

19713-80

9-27-2002

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES

Luz G. Piwonka  
Registration Manager  
Drexel Chemical Company  
1700 Channel Avenue  
P.O. Box 13327  
Memphis, Tennessee 38113-0327

SEP 27 2002

Dear Ms. Piwonka:

Subject: Drexel Atra-5 Herbicide  
EPA Reg. No. 19713-80  
Re: Label Amendments  
Your submission dated May 6, 2002

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, is acceptable, provided you make the following changes:

1. Add the following information to the **FIRST AID** box (page 1 of the label) so that it reads:
  - "Call a poison control center or doctor for treatment advice. Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For information on this pesticide product (including health concerns, medical emergencies or pesticide incidents), call the National Pesticide Information Center at 1-800-853-7378."
2. Under the heading "**PERSONAL PROTECTIVE EQUIPMENT**" within the **PRECAUTIONARY STATEMENTS** section of the label:
  - Replace the sentence "Handlers who may be exposed to the dilute through application or other tasks must wear: long-sleeved shirt and long pants, chemical-resistant gloves such as polyethylene or polyvinyl chloride and chemical-resistant footwear plus socks." with "Handlers who may be exposed to the dilute through application or other tasks must wear: long-sleeved shirt and long pants, chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride and

chemical-resistant footwear plus socks.”

- Replace the sentence “Handlers who may be exposed to the concentrate through mixing, loading, application or other tasks must wear: long-sleeved shirt and long pants, chemical-resistant gloves such as polyethylene or polyvinyl chloride, chemical-resistant footwear plus socks and protective eyewear” with “Handlers who may be exposed to the concentrate through mixing, loading, application or other tasks must wear: long-sleeved shirt and long pants, chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride, chemical-resistant footwear plus socks and protective eyewear.”

3. Under the heading “ENVIRONMENTAL HAZARDS” (page 1 of the label):

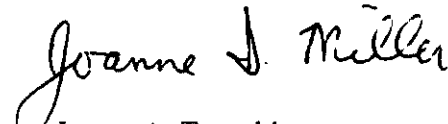
- Replace the sentence “Do not contaminate water when disposing of equipment washwaters” with “Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate.”

4. Within the “AGRICULTURAL USE REQUIREMENTS” box:

- Replace the statement “Coveralls, chemical-resistant gloves such as polyethylene or polyvinyl chloride, chemical-resistant footwear plus socks and protective eyewear” with “Coveralls, chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride, chemical-resistant footwear plus socks and protective eyewear.”

Please submit two (2) of your final printed labels incorporating these changes before releasing your product for shipment. A stamped copy is enclosed for your records.

Sincerely,

*for*   
 James A. Tompkins  
 Product Manager Team (25)  
 Herbicide Branch  
 Registration Division (7505C)

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# 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.

ACCEPTED  
with COMMENTS  
In EPA Letter Dated  
SEP 27 2002

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.  
19713-80



## Atra - 5

Herbicide

For season-long weed control in Chemical fallow, Conifers, Corn, Fallowland, Guava, Lawns, Macadamia nuts, Sorghum, Sugarcane and Turf.

### ACTIVE INGREDIENTS:

Atrazine: 2 Chloro-4-(ethylamino)-6-isopropylamino-s-triazine .....	50.81%
Related compounds .....	2.67%

### OTHER INGREDIENTS:

TOTAL: .....	100.00%
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This product contains 5 pounds of active ingredients per gallon.

**KEEP OUT OF REACH OF CHILDREN**

## CAUTION

See FIRST AID Below

SHAKE WELL BEFORE USING

EPA Reg. No. 19713-80

EPA Est. No. 19713-MS-1 Net Contents:

### FIRST AID

#### IF SWALLOWED:

- Call a poison control center or doctor immediately for treatment advice.
- Have person sip a glass of water if able to swallow.
- Do not induce vomiting unless told to do so by a poison control center or doctor.
- Do not give anything by mouth to an unconscious or convulsing person.

