. of Lorox L equals 1 lb. of Lorox DF.

### Restrictions:

- DO NOT use on sands or loamy sands.
- DO NOT incorporate or spray over the top of emerged potatoes.

Refer to the respective labels and follow all directions, timings, limitations, precautions and restrictions for the use of these products on potatoes and follow the most restrictive.

## 3. Tank Mixture with Prowl 4E

In addition to the weeds controlled by HELMET SPC alone, a 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 HELMET SPC + Prowl 4E preemergence, preemergence incorporated, or early post-emergence, according to the specific directions on the Prowl 4E label, using the rates in Table 7.

**Table 7: HELMET SPC+ Prowl 4E-Potatoes**

SOIL TEXTURE	BROADCAST RATES PER ACRE	
	Less than 3% Organic Matter	More than 3% Organic Matter
	HELMET SPC + PROWL 4E	HELMET SPC + 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 respective labels and follow all directions, timings, limitations, precautions and restrictions for 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 HELMET SPC alone, this tank mixture will control those species on the Prowl 4E and Eptam labels. Refer to the HELMET SPC + 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 HELMET SPC, 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.

## SAFFLOWER

### HELMET SPC ALONE

**Preplant Incorporated or Preemergence:** Follow instructions for use of HELMET SPC alone under **Application Procedures**.

### HELMET SPC Use Rates in Safflower:

Coarse soils

- < 3% OM – 1.0 – 1.33 pts./A
- > 3% OM - 1.33 pts./A

Medium soils

- 1.33 – 1.67 pts./A

Fine soils

- < 3% OM - 1.33 – 1.67 pts./A
- > 3% OM – 1.67 – 2.0 pts./A

## GRAIN OR FORAGE SORGHUM (SEED TREATED WITH CONCEP® OR SCREEN®)

### HELMET SPC ALONE

Apply HELMET SPC, as a preplant surface, preplant incorporated, or preemergence application, using the appropriate rate specified below. Apply HELMET SPC alone **only** when the sorghum seed has been properly treated by the seed company with Concep or Screen.

**Preplant Surface-Applied:** Refer to instructions for use of HELMET SPC under **Application Procedures**. In minimum-tillage or no-tillage systems only, apply HELMET SPC 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 1.50 pts./A of HELMET SPC on medium soils or 1.67 pts./A on fine soils. Treatments made less than 30 days prior to planting may be made either as a split or single application. Apply 1.33 pts./A of HELMET SPC on coarse soils not more than 2 weeks prior to planting. Under dry conditions, irrigation after application is recommended to move HELMET SPC into the soil.

**Preplant Incorporated or Preemergence:** Refer to instructions for use of HELMET SPC under **Application Procedures**. Broadcast 1.0-1.33 pts./A of HELMET SPC on coarse soils, 1.33-1.50 pts./A on medium soils, or 1.33-1.67 pts./A on fine soils.

**Precautions:**

- If sorghum seed is not properly treated with Concep seed treatment, preplant and preemergence applications of HELMET SPC will severely injure the crop.
- Under high soil moisture conditions prior to sorghum emergence, injury may occur following preplant and preemergence application of HELMET SPC. The crop will normally outgrow this effect.
- DO NOT use HELMET SPC on sorghum grown under dry mulch tillage, or injury may occur.

**Restriction:**

- Except for the split preplant surface treatment, DO NOT make more than one application per year.

**HELMET SPC COMBINATIONS**

HELMET SPC tank mixtures with AAtrex may be applied in water or fluid fertilizer. Apply HELMET SPC in tank mixtures only when the sorghum seed has been properly treated by the seed company with Concep or Screen.

**IMPORTANT:** FOR TANK MIXTURES WITH AATREX (OR OTHER BRANDS OF ATRAZINE) If applying HELMET SPC 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 recommended on this label, broadleaf weed control may be affected. Refer to the AAtrex label for weeds controlled at the reduced rates.

**Note:** Certain states 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.

**Precautions:**

- Applications of HELMET SPC + AAtrex on highly alkaline soils or on eroded areas where calcareous subsoils are exposed may cause sorghum injury.
- If sorghum seed is not properly treated with Concep or Screen, HELMET SPC + AAtrex may severely injure the crop.
- Under high soil moisture conditions prior to sorghum emergence, injury may occur following the use of HELMET SPC + AAtrex. The crop will normally outgrow this effect.

**Restrictions:**

- DO NOT use HELMET SPC + AAtrex on sorghum grown under dry mulch tillage or injury may occur.
- Except for the split preplant surface treatment, do not make more than one application per year or illegal residues may result.

