

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460



OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

December 11, 2014

Jane M. Miller  
Agent to United Suppliers, Inc.  
United Suppliers, Inc.  
c/o Biologic, Inc.  
115 Obtuse Hill Road  
Brookfield, CT 06804

Subject: PRIA CSF & Label Amendment – Revise basic and alternate formulations,  
primary brand name, and minor label changes  
Product Name: Atrazine 4L  
EPA Registration Number: 33270-10  
Application Date: July 15, 2014  
Decision Number: 493474

Dear Ms. Miller:

The amended label and Confidential Statement of Formula (CSF) referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, are acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

Please note that the record for this product currently contains the following CSFs:

- Basic CSF dated 7/10/2014
- Alternate CSF #1 dated 7/10/2014
- Alternate CSF #2 dated 7/10/2014

Any CSFs other than those listed above are superseded/no longer valid.

The primary brand name for this product has been changed from “Sentry Atrazine 4L” to “**Atrazine 4L**” and updated in our records.

Copies of our reviews are enclosed for your records.

Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. If you have any questions, please contact Emily Schmid by phone at 703-347-0189, or via email at [schmid.emily@epa.gov](mailto:schmid.emily@epa.gov).

Sincerely,



Mindy Ondish  
Acting Product Manager 25  
Herbicide Branch  
Registration Division (7505P)  
Office of Pesticide Programs

Enclosure

**RESTRICTED USE PESTICIDE  
(GROUND AND SURFACE WATER CONCERNS)**  
FOR RETAIL SALE TO AND USE ONLY BY CERTIFIED APPLICATORS OR PERSONS UNDER THEIR DIRECT SUPERVISION,  
AND ONLY FOR THOSE USES COVERED BY THE CERTIFIED APPLICATOR'S CERTIFICATION. THIS PRODUCT IS A  
RESTRICTED-USE HERBICIDE DUE TO GROUND AND SURFACE WATER CONCERNS.  
USERS MUST READ AND FOLLOW ALL PRECAUTIONARY STATEMENTS AND INSTRUCTIONS FOR USE IN ORDER  
TO MINIMIZE POTENTIAL FOR ATRAZINE TO REACH GROUND AND SURFACE WATER.

GROUP	<b>5</b>	HERBICIDE
-------	----------	-----------

[COMPANY LOGO]

# ATRAZINE 4L

[HERBICIDE]

For season-long weed control in corn, sorghum, and certain other crops

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

Active Ingredient:

Atrazine: 2-chloro-4-ethylamino-6-isopropylamino-s-triazine .....	41.9%
Related Compounds .....	1.1%
Other Ingredients: .....	57.0%
Total:.....	100.0%

This product contains 4 lbs. active ingredients per gallon.  
Shake well before using.

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

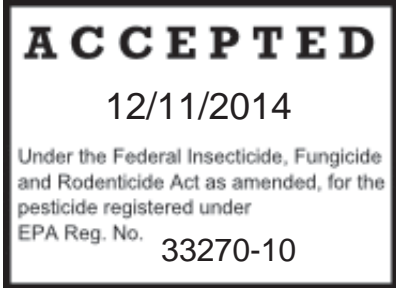
See additional precautionary statements and directions for use inside booklet.

EPA Reg. No. 33270-10

EPA Est. XXXXX-XX-XXX

MANUFACTURED FOR:  
**UNITED SUPPLIERS, INC.**  
30473 260<sup>TH</sup> STREET  
ELDORA, IA 50627

Net Contents:      gals.



<b>FIRST AID</b>	
<b>If swallowed</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>If in eyes</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice</li> </ul>
<b>If 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 inhaled</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li> <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.	
<b>Emergency Telephone Number:</b>	(800) 424-9300 CHEMTREC (transportation and spills) (800) 858-7378 NPIC (human and animal health)

---

## **PRECAUTIONARY STATEMENTS**

### **Hazards to Humans and Domestic Animals**

#### **CAUTION**

Harmful if swallowed. Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with eyes, skin, and clothing.

#### **Personal Protective Equipment (PPE)**

##### **Applicators using spray equipment mounted on their backs must wear:**

- Coveralls over long-sleeved shirt and long pants
- Chemical-resistant footwear plus socks
- Waterproof gloves

##### **Mixers, Loaders, all other Applicators, Flaggers, & other handlers must wear:**

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks
- Chemical-resistant apron when mixing/loading, cleaning up spills, cleaning equipment, or otherwise exposed to the concentrate

See Engineering Controls for additional requirements.

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.

#### **Engineering Control Statements**

Mixers and loaders supporting aerial applications at a **rate greater than 3 lbs. a.i./A** must use a closed system that meets the requirements for dermal protections listed in the Worker Protection Standard (WPS) for Agricultural Pesticides [40 CFR 170.240(d)(4)] and must:

- Wear the personal protective equipment required for mixers and loaders,
- Wear protective eyewear if the system operates under pressure,
- Be provided and have immediately available for use in an emergency, such as a spill or equipment breakdown: chemical-resistant footwear.

Pilots must use an enclosed cockpit in a manner that is consistent with the WPS for Agricultural Pesticides [40 CFR 170.240(d)(6)]. Pilots must wear the PPE required on this labeling for applicators, however, they need not wear chemical resistant gloves when using an enclosed cockpit.

Flaggers supporting aerial applications must use an enclosed cab that meets the definition on the Worker Protection Standard for Agricultural Pesticides [40 CFR 170.240(d)(5)] for dermal protection.

When applicators use 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.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

### **User Safety Recommendations**

#### **Users should:**

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

### **Environmental Hazards**

This pesticide is toxic to aquatic invertebrates. 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 apply when weather conditions favor drift from treated areas. Runoff and drift from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment wash water.

Atrazine can travel (seep or leach) through soil and can enter ground water which may be used as drinking water. Atrazine has been found in ground water. Users are advised not to apply atrazine to sand and loamy sand soils where the water table (ground water) is close to the surface and where these soils are very permeable, i.e., well-drained. Your local agricultural agencies can provide further information on the type of soil in your area and the location of groundwater.

This product must not be mixed or loaded within 50 feet of intermittent streams and rivers, natural or impounded lakes and reservoirs. This product may not be applied aerially or by ground within 66 feet of the points where field surface water runoff enters perennial or intermittent streams and rivers or with-in 200 feet around natural or impounded lakes and reservoirs. If this product is applied to highly erodible land, the 66 foot buffer or setback from runoff entry points must be planted to crop, seeded with grass or other suitable crop.

This product must not be mixed/loaded, or used within 50 feet of all wells, including abandoned wells, drainage wells, and sink holes. Operations that involve mixing, loading, rinsing, or washing of this product into or from pesticide handling or application equipment or containers within 50 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 wash water, and rain water that may fall on the pad. Surface water shall not be allowed to either flow over or from the pad, which means the pad must be self-contained. The pad shall be sloped to facilitate material removal. An unroofed pad shall be of sufficient capacity to contain at a minimum 110% of the capacity of the largest pesticide container or application equipment on the pad. A pad that is covered by a roof of sufficient size to completely exclude precipitation from contact with the pad shall have a minimum containment

capacity of 100% of the capacity of the largest pesticide container or application equipment on the pad. Containment capacities as described above shall be maintained at all times. The above-specified minimum containment capacities do not apply to vehicles when delivering pesticide shipments to the mixing/loading sites.

Additional State imposed requirements regarding well-head setbacks and operational area containment must be observed.

#### **Tile-Outletted Terraced Fields Containing Standpipes**

One of the following restrictions must be used in applying atrazine to tile-outletted terraced fields containing standpipes.

1. Do not apply this product within 66 feet of standpipes in tile-outletted terraced fields.
2. Apply this product to the entire tile-outletted terraced field and immediately incorporate it to a depth of 2-3 inches in the entire tile-outletted terraced field.
3. Apply this product to the entire tile-outletted terraced field under a no-till practice only when a high crop residue management practice is practiced. High crop residue management is described as a crop management practice where little or no crop residue is removed from the field during and after crop harvest.

---

#### **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 the product, which are beyond the control of United Suppliers, 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 United Suppliers, Inc. and Seller harmless for any claims relating to such factors.

United Suppliers, 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. 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 United Suppliers, and Buyer and User assume the risk of any such use. To the extent consistent with applicable law, UNITED SUPPLIERS MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

In no event shall United Suppliers or Seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. To the extent consistent with applicable law, **THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF UNITED SUPPLIERS AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF UNITED SUPPLIERS OR SELLER, THE REPLACEMENT OF THE PRODUCT.**



United Suppliers and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of United Suppliers.

---

## DIRECTIONS FOR USE

---

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

ANY USE OF THIS PRODUCT IN AN AREA WHERE USE IS PROHIBITED IS A VIOLATION OF FEDERAL LAW. Before using this product, you must consult the Atrazine Watershed Information Center (AWIC) to determine whether the use of this product is prohibited in your watershed. AWIC can be accessed through [www.atrazine-watershed.info](http://www.atrazine-watershed.info) or 1-866-365-3014. If use of this product is prohibited in your watershed, you may return this product to your point of purchase or contact United Suppliers, Inc. for a refund.