#### IF IN EYES:

- Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.

#### IF ON SKIN OR CLOTHING:

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15 to 20 minutes.

#### IF INHALED:

- Move person to fresh air.
- If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.

Call a poison control center or doctor for treatment advice. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

**NOTE TO PHYSICIAN:** There is no specific antidote for Atrazine. If this product is ingested, induce emesis or lavage stomach. The use of an aqueous slurry of activated charcoal may be considered.

### PRECAUTIONARY STATEMENTS

#### Hazards To Humans And Domestic Animals

**CAUTION:** Avoid application directly to animals or humans. Harmful if swallowed. Avoid breathing of spray. Do not take internally. Causes moderate eye irritation. Avoid contact with eyes, skin or clothing. Flagmen or loaders should avoid inhalation of spray mist.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers (other than mixers and loaders) who may be exposed to the dilute through application or other tasks must wear: Long-sleeved shirt and long pants, chemical-resistant gloves such as polyethylene or polyvinyl chloride and chemical-resistant footwear plus socks.

Mixers and Loaders who may be exposed to the concentrate through mixing, loading, application or other tasks must wear: Long-sleeved shirt and long pants, chemical-resistant gloves such as polyethylene or polyvinyl chloride, chemical-resistant footwear plus socks and protective eyewear.

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

### ENGINEERING CONTROLS STATEMENT

When handlers use closed systems, enclosed cabs or aircraft in a manner that meets the requirements listed in the 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: 1) Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. 2) Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

### ENVIRONMENTAL HAZARDS

Atrazine can travel (seep or leach) through soil and can enter groundwater which may be used as drinking water. Atrazine has been found in groundwater. Users are advised not to apply atrazine to Sand and Loamy sand soils where the water table (groundwater) 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.

Groundwater contamination may be reduced by diking and flooring of permanent liquid bulk storage sites with an impermeable material. This pesticide is toxic to aquatic invertebrates. For terrestrial uses, do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not 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 washwaters.

This product may not be mixed/loaded or used within 50 feet of all wells including abandoned wells, drainage wells and sinkholes. 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 spill or equipment leaks, container or equipment rinse or washwater and rainwater that may fall on the pad.

Manufactured By:

**Drexel Chemical Company**

P.O. BOX 13327, MEMPHIS, TN 38113-0327

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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. States may have in effect additional requirements regarding wellhead setbacks and operational area containment.

This product may 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 within 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 points must be planted to crop or seeded with Grass or other suitable crop.

**Note:** Add this statement to all container sizes of 5 gallons and higher. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

**TILE-TERRACED FIELDS CONTAINING STANDPIPES**

To ensure protection of surface water from runoff through standpipes with tile outlets in terraced fields, one of the following options may be used:

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 to 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 high crop residue management practices are used. High crop residue management practice is described as a crop management practice where little or no crop residue is removed from the field during or after crop harvest.

**GENERAL INFORMATION**

ATRA-5 Herbicide will control most annual Broadleaf and Grass weeds in Corn, Sorghum, Sugarcane and certain other crops as specified on this label. This product may be applied before or after weeds emerge.

In each case where a range of rates is given, the lower rate should be used on Coarse textured soil and soil low in organic matter and the higher rate should be used on Fine textured soil and soil high in organic matter.

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 triazines. 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.

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

This product is non-corrosive to equipment and metal surfaces, non-flammable and has low electrical conductivity. Care should be taken to avoid using this product near adjacent desirable plants or in greenhouses, or injury may occur.

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

**Note:** The Seller does not recommend the use of this product in combination with other herbicides or oils except as specifically described on the label or in literature published by the Seller.

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

**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 one-fourth full with clean water, nitrogen solution or complete liquid fertilizer.
3. Start agitation.