**1) Tank Mixture with AAtrex**

HELMET SPC + AAtrex 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 in addition to the weeds controlled by HELMET SPC alone.

**Preplant Surface-Applied:** Refer to instructions for use of HELMET SPC under **Application Procedures**. For minimum-tillage or no-tillage systems only, HELMET SPC + 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 1.50 pts./A of HELMET SPC + 1.7-2 lbs./A of AAtrex Nine-0\* on medium soils with 1.5% organic matter or greater. Apply 1.50 pts./A of HELMET SPC + 1.7-2 lbs./A of AAtrex Nine-0 on fine soils with less than 1.5% organic matter, or apply 1.67 pts./A of HELMET SPC + 2-2.2 lbs./A of AAtrex Nine-0 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 HELMET SPC + AAtrex into the soil.

**Restrictions:**

- DO NOT use on coarse soils.
- DO NOT use on medium soils with less than 1.5% organic matter.

**Preplant Incorporated or Preemergence:** Refer to instructions for use of HELMET SPC under **Application Procedures**. On medium soils with 1.5% organic matter or greater, apply 1.0 pt./A of HELMET SPC + 1.3 lbs./A of AAtrex Nine-0\*. On fine soils with less than 1.5% organic matter, apply 1.0 pt./A of HELMET SPC + 1.3 lbs./A of AAtrex Nine-0; on fine soils with 1.5% organic matter or greater, apply 1.2-1.33 pts./A of HELMET SPC + 1.6-1.8 lbs./A of AAtrex Nine-0.

\*When using AAtrex 4L, use equivalent rates. One lb. of AAtrex Nine-0 equals 1.8 pts. of AAtrex 4L.

**Restrictions:**

- DO NOT use on coarse soils.
- DO NOT use on medium soils with less than 1.5% organic matter.
- DO NOT use in NM, OK, or TX, except in northeast OK and the TX Gulf Coast and Blacklands areas.
- DO NOT apply preplant incorporated in AZ or the Imperial Valley of CA.

**2) Tank Mixture of HELMET SPC or HELMET SPC + AAtrex, with Gramoxone Extra, Landmaster BW, or Roundup for Minimum-Tillage or No-Tillage Systems**

In minimum-tillage or no-tillage systems where sorghum (seed treated with Concep or Screen) is planted directly into a cover crop, stale seedbed, established sod, or previous crop residues, the contact herbicides Gramoxone Extra, Landmaster BW, or Roundup may be tank mixed with HELMET SPC or HELMET SPC + AAtrex. See Comment below.\* The HELMET SPC or HELMET SPC + AAtrex portion of the tank mixture provides preemergence control of the weeds listed on this label under the respective sections.

\*In Minimum-Tillage and No-Tillage systems, mix with Gramoxone Extra 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 Roundup for control of most emerged annual and perennial weeds.

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, 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: Apply as directed on the product label. See the Landmaster BW label for weeds controlled, listed rates for specific weeds, and other information concerning use.

Roundup Brands: Apply as directed on the Roundup brand label. See label for weeds controlled, use rates, and other use directions.

**NOTE:** Refer to the respective labels and follow all directions, timings, limitations, precautions and restrictions for the use of these products on peanuts and follow the most restrictive.

Apply in a minimum of 20 gals. of water per acre with conventional spray equipment.

## SOYBEANS

### HELMET SPC ALONE

Apply HELMET SPC, either preplant surface-applied, preplant incorporated, preemergence or postemergence using the appropriate rate specified below. **Preplant Surface-Applied, Preplant Incorporated, or Preemergence:** Follow instructions for use of HELMET SPC alone under **Application Procedures**.

#### Preplant Surface-Applied

1) **Fall Application – Apply based on the following dates for different geographic areas**

**MN, ND, SD, WI and North of Route 30 in IA - after September 30**

**NE - North of Route 91 and South of Route 30 in IA - after October 15**

**IL - North of Route 136 - after October 31**

In all areas, 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- 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 be before the application. Application may be followed by a fall and/or a spring tillage. However, do not exceed an incorporation depth greater than 2-3 inches. Minimize furrow and ridge formation in the tillage operations.

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

2) **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 of the recommended rate of HELMET SPC (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. The remainder should be applied at planting. If application is to be made less than 30 days before planting it may be applied either a split or single treatment.

Apply 1.33 pts./A on coarse soils not more than 2 weeks prior to planting.

#### Preplant Incorporated or Preemergence

Apply in soybeans as Preplant Incorporated or Preemergence application using the following rates.

