

# OPTERO™

Powered by  BELLUM™

ACETOCHLOR	GROUP	15	HERBICIDES
MESOTRIONE	GROUP	27	HERBICIDES

**An Herbicide for Use in Field Corn, Field Seed Corn,  
Field Silage Corn, and Yellow Popcorn**

ACTIVE INGREDIENTS:	BY WT.
*Acetochlor .....	31.0%
**Mesotrione .....	3.3%
OTHER INGREDIENTS: .....	65.7%
TOTAL: .....	100.0%

\*Contains 2.74 lbs./gal acetochlor \*\*Contains 0.29 lbs./gal mesotrione

## 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	
IF ON SKIN OR CLOTHING:	<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>
IF IN EYES:	<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.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
HOTLINE NUMBERS	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For 24-Hour Medical Emergency Assistance (Human or Animal), call: <b>1-800-222-1222</b> . For Chemical Emergency Assistance (Spill, Leak, Fire, or Accident), call CHEMTREC: <b>1-800-424-9300</b> .	

See label booklet for additional Precautionary Statements, Directions For Use, and Storage and Disposal.

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

Distributed by:  
**ROTAM NORTH AMERICA, INC.**  
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**EPA Est. No.: 70989-MO-001**



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

Avoid contact with skin or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

**All mixers, loaders, applicators, and other handlers must wear:**

- Protective eyewear
- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride or viton
- Shoes and socks

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

**ENGINEERING CONTROL STATEMENTS**

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 thoroughly after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. If pesticide gets on skin, wash immediately with soap and water.
- 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 product is toxic to fish. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high-water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash waters and rinsate.

This product has properties that may result in surface water contamination via dissolved runoff and runoff erosion. Practices should be followed to minimize the potential for dissolved runoff and/or runoff erosion. Do not apply when weather conditions favor drift.

**Groundwater Advisory**

This chemical demonstrates the properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the groundwater is shallow, may result in groundwater contamination.

**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 such as ponds, streams, and springs will reduce the potential for contamination of water from runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. Sound erosion control practices will reduce this product's contribution to surface water contamination.

Acetochlor has properties that may result in surface water contamination via dissolved runoff and runoff erosion. Practices should be followed to minimize the potential for dissolved runoff and/or runoff erosion.

**Physical and Chemical Hazards**

Do not use or store near heat or open flame.

## DIRECTIONS FOR USE

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

Read entire label before using this product.

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

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

**NOTE:** It is illegal to sell, use or distribute this product within, or into, Nassau County or Suffolk County, New York.

### 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.

The following PPE is required for early entry into 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:

- Protective eyewear
- Coveralls
- Chemical-resistant gloves made of barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride or viton
- Shoes and socks

### PRODUCT INFORMATION

**Optero** is for use in field corn, production seed corn and yellow popcorn. **Optero** may be used pre-plant, pre-emergence (after planting but before crop emergence), or post-emergence (after crop emergence) in field corn, field seed corn, and field silage corn fields. For yellow popcorn, **Optero** must be applied before crop emergence (i.e., pre-plant or pre-emergence) or severe crop injury may occur.

**Optero** is a combination of the herbicides acetochlor (group 15) and mesotrione (group 27). This combination of herbicide modes of action controls many grass and broadleaf weeds by interfering with normal germination, growth, and seedling development. When applied after weed emergence, **Optero** will provide control of many broadleaf weed species, but will not provide consistent control of emerged grass weeds. **Optero** may be used in tank mix combinations with other herbicides registered for use on the above corn crops to enhance or broaden the spectrum of control of weeds listed in the "**Weeds Controlled**" section of this label.

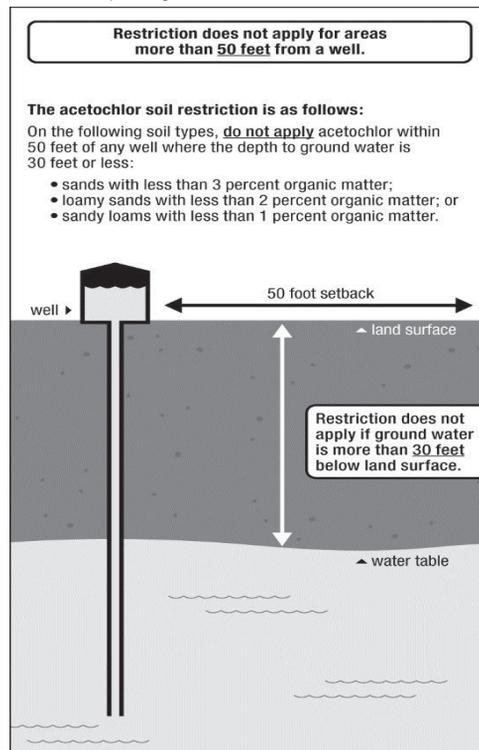
Applied according to use directions and under normal growing conditions, **Optero** will not harm the treated crop. During germination and early stages of growth, environmental conditions or other factors that favor poor or slow growth can weaken crop seedlings.

