

# SPECIMEN LABEL

# Agri Star®

MESOTRIONE	GROUP	27	HERBICIDE
CLOPYRALID	GROUP	4	HERBICIDE

# MESOCORE™

## HERBICIDE

**A herbicide for control of annual grasses and broadleaf weeds in field corn, field seed corn, field silage corn, and yellow popcorn.**

<b>ACTIVE INGREDIENTS:</b>	
Mesotrione: 2-[4-(methylsulfonyl)-1,3-cyclohexanedione .....	13.00%
Clopyralid MEA salt: 3,6-dichloropyridinecarboxylic acid, monoethanolamine salt .....	10.85%
<b>OTHER INGREDIENTS:</b> .....	76.15%
<b>TOTAL</b> .....	100.00%
Contains 1.20 pounds/gallon mesotrione, and 0.76 pounds/gallon clopyralid, acid equivalent (3,6- dichloropyridinecarboxylic acid).	
Not for Sale, Sale Into, Distribution and/or Use in Nassau and Suffolk Counties of New York State.	
EPA Reg. No. 42750-342	EPA Est. No. 42750-M0-001

## KEEP OUT OF REACH OF CHILDREN CAUTION

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

### FIRST AID

<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>IF ON SKIN OR CLOTHING:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF IN EYES:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.  
For transportation or medical emergencies call CHEMTREC toll free at 1-800-424-9300.

**See inside booklet for additional PRECAUTIONARY STATEMENTS and complete DIRECTIONS FOR USE.**

Manufactured by:

**ALBAUGH, LLC**  
1525 NE 36th Street  
Ankeny, Iowa 50021

**FOR CHEMICAL SPILL, LEAK,  
FIRE, OR EXPOSURE, CALL  
CHEMTREC (800) 424-9300**



**Albaugh®**  
Your Alternative™

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

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

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks
- Protective eye

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

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

**ENGINEERING CONTROLS**

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(5)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**USER SAFETY RECOMMENDATIONS**

Users should:

1. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.
2. Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
3. 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**

This pesticide is toxic to fish. 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 washwaters.

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

**SURFACE WATER ADVISORY**

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

**DIRECTIONS FOR USE**

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

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

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

### AGRICULTURAL USE REQUIREMENTS

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

**Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.**

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 over short-sleeved shirt and short pants
- Chemical-resistant gloves: barrier laminate or viton
- Shoes plus socks

### PRODUCT INFORMATION

For use only on field corn, field seed corn, field silage corn, and yellow popcorn, which collectively will be referred to as “corn” in this label.

MesoCore™ is a combination of the herbicides mesotrione (Group 27) and clopyralid (Group 4) advised to be tank mixed with a Group 15 herbicide including acetochlor or metolachlor for weed control in corn.

For yellow popcorn, MesoCore™ must be applied prior to crop emergence (i.e., preplant or preemergence) or severe crop injury may occur.

This combination of three herbicide modes of action controls many grass and broadleaf weeds by interfering with normal germination, growth, and seedling development. When applied after weed emergence, MesoCore™ will provide control of many broadleaf weed species but will not provide consistent control of emerged grass weeds.

**Note:** When tank mixed with a Group 15 herbicide including metolachlor or acetochlor the group 15 herbicide needs to contain a safener to minimize seed germination risk.

### USE RESTRICTIONS

- Not for Sale, Sale Into, Distribution and/or Use in Nassau and Suffolk Counties of New York State.
- All containers of MesoCore™ must be kept tightly closed when not in use.
- Observe all restrictions, precautions, and limitations on the label of each product used in tank mixtures.
- MesoCore™ must be used in a manner that will prevent back siphoning into wells, spills, or improper disposal of excess pesticide, spray mixtures, or rinsates.
- **DO NOT** store MesoCore™ near seeds, fertilizers, or foodstuffs.
- **DO NOT** allow MesoCore™ to contaminate feed or food.
- **DO NOT** use MesoCore™ on any crop other than field corn (for grain, seed, or silage), or yellow popcorn.
- **DO NOT** use MesoCore™ in the production of white popcorn or ornamental (Indian) corn or crop injury may occur.
- **DO NOT** apply MesoCore™ to yellow popcorn after the crop has emerged or severe crop injury may occur.
- **DO NOT** make postemergence applications of MesoCore™ to field corn, field seed corn, or field silage corn using liquid fertilizer as the carrier or severe crop injury may occur.
- **DO NOT** make postemergence (emerged corn) applications of MesoCore™ in a tank mix with any organophosphate or carbamate insecticide or severe crop injury may occur.
- **DO NOT** apply MesoCore™ to field corn, field seed corn, and field silage corn over 11 inches tall.
- **DO NOT** contaminate irrigation water used for crops other than corn or water used for domestic purposes.
- If tank mixed with an acetochlor or metolachlor herbicide on the following soil types, **DO NOT** apply this product within 50 feet of any well where the depth to groundwater is 30 feet or less:
  - sands with less than 3% organic matter;
  - loamy sands with less than 2% organic matter; or
  - sandy loams with less than 1 percent organic matter. See the figure for additional clarification.
- Tank mixes containing acetochlor or metolachlor must not be mixed or loaded, or used within 50 feet of all wells, including abandoned wells, drainage wells, and sinks holes. Operations that involve mixing, loading, rinsing, or washing of this product into or from pesticide handling or application equipment or containers within 50 feet 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 rainwater 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. Additional State imposed requirements regarding well-head setbacks and operational area containment must be observed.