**HELMET SPC Preplant Incorporated or Preemergence in Soybean:**

Coarse soils

- < 3% OM - 1.0-1.33 pts./A

- > 3% OM - 1.33 pts./A

Medium soils

- 1.33-1.67 pt./A

Fine soils

- < 3% OM - 1.33-1.67 pts./A

- > 3% OM - 1.67-2.0 pts./A

**Restriction:** HELMET SPC may be used in soybeans up to 2.75 pts./A as a preplant surface-applied, preplant incorporated, or preemergence treatment on soils having an organic matter content between 6% and 20%. The total HELMET SPC rate applied to soybeans during any one crop should not exceed 2.75 pts./A.

#### Postemergence Application

From emergence up through the 5<sup>th</sup> trifoliolate leaf stage apply HELMET SPC at 1.0 – 1.33 pts/A to soybeans as a postemergence application from emergence up through the 5<sup>th</sup> trifoliolate leaf stage. Apply HELMET SPC to a weed-free surface as HELMET SPC will not control emerged weeds. If weeds are present at the time of application, HELMET SPC may be tankmixed with products that provide postemergence control of the emerged weeds.

#### Restrictions:

- DO NOT apply within 90 days of harvest or illegal residues may result.
- DO NOT apply more than 1.33 pts./A of HELMET SPC postemergence or illegal residues may result.
- DO NOT graze or feed treated forage or hay from soybeans to livestock following a postemergence application of HELMET SPC.
- DO NOT apply a postemergence application of HELMET SPC if a preplant surface, preplant incorporated or preemergence application of metolachlor products has already been applied.

#### HELMET SPC COMBINATIONS

Water or fluid fertilizer may be used as carrier for HELMET SPC in combination with Sencor, Lorox, Canopy, Pursuit, Scepter, Sonalan, or Command.

**Restriction:** For all of the following combinations, HELMET SPC may be used up to 2.5 pts./A on soils having an organic matter content between 6% and 20%. The total HELMET SPC rate applied to soybeans during any one crop year should not exceed 2.75 pts./A.

#### 1) Tank Mixture with Sencor

HELMET SPC + Sencor when applied as directed controls the following broadleaf weeds: cocklebur\*, hairy nightshade, hemp sesbania, jimsonweed\*, lambsquarters, prickly sida, ragweed, smartweed, velvetleaf, Venice mallow, and wild mustard in addition to those weeds controlled by HELMET SPC alone.

\*Partially controlled.

Apply HELMET SPC and Sencor preplant incorporated or preemergence using the rates in Table 8. **Preplant Incorporated or Preemergence:** Follow instructions for use of HELMET SPC alone under **Application Procedures**.

**Sequential:** Apply HELMET SPC alone **Preplant Incorporated**, as specified in Table 8 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 8: HELMET SPC + Sencor - Soybeans**

SOIL TEXTURE**	BROADCAST RATES PER ACRE	
	0.5% to less than 3% Organic Matter	3% Organic Matter or Greater
	HELMET SPC + Sencor*	HELMET SPC + Sencor*
<b>Coarse</b> Loamy sand (over 2% organic matter), sandy loam	0.85 - 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. + 0.067 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.
<b>Muck or Peat</b> (soils with more than 20% OM)	<b>DO NOT USE</b>	
*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.		

**Restrictions:**

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

**2) Tank Mixture with Lorox**

HELMET SPC + Lorox when applied preemergence controls the following broadleaf weeds: cocklebur\*, jimsonweed\*, lambsquarters, morningglory\*, prickly sida, ragweed, smartweed, velvetleaf\*, Venice mallow, and wild mustard in addition to those weeds controlled by HELMET SPC alone.

\*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 9.

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

**Table 9: HELMET SPC + Lorox-Soybeans**

SOIL TEXTURE*	BROADCAST RATES PER ACRE	
	0.5% to less than 3% Organic Matter	3% Organic Matter or Greater
	HELMET SPC + Lorox DF**	HELMET SPC + Lorox DF**
<b>Coarse</b>	0.85 + 1.0 lb.	1.0 pt. + 1 - 1.5 lb.
<b>Medium</b>	1.0 pt. + 1 - 1.5 lb.	1.33 pts. + 1.5 - 2.0 lbs.
<b>Fine</b>	1.33 pts. + 2.0 lb.	1.33 - 1.67 pts. + 2.5 - 3.0 lbs.
<b>Muck or Peat</b> (soils with more than 20% OM)	<b>DO NOT USE</b>	
*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.		
When using Lorox L or Lorox DF, use equivalent rates. One pt. of Lorox L equals 1 lb. of Lorox DF.		