Read and carefully observe precautionary statements and all other information appearing on the labeling of all products used in mixtures and sequential treatments. This label provides specified treatment rates for this product alone and with tank mixtures. Applications which are not consistent with recommendations in this label may result in unsatisfactory weed control, injury to crops, persons, or animals, or other unintended consequences. Refer to specific product labels for crop rotation restrictions and cautionary statements of all products used in these tank mixtures, including precautions on soil pH, sensitive varieties, minimum re-cropping interval, and rotational guidelines. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

#### Use Restrictions:

- Not for Sale, Sale Into, Distribution and/or Use in Nassau and Suffolk Counties of New York State.
- All containers of **Optero** 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.

- **Optero** 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 **Optero** near seeds, fertilizers, or foodstuffs.
- Do not allow **Optero** to contaminate feed or food.
- Do not use **Optero** on any crop other than field corn (for grain, seed, or silage), or yellow popcorn.
- Do not use **Optero** in the production of white popcorn or ornamental (Indian) corn or crop injury may occur.
- Do not apply **Optero** to yellow popcorn after the crop has emerged or severe crop injury may occur.
- Do not make post-emergence applications of **Optero** 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 post-emergence (emerged corn) applications of **Optero** in a tank mix with any organophosphate or carbamate insecticide or severe crop injury may occur.
- Do not apply **Optero** 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.
- This chemical demonstrates the properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the groundwater is shallow, may result in groundwater contamination. 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 percent organic matter; loamy sands with less than 2 percent organic matter; or sandy loams with less than 1 percent organic matter. See the figure for additional clarification.
- This product may not be mixed or loaded within 50 feet of any wells (including abandoned wells and drainage wells), sink holes, perennial or intermittent streams and rivers, and natural or impounded lakes and reservoirs. This setback does not apply to properly capped or plugged abandoned wells and does not apply to impervious pad or properly diked mixing/loading areas.
- 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 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 a minimum of 110 percent 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 percent 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. States may have in effect additional requirements regarding wellhead setbacks and operational containment.
- Do not apply this product through any type of irrigation system.
- Use a sprinkler irrigation system only to incorporate **Optero** after application. After **Optero** 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 flood irrigate to apply or incorporate this product.
- Product must be used in a manner which will prevent back siphoning into wells, spills or improper disposal of excess pesticide, spray mixtures or rinsates.



- Dispose of excess pesticide, spray mixtures or rinsate according to label use instructions or according to the State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA regional office.
- 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 wind erosion:
  - Do not treat powdery dry or light sandy soils when conditions are favorable for wind erosion. Under these conditions, the soil surface must first be settled by rainfall or irrigation.
  - Do not apply to impervious substrates such as 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.
- Do not apply this product using aerial application equipment.
- Do not apply when wind conditions favor drift to non-target sites. To minimize spray drift to non-target areas:
  - Use low-pressure application equipment capable of producing a large droplet spray. Do not use nozzles that produce a fine droplet spray. Minimize drift by using sufficient spray volume to ensure adequate coverage with large droplet size sprays.
  - Keep ground driven spray boom as low as possible above the target surface.
  - Make application when the wind velocity favors on-target product deposition (approximately 3 to 10 miles per hour). Do not apply when wind velocity exceeds 15 miles per hour. Do not apply when gusts approach 15 miles per hour.
  - Low humidity and high temperatures increase the likelihood of spray drift to sensitive areas. Do not spray during conditions of low humidity and/or high temperatures. Do not apply during inversion conditions.
- Use of this product not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences.
- Flush sprayer with clean water after use.

### **WEED RESISTANCE MANAGEMENT**

**Optero** contains two active ingredients, acetochlor and mesotrione. Acetochlor is classified as a Group 15 herbicide (chloroacetamide chemical family) and is a mitosis inhibitor; and mesotrione is classified as a Group 27 herbicide (triketone chemical family) and is an inhibitor of 4-hydroxyphenyl-pyruvatedioxygenase (4-HPPD).

Herbicide resistance is defined as the inherited ability of a plant to survive and reproduce following exposure to a dose of herbicide normally lethal to the wild type. In a plant, resistance may be naturally occurring or induced by such techniques as genetic engineering or selection of variants produced by tissue culture or mutagenesis. Any weed population may contain or develop plants that are naturally resistant to **Optero** and other Group 15 or Group 27 herbicides. Weed species with acquired resistance to Group 15 or Group 27 herbicides may eventually dominate the weed population if Group 15 or Group 27 herbicides are used repeatedly in the same field or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species by **Optero** or other Group 15 or Group 27 herbicides.

Suspected herbicide-resistant weeds may be identified by these indicators: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method such as hoeing or tillage. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields and planting clean seed. If a weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.