- **DO NOT** apply this product through any type of irrigation system.
- Use a sprinkler irrigation system only to incorporate MesoCore™ after application. After MesoCore™ has been applied, a sprinkler irrigation system set to deliver 0.5-1.0 inch of water may be used to incorporate the product; using more than one inch of water could result in reduced performance. On sandy soils low in organic matter, apply no more than 0.5 inch of water.
- **DO NOT** use flood or furrow irrigation to incorporate this product.
- **DO NOT** apply under conditions that favor runoff or wind erosion of soil containing this product to non- target areas. To prevent off-site movement due to runoff or wind erosion:
  - Avoid treating powdery dry or light sandy soils when conditions are favorable to wind erosion. Under these conditions, the soil surface needs to first be settled by rainfall or irrigation.
  - **DO NOT** apply to impervious substrates including paved or highly compacted surfaces or frozen or snow-covered soils.
  - **DO NOT** use tailwater from the first flood or furrow irrigation of treated fields to treat non-target crops unless at least ½ inch of rainfall has occurred between application and the first irrigation.
- Thoroughly clean sprayer or other application equipment before and after use. **DO NOT** use a sprayer or applicator contaminated with other materials or crop damage or sprayer clogging of the application equipment may occur.
- **MAXIMUM MESOTRIONE APPLICATION RATES PER CALENDAR YEAR:** When tank mixing or sequentially applying products containing mesotrione with MesoCore™ to corn, **DO NOT** exceed an application rate of 0.24 pound active ingredient of mesotrione per acre per year.
- **Note:** For purposes of calculating total mesotrione active ingredient applied, MesoCore™ contains 1.2 pounds active ingredient mesotrione per gallon (0.30 pound active ingredient mesotrione per quart).
- **MAXIMUM CLOPYRALID APPLICATION RATES PER CALENDAR YEAR:** When tank mixing or sequentially applying products containing clopyralid with MesoCore™ to corn, **DO NOT** exceed an application rate of 0.25 pound acid equivalent of clopyralid per acre per year.
- **Note:** For purposes of calculating total clopyralid active ingredient applied, MesoCore™ contains 0.76 pound acid equivalent clopyralid per gallon (0.188 pound acid equivalent clopyralid per quart).
- **DO NOT** make more than two applications of MesoCore™ per acre per year when using reduced application rates.
- **DO NOT** apply more than 26.0 fluid ounces (0.24 lbs of mesotrione ai and 0.15 lbs of clopyralid ai) per acre per year.
- **DO NOT** apply more than 26.0 fluid ounces (0.24 lbs of mesotrione ai and 0.15 lbs of clopyralid ai) per acre in a single application.
- **DO NOT** make a second application within 30 days of first application if two applications are made.
- **Preharvest Interval: DO NOT** apply MesoCore™ within 45 days of harvest for ears and forage or within 60 days of harvest for stover.

**MANDATORY SPRAY DRIFT DIRECTIONS**

**AERIAL APPLICATIONS:**

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

**GROUND BOOM APPLICATIONS:**

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

**Boom-less Ground Applications:**

- Applicators are required to use a coarse droplet size (ASABE S572.1) for all applications.
- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- Do not apply during temperature inversions.”

## SPRAY DRIFT ADVISORIES

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

### IMPORTANCE OF DROPLET SIZE

- An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.
- Controlling Droplet Size - Ground Boom
  - Volume - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
  - Pressure - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
  - Spray Nozzle - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.
- Controlling Droplet Size - Aircraft
  - Adjust Nozzles - Follow nozzle manufacturers recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.
- BOOM HEIGHT - Ground Boom
  - Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. For ground equipment, the boom should remain level with the crop and have minimal bounce.
- RELEASE HEIGHT - Aircraft
  - Higher release heights increase the potential for spray drift. When applying aerially to crops, do not release spray at a height greater than 10 ft above the crop canopy, unless a greater application height is necessary for pilot safety.
- SHIELDED SPRAYERS
  - Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.
- TEMPERATURE AND HUMIDITY
  - When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.
- TEMPERATURE INVERSIONS
  - Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.
- WIND
  - Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.
  - Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.
  - Boom-less Ground Applications:
    - Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.
  - Handheld Technology Applications: Take precautions to minimize spray drift.

## USE PRECAUTIONS

- Avoid spray overlap, as crop injury may result.
- Avoid spray drift onto adjacent crop or non-crop areas.
- MesoCore™ will not provide consistent control of emerged grass weeds present at application; utilize tank mixtures or sequential applications of herbicides registered for postemergence control of grass weeds in corn.
- Applying MesoCore™ postemergence (emerged corn) to corn that has received an at-plant application of phorate or terbufos insecticide may result in severe corn injury. Temporary corn injury may occur if MesoCore™ is applied to emerged corn where organophosphate insecticides other than phorate or terbufos were applied at planting.
- Postemergence (emerged corn) applications of any organophosphate or carbamate insecticide within 7 days before or 7 days after a MesoCore™ application may result in severe corn injury.
- Dry weather following preplant or preemergence applications of MesoCore™ or a MesoCore™ tank mixture may reduce effectiveness. If weeds develop, they may be controlled with cultivation or use of registered corn herbicides.
- Where reference is made to weeds partially controlled, partial control can mean erratic or inconsistent control or efficacy at a level below that considered acceptable for commercial weed control.
- Applied according to directions and under normal growing conditions, MesoCore™ will not harm the treated crop. During germination and early stages of growth, extended periods of unusually cold and wet or hot and dry weather, insect or plant disease attack, carryover pesticide residues, the use of certain soil-applied systemic insecticides, or improperly placed fertilizers or soil insecticides may weaken crop seedlings and stress crop growth. MesoCore™ used under these conditions could result in crop injury.

### ROTATIONAL CROP RESTRICTIONS:

**When MesoCore™ is applied with an acetochlor, metolachlor or other herbicide tank mix as directed on this label, follow the most restrictive product's crop rotation interval.**

Residues of clopyralid in treated plant tissues, including the treated crop or weeds, which have not completely decayed may affect succeeding susceptible crops.