**3) Tank Mixture with Treflan**

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

Apply HELMET SPC + Treflan tank mix, using the appropriate rate from the **Soybeans-HELMET SPC 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 listed in Table 10.

**Table 10: HELMET SPC + Treflan-Organic Matter Content Less Than 3%**

SOIL TEXTURE	BROADCAST RATES PER ACRE		
	HELMET SPC	Treflan EC**	
	Organic Matter Less Than 3%	Organic Matter	
		Less Than 2%	2 - 3%
<b>Coarse</b>	0.85 - 1.0 pt.	1.0 pt.	1.5 pts
<b>Medium</b>	1.0 pt.	1.5 pts.	1.5 pts
<b>Fine soil</b>	1.33 pts	2.0 pts	2.0 pts
* When a range of rates is given for HELMET SPC use the minimum HELMET SPC rate where DNA-resistant goosegrass is the predominant species.			
**When Treflan MTF or Treflan 5 is used, use comparable rates. Multiply pts. of Treflan EC by 1 for Treflan MTF and by 0.8 for Treflan 5.			

**Note:** Follow all restrictions and precautions on the respective Treflan label and in the **Soybeans-HELMET SPC Alone** section of this label.

**4) Tank Mixture with Scepter**

A tank mixture of HELMET SPC + Scepter controls all weeds controlled by HELMET SPC alone and by Scepter alone. Refer to the **HELMET SPC Applied Alone** section for weeds controlled by HELMET SPC 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 HELMET SPC + Scepter preplant incorporated or preemergence using rates in Table 11. 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 11: HELMET SPC + Scepter-Soybeans**

SOIL TEXTURE	BROADCAST RATES PER ACRE			
	Less Than 3% Organic Matter		3% or More Organic Matter	
	HELMET SPC	Scepter	HELMET SPC	Scepter
<b>Coarse</b>	0.85 pt.	0.67 pt.	1.0 pt.	0.67 pt.
<b>Medium</b>	1.0 pts.	0.67 pt.	1.67 - 2.0 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			
*Use the higher rate of HELMET SPC if heavy weed infestations are expected.				

**Restrictions:**

- DO NOT apply within 90 days of harvest
- DO NOT graze or feed treated soybean forage, hay, or straw to livestock or illegal residues may result.

**5) Tank Mixture with Canopy**

This tank mixture controls all weeds controlled by both HELMET SPC and Canopy when applied alone. Refer to the **HELMET SPC Applied Alone** section for weeds controlled by HELMET SPC and to the Canopy label for weeds controlled by Canopy.

Apply preplant incorporated or preemergence using the appropriate rates from Table 12. **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.

**Note:** Follow all use directions, varietal restrictions, limitations, precautions, information regarding application to soybeans, and rotational restrictions on the HELMET SPC and Canopy labels.

**Table 12: HELMET SPC + Canopy-Soybeans**

SOIL TEXTURE	BROADCAST RATES PER ACRE		
	HELMET SPC		Canopy
	Less Than 3% Organic Matter	3% or More Organic Matter	
<b>Coarse</b>	0.85 pt.	1.0 pt.	*
<b>Medium</b>	1.0 pt.	1.33 pts.	*
<b>Fine soil</b>	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.			

**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.

**6) Tank Mixture with Command\***

HELMET SPC tank mixed with Command controls all weeds controlled by HELMET SPC alone and Command alone. Refer to the **HELMET SPC Applied Alone** section for weeds controlled by HELMET SPC and to the Command label for weeds controlled by Command.

Apply HELMET SPC + Command preplant incorporated, using rates in Table 13. Follow all Command application instructions as to incorporation interval, geographical location, equipment operation, soil moisture conditions, etc.

\***Note:** Before making applications, read and strictly follow all use directions, limitations, restrictions, precautions, information regarding application to soybeans, and rotational restrictions on the HELMET SPC and Command labels.

**Table 13: HELMET SPC + Command-Soybeans**

SOIL TEXTURE	BROADCAST RATES PER ACRE			
	HELMET SPC		Command 4E	
	0.5 - 3% Organic Matter	Greater than 3% Organic Matter	Northern Area	Southern Area
Coarse	0.85 pt.	1.0 pts.	1.5 - 2.0 pt.	2 - 2.5 pts.
Medium	1.0 pts.	1.33 pts.	1.5 - 2.0 pt.	2 - 2.5 pts.
Fine	1.33 pts	1.33 - 1.67 pts	1.5 - 2.0 pt.	2 - 2.5 pts.

**7) Tank Mixture with Sonalan**

HELMET SPC tank mixed with Sonalan controls all weeds controlled by HELMET SPC alone and by Sonalan alone. Refer to the **HELMET SPC Applied Alone** section for weeds controlled by HELMET SPC and to the Sonalan label for weeds controlled by Sonalan.