#### **Best Management Practices for Resistance Management:**

- Plant into weed-free fields and keep fields as weed-free as possible.
- To the extent possible, use a diversified approach toward weed management. Whenever possible, incorporate multiple weed-control practices, such as mechanical cultivation, biological management practices and crop rotation.
- Fields with difficult to control weeds should be rotated to crops that allow the use of herbicides with alternative mechanisms of action of different management practices.
- To the extent possible, do not allow weed escapes to produce seeds, roots or tubers. Manage weed seeds at harvest and post-harvest to prevent a buildup of the weed seed-bank.
- Prevent field-to-field and within-field movement of weed seed or vegetative propagules. Thoroughly clean plant residues from equipment before leaving fields.
- Prevent an influx of weeds into the field by managing field borders.
- Identify weeds present in the field through scouting and field history and understand their biology. The weed-control program should consider all of the weeds present.
- Difficult to control weeds may require sequential applications of herbicides with differing mechanisms of action.
- Apply this herbicide at the correct timing and rate needed to control the most difficult weed in the field.

- Use a broad-spectrum soil-applied herbicide with a mechanism of action that differs from this product as a foundation in a weed-control program. Do not use more than two application of this or any other herbicide with the same mechanism of action within a single growing season unless mixed with an herbicide with another mechanism of action with an overlapping spectrum for the difficult-to-control weeds.
- If resistance is suspected, treat weed escapes with an herbicide with a different MOA or use non-chemical methods to remove escapes.

Users should scout before and after application. Users should report lack of performance to registrant or their representative.

Contact your local sales representative, extension agent, or certified crop advisors to find out if suspected resistant weeds to these MOA's have been found in your region. Do not assume that each listed weed is being controlled by multiple mechanisms of action. Co-formulated active ingredients are intended to broaden the spectrum of weeds that are controlled. Some weeds may be controlled by only one of the active ingredients in this product.

### **Integrated Pest (Weed) Management**

**Optero** may be integrated into an overall weed and pest management strategy. Practices known to reduce weed development (tillage, crop competition) and herbicide use (weed scouting, proper application timing, banding and rotations) should be followed wherever possible. Consult local agricultural and weed authorities for additional Integrated Pest Management strategies established for your area.

### **SPRAY DRIFT**

AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR. The interaction of equipment- and weather-related factors determine the potential for drift. The applicator is responsible for considering these factors when making an application decision.

Do not apply when weather conditions may cause drift to non-target areas. Drift may result in injury to adjacent crops and vegetation. To avoid spray drift, DO NOT apply when the wind speed is greater than 10 mph or during periods of temperature inversions.

Leave a sufficient buffer to avoid drift to sensitive crops. This buffer may be untreated corn rows or field border species maintained for this purpose. The width of the buffer needed for a specific application will depend on the wind speed, distance to sensitive crops, and application equipment parameters.

### **Information on Droplet Size**

The most effective way to reduce spray drift potential is to apply larger 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.

### **Controlling Droplet Size**

- **Application 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 rate nozzles instead of increasing pressure.
- **Number of Nozzles** - Use the minimum number of nozzles that provide uniform coverage.

### **Application Height**

Applications should be made at the lowest height above the target area that still provides uniform coverage of the target. Making applications at the lowest yet effective height reduces exposure of droplets to wind.

### **Sensitive Areas**

**Optero** 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 areas).

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 Acetochlor Application Rates Per Calendar Year:**

When tank mixing or sequentially applying products containing acetochlor with **Optero** to corn, do not exceed an application rate of 3.00 pounds active ingredient of acetochlor per acre per year.

### **Maximum Mesotrione Application Rates Per Calendar Year:**

When tank mixing or sequentially applying products containing mesotrione with **Optero** to corn, do not exceed an application rate of 0.24 pound active ingredient of mesotrione per acre per year.

## Use Precautions:

- Avoid spray overlap, as crop injury may result.
- Avoid spray drift onto adjacent crop or non-crop areas.
- **Optero** will not provide consistent control of emerged grass weeds present at application; use tank mixtures or sequential applications of herbicides registered for post-emergence control of grass weeds in corn.
- Applying **Optero** post-emergence (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 **Optero** is applied to emerged corn where organophosphate insecticides other than phorate or terbufos were applied at-planting.
- Post-emergence (emerged corn) applications of any organophosphate or carbamate insecticide within 7 days before or 7 days after a **Optero** post-emergence application may result in severe corn injury.
- Dry weather following pre-plant or pre-emergence applications of **Optero** post-emergence or a **Optero** post-emergence 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 generally considered acceptable for commercial weed control.
- Applied according to directions and under normal growing conditions, **Optero** 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. **Optero** used under these conditions could result in crop injury.

### ROTATIONAL CROP RESTRICTIONS

When **Optero** is applied as directed on this label, follow the crop rotation intervals in the below Rotational Crop table. If **Optero** is tank mixed or used sequentially with other products, follow the most restrictive product's crop rotation interval.