Table 1: Time Interval between ALB-MC4 Application and Replanting or Planting of Rotational Crop

**Note:** Numbers in parenthesis refer to footnotes following table.

ROTATIONAL CROP	ROTATIONAL INTERVAL
Field corn Field seed corn Field silage corn Yellow popcorn	Anytime (1)
Wheat	4.5 Months (metolachlor tank mix) 4.0 Months (acetochlor tank mix)
Alfalfa (2) Barley Millet (pearl and proso) Oats Rice Rye Sorghum (3) Soybean (4, 5, 6) Sunflower (4) Sweet corn	10.5 Months (7, 8)
Cotton	12 Months
All other rotational crops	18 Months

- 1) **DO NOT** make a second application of MesoCore™ if the original corn crop is lost.
- 2) **Idaho, Nevada, Oregon, Utah, and Washington:** 12 months, areas receiving greater than 18 inches of annual rainfall, excluding irrigation; 18 months, areas receiving less than 18 inches of annual rainfall, excluding irrigation. **All other states:** 10.5 months.
- 3) **Idaho, Nevada, Oregon, Utah, and Washington:** 12 months. **All other states:** 10.5 months.
- 4) **Florida:** 18 months. **Idaho, Nevada, Oregon, Utah, and Washington:** 12 months, areas receiving greater than 18 inches of annual rainfall, excluding irrigation; 18 months, areas receiving less than 18 inches of annual rainfall, excluding irrigation. **All other states:** 10.5 months for soils greater than 2% organic matter AND rainfall more than 15 inches during 12 months following applications; 18 months for soils less than 2% organic matter AND rainfall less than 15 inches during 12 months following applications.
- 5) Injury may occur to soybeans planted the year following application on soils having a calcareous subsurface layer, if products containing atrazine were used at rates above 0.75 lb ai atrazine per acre in tank mixtures and/or sequentially with MesoCore™.
- 6) In eastern parts of **the Dakotas, Kansas, western Minnesota and Nebraska**, do not rotate to soybeans for 18 months following application if products containing atrazine were used in tank mixtures and/or sequentially with MesoCore™ and the total atrazine rate applied was more than 2.0 pounds active ingredient per acre, or equivalent band application rate, or soybean injury may occur.
- 7) If MesoCore™ is applied after June 1, rotating to crops other than corn or grain sorghum the next spring may result in crop injury.
- 8) In the **High Plains and Intermountain areas of the West**, where rainfall is sparse and erratic or where irrigation is required, use MesoCore™ only when corn or sorghum is to follow field corn, or a crop of untreated corn or sorghum is to precede other rotational crops.

#### Rotation to Non-food Winter Cover Crops

Following harvest of corn treated with MesoCore™, only non-food or non-feed winter cover crops (with the exception of winter wheat) may be planted.

**DO NOT** graze or harvest rotational cover crops for food or animal feed for 18 months following the last application of MesoCore™. This prohibition does not apply to winter wheat, which may be planted 4 months following the last application of MesoCore™, or to non-grass animal feeds, which may be planted 9 months after the last application of MesoCore™.

Observance of specified crop rotation intervals must result in adequate safety to rotational crops. However, MesoCore™ is dissipated in the soil by microbial activity and the rate of microbial activity is dependent on several interrelating factors including soil moisture, temperature and organic matter. Therefore, accurate prediction of rotational crop safety is not possible. In areas of low organic matter (<2.0%) and less than 15 inches average annual precipitation, potential for crop injury may be reduced by burning or removal of plant residues, supplemental fall irrigation and deep moldboard plowing prior to planting the sensitive crop.

### **Avoiding Injury to Non-Target Plants**

This product can affect susceptible broadleaf plants directly through foliar contact and indirectly by root uptake from soil. Therefore, **DO NOT** apply MesoCore™ directly to, or allow spray drift to come in contact with vegetables, flowers, tomatoes, potatoes, beans, lentils, peas, alfalfa, sunflowers, soybeans, safflower, or other desirable broadleaf crops or ornamental plants or soil where sensitive crops will be planted the same year. (See guidance on Crop Rotation Restrictions.)

Small areas of new legume seedlings must be established prior to seedling more extensive areas in order to determine if phytotoxic residues are present in the soil of previously treated areas at levels that could inhibit legume establishment.

Unless otherwise specified on this label for MesoCore™, **DO NOT** apply this product to any broadleaf crop or ornamental planting or to areas where sensitive plants will be planted during the same growing season. (See following guidance on “Rotation to Broadleaf Crops”).

#### **Residues in Plants or Manure:**

**DO NOT** use plant residues, including hay or straw from treated areas, or manure from animals that have grazed or consumed forage from treated areas for composting or mulching where susceptible plants may be grown the following season.

**DO NOT** spread manure from animals that have grazed or consumed forage or hay from treated areas on land used for growing susceptible broadleaf crops. To promote herbicidal decomposition, plant residues must be evenly incorporated or burned. Breakdown of clopyralid in crop residues or manure is more rapid under warm, moist soil conditions and may be enhanced by supplemental irrigation.

#### **Advisory (Avoid Movement of Treated Soil):**

Avoid conditions under which soil from treated areas may be moved or blown to areas containing susceptible plants. Wind-blown dust containing clopyralid may produce visible symptoms, including epinasty (downward curving or twisting of leaf petioles or stems), when deposited on susceptible plants, however, serious injury is unlikely. To minimize potential movement of clopyralid on wind-blown dust, avoid treatment of powdery dry or light sandy soils until soil is settled by rainfall or irrigation or irrigate shortly after application.

### **WEED RESISTANCE MANAGEMENT GUIDELINES**

Mesotrione, and clopyralid, the active ingredients in MesoCore™, are Group 27 and Group 4 herbicides, respectively, based on the mode of action classification system of the Weed Science Society of America. Any weed population may contain biotypes naturally resistant to Group 27 or 4 herbicides. Such resistant weed plants may not be effectively managed using Group 27 or 4 herbicides but may be effectively managed utilizing another herbicide from a different Group and/or by using cultural or mechanical practices. However, any herbicide mode of action classification by itself may not adequately control specific weed biotypes that are resistant to specific herbicides. Consult your state cooperative extension service, professional consultants, or other qualified authorities to determine appropriate actions for treating specific resistant weeds. MesoCore™ contains three herbicide active ingredients and three modes of action that provide overlapping control for many key weeds and thus can be a very effective component of a weed resistance management strategy.

Some weeds are known to develop resistance to herbicides that have been used repeatedly. While the development of herbicide resistance is well understood, it is not easily predicted. Therefore, herbicides should be used in conjunction with the resistance management strategies in the area.

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

If herbicide resistance should develop in the area, 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.