Apply HELMET SPC and Sonalan preplant incorporated using the appropriate rates from Table 14.

**Preplant Incorporated:** Follow recommended soil preparation procedures for Sonalan. Refer to the Sonalan/ HELMET SPC Tank Mixture label for incorporation specifications.

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

**Table 14: HELMET SPC + Sonalan-Soybeans**

SOIL TEXTURE	BROADCAST RATES PER ACRE			
	Less Than 3% Organic Matter		3% or More Organic Matter	
	HELMET SPC	Sonalan	HELMET SPC	Sonalan
Coarse	1.0 - 1.33 pts.	1.25 - 2.0 pts.	1.33 pts.	1.25 - 2.0 pts.
Medium*	1.33 - 1.67 pts.	1.75 - 2.5 pts.	1.33 - 1.67 pts.	1.75 - 2.5 pts.
Fine*	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 pts./A on medium- and 3.5 pts./A on fine-textured soils, and follow with 2 incorporation passes.

**Note:** Follow all use directions, limitations, precautions, restrictions, and information regarding application to soybeans on the HELMET SPC and Sonalan labels.

**8) Tank Mixture with Pursuit**

HELMET SPC tank mixed with Pursuit controls all weeds controlled by HELMET SPC alone and by Pursuit alone. Refer to the **HELMET SPC Applied Alone** section for weeds controlled by HELMET SPC 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 HELMET SPC + Pursuit early preplant, preplant incorporated, or preemergence after planting using rates in Table 15. Application may 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.

**Note:** Follow all use directions, limitations, precautions, information regarding application to soybeans, and rotational restrictions on the HELMET SPC and Pursuit labels.

**Table 15: HELMET SPC + Pursuit-Soybeans**

SOIL TEXTURE	BROADCAST RATES PER ACRE		
	HELMET SPC		Pursuit
	Less Than 3% Organic Matter	3% or More Organic Matter	
Coarse	0.85 pt.	1.0 pt.	0.25 pt.
Medium	1.0 pt.	1.33 pts.	0.25 pt.
Fine soil	1.33 pts	1.33 - 1.67 pts	0.25 pt.

**Sequential:** Apply HELMET SPC early preplant, preplant incorporated, or preemergence after planting at 0.85 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. HELMET SPC 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.

**9) Tank Mixture with Sencor, Scepter, Lorox, Canopy, or Pursuit, plus Gramoxone Extra or Roundup 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 Extra or Roundup may be added to a tank mix of either HELMET SPC + Sencor, HELMET SPC + Scepter, HELMET SPC + Lorox, HELMET SPC + Canopy, or HELMET SPC + Pursuit. When used as directed, the Gramoxone Extra portion of the tank mixture controls most emerged weeds and suppresses many perennial weeds. Roundup combinations will control emerged annual and perennial weeds when applied as directed on the Roundup label. The HELMET SPC + Sencor, Scepter, Lorox, Canopy or Pursuit portion of the tank mixture provides preemergence control of the weeds listed on this label in the tank mixture section for HELMET SPC + Sencor, HELMET SPC + Scepter, HELMET SPC + Lorox, HELMET SPC + Canopy, and HELMET SPC + 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.

Refer below for rates of Gramoxone Extra or Roundup, HELMET SPC + Sencor, HELMET SPC + Scepter, HELMET SPC + Lorox, HELMET SPC + Canopy, and HELMET SPC + Pursuit, respectively.

**Application:** Apply before, during, or after planting, but before the soybeans emerge, at the rates specified below. Add Gramoxone Extra or Roundup at the following broadcast rates:

Gramoxone Extra:

1-3 inch weeds - 1.5 to 2 pts./A

3-6 inch weeds - 2 to 2.5 pts./A

6-inch weeds - 2.5 to 3 pts./A

Apply surfactant at 1 or 2 pts./100 gals. of spray mixture with 75% or greater or 50-74% nonionic active ingredient, respectively. This treatment will not control weeds taller than 6 inches.

**Restriction:** Do not apply combinations containing Gramoxone Extra in suspension type liquid fertilizers as the activity of paraquat will be reduced.

**Roundup:** See the Roundup or Roundup RT label for weeds controlled, recommended rates, and other use directions. Apply in 20-60 gals. of water or fluid fertilizer per acre with ground equipment.

#### **HELMET SPC + Sencor + Gramoxone Extra or Roundup**

Loamy sand with over 2% organic matter - apply 1.0 pt. / A of HELMET SPC + 0.33-0.5 lb./A of Sencor.