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

### AGRICULTURAL USE REQUIREMENTS

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

**Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 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
- Shoes plus socks
- Chemical-resistant gloves made of any waterproof material

### NON-AGRICULTURAL USE REQUIREMENTS

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

**Do not enter or allow others to enter until sprays have dried.**

**CHEMIGATION PROHIBITION:** Do not apply this product through any type of irrigation system.

---

### PRODUCT INFORMATION

---

This herbicide controls many annual broadleaf and grass weeds in corn, sorghum, sugarcane, and certain other crops specified on this label. This product may be applied before or after weeds emerge.

When tank-mixing or sequentially applying atrazine or products containing atrazine to corn or sorghum, the total pounds of atrazine applied (lbs a.i./A) must not exceed 2.5 pounds active ingredient per acre per year.

When tank mixing or sequentially applying atrazine or products containing atrazine to crops other than corn or sorghum, the total pounds of atrazine applied (lbs. a.i./A) must not exceed the specific seasonal rate limits as noted in the use directions.

Where the use directions give a range of rates, use the lower rate on coarse-textured soil and soil low in organic matter; use the higher rate on fine-textured soil and soil high in organic matter.

Since this product acts mainly through root absorption, its effectiveness depends on moisture to move it into the root zone. If weeds develop, a shallow cultivation or rotary hoeing will generally result in better weed control.

This product is noncorrosive to equipment and metal surfaces, nonflammable, and has low electrical conductivity.

Avoid using near adjacent desirable plants or in greenhouses, or injury may occur.

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

**Note:** Do not make applications in combination with other herbicides or oils, except as specifically described on the label.

#### **RESISTANCE MANAGEMENT**

This product is a **Group 5 Herbicide** (contains the active ingredient atrazine).

Following many years of continuous use of this product and chemically related products, biotypes of some of the weeds listed on this label have been reported which cannot be effectively controlled by this and related herbicides. Where this is known or suspected, and weeds controlled by this product are expected to be present along with resistant biotypes, we recommend the use of this product in combinations or in sequence with other registered herbicides which are not Group 5 (triazine) Herbicides. If only resistant biotypes are expected to be present, use a registered non-triazine herbicide. Consult with your state Agricultural Extension Service for specific recommendations.

---

#### **SPRAY DRIFT MANAGEMENT**

---

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

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

1. The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downward more than 45 degrees.

Where states have more stringent regulations, they must be observed.



The applicator must be familiar with and take into account the information covered in the “**Aerial Drift Reduction Advisory Information**” section below.

## **Aerial Drift Reduction Advisory Information**

### **Importance of Droplet Size**

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

### **Controlling Droplet Size**

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

### **Boom Length**

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

### **Application Height**

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

### **Swath Adjustment**

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

### **Wind**

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

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

### **Temperature and Humidity**

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

### **Temperature Inversions**

Applications must not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

### **Sensitive Areas**

The pesticide must 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, nontarget crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

---

## **MIXING PROCEDURES**

---

### **All Uses:**

1. Be sure sprayer is clean and not contaminated with any other materials, or crop injury or sprayer clogging may result.
2. Fill tank 1/4 full with clean water, nitrogen solution, or complete liquid fertilizer.;
3. Start agitation, making sure that the agitation system is working properly and creates a rippling or rolling action on the liquid surface.
4. Pour product directly from container into tank.
5. Continue filling tank with liquid spray carrier until 90% full. Increase agitation as tank fills if necessary to maintain efficient mixing of tank contents;
6. Add emulsifiable oil, oil concentrate, or other pesticides after this product is thoroughly suspended.
7. Finish filling tank.
8. When applying to the area to be treated, maintain agitation to avoid separation of tank contents.
9. Empty tank as completely as possible before refilling to prevent build up of oil or emulsifiable concentrate residue.
10. If an oil or emulsifiable concentrate film starts to build up in the tank, drain it and clean with strong detergent solution or solvent.
11. Clean sprayer thoroughly immediately after use by flushing system with water containing a detergent.

---

## **APPLICATION PROCEDURES**

---

**GROUND APPLICATION:** Use conventional ground sprayers equipped with nozzles that provide accurate and uniform application. Be certain that nozzles are uniformly spaced and are the same size.

Calibrate sprayer before use and recalibrate at the start of each season and when changing carriers. Unless otherwise specified, use a minimum of 10 gals. of spray mixture per acre for all preplant incorporated, preplant surface, preemergence, and postemergence applications (with or without oil or surfactant) with ground equipment.

Use a pump with capacity to:

1. Maintain 35-40 psi at nozzles.
2. Provide sufficient agitation in tank to keep mixture in suspension.
3. Provide a minimum of 20% bypass at all times. Use centrifugal pumps which provide

propeller shear action for dispersing and mixing this product. The pump must provide a minimum of 10 gals./minute/100 gal. tank size circulated through a correctly positioned sparger tube or jets.

Use screens to protect the pump and to prevent nozzles from clogging. Screens placed on the suction side of the pump must be 16-mesh or coarser. Do not place a screen in the recirculation line. Use 50-mesh or coarser screens between the pump and boom, and where required, at the nozzles. Check nozzle manufacturer's recommendations.

**For Band Applications, Calculate Amount to be Applied Per Acre as Follows:**

$$\begin{array}{rcccl} \text{Band width in inches} & & \text{broadcast} & & \text{amount} \\ & & \text{rate per} & = & \text{needed per} \\ \text{Row width in inches} & \times & \text{acre} & & \text{acre of field} \end{array}$$

**AERIAL APPLICATION:** Use aerial application only where broadcast applications are specified. Apply in a minimum of 2 pints of water for each pint of this product applied per acre. For postemergence treatments on corn and sorghum, apply specified rate in a minimum of 2 gals. of water per acre. Avoid applications under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur.

Avoid application to humans or animals. Flagmen and loaders must avoid inhalation of spray mist and prolonged contact with skin.

**APPLICATION IN WATER OR LIQUID FERTILIZER:** Nitrogen solution or complete liquid fertilizer may replace all or part of the water as a carrier for preemergence, preplant incorporated, or preplant surface ground application on corn and sorghum. Check the compatibility of this product with liquid fertilizer and/or nitrogen solution as shown in the "**Compatibility Test**" section before use. Do not apply in nitrogen solution or complete liquid fertilizer after corn or sorghum emerges, or crop injury may occur.

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

1. Add 1 pt. of liquid carrier (water, fertilizer suspension or solutions) to each of 2 one-qt. jars with tight lids.
2. To one of the jars, add 1/4 tsp. (1.2 milliliters) of a compatibility agent approved for this use, such as Compex® or Unite® (1/4 tsp. in one quart of compatibility test mixture is equivalent to 2 pts./100 gals. of spray mixture). Shake or stir gently to mix.
3. To both jars, add the appropriate amount of herbicide(s) intended to be tank mixed. If more than one type of formulation is to be used, first add dry product(s), then flowables or liquid suspension concentrates, next, and emulsifiable concentrates last. After each addition, shake or stir gently to thoroughly mix. The appropriate amount of each pesticide to be used for this test is as follows:
  - Dry products:** For each pound to be applied per acre, add 1.5 level teaspoons to each jar.
  - Liquid products:** For each pint to be applied per acre, add 0.5 teaspoon (2.5 milliliters) to each jar.
4. After adding all ingredients, put lids on and tighten, and invert each jar 10 times to mix. Let the mixtures stand 15 minutes and then look for separation, large flakes, precipitates, gels, heavy oily film on the jar, or other signs of incompatibility. Determine if the compatibility agent is needed in the spray mixture by comparing the 2 jars. If either mixture separates, but can be remixed readily, the mixture can be sprayed as long as

good agitation is used. If the mixtures are incompatible, test the following methods of improving compatibility: (A) slurry the dry herbicide(s) in water before addition, or (B) add 1/2 of the compatibility agent to the fertilizer and the other 1/2 to the emulsifiable concentrate or flowable herbicide before addition to the mixture. If incompatibility is still observed, do not use the mixture.

**Application in Water Plus Emulsifiable Oil or Oil Concentrate:** Adding emulsifiable oil (petroleum-derived, petroleum-derived oil concentrate, or single or mixed crop derived oil concentrate) to postemergence water-based sprays in corn and sorghum may improve weed control. However, under certain conditions, the use of either type of oil may seriously injure the crop. To minimize this possibility, use a suitable oil concentrate containing at least 1%, but not more than 20%, suitable emulsifier or surfactant blend, or use a petroleum-derived oil containing at least 1% suitable emulsifier.

**Note:** In the event of a compatibility problem when mixing oil with this product and water, use a compatibility agent, such as Compex® or Unite®. Any of the above oils contaminated with water or other materials can cause compatibility problems and/or crop injury.