#### **Herbicide-resistant weeds may be identified by these indicators:**

- Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds
- A spreading patch of non-controlled plants of a particular weed species; and
- Surviving plants mixed with controlled individuals of the same species

#### **To reduce the potential for weed resistance:**

- Use this product in a rotation program with other classes of chemistry and modes of action.
- Always apply this product at the specified rates and in accordance with the use directions.
- **DO NOT** use less than specified label rates alone or in tank mixtures.
- **DO NOT** use reduced rates of the tank mix partner.
- For best results, this product must be applied when weeds are small.
- Scout fields carefully to determine the appropriate time for application.
- Scout fields carefully before and after application for performance in control of weeds.
- If resistance is suspected, contact the local or State agricultural advisors.

If resistance is suspected, contact the local or State agricultural advisors or your local Albaugh representative for assistance at 1-800-247-8013.

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.

## APPLICATION DIRECTIONS

### CARRIERS

#### Liquids:

- **Preemergence Applications:** Either clean water or liquid fertilizers, excluding suspension fertilizers, may be used as liquid carriers for preplant or preemergence applications of MesoCore™. If fluid fertilizers are used, a physical compatibility test must be done before combining in the spray tank. See Appendix I for details of the compatibility testing procedure. Even if MesoCore™ is physically compatible with a fluid fertilizer, constant agitation is necessary to maintain a uniform mixture during application.
- **Postemergence Applications:** Use only clean water as the carrier when applying MesoCore™ after field corn emergence; **DO NOT** make postemergence applications using liquid fertilizer as the carrier or severe crop injury may occur. **DO NOT** apply MesoCore™ to emerged yellow popcorn or severe crop injury may occur.

#### Adding MesoCore™ to the Spray Tank

The spray tank must be clean, thoroughly rinsed and decontaminated before adding either MesoCore™ alone or with tank mix combinations. If water is used as the carrier, use clean water.

**MesoCore™ Applied Alone:** Albaugh advises that MesoCore™ be used in a tank mix with an acetochlor or metolachlor product. Any acetochlor or metolachlor product tank mixed with MesoCore™ needs to contain a safener additive to minimize risk of phytotoxicity to seedling corn.

**MesoCore™ Applied in Tank Mixtures:** Refer to the sections of this label for specified tank mixes. Always refer to labels of the tank mix partners for mixing directions, precautions and restrictions.

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

**DO NOT** exceed label dosage rates nor combined maximum yearly doses for acetochlor, mesotrione, or clopyralid. MesoCore™ cannot be mixed with any product bearing a label prohibition against such mixing. If a tank mixture is used, a compatibility test must be done. See Appendix I for details on the procedure for such a test.

If the tank mix partner is compatible, fill the tank half full of carrier. Start and continue agitation throughout mixing and spraying operation. All return lines to the spray tank must discharge below the liquid level to prevent foaming. Prepare the tank mix components and add them in the following order by formulation type:

1. If a wettable powder or dry flowable formulation is used, make a slurry with water and add it slowly through the screen into the tank. Agitate during the procedure.
2. If a flowable formulation is used, add slowly through screen into the tank. Mixing and compatibility may be improved when the flowable is diluted with water before adding to the tank.
3. Add MesoCore™.
4. Add any other tank mix products next, with emulsifiable concentrates added last.
5. Add adjuvants last, if needed.
6. Complete filling the sprayer tank and continue agitation. Apply as soon as possible after spray mixture is prepared. **DO NOT** leave mixture in spray tank overnight without agitation or unattended.

**Note:** For all tank mixtures, maintain agitation during mixing and throughout application to ensure the spray mixture remains uniformly suspended. If the spray mixture is allowed to settle at any time, thorough agitation is required to resuspend the mixture before spraying is resumed.

#### Adjuvants

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

Use of adjuvants with MesoCore™ applied prior to weed emergence is not necessary or advised. Where MesoCore™ is applied after field corn has emerged, a non-ionic surfactant (NIS) at 0.25% v/v (1 quart/100 gallons) may be used. A crop oil concentrate (COC) may also be used at a rate not to exceed 1.0% (1 gallon/100 gallons) or not more than the equivalent of 1.0 quart per acre. The use of crop oil concentrate (COC) may result in temporary crop injury.

**DO NOT** apply MesoCore™ to yellow popcorn after the crop has emerged or severe crop injury may occur.

**DO NOT** use nitrogen based adjuvants (AMS or UAN) or methylated seed oil (MSO) with MesoCore™ when applied alone to emerged field corn or when MesoCore™ is applied as a postemergence tank mixture with other products (except for the inclusion of AMS in tank mixtures containing glyphosate or glufosinate, as directed on those product labels), unless directed for a specific tank mix on this label be used at a preplant or preemergence application timing (i.e., where the corn crop has not yet emerged) to enhance burndown activity on existing weeds.



## SPRAY EQUIPMENT

**Ground Application:** Spray nozzles need to be uniformly spaced, the same size and type, and provide accurate and uniform application. Ensure that all in-line strainer and nozzle screens in the sprayer are 50-mesh or coarser. Use a pump that can maintain an operating pressure of at least 35-40 psi at the nozzles and provide proper agitation within the spray tank to keep the product dispersed. Lower pressures may be used with extended range or drift reduction nozzles as long as adequate spray coverage is maintained. Always make sure that agitation is maintained until spraying is completed, even if stopped for only brief periods of time. If agitation is stopped for more than five minutes, resuspend the spray solution by running at full agitation prior to spraying.

**Preplant or Preemergence Application:** Apply in a spray volume of 10-80 gallons per acre.

**Postemergence Application:** Good spray coverage of weeds is essential for optimum weed control. Boom height for broadcast over-the-top applications must be based on the height of the crop but set only high enough to provide uniform coverage with the spray nozzle used. Apply in a spray volume of 10-30 gallons per acre. When weed foliage is dense or corn approaches 11 inches in height, use a minimum spray volume of 15 gallons per acre. Use 80° or 110° flat fan nozzles for optimum postemergence coverage. Nozzles may be angled forward 45° to enhance penetration of the crop and provide better coverage. **DO NOT** use floodjet nozzles or controlled droplet application equipment for postemergence applications.