Medium soils - apply 1.33 pts./A of HELMET SPC + 0.5-0.67 lb./A of Sencor.

Fine soils - apply 1.33-1.67 pts./A of HELMET SPC + 0.67 lb./A of Sencor.

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

#### **Restrictions:**

- To avoid crop injury, 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 loamy sand with less than 2% organic matter.
- 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.

#### **HELMET SPC + Scepter + Gramoxone Extra or Roundup**

Coarse soils - apply 1.0 pt./A of HELMET SPC + 0.67 pt./A of Scepter.

Medium soils - apply 1.33 pts./A of HELMET SPC + 0.67 pt./A of Scepter.

Fine soils, apply 1.67 pts. /A of HELMET SPC + 0.67 pt./A of Scepter.

#### **Restrictions:**

- DO NOT apply within 90 days of harvest.
- DO NOT graze or feed treated soybean forage, hay, or straw to livestock or illegal residues may result.

#### **HELMET SPC + Lorox + Gramoxone Extra or Roundup**

Coarse soils\* - apply 1.0 pt./A of HELMET SPC + 1-1.5 lbs./A of Lorox DF\*\*.

Medium soils - apply 1.33 pts./A of HELMET SPC + 1-2 lbs./A of Lorox DF.

Fine soils, apply 1.33-1.67 pts./A of HELMET SPC + 2-3 lbs./A of Lorox DF.

\*\* When using Lorox L or Lorox DF, use equivalent rates. One pt. of Lorox L equals 1.0 lb. of Lorox DF.

#### **Restrictions:**

- \*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.
- DO NOT use on soil with less than 0.5% organic matter or crop injury may occur.

#### **HELMET SPC + Canopy + Gramoxone Extra or Roundup**

Use only where soils have 0.5-5% organic matter.

Coarse soils (except sand) - apply 1.0 pt./A of HELMET SPC.

Medium soils - apply 1.33 pts./A of HELMET SPC.

Fine soils - apply 1.33-1.67 pts./A of HELMET SPC.

Refer to the Canopy label for appropriate rate according to geographical location, soil and organic matter classification, pH limitations, and all other use directions.

#### **Restrictions:**

- DO NOT apply to sand, or to any soil with less than 0.5% organic matter.
- DO NOT apply to any soil with pH greater than 7.0, except as noted on the Canopy label.

#### **HELMET SPC + Pursuit + Gramoxone Extra or Roundup**

Coarse soils - apply 1.0 pt./A of HELMET SPC + 0.25 pt./A of Pursuit.

Medium soils - apply 1.33 pts./A of HELMET SPC + 0.25 pt./A of Pursuit.

Fine soils, apply 1.67 pts./A of HELMET SPC + 0.25 pt./A of Pursuit.

## **TOMATOES**

**Transplanted Tomatoes:** HELMET SPC may be applied preplant incorporated or preplant before transplanting. When used preplant before transplanting, keep soil disturbance to a minimum during transplanting.

Application may also be made 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 minimum contact with tomato plants. HELMET SPC will not control emerged weeds.

In bedded transplanted tomatoes, apply HELMET SPC preplant non-incorporated to the top of the pressed bed, as the last step, prior to laying plastic.

HELMET SPC may be used to treat row-middles in bedded tomatoes, as long as the total amount of HELMET SPC does not exceed the maximum allowed per crop.

**Seeded Tomatoes:** HELMET SPC 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. HELMET SPC will not control emerged weeds.

#### **Tomato Use Rates**

Coarse soils –

- a) apply HELMET SPC at 1.0-1.33 pts./A if organic matter content is less than 3%
- b) apply HELMET SPC at 1.33 pts./A if the organic matter is 3% or greater.

Medium soils - apply HELMET SPC at 1.33-1.67 pts./A.

Fine soils –

- a) apply HELMET SPC at 1.33-1.67 pts./A if organic matter content is less than 3%
- b) apply HELMET SPC at 1.67-2.0 pts./A if the organic matter content is 3% or greater.

#### Precautions:

- o Do not apply to varieties or cultivars with unknown tolerance to HELMET SPC.
- o HELMET SPC may damage transplants that have been weakened by any cause.
- o To prevent damage, plant only healthy transplants.
- o DO NOT plant when wet, cool, or unfavorable growing conditions exist.
- o In transplanted tomatoes, if HELMET SPC 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.
- o For row middle applications where tomatoes are grown on sandy soils and where high soil moisture conditions can exist (i.e. 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:
  - incorporating the HELMET SPC immediately following application,
  - applying the HELMET SPC seven or more days before transplanting (but only after the beds have been formed),
  - minimizing the application of HELMET SPC onto the plastic of the bed, or any combination of the above.