#### Time Interval between Optero Application and Replanting or Planting of Rotational Crop

Rotational Crop	Rotational Interval (Months)
Corn (Field, Field seed, Field silage, and Yellow popcorn)	Anytime <sup>1</sup>
Wheat	4
Alfalfa <sup>3</sup> , Barley, Corn (Sweet), Millet (Pearl and Proso), Oats, Rice, Rye, Sorghum <sup>4</sup> , Soybean <sup>5, 6, 7</sup> , Sunflower <sup>5</sup>	10.5 <sup>4, 2</sup>
Cotton	12
All Other Rotational Crops	18

<sup>1</sup>In the High Plains and Intermountain areas of the West, where rainfall is sparse and erratic or where irrigation is required, use **Optero** only when corn or sorghum is to follow field corn, or a crop of untreated corn or sorghum is to precede other rotational crops.

<sup>2</sup>Do not make a second application of **Optero** if the original corn crop is lost.

<sup>3</sup>If **Optero** is applied after June 1st, rotating to crops other than corn or grain sorghum the next spring may result in crop injury.

<sup>4</sup>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.

<sup>5</sup>Idaho, Nevada, Oregon, Utah, and Washington: 12 months. All other states: 10.5 months.

<sup>6</sup>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.

<sup>7</sup>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. a.i. atrazine per acre in tank mixtures and/or sequentially with **Optero**.

<sup>8</sup>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 **Optero** and the total atrazine rate applied was more than 2.0 lbs. a.i. per acre, or equivalent band application rate, or soybean injury may occur.

## Rotation to Non-food Winter Cover Crops

Following harvest of corn treated with **Optero**, 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 **Optero**. This prohibition does not apply to winter wheat, which may be planted 4 months following the last application of **Optero**, or to non-grass animal feeds, which may be planted 9 months after the last application of **Optero**.

## COMPATIBILITY TEST

A compatibility test is recommended before tank mixing to ensure compatibility of **Optero** with carriers or other pesticides. The following test assumes a spray volume of 25 gals./A. For other spray volumes, make appropriate changes in the ingredients.

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.

### Compatibility Test Procedure

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

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

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

#### Materials Needed:

- **Optero** 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 **Optero** 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 **Optero** 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 should 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 ½ 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. Should 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 should not be used.

## APPLICATION INFORMATION

### CARRIERS

#### Liquids:

- **Pre-emergence Applications:** Either clean water or liquid fertilizers, excluding suspension fertilizers, may be used as liquid carriers for pre-plant or pre-emergence applications of **Optero**. If fluid fertilizers are used, a physical compatibility test must be done before combining in the spray tank. See the **Dry Bulk Fertilizer Impregnation** section for details of the compatibility testing procedure. Even if **Optero** is physically compatible with a fluid fertilizer, constant agitation is necessary to maintain a uniform mixture during application.
- **Post-Emergence Applications:** Use only clean water as the carrier when applying **Optero** after field corn emergence; do not make post-emergence applications using liquid fertilizer as the carrier or severe crop injury may occur. **Restriction:** Do not apply **Optero** to emerged yellow popcorn or severe crop injury may occur.

**Dry Bulk Fertilizer:** **Optero** may be impregnated on dry bulk fertilizer and applied as the fertilizer is spread. See the **Dry Bulk Fertilizer Impregnation** section for directions and restrictions including which fertilizers are compatible.

### ADDING OPTERO TO THE SPRAY TANK

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

**Optero Applied Alone:** When **Optero** is used alone, add the specified amount of **Optero** to the spray tank when the tank is half filled with carrier and then add the rest of the water or fluid fertilizer. Provide sufficient agitation during mixing and application to maintain a uniform mixture.

**Optero Applied in Tank Mixtures:** Refer to the sections of this label for recommended tank mixes. Always refer to labels of the tank mix partners for mixing directions and precautions. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions and precautionary language of the products in the mixture (for example, first aid from one product, spray drift management from another). Do not exceed label dosage rates nor combined maximum seasonal doses for acetochlor, mesotrione, or clopyralid. **Optero** 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 **COMPATIBILITY TEST** section 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 **Optero**.
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 recommended. Use of adjuvants with **Optero** applied prior to weed emergence is not necessary or recommended.

Where **Optero** is applied after field corn has emerged, a non-ionic surfactant (NIS) at 0.25% v/v (1 qt./100 gals.) may be used. A crop oil concentrate (COC) may also be used at a rate not to exceed 1.0% (1 gal./100 gals.) or not more than the equivalent of 1.0 qt. per acre. The use of crop oil concentrate (COC) may result in temporary crop injury.

**Restrictions:**

- Do not apply **Optero** 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 **Optero** when applied alone to emerged field corn or when **Optero** is applied as a post-emergence 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.

Any of the above adjuvants may be used at a pre-plant or pre-emergence 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 should be uniformly spaced, the same size and type, and provide accurate and uniform application. Use spray nozzles that provide medium to coarse droplet size to avoid spray drift yet provide good coverage. 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.

**PRE-PLANT OR PRE-EMERGENCE APPLICATION:** Apply in a spray volume of 10 - 80 gals. per acre.

**POST-EMERGENCE APPLICATION:** Good spray coverage of weeds is essential for optimum weed control. Boom height for broadcast over-the-top applications should 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 gals. per acre. When weed foliage is dense or corn approaches 11" in height, use a minimum spray volume of 15 gals. per acre. Use 80° or 110° flat fan nozzles for optimum post-emergence coverage. Nozzles may be angled forward 45° to enhance penetration of the crop and provide better coverage. Do not use flood-jet nozzles or controlled droplet application equipment for post-emergence applications.