---

## WEEDS CONTROLLED

---

### THIS PRODUCT APPLIED ALONE - CORN OR GRAIN SORGHUM\*

**Preplant Surface-Applied, Preplant Incorporated, or Preemergence (or Postemergence at 4 pts./A of This Product With Oil)**

**Broadleaf and Grass Weeds Controlled**

barnyardgrass (watergrass)***	witchgrass	kochia	pigweed
giant foxtail**	( <i>Panicum capillare</i> )***	annual	purslane
green foxtail***	lambsquarters	morningglory	ragweed
large (hairy) crabgrass**	cocklebur**	mustards	sicklepod**
wild oats	groundcherry	yellow foxtail***	velvetleaf
	jimsonweed	nightshade	(buttonweed)***

**Postemergence with Emulsifiable Oil or Oil Concentrate in Water (2.4 pts./A of This Product)**

**Broadleaf Weeds Controlled**

annual morningglory	pigweed
cocklebur	ragweed
jimsonweed	smartweed
lambsquarters	wild buckwheat
mustards	velvetleaf**

\* Where there are state/local requirements regarding atrazine use (including lower maximum rates and/or greater setbacks) which are different from the label, the more restrictive/protective requirements must be followed. Certain states may have established rate limitations within specific geographical areas. Consult your state lead pesticide control agency for additional information. It is a violation of this label to deviate from state use regulations.

\*\* Partial control only.

\*\*\* Partial control only on medium- and fine-textured soils.

## ROTATIONAL CROPS

**All Uses:**

1. Do not rotate to any crop except corn or sorghum until the following year, or injury may occur.

2. If applied after June 10, do not rotate with crops other than corn or sorghum the next year, or crop injury may occur.
3. In the High Plains and Intermountain areas of the West where rainfall is sparse and erratic or where irrigation is required, use only when corn or sorghum is to follow corn or sorghum or when a crop of untreated corn or sorghum is to precede other rotational crops.
4. In eastern parts of the Dakotas, KS, western MN, and NE, do not rotate to soybeans if the rate applied to corn or sorghum was more than 4 pts./A of this product or equivalent band application rate, or soybean injury may occur.
5. Injury may occur to soybeans planted the year following application on soils having a calcareous surface layer.
6. Do not plant sugar beets, tobacco, vegetables (including dry beans), spring-seeded small grains, or small-seeded legumes and grasses the year following application, or injury may occur.

---

## CROP APPLICATION INSTRUCTIONS

---

### CORN

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

**Broadleaf and grass control:** Use on medium-and fine-textured soil with minimum-tillage or no-tillage systems only in CO, IA, IL, IN, KS, KY, MN, MO, MT, ND, NE, SD, WI, and WY. Apply the specified rate of this product shown in “**TABLE 1**” up to 45 days prior to planting. On coarse-textured soils, do not apply more than 2 weeks prior to planting. If an unsatisfactory length of weed control results from adverse environmental conditions following early treatment, a follow-up application of an appropriately labeled herbicide may be used. If the follow-up treatment includes atrazine, do not exceed the labeled rate for corn indicated in “**TABLE 1**”.

If weeds are present at the time of treatment, apply in tank mix combination with a contact herbicide (for example, paraquat or glyphosate). Observe directions for use, precautions, and restrictions on the label of the contact herbicide.

**Note:** To the extent possible, do not move treated soil out of the row or move untreated soil to the surface during planting, or weed control will be diminished.

#### **Preplant Incorporated**

**Broadleaf and grass control:** Broadcast in spring after plowing at rate in “**TABLE 1**”. Apply to the soil and incorporate before, during, or after final seedbed preparation. Avoid deep incorporation. For best results, apply within 2 weeks prior to planting.

#### **Preemergence or At-Planting**

**Broadleaf and grass control:** Apply during or shortly after planting before weed emergence, at rate in “**TABLE 1**”.

#### **Postemergence**

**Broadleaf and grass control:** Apply before weeds exceed 1.5 inches in height and before corn exceeds 12 inches in height at rate in “**TABLE 1**”.

<b>TABLE 1</b>
<b>BROADLEAF AND GRASS WEED CONTROL ON CORN*</b>
<b>FOR ALL SOIL APPLICATIONS PRIOR TO CROP EMERGENCE</b>
<p><b>On Highly Erodible Soils**</b>            If conservation tillage is practiced, leaving at least 30% of the soil covered with plant residues at planting, apply a maximum of 4 pts./A of this product (2.0 lbs. a.i./A) as a single broadcast spray. If the soil coverage with plant residue is less than 30% at planting, a maximum of 3.2 pts./A of this product (1.6 lbs. a.i./A) may be applied.</p> <p><b>On Soils Not Highly Erodible**</b>            Apply 4 pts./A of this product (2.0 lbs. a.i./A) as a single preemergence broadcast spray.</p>
<b>FOR POSTEMERGENCE APPLICATION</b>
<p>If no atrazine was applied prior to corn emergence, apply a maximum of 4 pts./A of this product (2.0 lbs. a.i./A) broadcast. If a postemergence treatment is required following an earlier herbicide application, the total atrazine applied may not exceed 5 pts./A of this product (2.5 lbs. a.i./A) per calendar year.</p> <p><b>*Broadleaf control (eastern CO, western KS, western NE, NM, OK Panhandle, West TX, and eastern WY):</b> On sand, loamy sand, sandy loam, mild to strongly alkaline soil, and all recently leveled soil, apply no more than 2.4 pts./A of this product, either preplant surface, preplant incorporated, or preemergence. On other soils in these areas, apply rate in "TABLE 1" for broadleaf and grass control.</p>
<p>** As defined by the Natural Resources Conservation Service</p>

**Note:** Where there are state/local requirements regarding atrazine use (including lower maximum rates and/or greater setbacks) which are different from the label, the more restrictive/protective requirements must be followed. Certain states may have established rate limitations within specific geographical areas. Consult your state lead pesticide control agency for additional information. It is a violation of this label to deviate from state use regulations.

**Postemergence**

**With emulsifiable oil or oil concentrate in water:** Add the following volume of one of the type oils indicated for aerial or ground application, unless the oil label specifies otherwise:

<b>Type Oil</b>	<b>Ground Application</b>	<b>Aerial Application</b>
Oil Concentrate (Crop or Petroleum derived)	2 pts./A	1 -2 pts./A
Petroleum derived oil	1 gal./A	4 pts./A

**Note:** Crop-derived or petroleum-derived oil concentrates should contain at least 1%, but not more than 20%, suitable emulsifier or surfactant blend. Petroleum-derived oils should contain at least 1% suitable emulsifier.

**Broadleaf and grass control:** For postemergence control of those weeds listed under **Preplant Incorporated and Preemergence**, broadcast 4 pts./A of this product plus emulsifiable oil or oil concentrate after weed emergence, but before weeds reach 1.5 inches in height and before corn exceeds 12 inches in height.

**Broadleaf control:** For postemergence control of those weeds listed under **Postemergence with emulsifiable oil or oil concentrate in water**, broadcast 2.4 pts./A of this product plus emulsifiable oil or oil concentrate before pigweed and lambsquarters reach 6 inches in height and before all other weeds reach 4 inches in height. A cultivation may be necessary if all weeds are not controlled or if weeds regrow.

**Use Precautions for Applications with Emulsifiable Oil or Oil Concentrate in Water to Corn:**

1. Inbred lines or any breeding stock may be severely injured by applications with



emulsifiable oil or oil concentrate.

2. Adding other insecticides, herbicides, liquid fertilizers, or other materials is not recommended, because they may cause compatibility problems or crop injury.
3. Store and handle emulsifiable oil and oil concentrate carefully. Oil contaminated with even a small amount of water may not emulsify properly when added to the tank. To avoid crop injury,

**Use Restrictions for Applications with Emulsifiable Oil or Oil Concentrate in Water to Corn:**

1. Do not apply when crop is under stress from prolonged cold, wet weather, poor fertility, or other factors, or when crop is wet and succulent from recent rainfall.
2. Do not apply more than 5 pts./A of this product (2.5 lbs. a.i./A) per calendar year.
3. Postemergence applications to corn must be made before corn exceeds 12 inches in height.

**TANK MIXTURES FOR CORN**

This product may be tank mixed with these herbicides for control of certain broadleaf and grass weeds in corn:

Alachlor	Metolachlor + Simazine
Alachlor + Glyphosate	Metolachlor + Simazine + Glyphosate
Alachlor + Paraquat	Metolachlor + Simazine + Paraquat
Butylate 6.7E	Propachlor
Glyphosate	Paraquat
Metolachlor*	Propachlor
Metolachlor + Glyphosate	Simazine
Metolachlor + Paraquat	Simazine + Glyphosate
	Simazine + Paraquat

\* Includes metolachlor and s-metolachlor

Use tank mix directions appearing on the labels of the above herbicides when tank mixing with this product. Observe all precautions and limitations on labeling of products used in a particular tank mix.

When tank mixing or sequentially applying atrazine or products containing atrazine to corn, do not exceed an application rate of 2 lbs. atrazine active ingredient per acre for any single application, and the total pounds of atrazine applied must not exceed 2.5 lbs./A per year. When tank-mixing or sequentially applying atrazine or products containing atrazine to crops other than Corn or Sorghum, the total pounds of atrazine (lbs. a.i./A) must not exceed seasonal rate limits as noted in the use directions. The total pounds of simazine and/or atrazine applied must not exceed 2.5 lbs a.i./A per calendar year.

**Note:** When the labels of the above herbicides refer to atrazine 90, use equivalent rates of this product. One pound of Atrazine 90 DF equals 1.8 pts. of this product.