## USE DIRECTIONS

When tank mixed with an acetochlor or metolachlor Group 15 herbicide, MesoCore™ may be used for early preplant (EPP), preplant surface, preplant incorporated (PPI), or preemergence (PRE) application for control of many annual grasses and broadleaf weeds in field corn, field seed corn, field silage corn, and yellow popcorn. MesoCore™ may also be applied postemergence for the control of broadleaf weeds in field corn, field seed corn, and field silage corn. This product will not consistently control grasses that are emerged at the time of application; utilize tank mixtures or sequential applications of herbicides registered for postemergence control of grass weeds in corn.

**DO NOT** apply MesoCore™ to emerged yellow popcorn or severe crop injury may occur.

See Tables 4 and 5 for a list of weeds controlled by MesoCore™ when tank mixed with acetochlor or metolachlor.

### Tillage Systems

MesoCore™ may be used in conventional, reduced, and no-tillage corn systems. Weed control will be greatest when applications are made as close to planting as possible. Thoroughly till soil or make an application of a burndown herbicide to control germinating and emerged weeds. Albaugh specifies that a burndown herbicide, including paraquat, glyphosate, glufosinate, and/or 2,4-D also be tank mixed with MesoCore™ in reduced, minimum, and no-tillage systems if weeds are present at application and corn has not yet emerged.

### Soil Texture and Organic Matter

The texture and organic matter of the soil on which the application of MesoCore™ is to be made must be known or determined prior to application. The use rate of MesoCore™ is determined by the soil texture grouping (coarse, medium, or fine; see Table 2) and percent organic matter content.

**Table 2: Soil Texture Groupings for MesoCore™ Use Rate Selection.**

Coarse	Medium	Fine
Sand Loamy Sand Sandy Loam	Loam Silt Loam Silt Sandy Clay Loam	Silty Clay Loam Clay Loam Sandy Clay Silty Clay Clay

### MesoCore™ Use Rates When Tank-mixed With Acetochlor or Metolachlor

MesoCore™ use rates based on soil texture and organic matter content are outlined in Table 3.

**DO NOT** apply MesoCore™ more than 28 days prior to planting or to field corn taller than 11 inches in height. MesoCore™ is not specified for use on soils with greater than 10% organic matter or poor weed control may result.

**Table 3: MesoCore™ Use Rates by Soil Texture and Organic Matter Content.**

Soil Texture	Rate Per Acre (Fluid Ounces)*	
	Soil Organic Matter Content	
	Less than 3%	3% or Greater
Coarse	18.0 (0.17 lb mesotrione ai and 0.11 lb clopyralid ai)	20.0 (0.19 lb mesotrione ai and 0.12 lb clopyralid ai)
Medium	20.0 (0.19 lb mesotrione ai and 0.12 lb clopyralid ai)	22.0 (0.21 lb mesotrione ai and 0.13 lb clopyralid ai)
Fine	22.0 (0.21 lb mesotrione ai and 0.13 lb clopyralid ai)	24.0 (0.23 lb mesotrione ai and 0.14 lb clopyralid ai)

\*An additional 2.0 fluid ounces (0.019 lb mesotrione ai and 0.012 lb clopyralid ai) per acre may be used in areas of heavy weed infestation.

**DO NOT** apply more than 26.0 fluid ounces (0.24 lb mesotrione ai and 0.15 lb clopyralid ai) per acre of MesoCore™ per year.

**MesoCore™ Application Timing When Applied with Acetochlor or Metolachlor**

**Early Preplant (EPP) or Preplant Surface:**

MesoCore™ may be applied up to 28 days prior to planting. Albaugh specifies that a burndown herbicide, including paraquat, glyphosate, glufosinate, and/or 2,4-D also be tank mixed with MesoCore™ to control emerged weeds.

**Preplant Incorporated (PPI):**

For PPI application, uniformly incorporate MesoCore™ into the upper 2 inches of the soil using a field cultivator, disc, or spring tooth harrow any time within 14 days prior to planting. Improper incorporation, excessive crop residues, or poor soil tillage may result in erratic, streaked, or otherwise unsatisfactory weed control.

**DO NOT** mix MesoCore™ deeper than 2 inches into the soil and avoid moving or shaping soil after incorporation.

**Preemergence (PRE) Surface:**

MesoCore™ may be applied to the soil surface as a broadcast application after planting but prior to corn emergence. Precipitation or sprinkler irrigation of at least 0.25 inch is required to bring MesoCore™ into contact with germinating weed seeds. If rainfall or sprinkler irrigation does not occur within 7 days after application, weed control may be improved by using a rotary hoe or similar equipment to incorporate the herbicide. Incorporation equipment must be operated at a shallow depth to avoid disturbance of germinating corn seed. Erratic weed control resulting from exposure of untreated soil may occur if surface soil is moved or reshaped after incorporation.

**Postemergence:**

MesoCore™ may be applied after field corn emergence. See the “Adjuvants” section of this label for adjuvant specifications. **DO NOT** apply postemergence to field corn with liquid fertilizer as the carrier or severe crop injury may occur. Apply this treatment when broadleaf weeds are less than 3 inches tall. Occasional field corn leaf burn may result but this will not affect later corn growth or yield.

Postemergence applications to field corn must occur before the crop reaches 11 inches in height.

**DO NOT** apply MesoCore™ to emerged yellow popcorn or severe crop injury may occur.

MesoCore™ will not provide consistent control of emerged grass weeds. For control of emerged grass weeds, a grass herbicide tank mixture may be required (see tank mix section of this label). Tank mixtures with atrazine can improve control of emerged annual grass and broadleaf weeds. Refer to atrazine product labels for use directions and restrictions and weeds controlled.

**Split Application:**

MesoCore™ may be applied as a split application in field corn, field seed corn, or field silage corn. For a split application program, apply approximately half (50%) of the labeled rate of MesoCore™ (for the soil type, from Table 3) prior to crop emergence, followed by a second MesoCore™ application at approximately half (50%) of the labeled rate, but a minimum of 10.0 fluid ounces (0.09 lbs mesotrione and 0.06 lbs of clopyralid) per acre, as a post application after corn emergence.

The total amount of MesoCore™ applied in the split application program cannot exceed the labeled rates by soil type listed in Table 3 or 26.0 fluid ounces (0.24 lbs mesotrione ai and 0.15 lbs of clopyralid ai) per acre per year. Refer to the **Postemergence** section above for instructions on postemergence applications.