## DRY BULK FERTILIZER

When applying **Optero** impregnated on dry bulk fertilizer, use a minimum of 200 pounds of dry bulk fertilizer per acre. See below for directions and restrictions.

**Dry Bulk Fertilizer Impregnation**

Impregnation of bulk fertilizer is restricted to commercial facilities. On-farm fertilizer impregnation is prohibited. No more than 500 tons of bulk fertilizer can be impregnated per day. No single facility may impregnate fertilizer with this product for more than 30 days per calendar year.

The commercial facility impregnating the dry bulk fertilizer must inform, in writing, the user (applicator) of the dry bulk fertilizer that: All individual State regulations relating to dry bulk fertilizer blending, registration, labeling and application are the responsibility of the individual and/or company selling the **Optero**.

Dry bulk fertilizers listed below may be impregnated with this product or the tank mixtures of this product on corn. This product and these tank mixtures must be applied with 200 to 450 pounds of dry bulk fertilizer per acre and shallowly incorporated within 14 days prior to planting. On medium- and fine-textured soils in areas where incorporation is not planned (i.e., reduced tillage situations or in some conventional tillage situations), applications can be made up to 30 days before planting to allow moisture to move the herbicide-fertilizer mixture into the soil. On coarse-textured soils, applications can be made up to 14 days prior to planting. When applying **Optero** alone or in tank mixes with dry bulk fertilizers, follow all directions for use and precautions on the respective tank mix product labels regarding rates, soil type, application methods and rotational restrictions. Refer to the table for broadcast rate per acre to determine the application rate per acre for the herbicide treatment to be applied.

## Approved Dry Fertilizer Ingredients for Use with Optero.

Fertilizer	N	P	K
Ammonium Phosphate-sulfate	16	20	0
Ammonium sulfate	21	0	0
Diammonium phosphate	18	46	0
Monoammonium phosphate	11	56	0
Potassium chloride	0	0	60
Potassium sulfate	0	0	052
Urea*	45	0	0

\*Some ureas may be phytotoxic when high rates are applied to corn. Use only urea rates known to be safe for corn application.

For impregnating the pesticides on dry fertilizers, use an appropriate mixer equipped with suitable spraying equipment. The spray nozzles should be positioned inside the mixer to provide uniform spray coverage of the tumbling fertilizer. The **Optero** should be sprayed uniformly onto the fertilizer using a fine spray pattern. Tank mix components may be applied as separate ingredients with powders and dry flowables added first or they may be mixed in a slurry in the proper ratio and added jointly. **Optero** may also be impregnated on the go and applied with pneumatic applicators.

The following table provides a reference to determine the amount of **Optero** to be mixed per ton of dry bulk fertilizer for a range of herbicide and fertilizer rates per acre.

### Optero Fertilizer Impregnation Rate Conversions

Fertilizer Rate (Lbs./Acre)	Acres Covered (per Ton)	Quarts of Optero per Ton of Fertilizer to Deliver:			
		2.25 Qts./Acre	2.50 Qts./Acre	2.75 Qts./Acre	3.00 Qts./Acre
200	10.0	22.5	25.0	27.5	30.0
250	8.0	18.0	20.0	22.0	24.0
300	6.7	15.1	16.8	18.4	20.1
350	5.7	12.8	14.3	15.7	17.1
400	5.0	11.3	12.5	13.8	15.0
450	4.5	10.1	11.3	12.4	13.5

To determine the amount of **Optero** needed for other fertilizer rates, use the following formula:

$$\frac{\text{Optero Rate (Quarts/Acre)}}{\text{Pounds of Fertilizer/Acre}} \times 2,000 = \text{Quarts of Optero per Ton of Fertilizer}$$

If the herbicide/fertilizer mixture is too wet, use of a drying agent is required to provide a dry, free-flowing mixture. For mixtures to be used in spinning-disc applicators, Micro-Cel E calcium silicate powder (Manville, Filtration & Minerals) is recommended for use as a drying agent. Mixtures to be used in pneumatic applicators should use Micro-Cel E or Agsorb 16/30 RVM-MS granular clay (Oil-Dri Corporation). The drying agents should be added separately and uniformly to the prepared pesticide/fertilizer mixture, in a quantity that is sufficient to provide a suitable free-flowing mixture. Generally, less than 2% Micro-Cel E or 5% Agsorb 16/30 RVM-MS by weight is required.

**Restrictions:**

- To avoid potential for explosion, do not impregnate **Optero** on ammonium sorbate nitrate, potassium nitrate, or sodium nitrate fertilizer or fertilizer blends.
- Do not impregnate on single (0-20-0) or triple (0-46-0) super phosphate.
- Do not impregnate on agricultural limestone because **Optero** will not be absorbed.