4. Be certain that the agitation system is working properly and creates a rippling or rolling action on the liquid surface.
5. Pour product directly from container into tank.
6. Continue filling tank until 90% full. Increase agitation, if necessary, to maintain surface action.
7. Add emulsifiable oil, oil concentrate or tank mix herbicide(s) after this product is thoroughly suspended.
8. Finish filling tank.
9. Empty tank as completely as possible before refilling to prevent buildup of oil or emulsifiable concentrate residue. Maintain agitation to avoid separation of materials.
10. If an oil or emulsifiable concentrate film starts to build up in 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 gallons of spray mixture per acre for all pre-plant incorporated, pre-plant surface, pre-emergence and post-emergence applications (with or without oil or surfactant) with ground equipment. Use a pump with capacity to:

1. Maintain 35 to 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 should provide a minimum of 10 gallons per minute per 100 gallon 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 should 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 the amount to be applied per acre as follows:

band width in inches		broadcast rate		amount needed
row width in inches	x	per acre	=	per acre in field

**AERIAL APPLICATION:** Use aerial application only where broadcast applications are specified. Apply in a minimum of 1 quart of water for each quart of this product applied per acre. For post-emergence treatments on Corn and Sorghum, apply recommended rate in a minimum of 2 gallons 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 should avoid inhalation of spray mist and prolonged contact with skin.

**THIS PRODUCT IN WATER OR LIQUID FERTILIZER APPLICATIONS** Nitrogen solutions or complete liquid fertilizers may replace all or part of the water as a carrier for pre-emergence and pre-plant applications of this product on Corn and Sorghum. Check the compatibility of this product with liquid fertilizer and/or nitrogen solution as shown below 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 gallons per acre. For other spray volumes, make appropriate changes in the ingredients.

Check compatibility using this procedure:

1. Add 1 pint of fertilizer to each of 2 one-quart jars with tight lids.
2. To one of the jars, add 0.25 teaspoon or 1.2 milliliters of a compatibility agent approved for this use, such as Compex® or Unite® (0.25 teaspoon is equivalent to 2 pints per 100 gallons of spray). Shake or stir gently to mix.
3. To both jars add the appropriate amount of herbicide(s). If more than one herbicide is used, add them separately with dry herbicides first, flowables next and emulsifiable concentrates last. After each addition, shake or stir gently to thoroughly mix. The appropriate amount of herbicides for this test follows:

**Dry Herbicides:** For each pound to be applied per acre, add 1.5 level teaspoons to each jar.

**Liquid Herbicides:** For each pint to be applied per acre, add 0.5 teaspoon or 2.5 milliliters to each jar.

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4. After adding all ingredients, put on lids and tighten and invert each jar ten 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 two jars. If either mixture separates, but can be remixed readily, the mixture can be sprayed as long as good agitation is used. If the mixtures are incompatible, test the following methods of improving compatibility: A) Slurry the dry herbicide(s) in water before addition, or B) Add half of the compatibility agent to the fertilizer and the other half of the emulsifiable concentrate or flowable herbicide before addition to the mixture. If incompatibility is still observed, do not use the mixture.

**THIS PRODUCT PLUS EMULSIFIABLE OIL OR OIL CONCENTRATE**  
Adding emulsifiable oil (petroleum-derived, petroleum-derived oil concentrate or single or mixed crop-derived oil concentrate) to post-emergence 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, observe the following directions.

Use one of the following properly emulsified:

1. A suitable oil concentrate containing at least 1% suitable emulsifier or surfactant blend.
2. 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, a compatibility agent such as Compex or Unite should be used. Any of the above oils contaminated with water or other materials can cause compatibility problems and/or crop injury.

**DIRECTIONS FOR USE  
RESTRICTED USE PESTICIDE**

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

Failure to follow the "DIRECTIONS FOR USE", use precautions and restrictions for use on this label may result in poor weed control, crop injury or illegal residue. Do not apply this product through any type of irrigation system. 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 (WPS), 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, 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 (REI). The requirements in this box only apply to uses of this product that are covered by the WPS.

Do not enter or allow worker entry into treated areas during the REI of 12 hours.