**This Product Plus Simazine 4L or 90 DF**

In addition to the weeds listed under “**This product Applied Alone - Corn or Grain Sorghum - Preplant Surface-Applied, Preplant Incorporated, or Preemergence**”, this combination also controls crabgrass, fall panicum, and carpetweed.

Broadcast tank mix before planting, at planting, or after planting, but before crop and weeds emerge. Cultivate shallowly if weeds develop.

**Preplant Surface-Applied:** Use on medium and fine-textured soils with minimum-tillage or no-tillage systems only in CO, IA, IL, IN, KS, KY, MN, MO, MT, ND, NE, SD, WI, and WY. Apply the specified rate of this product and Princep up to 45 days prior to planting. Refer to the

**“This Product Alone”** section for information if weeds should develop following the early treatment. On coarse-textured soils, do not apply more than 2 weeks prior to planting. Refer to the **“This Product Applied Alone - Preplant Surface-Applied”** section of the corn label for additional details.

If weeds are present at time of treatment, apply in a tank mix combination with a contact herbicide (for example, paraquat or glyphosate). Observe directions for use, precautions, and restrictions on the label of the contact herbicide.

**Note:** To the extent possible, do not move treated soil out of the row or move untreated soil to the surface during planting, or weed control will be diminished.

**Preplant Incorporated:** Apply to the soil and incorporate in the spring before, during, or after final seedbed preparation. Avoid deep incorporation. For best results, apply within 2 weeks prior to planting.

**Preemergence:** Apply during or shortly after planting, but before crop and weeds emerge.

Refer to **Corn** sections of this label and to simazine labels for further directions, limitations, and precautions.

TABLE 2				
TANK MIXTURES WITH SIMAZINE 4L OR 90DF ON CORN				
Soil Texture	Broadcast Rate/Acre			
	1:1 Ratio*		1:2 Ratio**	
	This Product	Simazine 4L or 90 DF	This Product	Simazine 4L or 90 DF
Sand, loamy sand, sandy loam	2 pts.	2 pts. of 4L or 1.1 lbs. of 90 DF	1.32 pts.	2.6 pts. of 4L or 1.46 lbs. of 90 DF
Loam, silt loam, silty clay loam, sandy clay loam, silty clay loam, sandy clay, or silty clay with low organic matter	2.4 pts.	2.4 pts. of 4L or 1.3 lbs. of 90 DF	1.6 pts.	3.2 pts. of 4L or 1.76 lbs. of 90 DF
Loam, silt loam, silty clay loam, sandy clay loam, silty clay loam, sandy clay, or silty clay with medium to high organic matter, and clay (including dark prairie soils of the corn belt)	3 pts.	3 pts. of 4L or 1.6 lbs. of 90 DF	1.92 pts.	3.8 pts. of 4L or 2.14 lbs. of 90 DF
* For control of most weeds.				
** For control of expected heavy infestations of crabgrass and fall panicum.				

**This Product Plus Simazine 4L or 90 DF plus Glyphosate:** Use as tank mixture for preemergence and postemergence control of certain broadleaf and grass weeds where corn will be planted directly into a cover crop, established sod, or in previous crop residues. Refer to glyphosate label for all directions, weeds controlled, precautions, and limitations.

**This Product Plus Simazine 4L or 90 DF plus Paraquat:** Use as tank mixture to kill existing vegetation and for residual weed control where corn will be planted directly into a cover crop, established sod, or in previous crop residues. Add this product and simazine to water in spray tank, agitating until thoroughly mixed. Then add paraquat and a nonionic surfactant, such as X-77®. Continue agitation during application. Broadcast 2 pts. - 4 pts. of this product plus 2 – 4 pts. of Simazine 4L (or 1.1 to 2.2 lbs. of Simazine 90 DF plus 0.5 – 0.8 paraquat cation a.i. in 20-60 gals. of water per sprayed acre. Refer to the paraquat label for the appropriate rates to utilize in this tank mixture. Apply before, during, or after planting, but before corn emerges. Add 0.5 pt. of a nonionic surfactant, such as X-77® per 100 gals. of spray mixture. Use the higher

rate of paraquat if existing vegetation is 4-6 inches tall. This mixture will not control weeds taller than 6 inches.

Refer to further limitations and precautions on labels for this product, simazine and paraquat products. Follow the most restrictive appropriate restrictions, precautions, or use directions on the most restrictive label.

#### **Use Precautions for All Applications to Corn:**

1. Following harvest, plow (moldboard or disk-plow) and thoroughly till soil in fall or spring to minimize possible injury to spring-seeded rotational crops, regardless of rate used.
2. For best control of velvetleaf and cocklebur, the application rate cannot be less than 2 lbs./A active ingredient, either alone or in tank mix combinations.

#### **Use Restrictions for All Applications to Corn:**

1. To avoid crop injury and illegal residues, do not apply more than 5 pts./A of this product (2.5 lbs. a.i./A) per calendar year, with a maximum single application rate of 4 pts./A of this product (2.0 lbs. a.i./A) and 3.2 pts./A of this product (1.6 lbs. a.i./A) on highly erodible soils with <30% soil cover with plant residues.
3. When tank mixing or sequentially applying atrazine or products containing atrazine to Corn, do not exceed an application rate of 2 lbs. a.i./A for any single application, and the total pounds of atrazine applied must not exceed 2.5 lbs. a.i./A per year.
4. When tank mixing or sequentially applying atrazine or products containing atrazine crops other than corn or sorghum, the total pounds of atrazine (lbs. a.i./A) must not exceed the specific seasonal rate limits as noted in the use directions.
5. Pre-harvest Interval (PHI): Do not graze or feed forage from treated areas for 60 days for field corn, and 45 days for sweet corn following application, or illegal residues may result.
6. Postemergence applications to corn and sorghum must be made before crop reaches 12 inches in height."

### **SORGHUM AND SORGHUM-SUDAN HYBRIDS (GRAIN AND FORAGE TYPES)**

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

**Broadleaf and grass control:** Use on medium- and fine-textured soil with minimum-tillage or no-tillage systems only in CO, IA, IL, IN, KS, KY, MN, MO, MT, ND, NE, SD, WI, and WY. Apply the specified rate of this product shown in "TABLE 3" up to 45 days prior to planting. If an unsatisfactory length of weed control results from adverse environmental conditions following early treatment, a follow-up application of an appropriately labeled herbicide may be used. If the follow-up treatment includes atrazine, do not exceed the labeled rate for corn indicated in "TABLE 1".

Under dry conditions, irrigation after application is recommended to move this product into the soil. If weeds are present at time of treatment, apply in a tank mix combination with a contact herbicide (for example, paraquat and glyphosate). Observe directions for use, precautions, and restrictions on the label of the contact herbicide.

**Note:** To the extent possible, do not move treated soil out of the row or move untreated soil to the surface during planting, or weed control will be diminished.

#### **Preplant Incorporated**

**Broadleaf and grass control:** Broadcast in spring after plowing at rate shown in "TABLE 3". Apply before, during, or after final seedbed preparation. If soil is tilled or worked after application, avoid deep incorporation. For best results, apply within 2 weeks prior to planting.

**Preemergence or At-Planting**

**Broadleaf and grass control:** Apply during or shortly after planting, but prior to weed or crop emergence at rate shown in “TABLE 3”.

**Postemergence**

**Broadleaf and grass control:** Apply at rate shown in “TABLE 3” before weeds exceed 1.5 inches in height and before sorghum exceeds 12 inches in height.

<b>TABLE 3</b>
<b>BROADLEAF AND GREASS WEED CONTROL ON SORGHUM*</b>
<b>PRE-PLANT SURFACE, PRE-PLANT INCORPORATED AND PRE-EMERGENCE APPLICATIONS FOR ALL SOIL APPLICATIONS PRIOR TO CROP EMERGENCE</b>
<b>On Highly Erodible Soils**</b> If conservation tillage is practiced, leaving at least 30% of the soil covered with plant residues at planting, apply a maximum of 4 pts./A of this product (2.0 lbs. a.i./A) as a single broadcast spray. If the soil coverage with plant residue is less than 30% at planting, a maximum of 3.2 pts./A of this product (1.6 lbs. a.i./A) may be applied.
<b>On Soils Not Highly Erodible**</b> Apply 4 pts./A of this product (2.0 lbs. a.i./A) as a as a single preemergence broadcast spray.
<b>FOR POSTEMERGENCE APPLICATION</b>
If no atrazine was applied prior to sorghum emergence, apply a maximum of 4 pts./A of this product (2.0 lbs a.i./A) broadcast. If a postemergence treatment is required following an earlier herbicide application, the total atrazine applied may not exceed 5 pts./A of this product (2.5 lbs. a.i./A) per calendar year.
Do not apply preplant surface or preplant incorporated in AL, AR, FL, GA, LA, MS, NC, NM, OK, SC, TN, or TX. Do not apply preemergence in NM, OK, or TX, except in northeast OK and the TX Gulf Coast and Blacklands areas.
** As defined by the Natural Resources Conservation Service

**Note:** Where there are state/local requirements regarding atrazine use (including lower maximum rates and/or greater setbacks) which are different from the label, the more restrictive/protective requirements must be followed. Certain states may have established rate limitations within specific geographical areas. Consult your state lead pesticide control agency for additional information. It is a violation of this label to deviate from state use regulations.