**CORN - USE DIRECTIONS**

**Optero** may be used for early pre-plant (EPP), pre-plant surface, pre-plant incorporated (PPI), or pre-emergence (PRE) application for control of many annual grasses and broadleaf weeds in field corn, field seed corn, field silage corn, and yellow popcorn. **Optero** may also be applied post-emergence 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; use tank mixtures or sequential applications of herbicides registered for post-emergence control of grass weeds in corn. Do not apply **Optero** to emerged yellow popcorn or severe crop injury may occur.

See **Weeds Controlled or Partially Controlled by Pre-Plant or Pre-Emergence Applications of Optero** table for a list of weeds controlled by **Optero**.

**TILLAGE SYSTEMS**

**Optero** 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. The registrant recommends that a burndown herbicide, such as paraquat, glyphosate, glufosinate, and/or 2,4-D be tank mixed with **Optero** 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 **Optero** is to be made must be known or determined prior to application. The use rate of **Optero** is determined by the soil texture grouping (coarse, medium, or fine; see table below) and percent organic matter content.

**Soil Texture Groupings for Optero Use Rate Selection**

Coarse	Medium	Fine
Sand	Loam	Silty clay loam
Loamy sand	Silt loam	Clay loam
Sandy loam	Silt	Sandy clay
	Sandy clay loam	Silty clay
		Clay

**OPTERO USE RATES**

**Optero** use rates based on soil texture and organic matter content are outlined in the table below.

**Restrictions:**

- Do not apply **Optero** more than 28 days prior to planting or to field corn taller than 11" in height.
- Do not use **Optero** on soils with greater than 10% organic matter or poor weed control may result.

## Optero Use Rates by Soil Texture and Organic Matter Content

Soil Texture	Rate Per Acre (Quarts)*	
	Soil Organic Matter Content	
Coarse	2.25	2.50
Medium	2.50	2.75
Fine	2.75	3.00

\*An additional 0.25 quart per acre may be used in areas of heavy weed infestation. Do not apply more than 3.25 qts. per acre of **Optero** per season.

### OPTERO APPLIED ALONE

#### Early Pre-Plant (EPP) or Pre-Plant Surface:

**Optero** may be applied up to 28 days prior to planting. The registrant recommends that a burndown herbicide, such as paraquat, glyphosate, glufosinate, and/or 2,4-D be tank mixed with **Optero** to control emerged weeds.

#### Pre-Plant Incorporated (PPI):

For PPI application, uniformly incorporate **Optero** into the upper 2" 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.

#### Restriction:

- Do not mix **Optero** deeper than 2" into the soil and avoid moving or shaping soil after incorporation.

#### Pre-Emergence (PRE) Surface:

**Optero** 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 **Optero** 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 should 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.

#### Post-Emergence:

**Optero** may be applied after field corn emergence. See the **Adjuvants** section of this label for adjuvant recommendations. Do not apply post-emergence 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" tall. Occasional field corn leaf burn may result, but this will not affect later corn growth or yield. Post-emergence applications to field corn must occur before the crop reaches 11" in height.

#### Restriction:

- Do not apply **Optero** to emerged yellow popcorn or severe crop injury may occur.

**Optero** 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:

**Optero** 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 **Optero** (for the soil type, from the **Optero Use Rates by Soil Texture and Organic Matter Content** table) prior to crop emergence, followed by a second **Optero** application at approximately half (50%) of the labeled rate, but a minimum of 1.25 qts. per acre, as a post application after corn emergence.

The total amount of **Optero** applied in the split application program cannot exceed the labeled rates by soil type listed in the **Optero Use Rates by Soil Texture and Organic Matter Content** table or 3.25 qts. per acre per season. Refer to the **Post-Emergence** section above for instructions on post-emergence applications.

## OPTERO TANK MIX COMBINATIONS

### Use of Spray Adjuvants with Tank Mixtures

When **Optero** is used as a pre-emergence herbicide, and before weeds have emerged, spray adjuvants have little or no effect on performance and are not recommended. In burndown situations, where weeds have emerged and the corn has not, an adjuvant(s) may be used with **Optero** 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, **Optero** tank mixtures with glyphosate, glufosinate, or paraquat can be used to burn down susceptible emerged weeds. For best results, such tank mixtures should be applied to emerged weeds that are less than 6" tall. Consult the glyphosate, glufosinate, or paraquat product labels for further information and restrictions on use rates, application timings, and weeds controlled.

### Pre-Plant and Pre-Emergence 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 by the same methods and at the same timings as **Optero** 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 in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions and precautionary language of the products in the mixture (for example, first aid from one product, spray drift management from another). 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.

### Post-Emergence 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 **Optero** 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 (such as nicosulfuron, rimsulfuron + thifensulfuron-methyl, and nicosulfuron + rimsulfuron) label directions and restrictions and perform a compatibility test prior to spraying the mixture.

Consult the **Adjuvants** section of this label for recommendations when applying crop emergence, the following tank mix partners may be applied by the same methods and at the same timings as **Optero** alone or in tank mixtures to emerged field corn.