**Use of Spray Adjuvants with Tank Mixtures**

When MesoCore™ is used as a preemergence herbicide, and before weeds have emerged, spray adjuvants have little or no effect on performance and are not advised. In burndown situations, where weeds have emerged and the corn has not, an adjuvant(s) may be used with MesoCore™ applied alone or when applied in tank mixtures with a burndown herbicide, as allowed on the individual product labels. Use only those adjuvants approved for agricultural crop use. See the “Adjuvants” section of this label for further instructions.

### **Burndown Combinations Applied Before Corn Emergence in Reduced Tillage Systems**

In reduced or no-till corn prior to crop emergence, MesoCore™ tank mixtures with glyphosate, glufosinate, or paraquat can be used to burn down susceptible emerged weeds. For best results, such tank mixtures must be applied to emerged weeds that are less than 6 inches tall. Consult the glyphosate, glufosinate, or paraquat product labels for further information and restrictions on use rates, application timings, and weeds controlled.

### **Preplant and Preemergence Tank Mixtures Applied Before Corn Emergence**

In conventional, reduced, or no-till corn prior to crop emergence, the following tank mix partners may be applied (in addition to acetochlor or metolachlor) by the same methods and at the same timings as MesoCore™ unless otherwise specified in the tank mix product label:

- Glyphosate, glufosinate, or paraquat, per product labels, to control susceptible emerged weeds.
- Atrazine, to improve broadleaf and grass weed control.

Follow all tank mix product label directions and restrictions and perform a compatibility test prior to spraying the mixture. It is the pesticide user's responsibility to ensure that all products are registered for intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. Tank mixtures with 2,4-D are allowed but extreme care must be taken to ensure tank mix compatibility, as 2,4-D products can vary widely in their compatibility properties.

### **Postemergence Tank Mixtures Applied After Field Corn Emergence**

In conventional, reduced, or no-till field corn after crop emergence, the following tank mix partners may be applied by the same methods and at the same timings as MesoCore™ unless otherwise specified in the tank mix product label:

- Atrazine, to improve broadleaf and grass weed control.
- For emerged grass control, follow all tank mix product label directions and restrictions and perform a compatibility test prior to spraying the mixture.

Consult the **Adjuvants** section of this label for specifications when applying MesoCore™ alone or in tank mixtures to emerged field corn. It is the pesticide user's responsibility to ensure that all products are registered for intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture (for example, first aid from one product, spray drift management from another).

**DO NOT** apply MesoCore™ tank mixtures to emerged yellow popcorn or severe crop injury may occur.

### **MesoCore™ Programs for Glyphosate Resistant Corn**

- **MesoCore™ Preemergence Followed by Glyphosate Postemergence:** MesoCore™ may be applied preemergence at a rate as low as 15.0 fluid ounces (0.14 lbs mesotrione ai and 0.09 lbs clopyralid ai) per acre as part of a two- pass weed control system when followed by a postemergence application of a glyphosate product that is registered for use in glyphosate resistant field corn. Use higher MesoCore™ rates, up to the maximum amounts listed by soil type in Table 3, if there is a history of glyphosate-resistant weeds in the field. Atrazine may also be tank mixed with MesoCore™ to improve broadleaf and grass weed control. When used in this way, MesoCore™ will provide reduced competition from the weeds listed in Tables 4 and 5 for a period of 30 or more days, improving the timing flexibility and effectiveness of the follow-up glyphosate application. Follow all use directions and restrictions on the glyphosate and atrazine product labels.
- **MesoCore™ + Glyphosate Tank Mixture Applied Postemergence:** MesoCore™ may be applied postemergence at a rate as low as 10.0 fluid ounces (0.094 lbs mesotrione ai and 0.06 lbs clopyralid ai) per acre in a tank mixture with a solo glyphosate product that is registered for use in glyphosate resistant field corn. To minimize weed competition effects on the crop, apply this mixture to 1-2 inches tall weeds and before the corn reaches 11 inches in height. If the glyphosate product includes an adjuvant system (does not call for additional adjuvants), only spray-grade ammonium sulfate (AMS) at 8.5 lbs. per 100 gallons must be added to this tank mixture. If the glyphosate product label calls for an adjuvant in addition to AMS, add a non-ionic surfactant (NIS) at 0.25% v/v and AMS to the mixture. **DO NOT** add urea ammonium nitrate (UAN), crop oil concentrate (COC), or methylated seed oil (MSO) type adjuvants to the mixture or crop injury may occur. Follow all use directions and restrictions on the glyphosate product label.

### **MesoCore™ Programs for Glufosinate Resistant Corn**

- **MesoCore™ Preemergence Followed by Glufosinate Postemergence:** MesoCore™ may be applied preemergence at rate as low as 15.0 fluid ounces (0.14 lbs mesotrione ai and 0.09 lbs clopyralid ai) per acre as part of a two- pass weed control system when followed by a postemergence application of a glufosinate product that is registered for use in glufosinate resistant field corn. Use higher MesoCore™ rates, up to the maximum amounts listed by soil type in Table 3, if there is a history of glufosinate-resistant weeds in the field. Atrazine may also be tank mixed with MesoCore™ to improve broadleaf and grass weed control. When used in this way, MesoCore™ will provide reduced competition from the weeds listed in Tables 4 and 5 for a period of 30 or more days, improving the timing flexibility and effectiveness of the follow-up glufosinate application. Follow all use directions and restrictions on the glufosinate and atrazine product labels.

- MesoCore™ + Glufosinate Tank Mixture Applied Postemergence: MesoCore™ may be applied postemergence at a rate as low as 10.0 fluid ounces (0.09 lbs mesotrione ai and 0.06 lbs clopyralid ai) per acre in tank mixture with a solo glufosinate product that is registered for use in glufosinate resistant field corn. To minimize weed competition effects on the crop, apply this mixture to 1-2 inch weeds and before the corn reaches 11 inches in height. Ammonium sulfate (AMS) must be added at 8.5 lbs. per 100 gallons as a spray adjuvant as directed on the glufosinate product label but AMS needs to be the only adjuvant added to this tank mixture. **DO NOT** add urea ammonium nitrate (UAN), crop oil concentrate (COC), or methylated seed oil (MSO) type adjuvants to the mixture or crop injury may occur. Follow all use directions and restrictions on the glufosinate product label.