In case of planting failure, sorghum or corn may be replanted. Do not make a second broadcast application, or injury may occur. If originally applied in a band and sorghum or corn is replanted in untreated row middles, this product may be applied in a band to the second planting, provided the maximum application rate of 5 pts./A of this product (2.5 lbs. a.i./A) per calendar year is not exceeded.

**Preemergence**

**Broadleaf Weed Control in Furrow-irrigated Bedded Sorghum (AZ and CA only):** For preemergence control of many broadleaf weeds, broadcast 1.6-2.4 pts./A of this product after bed preparation, during or after planting, but before sorghum and weeds emerge and before the first furrow irrigation. Follow with several regular irrigations, making sure to thoroughly wet all soil.

**Use Precautions for Preemergence Application to Furrow-Irrigated Bedded Sorghum in AZ and CA:**

1. To avoid possible sorghum injury, do not use on sand or loamy sand soil or on sorghum planted in furrows.

**Use Restrictions for Preemergence Application to Furrow-Irrigated Bedded Sorghum in AZ and CA:**

1. Applications to sorghum growing on alkali soils or where cuts, fills, or erosion have exposed calcareous or alkali subsoils may cause crop injury. In case of crop failure, do not replant sorghum for 8 months following application. Corn may be planted immediately.

## Postemergence

**Broadleaf and grass control:** Apply before weeds exceed 1.5 inches in height at the rate indicated in “Table 4”. Application must be made to Sorghum before reaching 12 inches in height.

TABLE 4		
POSTEMERGENCE BROADLEAF AND GRASS WEED CONTROL IN SORGHUM		
Soil Texture	Minimum Height of Sorghum at Treatment	Broadcast Rate per Acre of This Product*
Sand or Loamy sand	DO NOT USE	
Sandy loam	See directions for Broadleaf and Weed control below	
Silt loam to Sandy clay loam	Completely emerged	4 pts.
Olton and Pullman clay soils	At least 6 inches high	4 pts
Silty clay loams and heavier soils	Completely emerged	4 pts.

\* For post-emergence applications, if there has been no previous application to the crop, the maximum rate is 4 pts./A of this product per acre. If there has been a previous soil application to the crop, do not exceed a total of 5 pts./A of this product per acre per calendar year.

## Postemergence

**Broadleaf Weed Control with Emulsifiable Oil or Oil Concentrate in Water:** Broadcast 2.4 pts./A of this product for control of many broadleaf weeds. Apply before pigweed and lambsquarters reach 6 inches in height and before all other weeds reach 4 inches in height. In CO, western KS, NM, OK, TX, and desert regions of AZ and CA, apply when sorghum is 6-12 inches in height, but before it reaches boot stage. In all other areas, apply after sorghum reaches the 3-leaf stage, but before it exceeds 12 inches in height. Add 1 gal. of emulsifiable oil per acre for ground application and 0.5 gal./A for aerial application, or add 2 pts./A of oil concentrate for ground application. A cultivation may be necessary if all weeds are not controlled or if weeds regrow.

For the list of weeds controlled, see “**This Product Applied Alone — Corn or Grain Sorghum — Postemergence with Emulsifiable Oil or Oil Concentrate in Water**”.

**Use Precautions and Restrictions for applications with emulsifiable oil or oil concentrate in water:** See “**Precautions for applications with emulsifiable oil or oil concentrate in water**” in Corn section.

## Postemergence

**Broadleaf Weed Control With Surfactant (CO, Western KS, NM, OK, TX, and Desert Regions of AZ and CA Only):** Broadcast 2.4 pts./A of this product plus 0.75-1.5 pts. of surfactant after sorghum reaches 6 inches in height, but before weeds exceed 1.5 inches in height. Apply only on sandy loam and fine-textured soil.

### Use Precautions for All Applications to Sorghum:

1. Application to sorghum growing under stress caused by minor element deficiency or to sorghum growing on highly calcareous soil may result in crop injury.
2. Following harvest, plow (moldboard or disk-plow) and thoroughly till soil in fall or spring to minimize possible injury to spring-seeded rotational crops, regardless of rate used.
3. Injury may occur if both this herbicide, pre plant surface, preplant incorporated, or preemergence, and an at-planting systemic insecticide applied in-furrow are used.

### Use Restrictions for All Applications to Sorghum:

1. The maximum application rate for sorghum is 5 pts./A of this product (2.5 lbs. a.i./A) per calendar year, with a maximum single application rate of 4 pts./A of this product (2.0 lbs. a.i./A) and 3.2 pts./A of this product (1.6 lbs. a.i./A) on highly erodible soils with <30% soil cover with plant residues.
2. When tank mixing or sequentially applying atrazine or products containing atrazine to sorghum, do not exceed an application rate of 2 lbs. a.i./A for any single application, and the

- total pounds of atrazine applied must not exceed 2.5 lbs. a.i./A per year.
- When tank mixing or sequentially applying atrazine or products containing atrazine crops other than corn or sorghum, the total pounds of atrazine (lbs. a.i./A) must not exceed the specific seasonal rate limits as noted in the use directions.
  - Pre-harvest Interval (PHI): Do not harvest for forage within 60 days for pre-emergence application and 45 days for post-emergence application.
  - For all soil applications prior to crop emergence, (except for preemergence use on bedded sorghum in AZ and CA), do not apply to coarse-textured soils, i.e., sand, loamy sand, sandy loam, or to medium- and fine-textured soils having less than 1% organic matter, or injury may occur.
  - For postemergence applications, do not apply to sand or loamy sand, or injury may occur.
  - Heavy rain immediately following application tends to cause excessive concentrations of herbicide in seed furrow, resulting in possible crop injury. Do not apply to furrow-planted sorghum until furrows are leveled (plowed in). Level deep planter marks or seed furrows before application.

**TANK MIXTURES FOR GRAIN SORGHUM**

**This Product Plus Metolachlor:** Use as tank mixture with metolachlor for control of those weeds listed on the metolachlor label, as well as on this label. Use this tank mixture only on sorghum seed treated with Concep®. Refer to the metolachlor label for all directions, precautions, and limitations.

TABLE 5		
THIS PRODUCT + METOLACHLOR – GRAIN SORGHUM*		
Soil Texture	Broadcast Rates per Acre	
	Less than 1.5% Organic Matter This Product** + Metolachlor	1.5% Organic Matter or Greater This product+ Metolachlor
Coarse: Sand, Loamy sand, Sandy loam	DO NOT USE	DO NOT USE
Medium: Loam silt, Silt loam	DO NOT USE	2.35 pts. + 1.5 pts.
Fine: Silty clay loam, Sandy clay loam, Silky clay, Sandy clay, Clay loam, Clay	2.35 pts. + 1.5 pts.	2.9 to 3.25 pts. + 1.75 to 2 pts.
* Do not use in NM, OK or TX except in Northeast OK and TX Gulf Coast Area. Do not apply pre-plant in AZ or the Imperial Valley of CA.		
** On highly erodible soils, as defined by the National Resource Conservation Service, conservation tillage is utilized (>30% plant residue), the maximum rate is 4 pts. per acre. If plant residue is <30%, the maximum rate is 3.2 pts. per acre. On soils not highly erodible, the maximum rate is 4 pts. per acre.		

**Use Precautions:**

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

**Use Restrictions:**

- Do not use this product + metolachlor on sorghum grown under dry mulch tillage or injury may occur.

**Rotational Crops:** Refer to the crop rotation instructions on the metolachlor label for metolachlor + atrazine tank mixtures on Corn.



## WINTER WEED CONTROL IN TEXAS

For postemergence control of winter weeds only, such as henbit, seedling dock, and annual thistle on fall bedded land in the Gulf Coast and Blacklands of Texas. Apply 1.6 – 2 pts./A of this product postemergence to the weeds in November or December to land that will be planted to corn, grain sorghum, or forage sorghum the following spring. For best results, add a suitable surfactant, such as X-77® at the rate of 0.5% of the spray volume, an emulsifiable oil at the rate of 1.0% of the spray volume, or an oil concentrate at the rate of 2 pts./A.

Normal weed control programs may be used in the following corn, grain sorghum, or forage sorghum crop.

### Use Restrictions:

1. Do not plant any crops, except corn, grain sorghum, or forage sorghum, the spring following this treatment, or illegal residues may result.

## CHEMICAL FALLOW - THIS PRODUCT ALONE

**Wheat-Sorghum-Fallow:** To control annual broadleaf and grass weeds following wheat harvest and in the following sorghum crop when grown under minimum tillage, broadcast up to 4.5 pts./A of this product to wheat stubble after harvest and before weed emergence (see “**TANK MIXTURES FOR CHEMICAL FALLOW**” in the following section). Wheat-sorghum-fallow cropping sequence must be followed .

Use the higher rate on fine textured soils and where heavy weed infestations are expected. Use the lower rate on coarse textured soils where light weed infestations are expected. Do not apply more than 4 pts./A of this product (2 lbs. a.i./A) for any application.