It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions and precautionary language of the products in the mixture (for example, first aid from one product, spray drift management from another).

#### Restriction:

- Do not apply **Optero** tank mixtures to emerged yellow popcorn or severe crop injury may occur.

## OPTERO PROGRAMS FOR GLYPHOSATE TOLERANT CORN

### Optero Pre-Emergence Followed by Glyphosate Post-Emergence:

**Optero** may be applied pre-emergence at a rate as low as 1.8 qts. per acre as part of a two-pass weed control system when followed by a post-emergence application of a glyphosate product, such as Durango™ DMA, that is registered for use in glyphosate tolerant field corn. Use higher **Optero** rates, up to the maximum amounts listed by soil type in the use rate table, if there is a history of glyphosate-resistant weeds in the field. Atrazine may also be tank mixed with **Optero** to improve broadleaf and grass weed control. When used in this way, **Optero** will provide reduced competition from the weeds listed in the **Weeds Controlled or Partially Controlled** tables 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.

### Optero + Glyphosate Tank Mixture Applied Post-Emergence:

**Optero** may be applied post-emergence at a rate as low as 1.25 qts. per acre in a tank mixture with a solo glyphosate product that is registered for use in glyphosate tolerant field corn. To minimize weed competition effects on the crop, apply this mixture to 1" to 2" tall weeds and before the corn reaches 11" 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 gals. should 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.

#### Restriction:

- 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.

### OPTERO PROGRAMS FOR GLUFOSINATE TOLERANT CORN

**Optero** may be applied pre-emergence at rate as low as 1.8 qts. per acre as part of a two-pass weed control system when followed by a post-emergence application of a glufosinate product that is registered for use in glufosinate tolerant field corn. Use the higher listed **Optero** rates, up to the maximum amounts listed by soil type in use rate table, if there is a history of glufosinate-resistant weeds in the field. Atrazine may also be tank mixed with **Optero** to improve broadleaf and grass weed control. When used in this way, **Optero** will provide reduced competition from the weeds listed in the **Weeds Controlled or Partially Controlled** tables 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.

### OPTERO + GLUFOSINATE TANK MIXTURE APPLIED POST-EMERGENCE:

**Optero** may be applied post-emergence at a rate as low as 1.25 qts. per acre in tank mixture with a solo glufosinate product that is registered for use in glufosinate tolerant field corn. To minimize weed competition effects on the crop, apply this mixture to 1" to 2" weeds and before the corn reaches 11" in height. Ammonium sulfate (AMS) may be added at 8.5 lbs. per 100 gals. as a spray adjuvant as directed on the glufosinate product label but AMS should be the only adjuvant added to this tank mixture.

#### Restrictions:

- 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 **Optero** 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

**Optero** applied as directed in this label will control or suppress the weeds listed in the **Weeds Controlled or Partially Controlled** tables. Additional weeds may be controlled with tank mixtures. See the **Optero Tank Mix Combinations** section of this label for recommended 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 **Optero** with another product. **Optero** 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.

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.

### Weeds Controlled or Partially Controlled by Pre-Plant or Pre-Emergence Applications of Optero

BROADLEAVES			
Amaranth, Palmer	C*	Morningglory, Tall	C*
Amaranth, Powell	C	Mustard, Wild	C
Amaranth, Spiny	C	Nightshade, Black	C
Bedstraw, Catchweed	PC*	Nightshade, Eastern Black	C
Beggarweed, Florida	C	Nightshade, Hairy	C
Buckwheat, Wild	C*	Pigweed, Redroot	C
Buffalobur	C	Pigweed, Smooth	C
Carpetweed	C	Pigweed, Tumble	C
Chickweed, Common	C	Puncturevine	C*

**Weeds Controlled or Partially Controlled by Pre-Plant or Pre-Emergence Applications of Optero (cont.)**

<b>BROADLEAVES (cont.)</b>			
Clover, Red	C	Purslane, Common	C
Cocklebur, Common	C*	Pusley, Florida	C
Deadnettle, Purple	C	Radish, Wild	C
Devil's Claw	C	Ragweed, Common	C
Galinsoga	C	Ragweed, Giant	C*
Groundcherry, Annual	PC*	Sesbania, Hemp	C
Groundcherry, Cutleaf	PC*	Shepherd's Purse	C
Henbit	C	Sicklepod	C*
Horseweed (Marestail)	C	Sida, Prickly	PC*
Jimsonweed	C	Smartweed, Ladysthumb	C
Kochia	C*	Smartweed, Pennsylvania	C
Lambsquarters, Common	C	Sunflower, Common	C*
Mallow, Venice	C	Velvetleaf	C
Morningglory, Entireleaf	C*	Waterhemp, Common	C*
Morningglory, Ivyleaf	C*	Waterhemp, Tall	C*
Morningglory, Pitted	C*		
<b>GRASSES AND SEDGES</b>			
Barnyardgrass	C	Nutsedge, Yellow	C
Crabgrass Species	C	Oat, Wild	PC*
Crowfootgrass	C	Panicum, Browntop	C
Cupgrass, Prairie	C	Panicum, Fall	C
Cupgrass, Southwestern	C	Panicum, Texas	PC
Cupgrass, Woolly	PC	Rice, Red	C
Foxtail, Bristly	C	Sandbur, Field	PC
Foxtail, Giant	C	Shattercane	PC
Foxtail, Green	C	Signalgrass, Broadleaf	C*
Foxtail, Robust (Purple, White)	C	Signalgrass, Narrowleaf	C
Foxtail, Yellow	C	Sprangletop, Red	C
Goosegrass	C	Starbur, Bristly	C