### Cultivation

If weeds develop, a shallow cultivation or rotary hoeing will generally result in improved weed control. If MesoCore™ was incorporated, cultivate at less than half the depth of incorporation.

If cultivation is necessary due to soil crusting, compaction, or escaped weeds, adjust equipment to a shallow depth and minimize soil movement. This will decrease the possibility of diluting or moving the herbicide from the weed control zone.

### Weeds Controlled

When tank mixed with acetochlor or metolachlor, MesoCore™ applied as directed in this label will control or suppress the weeds listed in Tables 4 and 5. Additional weeds may be controlled with tank mixtures. See the “MesoCore™ Tank Mix Combinations” section of this label for specified tank mix combinations. Always consult the tank mix product labels for specific use rates and directions. Always follow the most restrictive label when tank mixing MesoCore™ with another product. MesoCore™ may be tank mixed with any other registered corn product as long as compatibility is verified and tank mixing is not prohibited by the tank mix product label.

**Table 4:** Weeds Controlled or Partially Controlled by Preplant or Preemergence Applications of MesoCore™ tank mixed with acetochlor or metolachlor as directed in this label will control or suppress the weeds listed in Tables 4 and 5. Always consult the tank mix product labels for specific use rates and directions.

Always follow the most restrictive label when tank mixing MesoCore™ with another product. MesoCore™ may be tank mixed with any other registered corn product as long as compatibility is verified and tank mixing is not prohibited by the tank mix product label.

Grasses and Sedges	C = Control PC – Partial Control	Broadleaves	C = Control PC – Partial Control
Barnyardgrass	C	Amaranth, Palmer	C*
Crabgrass species	C	Amaranth, Powell	C
Crowfootgrass	C	Amaranth, spiny	C
Cupgrass, prairie	C	Bedstraw, catchweed	PC*
Cupgrass, Southwestern	C	Beggarweed, Florida	C
Cupgrass, woolly	PC	Buckwheat, wild	C*
Foxtail, bristly	C	Buffalobur	C
Foxtail, giant	C	Carpetweed	C
Foxtail, robust (purple, white)	C	Chickweed, common	C
Foxtail, yellow	C	Clover, red	C
Goosegrass	C	Cocklebur, common	C*
Johnsongrass, seedling	PC	Deadnettle, purple	C
Millet, foxtail	C	Devil’s-claw	C
Millet, wild proso	PC	Galinsoga	C
Nutsedge, yellow	C	Groundcherry, annual	PC*
Oat, wild	PC*	Groundcherry, cutleaf	PC*
Panicum, browntop	C	Henbit	C
Panicum, fall	C	Horseweed (marestail)	C
Panicum, Texas	PC	Jimsonweed	C
Rice, red	C	Kochia	C*
Sandbur, field	PC	Lambsquarters, common	C
Shattercane	PC	Mallow, Venice	C

(continued)

<b>Grasses and Sedges</b>	<b>C = Control PC – Partial Control</b>	<b>Broadleaves</b>	<b>C = Control PC – Partial Control</b>
Signalgrass, broadleaf	C*	Morningglory, entireleaf	C*
Signalgrass, narrowleaf	C	Morningglory, ivyleaf	C*
Sprangletop, red	C	Morningglory, pitted	C*
Starbur, bristly	C	Morningglory, tail	C*
Wheat, volunteer	PC*	Mustard, wild	C
Witchgrass	C	Nightshade, black	C
		Nightshade, eastern black	C
		Nightshade, hairy	C
		Peas, volunteer	C*
		Pigweed, redroot	C
		Pigweed, smooth	C
		Pigweed, tumble	C
		Pokeweed	C*
		Potatoes, volunteer	C
		Prickly lettuce	PC
		Puncturevine	C*
		Purslane, common	C
		Pusley, Florida	C
		Radish, wild	C
		Ragweed, common	C
		Ragweed, giant	C*
		Sesbania, hemp	C
		Shepherd's Purse	C
		Sicklepod	C*
		Sida, prickly	PC*
		Smartweed, ladysthumb	C
		Smartweed, Pennsylvania	C
		Sunflower, common	C*
		Velvetleaf	C
		Waterhemp, common	C*
		Waterhemp, tail	C*
		Wormwood, biennial	C*

\*The addition of atrazine at specified label rates may improve control.

Thoroughly till soil or make an application of a burndown herbicide to control germinating and emerged weeds. Plant crop immediately after tillage.

If a significant rainfall does not occur within 7 days after application, weed control may be reduced. If irrigation is available, apply 0.25-0.75 inch of water. If irrigation is not available, a uniform shallow cultivation is specified as soon as weeds emerge.

Table 5: Weeds Controlled or Partially Controlled by Postemergence Applications of MesoCore™ tank mixed with acetochlor or metolachlor.

<b>Grasses and Sedges</b>	<b>C = Control PC – Partial Control</b>	<b>Broadleaves</b>	<b>C = Control PC – Partial Control</b>
Crabgrass, large <sup>1</sup>	C*	Amaranth, Palmer	C*
Nutsedge, yellow	PC*	Amaranth, Powell	C
Signalgrass, broadleaf <sup>1</sup>	C*	Amaranth, spiny	C
		Alfalfa, volunteer (seedling)	PC*
		Atriplex	C
		Beans, volunteer	C*
		Bedstraw, catchweed	PC*
		Beggarweed, Florida	C
		Buckwheat, wild	C*
		Buffalobur	C
		Burcucumber	PC*
		Carpetweed	C
		Carrot, wild	PC*
		Chickweed, common	C
		Clover species	C
		Cocklebur, common	C
		Dandelion, common	PC*
		Deadnettle, purple	C
		Devil's-claw	C
		Dock, curly	PC*
		Galinsoga	C
		Groundcherry, annual	C
		Groundcherry, cutleaf	C
		Hemp	C
		Henbit	C
		Horsenettle	C*
		Horseweed (marestail)	C*
		Jimsonweed	C
		Knotweed, prostrate	PC
		Kochia	C*
		Lambsquarters, common	C
		Lentils, Volunteer	C*
		Mallow, Venice	C*
		Morningglory, entireleaf	C*
		Morningglory, ivyleaf	C*
		Morningglory, pitted	C*
		Morningglory, tail	C*
		Mustard, wild	C
		Nightshade, black	C
		Nighshade, eastern black	C
		Nightshade, hairy	C
		Peas, volunteer	C*