If weeds are present at application, remove them with a sweep plow or other suitable implement after application, or use an approved contact herbicide before or after the application of This product. Plant sorghum into wheat stubble the following spring with minimum soil disturbance. Use a surface planter or a planter leaving a shallow furrow. If weeds are present at planting, remove them with a sweep plow or other suitable implement before planting.

For the list of weeds controlled, see “**This Product Applied Alone — Corn or Grain Sorghum — Preplant Surface-Applied, Preplant Incorporated or Preemergence**”.

**Wheat-Corn-Fallow (CO, KS, ND, NE, SD, and WY):** This product controls cheatgrass (downy brome, chess), kochia, mustards, pigweed, Russian thistle, wild lettuce, wild sunflower, and volunteer wheat during period after wheat harvest. Weed control may extend into following corn crop grown under minimum tillage.

Use the higher rate on fine textured soils and where heavy weed infestations are expected. Use the lower rate on coarse textured soils where light weed infestations are expected. Do not apply more than 4 pts./A of this product (2 lbs. a.i./A) for any application. In the event grasses are present the following spring, use a grass herbicide registered for use on corn.

Follow directions for use, notes, and precautions in the “**Wheat-Sorghum-Fallow**” section above, substituting Corn for references to Sorghum.

**Wheat-Fallow-Wheat (GO, KS, ND, NE, SD, and WY):** For preemergence control of cheatgrass (downy brome, chess), common lambsquarters, field pennycress, kochia, mustard, Russian thistle, wild lettuce, and suppression of volunteer wheat during fallow period of a wheat-fallow-wheat rotation, broadcast 1-2 pts./A of this product only on those soils listed in the “Precautions” section of “**This Product Alone - Chemical Fallow**”. For control of pigweed and wild sunflower, use the higher rate. Apply to stubble ground. Treat only once during same fallow period.

### Use Precautions for all Chemical Fallow – This Product Alone:

1. Use only on silt loam or fine-textured soil, or crop injury may result.

**Use Restrictions for all Chemical Fallow – This Product Alone:**

1. Do not apply more than 4.5 pts./A of this product (2.25 lbs. a.i./A) for any application.
2. Do not apply following sorghum harvest.
3. Do not apply more than one application per year..
4. To avoid illegal residues, do not graze or feed forage from treated area to livestock.
5. To avoid illegal residues and crop injury, do not plant any crop other than those on this label within 18 months following treatment.
6. For soils in North and South Dakota with a pH of 7.5 or greater: Do not apply more than 1.5 pounds active ingredient per acre for any application. -For soils in North and South Dakota with a pH of less than 7.5: Do not apply more than 2.0 pounds active ingredient per acre for any application.

**TANK MIXTURES FOR CHEMICAL FALLOW****Wheat-Sorghum-Fallow or Wheat-Corn-Fallow (KS, NE)**

**This Product Plus Paraquat:** If weeds are present at application, a tank mix with paraquat may be used. Broadcast 4.5 pts. of this product plus a specified amount of paraquat in 20-60 gals. of water per acre by ground equipment. Add 0.5-1 pt. of a nonionic surfactant, such as X-77, per 100 gals. of spray mixture. Add this product to spray tank first and thoroughly mix with water. Then add paraquat, followed by surfactant. Use the higher rate of paraquat specified on the label if weeds are 4-6 inches tall. This mixture will not control weeds taller than 6 inches. Apply to stubble ground. Treat only once during same fallow period. Refer to paraquat label for further directions, precautions, and limitations. Do not apply more than 4.5 pts./A of this product (2.25 lbs. a.i./A) for any application. Do not apply more than one application per cycle..

**Wheat-Fallow-Wheat (CO, KS, ND, NE, SD, and WY)**

**This Product Plus Paraquat:** If weeds are present at application, a tank mix with paraquat may be used. Broadcast 1-2 pts. of this product plus a suitable amount of paraquat in 20-60 gals. of water per acre by ground equipment. Add 0.5-1 pt. of a nonionic surfactant, such as X-77, per 100 gals. of spray mixture. Add this product to spray tank first and thoroughly mix with water. Then add paraquat, followed by surfactant. Use the higher rate of paraquat specified on the label if weeds are 4-6 inches tall. This mixture will not control weeds taller than 6 inches. Apply to stubble ground. Treat only once during same fallow period. Refer to paraquat label for further directions, precautions, and limitations.

If weeds are present at application and this product is used alone, use either an approved contact herbicide before or after treatment, or tillage after treatment.

Use tillage to control weeds which escape during fallow period. Till before planting. For this product applied alone or in tank mixture with paraquat, plant at least 2 inches deep and 12 months or more after application.

**Use Precautions for all Tank Mixes for Chemical Fallow:**

1. Avoid spray overlap.

**Use Restrictions for all Tank Mixes for Chemical Fallow:**

1. Do not apply more than 4.5 pts./A of this product (2.25 lbs. a.i./A) for any application.
2. Do not apply more than one application per year.
3. Do not use on sandy soil.
4. Do not treat eroded hillsides, caliche and rocky outcroppings, or exposed calcareous subsoil.
5. Do not treat soils of the Rosebud and Canyon Series in western NE and adjoining counties in CO and WY.
6. Do not treat soils with calcareous surface layers.
7. Do not graze treated areas within 6 months after application, or illegal residues may result.
8. For soils in North and South Dakota with a pH of 7.5 or greater: Do not apply more than 1.5 pounds active ingredient per acre for any application. -For soils in North and South Dakota with a pH of less than 7.5: Do not apply more than 2.0 pounds active ingredient per acre for any

application.

**Aerial Application:** In order to assure that spray will be controllable within the target area when used according to label directions, make applications at a maximum height of 10 ft., using low-drift nozzles at a maximum pressure of 40 psi, and restrict application to periods when wind speed does not exceed 10 mph. To assure that spray will not adversely affect adjacent sensitive nontarget plants, apply this product alone by aircraft at a minimum upwind distance of 400 ft. from sensitive plants.

### ROADSIDES

To control certain annual weeds in established perennial grasses along roadsides in CO, KS, MT, ND, NE, SD, and WY, including cheatgrass (downy brome, chess), common (annual) broomweed, little barley, medusahead, sagewort, and tumble mustard, broadcast 2 pts./A of this product in a minimum of 10 gals. of water by ground equipment in the fall before ground freezes, or after thawing in the spring, but before the established grasses green-up and before weeds emerge. Examples of desirable established grasses include big bluestem, bluegrama, bromegrass, buffalograss, crested wheatgrass, indiagrass, little bluestem, side-oats grama, switchgrass, and western wheatgrass. Apply only once per year. Temporary discoloration or other form of injury to the desirable perennial grasses may occur following application.

#### Use Restrictions:

1. Do not apply more than 2 pts./A of this product (1.0 lb. a.i./A) for any application.
2. Do not apply more than one application per year.
3. Do not cut or feed roadside grass hay.
4. Do not allow livestock to graze treated area.

### CONSERVATION RESERVE PROGRAM (CRP) (NE, OK, OR, AND TX)

**For control or suppression of the following weeds:** annual ragweeds, barnyardgrass, black nightshade, cheat, cocklebur, downy brome, fall panicum, field pennycress, giant foxtail, yellow foxtail, Japanese brome, Kentucky bluegrass, kochia, lambsquarters, little barley, maretail, pigweed, prickly lettuce, smooth brome, and sunflower.

#### Pure Stands of Newly Seeded Big Bluestem, Switchgrass, and Eastern gamagrass

Use only on loam, silt loam, silty clay loam, clay loam, and silty clay soils with at least 1 % organic matter.

**Establishment:** Broadcast 4 pts./A of this product preplant incorporated or preemergence at time of seeding and prior to emergence of weeds. Prepare a good firm seedbed. Plant 1/2 inch deep with a grassland drill (preferred method) or a conventional drill. If a conventional drill is used on prepared seedbeds, remove all tension from the disk openers. For best results, cultipack or roll after planting.

**Renovation of Existing Stands of Big Bluestem and Switchgrass Planted on CRP Acres:** Broadcast 2-4 pts./A of this product to existing stands of big bluestem and switchgrass prior to the emergence of weeds. Use the low rate on soils containing from 12% organic matter. Use the high rate on soils with 2% or more organic matter.

#### Renovation of Existing Stands of the Following Perennial Range Grasses Planted on CRP Acres:

Blue grama, indiagrass, little bluestem, sand lovegrass, sideoats grama, and western wheatgrass. Broadcast 1-2 pts./A of this product in the spring prior to weed emergence, or in the fall before the ground freezes and prior to weed emergence after these species have been established for at least one growing season for control or partial control of the weeds listed above. Use the low rate for weeds controlled or suppressed easily. Use the higher rate on other weeds claimed in an earlier section of this label.

**Aerial Application:** Make applications at a maximum height of 10 ft. above vegetation. Use low-drift nozzles at a maximum pressure of 40 psi. Restrict application to periods when wind speed does not exceed 10 mph to control drift. To assure that drift will not adversely affect adjacent sensitive nontarget plants, apply this product by aircraft at a minimum upwind distance of 400 ft. from sensitive plants. Use 3-5 gals./A total water volume; use the higher water volume when a dense, heavy ground cover is present.