#### Restrictions:

- o DO NOT HELMET SPC within 90 days of tomato harvest.
- o DO NOT exceed the maximum label rate for the soil texture per year.
- o DO NOT apply by air - apply by ground application only.
- o DO NOT apply more than 1 post emergence application per year.
- o DO NOT plant when wet, cool, or unfavorable growing conditions exist.

#### FALL APPLICATION FOR CONTROL OF GLYPHOSATE-RESISTANT ITALIAN RYEGRASS (*Lolium multiflorum*) IN CORN, SOYBEAN, AND COTTON - For Use only in the States of LA and MS

Apply HELMET SPC for control of glyphosate-resistant Italian ryegrass in the fall - between September 1 and November 20 - after harvest of the previous crop but prior to Italian ryegrass emergence.

#### Use Rates:

Medium soils - 1.69 pts/A

Heavier-textured soil - 2.1 pts/A on

A tillage operation may precede the HELMET SPC application. A fall and/or spring tillage may follow application but do not exceed an incorporation depth greater than 2-3 inches.

For fall applications after emergence of glyphosate-resistant Italian ryegrass, Gramoxone brands may be applied with HELMET SPC to control emerged ryegrass. Apply Gramoxone brands as directed on the product label. Add nonionic surfactant at 1 quart/100 gallons (0.25% v/v) for mixtures containing Gramoxone brands. Read and follow all directions and restrictions on the Gramoxone brand labels.

All crops on the HELMET SPC label may be planted the following spring after application.

**Restriction:** If a spring application is made the total of the fall + spring application must not exceed the total rate for the specific crop or illegal residues may result.

#### Restrictions:

- o DO NOT make more than one fall application of HELMET SPC.
- o DO NOT apply more than 2.1 pts/A of HELMET SPC in a single fall application.
- o Application to cotton and corn - The total amount of metolachlor applied (fall + spring) cannot exceed 4.0 pts/A HELMET SPC.
- o Application to soybean – The total amount of metolachlor applied (fall + spring) cannot exceed 2.75 pts/A HELMET SPC.
- o DO NOT apply HELMET SPC to frozen ground.

## APPENDICES

### APPENDIX A:

#### Compatibility Test

Since liquid fertilizers can vary, even within the same analysis, always **check compatibility with herbicide(s) each time before use**. Be especially careful when using **complete** suspension or fluid fertilizers, as serious compatibility problems are more likely to occur. Commercial application equipment may improve compatibility in some instances. The following test assumes a spray volume of 25 gals./A. For other spray volumes, make appropriate changes in the ingredients. Check compatibility using this procedure:

1. Add 1 pt. of fertilizer to each of 2 one-qt. jars with tight lids.
2. To **one** of the jars, add 1/4 tsp. or 1.2 milliliters of a compatibility agent approved for this use, such as Complex or Unite (1/4 tsp. is equivalent to 2 pts./100 gals. spray). Shake or stir gently to mix.
3. To **both** jars, add the appropriate amount of herbicide(s). If more than one herbicide is used, add them separately with dry herbicides first, flowables next, and emulsifiable concentrates last. After each addition, shake, or stir gently to thoroughly mix. The appropriate amount of herbicides for this test follows:
  - **Dry herbicides:** For each pound to be applied per acre, add 1.5 level teaspoons to each jar.
  - **Liquid herbicides:** For each pint to be applied per acre, add 0.5 teaspoon or 2.5 milliliters to each jar.**Note:** For HELMET SPC tank mixtures with AAtrex plus Princep, use 1/3 - 1/2 the amount of AAtrex specified above and the remainder as Princep, depending on whether the 1:2 or 1:1 ratio of AAtrex to Princep is to be applied.
4. After adding all ingredients, put lids on and tighten, and invert each jar 10 times to mix. Let the mixtures stand 15 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 2 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 herbicide(s) in water before addition, or (B) add 1/2 of the compatibility agent to the fertilizer and the other 1/2 to the emulsifiable concentrate or flowable herbicide before addition to the mixture. If incompatibility is still observed, do not use the mixture.

## APPENDIX B:

### Low Carrier Application

#### For Broadcast Ground Application Only

Use sprayers, such as Ag-Chem RoGator, Hagie, John Deere Hi-Cycle, Melroe Spra-Coupe, Tyler Patriot, or Willmar Air Ride, 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 sprayer thoroughly with clean water immediately after each use.