(continued)

<b>Grasses and Sedges</b>	<b>C = Control PC – Partial Control</b>	<b>Broadleaves</b>	<b>C = Control PC – Partial Control</b>
		Pigweed, redroot	C
		Pigweed, smooth	C
		Pigweed, tumble	C
		Pokeweed	C*
		Potatoes, volunteer	C
		Prickly lettuce	PC
		Purslane, common	C
		Pusley, Florida	C
		Radish, wild	C
		Ragweed, common	C*
		Ragweed, giant	C*
		Sesbania, hemp	C
		Shepherd's Purse	C
		Sicklepod	PC*
		Sida, prickly	C*
		Smartweed, ladythumb	C*
		Smartweed, Pennsylvania	C*
		Soybean, volunteer	C
		Sunflower, common	C*
		Thistle, Canada	C*
		Velvetleaf	C
		Waterhemp, common	C*
		Waterhemp, tail	C*
		Wormwood, biennial	C*

\*The addition of atrazine at specified label rates may improve control.

<sup>1</sup>Apply before the weed exceeds 2 inches in height.

MesoCore™ tank mixed with acetochlor or metolachlor will not provide consistent control of emerged grass weeds. For control of emerged grass weeds, a grass herbicide tank mixture may be required (see “MesoCore™ Tank Mix Combinations” section of this label). Tank mixtures with atrazine can improve control of emerged annual grass and broadleaf weeds. Refer to atrazine product labels for use directions, restrictions, and weeds controlled.

Nonrefillable containers 5 gallons or less:

## STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Store in original container only. Keep container closed when not in use. Do not store near food or feed. In case of spill or leak on floor or paved surfaces, soak up with vermiculite, earth, or synthetic absorbent.

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

**CONTAINER HANDLING:** Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Triple rinse as follows:

Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refillable containers larger than 5 gallons:

## STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Store in original container only. Keep container closed when not in use. Do not store near food or feed. In case of spill or leak on floor or paved surfaces, soak up with vermiculite, earth, or synthetic absorbent.

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

**Container Handling:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose.

Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

Nonrefillable containers larger than 5 gallons:

## STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Store in original container only. Keep container closed when not in use. Do not store near food or feed. In case of spill or leak on floor or paved surfaces, soak up with vermiculite, earth, or synthetic absorbent.

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

**CONTAINER HANDLING:** Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds.

Drain for 10 seconds after the flow begins to drip.



## Appendix I

### Tank Mix Compatibility Test

Complete a compatibility test before tank mixing to ensure compatibility of MesoCore™ with other pesticides. The following test assumes a spray volume of 25 gallons per acre. For other spray volumes, make appropriate changes in the ingredients.

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

#### Test Procedure:

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

#### Procedure for Testing the Compatibility of MesoCore™ and Tank Mixes with Fluid Fertilizers

Since fluid fertilizers vary, the following procedure is suggested for determining whether MesoCore™ may be combined with a specific fluid fertilizer for spray tank application.

#### Materials Needed:

- MesoCore™ and any tank mix products.
- Fluid fertilizer to be used.
- Adjuvant for fertilizer tank mix: Use any adjuvant cleared for use on growing crops under 40 CFR 180.1001 to improve the compatibility of MesoCore™ with fluid fertilizers. The adjuvant that provides the best emulsification depends on the specific fertilizer under consideration.
- Two 1 quart, wide mouth glass jars with lid or stopper.
- Measuring spoons (a 25-ml pipette or graduated cylinder provides more accurate measurement).
- Measuring cup, 8 ounces (257 ml).

#### Procedure:

1. Pour a pint (about 473 ml) of the fluid fertilizer into each of the quart jars.
2. Add MesoCore™ and any tank mix combination to the jars. The order of addition is wettable powders first with mixing, followed by flowables with mixing and the EC's last. The rate of wettable powders and dry flowables is 1½ teaspoon per pound of product per acre to be applied. EC's must be added at the rate of ½ teaspoon for each pint per acre to be applied. Premixing the wettable powders in 1 ounce of water before adding to the pint of fluid fertilizer will improve the compatibility of the final mixture.
3. Add 1/2 teaspoon (2 ml) adjuvant to one of the jars, label it as "with", and mix. The rate of ½ teaspoon per pint is equal to 3 pints of adjuvant per 100 gallons of fluid fertilizer.
4. Close both jars with lids or stoppers and mix the contents by turning the jars upside down ten times.
5. Inspect the surface and body of the mixtures:
  - a. Immediately after completing the jar inversions
  - b. After allowing the jars to stand quietly for 30 minutes
  - c. And then again after turning the jars upside down 10 times after the 30 minute inspection

#### Evaluation:

If either mixture remains uniform for 30 minutes, the combination may be used. If either mixture separate after 30 minutes, but readily remix uniformly with 10 jar inversions, the mixture can be used if adequate agitation is maintained in the tank. If the mixture with adjuvant is satisfactory but the mixture without adjuvant is not, be sure to use the adjuvant in the spray tank. Add the adjuvant first at a rate of 3 pints per 100 gallons of fluid fertilizer. Foaming may be minimized by using only moderate agitation. If non-dispersible oil, sludge, or clumps of solids form in the mixtures, the combination must not be used.

## **TERMS AND CONDITIONS OF USE**

If terms of the following Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. To the extent permitted by law, otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies.

### **WARRANTY DISCLAIMER**

Albaugh warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. To the extent permitted by law, Albaugh MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

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It is impossible to eliminate all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, including unfavorable temperatures, soil conditions, etc.), abnormal conditions (including excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Albaugh or the seller. To the extent permitted by law, all such risks shall be assumed by buyer.

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To the extent permitted by law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Albaugh' election, one of the following:

1. Refund of purchase price paid by buyer or user for product bought, or
2. Replacement of amount of product used.

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