Slight discoloration of desirable grasses may occur following treatment. Injury may be enhanced when used on neutral or alkaline soils.

**Use Restrictions:**

1. Do not apply more than 4 pts./A of this product (2.0 lbs. a.i./A) for any application.
2. Do not make more than one application per year.
3. Do not cut or feed grass hay to livestock.
4. Do not graze treated areas.
5. Do not use seeds for bird food.
6. Do not dump or spill product or dispose of containers within reach of livestock.
7. Follow all applicable restrictions for the Conservation Reserve Program.

**SEVERE DROUGHT RESTRICTIONS**

Do not graze forage or cut forage for hay. Under severe drought conditions, the Conservation Reserve Program allows grazing and making of hay from CRP acres, as so specified by the local ASCS (Agricultural Stabilization & Conservation Service) office. This label does not allow grazing or making of hay from CRP acres that have been treated with atrazine under any circumstance.

**SUGARCANE**

**Application Instructions For All States**

For control of many broadleaf and grass weeds, including amaranths, crabgrass, fireweed, Flora's paintbrush, foxtails, junglerice, and wiregrass, broadcast 4-8 pts./A of this product at time of planting or ratooning, but before sugarcane emerges.

Broadcast aerially in a minimum of 5 gals. of spray per acre, or broadcast or band by ground equipment in a minimum of 20 gals./A, unless indicated otherwise. One additional application may be made over the sugarcane as it emerges, and 2 additional applications may be made interline after emergence as directed sprays. Repeat treatments, where needed, may be applied broadcast, band, or interline as suggested with the final application being prior to close-in. Do not exceed the rate of herbicide suggested for any one crop of sugarcane.

**Note:** Where high rates of This product are used alone, apply in a minimum of 2 pints of water for each pint of this product applied per acre.

**Aerial Application:** In order to assure that spray will be controllable within the target area when used according to label directions, make applications at a maximum height of 10 ft., using low-drift nozzles at a maximum pressure of 40 psi, and restrict application to periods when wind speed does not exceed 10 mph. To assure that spray will not adversely affect adjacent sensitive nontarget plants, apply this product alone by aircraft at a minimum upwind distance of 400 ft. from sensitive plants.

For specific weed problems, the following may be used. Other rate and application timings may be used for other weed spectrums and cultural practices, provided they are within the above "**Application Instructions For All States**" and are consistent with the "**Use Precautions and Restrictions for All States.**"

**Florida**

For control of emerged Pellitory weed (Artillery weed): Apply 0.8-1.2 pts./A of this product in at least 40 gals. of water as a directed spray by ground equipment prior to close-in. Add 8 pts. of surfactant for each 100 gals. of spray. Thoroughly cover weed foliage.

For control of alexandergrass, large crabgrass, pellitory (artillery) weed, and spiny amaranth, use one of the following methods at planting or ratooning:

1. Apply 8 pts./A of this product preemergence. Follow with 1 or 2 applications, as needed, postemergence to sugarcane and weeds, at 4 pts./A of this product. Treat before weeds exceed 1.5

inches in height.

2. Apply 1-3 times, as needed, at 4 pts./A of this product postemergence to sugarcane and weeds. Treat before weeds exceed 1 .5 inches in height.

### **Louisiana**

For control of annual weeds during the summer fallow period, apply 4 pts./A of this product to weed-free beds immediately after bed formation. Follow normal weed control program after planting.

### **Additional Use Restrictions in LA:**

1. Do not apply more than 20 pts./A of this product to any one crop of sugarcane.
2. If making 4 pts./A of this product application during summer fallow period, do not exceed 16 pts./A of this product during the remainder of the growing season, or illegal residues may result.

### **Texas**

Use this product for control of barnyardgrass, pigweed, purslane, and sunflower, in plant or ratoon sugarcane.

Apply 8 pts./A of this product preemergence. Follow with 1 or 2 applications, as needed, at 6 pts./A of this product postemergence to sugarcane and weeds.

For best results when weeds are emerged, add a nonionic surfactant at a concentration of 4 pts./100 gals. of this product to the spray and apply before weeds exceed 1.5 inches in height.

### **Use Restrictions for All States for Sugarcane:**

1. Do not apply more than 8 pts./A of this product (4.0 lbs. a.i./A) for any application.
2. Do not apply more than 20 pts./A of this product (10.0 lbs. a.i./A) per year..
3. Do not apply after close-in.
4. Injury to sugarcane may occur when under moisture stress, when soil is of low adsorptive capacity, or when land is first cropped to sugarcane

### **ST. AUGUSTINE GRASS, CENTIPEDEGRASS, AND DORMANT BERMUDAGRASS**

This product controls Annual bluegrass, Florida betony, Spurweed and many other weeds in home lawn, ornamental and recreational turf and highway rights-of-way. This product may be applied with any pump-up or compressed air type sprayer or with a hose-on type sprayer.

This product will control BOTH emerged weeds and weeds from seeds. Rain or watering within 2 to 3 days of application may decrease the effectiveness on emerged weeds. However, for control of weeds from seeds, rainfall or watering is necessary within 7 to 10 days after treatment.

For weed control in rights-of-way, do not apply more than 2 pints of this product (1.0 pounds active ingredient) per acre for any application. Do not apply more than one application per year.

### **Weeds Controlled or Suppressed**

Annual bluegrass (*Poa annua*), Chickweed (Common and Mouseear), Crabgrass, Cransbill, Cudweed, Dichondra, Florida betony, Henbit, Knotweed, Lespedeza, Moneywort. Mustard, Narrowleaf vetch, Parsleypiert, Sandspur, Smutgrass, Spurge, Spurweed, Swinecress, Woodsorrel and various Annual clovers.

### **Timing of Application**

The timing of applications to achieve maximum control may vary quite a bit with different weed species. The following application times are suggested for certain problem weeds.

**Spurweed:** Best control of Spurweed can be obtained by applying this product when Spurweed has emerged (December and January).

**Florida betony:** This weed emerges in the Fall, so an application of this product in mid-to-late October followed with a second application in mid-to-late February would give best control.

**Dichondra, Moneywort:** Best control of these weeds can be obtained by applying this product in early April followed with a second application in July.



Applications for Spurweed or Florida betony generally will give control or suppression of the other weeds listed. However, as a general rule, this product will give the best control when applied to young tender weeds or just prior to weed emergence. Do not apply to growing Bermudagrass.

**Use Precautions:**

1. Do not apply within the active root zone of vegetables or desirable ornamental plants such as Azaleas, Boxwoods, Camellias, etc. However, treatments using this product should not normally cause injury to medium or large shrubs or trees in the landscape.

**Use Restrictions:**

1. Do not plant any crop (flower or vegetable gardens) to treated areas for 18 months or injury may result.
2. For weed control in Rights-of-way, do not apply more than 2 pints of this product (1.0 pounds active ingredient) per acre for any application.
3. Do not apply more than one application per year.
4. Do not apply to growing Bermudagrass.

**ST. Augustine Grass and Centipedegrass**

This product may be applied to established St. Augustine grass and Centipedegrass during both the dormant and the growing season. Best results are usually obtained in the early Spring or dormant periods when weeds are small or have not emerged. Follow rates below.

**Dormant Bermudagrass**

This product may be applied to Bermudagrass during the dormant season only. Applications to Bermudagrass during the growing season will cause injury. Follow rates below, except for residential uses, for which the maximum application rate is 1 lb. active ingredient per acre (0.6 fl. oz. of this product per 1,000 sq. ft.).

**Rate of Application**

Determine the total area to be sprayed and base rate of application on the chart below. Apply overlapping spray pattern while treating.

Area to Be Treated	Amount of this product
500 sq. ft.	1.5 tbsp.
1,000 sq. ft.	3 tbsp. (1.5 ozs.)
3,000 sq. ft.	4.5 fl. ozs.
5,450 sq. ft.	8 fl. ozs..
10,900 sq. ft. (0.25 acre)	1 pt..
1 acre	4 pts.

**TURFGRASSES FOR SOD (Florida only)**

**St. Augustinegrass, Centipedegrass, and Zoysiagrass**

Broadcast 2-8 pts./A of this product according to soil texture to control those weeds listed under “**This Product Applied Alone — Corn or Grain Sorghum — Preplant Surface Applied, Preplant Incorporated, or Preemergence**”.

Soil Texture	Broadcast Rate Per Acre	Application Timing
Muck or Peat	8 pts. of this product	<b>Old beds:</b> Within 2 days after lifting sod
		<b>New beds:</b> 3-4 days after sprigging or plugging
Sandy Soil	2 – 4 pts. of this product	<b>Old beds:</b> Within 2 days after lifting sod
		<b>New beds:</b> 7-10 days after sprigging or plugging

If weeds regrow, apply an additional 4 pts./A of this product on muck or peat, or 2 pts./A on sandy soil.



**Use Precautions:**

1. Use only on turfgrass reasonably free of infestations of insects, nematodes, and diseases.
2. On newly sprigged turfgrass, temporary slowing of growth may follow application.