### Weeds Controlled or Partially Controlled by Pre-Plant or Pre-Emergence Applications of Optero (cont.)

GRASSES AND SEDGES (cont.)			
Johnsongrass, Seedling	PC	Wheat, Volunteer	PC*
Millet, Foxtail	C	Witchgrass	C
Millet, Wild Proso	PC		
<b>C= Control</b> <b>PC = Partial Control</b> *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 recommended as soon as weeds emerge.

### Weeds Controlled or Partially Controlled by Post-Emergence Applications of Optero

BROADLEAVES			
Amaranth, Palmer	C*	Morningglory, Entireleaf	C*
Amaranth, Powell	C	Morningglory, Ivyleaf	C*
Amaranth, Spiny	C	Morningglory, Pitted	C*
Alfalfa, Volunteer (Seedling)	PC*	Morningglory, Tall	C*
AtripleX	C	Mustard, Wild	C
Beans, Volunteer	C*	Nightshade, Black	C
Bedstraw, Catchweed	PC*	Nightshade, Eastern Black	C
Beggarweed, Florida	C	Nightshade, Hairy	C
Buckwheat, Wild	C*	Peas, Volunteer	C*
Buffalobur	C	Pigweed, Redroot	C
Burcucumber	PC*	Pigweed, Smooth	C
Carpetweed	C	Pigweed, Tumble	C
Carrot, Wild	PC*	Pokeweed	C*
Chickweed, Common	C	Potatoes, Volunteer	C
Clover Species	C	Prickly Lettuce	PC
Cocklebur, Common	C	Purslane, Common	C
Dandelion, Common	PC*	Pusley, Florida	C
Deadnettle, Purple	C	Radish, Wild	C
Devil's-Claw	C	Ragweed, Common	C*
Dock, Curly	PC*	Ragweed, Giant	C*

### Weeds Controlled or Partially Controlled by Post-Emergence Applications of Optero (cont.)

BROADLEAVES (cont.)			
Galinsoga	C	Sesbania, Hemp	C
Groundcherry, Annual	C	Shepherd's Purse	C
Groundcherry, Cutleaf	C	Sicklepod	PC*
Hemp	C	Sida, Prickly	C*
Henbit	C	Smartweed, Ladysthumb	C*
Horsenettle	C*	Smartweed, Pennsylvania	C*
Horseweed (Marestail)	C*	Soybean, Volunteer	C
Jimsonweed	C	Sunflower, Common	C*
Knotweed, Prostrate	PC	Thistle, Canada	C*
Kochia	C*	Velvetleaf	C
Lambsquarters, Common	C	Waterhemp, Common	C*
Lentils, Volunteer	C*	Waterhemp, Tall	C*
Mallow, Venice	C*	Wormwood, Biennial	C*
GRASSES AND SEDGES			
Crabgrass, Large <sup>1</sup>	C*	Signalgrass, Broadleaf <sup>1</sup>	C*
Nutsedge, Yellow	PC*		
<b>C= Control</b> <b>PC = Partial Control</b> *The addition of atrazine at specified label rates may improve control. <sup>1</sup> Apply before the weed exceeds 2 inches in height.			

Optero will not provide consistent control of emerged grass weeds. For control of emerged grass weeds, a grass herbicide tank mixture may be required (see the **Optero 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.

## STORAGE AND DISPOSAL

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

### **PESTICIDE STORAGE:**

Keep container tightly closed when not in use. Do not store near seeds, fertilizers, or foodstuffs. Can be stored at temperatures as low as -10°F. Keep away from heat and flame.

### **PESTICIDE DISPOSAL:**

Open dumping is prohibited. Waste resulting from the use of this product must be disposed of on site or at an approved waste disposal facility. Rinse spray equipment. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of as described above, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

### **CONTAINER HANDLING: Less than 5 gallons:**

Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use and disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

### **Greater than 5 gallons:**

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 person refilling. To clean 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 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by State and local authorities.

**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 ¼ 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.

**DO NOT USE CONTAINERS FOR THE STORAGE OF FOOD, FEED, OR DRINKING WATER!**

## 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.

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

Rotam North America, Inc. 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. To the extent consistent with applicable law, this warranty does not extend to the use of the product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or Rotam North America, Inc. and Buyer and User assume the risk of any such use. **TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, ROTAM NORTH AMERICA, INC. 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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