**Note:** 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.

## APPENDIX C:

### Aerial Application

Apply HELMET SPC in water alone or in tank mixtures with AAtrex, LoroX, or Sencor in a minimum total volume of 2 gals./A by aircraft. HELMET SPC may also be applied by air in combination with Balan, Prowl, or Treflan. 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 non-target plants, apply HELMET SPC alone or HELMET SPC plus AAtrex by aircraft at a minimum upwind distance of 400 ft. from sensitive plants, or apply HELMET SPC plus LoroX, or Sencor at a minimum upwind distance of 300 ft. from sensitive plants. Avoid application to humans or animals. Flagmen and loaders should avoid inhalation of spray mist and prolonged contact with skin.

#### Aerial Drift Management:

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator and the grower are responsible for considering these factors when making decisions.

The following drift management requirements must be followed to avoid off-target drift movements from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses, or to applications using dry formulations.

1. The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
2. Nozzles must always point backwards HELMET SPC with the airstream and never be pointed downwards more than 45 degrees.

Where states have more stringent regulations, they should be observed. The applicator should be familiar with and take into account the information covered in the **Aerial Drift Reduction Advisory Information** section below.

#### Aerial Drift Reduction Advisory Management:

##### Information on Droplet Size

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

##### Controlling Droplet Size

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

##### Boom Length

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

##### Application Height

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

##### Swath Adjustment

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

##### Wind

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

**Note:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

##### Temperature and Humidity

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

##### Temperature Inversions

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. The cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to

form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

#### **Sensitive Areas**

This pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive area).

#### **APPENDIX D:**

##### **Center Pivot Irrigation Application**

HELMET SPC alone or in tank mixture with other herbicides on this label, which are registered for center pivot application, may be applied in irrigation water preemergence (after planting, but before weeds or crop emerge) at rates recommended on this label. Apply this product only through a center pivot irrigation system. Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform 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 located 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 of 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 1/2 - 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.

**Precautions 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.

#### **APPENDIX E:**

##### **Dry Bulk Granular Fertilizers**

Many dry bulk granular fertilizers may be impregnated or coated with HELMET SPC alone or selected HELMET SPC tank mixtures which are registered for preplant incorporated or preplant surface application which are used to control weeds in crops on the HELMET SPC label and are not prohibited from use on dry bulk granular fertilizers.

When applying HELMET SPC or HELMET SPC 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 fertilizer 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 HELMET SPC and HELMET SPC 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. Absorptive materials should be added 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 HELMET SPC, AAtrex, AAtrex plus Princep, Princep, Sencor, or Sonalan by the following formula:

2000 lbs. of fertilizer per acre x pts./A of liquid or flowable product = pts. of liquid or flowable product per ton of fertilizer

2000 lbs. of fertilizer per acre x lbs./A of dry product = lbs. of dry product per ton of fertilizer

**Pneumatic (Compressed Air) Application (HELMET SPC 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 HELMET SPC with Exxon Aromatic 200 at a rate of 1 - 4 pts./gal. of HELMET SPC. 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.

**Note:** (1) Mixtures of HELMET SPC 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. (2) When impregnating HELMET SPC 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. (3) Drying agents are not recommended for use with On-The-Go impregnation equipment.

**Precautions:** To avoid potential for explosion: (1) Do not impregnate HELMET SPC or HELMET SPC mixtures on ammonium nitrate, potassium nitrate, or sodium nitrate, either alone or in blends with other fertilizers. (2) Do not use HELMET SPC or HELMET SPC mixtures on straight limestone, since absorption will not be achieved. Fertilizer blends containing limestone can be impregnated.

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. Non-uniform 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.

## 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 below 0°F.

**PESTICIDE 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:

**Non-refillable Container (five gallons or less):** Non-refillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Puncture and dispose of in a sanitary landfill, or by incineration, or by open burning, if allowed by state and local authorities. If burned, keep out of smoke.

**Non-refillable Container (greater than five gallons):** Non-refillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Puncture and dispose of in a sanitary landfill, or by incineration, or by open burning, if allowed by state and local authorities. If burned, keep out of smoke.

**Refillable Container (greater than 55 gallons):** Refillable container. Refill this container with metolachlor only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. For final disposal, offer for recycling or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

This product may be stored at temperatures down to 30 degrees below 0°F.

## CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

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

Follow Directions for Use of this product carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of Helm Agro US, Inc. or Seller. To the extent of applicable law, all such risks shall be assumed by Buyer and User, and Buyer and User agree to hold Helm and Seller harmless for any claims relating to such factors.

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

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**Manufactured for:**



HELM AGRO Inc.  
401 E. Jackson St., Suite 1400  
Tampa, FL 33602  
info@helmagro.com