**Use Restrictions:**

1. For muck or peat soils, do not apply more than 8 pts./A of this product (4.0 lbs. a.i./A) for any application. Do not apply more than 12 pts./A of this product (6.0 lbs. a.i./A) per year.
2. For sandy soils, do not apply more than 4 pts./A of this product (2.0 lbs. a.i./A) for any application. Do not apply more than 6 pts./A of this product (3.0 lbs. a.i./A) per year.
3. Do not apply within 30 days prior to cutting or lifting.
4. Do not apply in combination with surfactants or other spray additives.

**TURFGRASSES FOR FAIRWAYS, SOD PRODUCTION\*, AND RESIDENTIAL SITES**

\* In states other than Florida

**Note:** For use on **TURFGRASSES FOR SOD in Florida**, see “**TURFGRASSES FOR SOD (Florida only)**” section above.

**Bermudagrass, Centipedegrass, St. Augustinegrass, and Zoysiagrass**

Apply This product after October 1 before emergence of winter annual weeds for control of annual bluegrass, burclover, carpet burweed, chickweed, corn speedwell, henbit, hop clover, and spurweed. This product will control annual bluegrass even if it is emerged at time of treatment. For control of summer annual weeds listed in the preemergence section of the “**This Product Applied Alone — Corn or Grain Sorghum**” section of this label, also apply this product in late winter before the weeds emerge. Apply in a minimum of 15 gals. of water per acre or 1 gal./1,000 sq. ft.

Where annual bluegrass is the major weed, use 2 pts./A of this product (22 ml or 0.75 fl. oz. per 1,000 sq. ft.). Use 4 pts./A of this product (44 ml or 1.5 fl. oz. per 1,000 sq. ft.) for control of other weeds named above. Do not apply more than 2 pts./A of this product per treatment on newly-sprigged turfgrass or on hybrid bermudagrass such as Tiflawn, Tifway, and Ormond.

For continued summer annual weed control, apply another 2 pts./A of this product (22 ml or 0.75 fl. oz. per 1,000 sq. ft.) at least 30 days after the previous application, but not after April 15. However, do not make more than 2 applications of this product per year.

On newly sprigged turfgrass and hybrid bermudagrass, temporary slowing of growth and yellowing may occur following application.

**Use Precautions:**

1. Use only on turfgrass reasonably free of infestations of insects, nematodes, and diseases.

**Use Restrictions:**

1. **For Turfgrass at residential sites including homes, daycare facilities, schools, playgrounds, parks, recreational areas, and sports fields:** Do not apply more than 2 pts./A of this product (1.0 lbs. a.i./A) for any application. Do not apply more than 4 pts./A of this product (2.0 lbs. a.i./A) per year.
2. Do not graze or feed turf clippings to animals or illegal residues may result.
3. Do not use on golf greens.
4. Do not use north of NC (except in the VA Coastal Plains) or west of the high rainfall areas of eastern OK and eastern TX.
5. Do not use on muck or alkaline soils.
6. Do not apply over the rooting area of trees or ornamentals not listed on this label.
7. Do not overseed with desirable turfgrass within 4 months before or 6 months after treatment.
8. Do not apply this product to newly seeded bermudagrass or zoysiagrass until it has overwintered and has a well-developed rhizome system.
9. Do not apply more than 4 pts./A of this product within 12 months of seeding bermudagrass.

### **CONTROL OF ANNUAL WEEDS IN HIGHWAY RIGHTS-OF-WAY (OK Only)**

Apply up to 2 pints of this product in 20 to 80 gallons of water per acre for control of Annual bluegrass, Black nightshade, Cheat, Cocklebur\*, Common hop clover, Annual broomweed, Downy brome, Japanese brome, Foxtails, Horseweed (Marestail, Kochia, Lambsquarters, Little barley, Mustard, Pigweed (Carelessweed), Poorjoe, Ragweed, Russian thistle\*, Smartweed, Smutgrass, Sunflower, Wild lettuce and Wild oats. For control of Summer annual weeds, apply this product in the Spring before weeds emerge.

\*Weeds partially controlled

#### **Use Restrictions:**

1. Do not cut or feed Grass hay from highway rights-of-way.
2. Do not allow livestock to graze treated areas.
3. Do not apply more than 2 pts./A of this product (1 lb. a.i./A) for any application.
4. Do not apply more than one application per year.

### **MACADAMIA NUTS**

For preemergence control of many broadleaf and grass weeds, including crabgrass, foxtail, wiregrass, Flora's paintbrush, spanishneedles, and fireweed, broadcast 4-8 pts./A of this product before harvest and before weeds emerge.

#### **Use Restrictions:**

1. Do not apply more than 8 pts./A of this product (4.0 lbs. a.i./A) for any application.
2. Do not apply more than 16 pts./A of this product (8.0 lbs. a.i./A) per year.
3. Do not spray when nuts are on ground during harvest period.
4. Do not apply by air.

### **GUAVA**

Use only on established plantings which are at least 18 months old. Apply as a directed spray at 4-8 pts./A of this product in 20-50 gals. of spray mix preemergence or early postemergence to weeds. When applying postemergence, the use of a surfactant and greater spray volume (80-1 00 gals. of spray mix per acre) may enhance weed control. This product controls many annual broadleaf and grass weeds, including fireweed, purslane, scarlet pimpernel, spanishneedles, and sowthistle.

#### **Use Restrictions:**

1. Do not allow spray to contact foliage or fruit.
2. Do not apply more frequently than at 4-month intervals.
3. Do not apply more than 8 pts./A of this product (4.0 lbs. a.i./A) for any application.
4. Do not apply more than 16 pts./A of this product (8.0 lbs. a.i./A) per year.

### **CONIFERS**

For control of annual broadleaf and grass weeds prior to transplanting, after transplanting, or in established conifers (including Douglas fir, grand fir, noble fir, white fir, Austrian pine, bishop pine, Jeffrey pine, knobcone pine, loblolly pine, lodgepole pine (shore pine), Monterey pine, ponderosa pine, Scotch pine, slash pine, blue spruce, and Sitka spruce): Broadcast 4-8 pts. of this product in a minimum of 5 gals. of water per acre by air or 10 gals. by ground before weeds are 1.5 inches tall. Apply to established trees between fall and early spring while trees are dormant. For new transplants, apply during or soon after transplanting. For applications prior to transplanting, allow sufficient precipitation to activate this product before transplanting. In areas where spring and summer rainfall is inadequate to activate this product, apply during fall, prior to spring transplanting.

For the list of weeds controlled, see **"This Product Applied Alone — Corn or Grain Sorghum — Preplant Surface-Applied, Preplant Incorporated, or Preemergence"**.

**Quackgrass Control:** Broadcast 8 pts. of this product in a minimum of 5 gals. of water per acre by air or 10 gals. by ground between fall and early spring while trees are dormant and before quackgrass is more

than 1.5 inches tall.

**Use Precautions:**

1. Temporary injury to trees may occur following use of this product on coarse-textured soil.
2. To avoid crop injury, do not apply to seedbeds.

**Use Restrictions:**

1. In areas west of the Rocky Mountains (except the Great Basin), grazing may begin 7 months after a fall application or 3 months after a winter or spring application.
2. To prevent illegal residues, do not graze treated areas of the Great Basin, or areas east of the Rocky Mountains.
3. Do not make more than one application per year.
4. Do not apply more than 8 pts./A of this product (4.0 lbs. a.i./A) for any application.
5. Do not apply more than 8 pts./A of this product (4.0 lbs. a.i./A) per year.

**Aerial Application:** In order to assure that spray will be controllable within the target area when used according to label directions, make applications at a maximum height of 10 ft. above vegetation, using low—drift nozzles at a maximum pressure of 40 psi, and restrict application to periods when wind speed does not exceed 10 mph. To assure that spray will not adversely affect adjacent sensitive nontarget plants, apply this product by aircraft at a minimum upwind distance of 400 ft. from sensitive plants.

**STORAGE AND DISPOSAL**

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

**Pesticide Storage**

Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food and feed. Store in original container and out of reach of children, preferably in a locked storage area.

Ground water contamination may be reduced by diking and flooring of permanent liquid bulk storage sites with an impermeable material.

**Pesticide Disposal**

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

**Container Handling [less than or equal to 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 ¾ 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.

**Container Handling [greater 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. 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. Empty the rinsate into application equipment, or a mix tank, or store rinsate for later use or disposal. Repeat this procedure two more times.

**Container Handling [Bulk and Mini-Bulk]:**

Refillable container. Refill this container with this product Herbicide 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 for 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 allowed by state and local authorities. If the container is damaged or leaking, or obsolete, call 1-800-888-8372.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire, or other emergency, call 1-800-888-8372, day or night. If the container is damaged and leaking or material has been spilled follow these procedures:

1. Cover spill with absorbent material.
2. Sweep into disposal container.
3. Wash area with detergent and water and follow with clean water rinse.
4. Do not contaminate water supplies.
5. Dispose of according to instructions.

Concep® is a registered trademark of Syngenta

X-77® is a registered trademark of Loveland Industries, Inc.

Compex® is a registered trademark of KALO Agricultural Chemicals, Inc.

Unite® is a registered trademark of HACO, Inc.