Exception: If the product is soil-injected or soil-incorporated, the WPS, 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 WPS and that involves contact with anything that has been treated, such as plants, soil or water is: Coveralls, chemical-resistant gloves such as polyethylene or polyvinyl chloride, chemical-resistant footwear plus socks and protective eyewear.

**NON-AGRICULTURAL USE REQUIREMENTS**

The requirements in this box apply to uses of this product that are NOT within the scope of the WPS for agricultural use 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 treated areas without protective clothing until sprays have dried.

**ROTATIONAL CROPS (All Uses)**

1. Land treated with this product should not be planted to any crop except Corn or Sorghum until the following year, or injury may occur.
2. If this product is applied after June 10, do not rotate with crops other than Corn or Sorghum the next year, or 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 this product to control weeds in Corn or Sorghum only when Corn or Sorghum is to follow Corn or Sorghum, or 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, Corn or Sorghum treated with this product should not be followed with Soybeans if the broadcast rate applied was more than 4 pints per acre (or comparable rate in a band), or injury may occur.

5. Injury may occur to Soybeans planted the year following an 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 of this product, or injury may occur.

**THIS PRODUCT APPLIED ALONE—CORN AND GRAIN SORGHUM PRE-PLANT SURFACE-APPLIED, PRE-PLANT INCORPORATED OR PRE-EMERGENCE (OR POST-EMERGENCE AT 3.2 PINTS PER ACRE WITH OIL)**

Broadleaf or Grass Weeds Controlled: Annual morningglory, Barnyardgrass\*\* (Watergrass), Cocklebur\*, Giant foxtail\*, Green foxtail\*\*, Groundcherry, Jimsonweed, Kochia, Lambsquarters, Large (Hairy) crabgrass\*, Mustard, Nightshade, Pigweed, Purslane, Ragweed, Sicklepod\*, Velvetleaf\*\* (Buttonweed), Wild oats, Witchgrass\*\* (*Panicum capillare*) and Yellow foxtail\*\*.

**THIS PRODUCT APPLIED ALONE — CORN AND GRAIN SORGHUM POST-EMERGENCE WITH EMULSIFIABLE OIL OR OIL CONCENTRATE IN WATER (1.9 PINTS PER ACRE)**

Broadleaf Weeds Controlled: Annual morningglory, Cocklebur, Jimsonweed, Lambsquarters, Mustards, Pigweed, Ragweed, Smartweed, Velvetleaf\* (Buttonweed) and Wild buckwheat.

\*Partial control only.

\*\*Partial control only on Medium and Fine textured soils.

Where there are state/local requirements regarding atrazine use (including lower maximum rates and/or greater setbacks) which are different from this 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 regulations.

**CORN  
PRE-PLANT SURFACE APPLIED**

Broadleaf and Grass Control: 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 recommended rate of this product shown in "TABLE 1" up to 45 days prior to planting. On Coarse textured soils, do not apply more than two weeks prior to planting. If 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, use precautions and restrictions for use 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.

**PRE-PLANT INCORPORATED**

Broadleaf and Grass Control: Broadcast in the Spring after plowing at the rate indicated in "TABLE 1". Application may be made before, during or after final seedbed preparation. Avoid deep incorporation of this product. For best results apply within two weeks prior to planting.

**PRE-EMERGENCE OR AT-PLANTING**

Broadleaf and Grass Control: Apply during or shortly after planting, prior to weed emergence, at the rate indicated in "TABLE 1".

**POST-EMERGENCE**

Broadleaf and Grass Control: Apply before weeds exceed 1.5 inches in height and before Corn exceeds 12 inches in height at the rate in "TABLE 1".

TABLE 1

**FOR CONTROL OF BROADLEAF AND GRASS WEEDS\*  
For All Soil Applications Prior To Crop Emergence**

**On Highly Erodible Soils\*\***

If conservation tillage is practiced, leaving at least 30% of the soil covered with plant residues at-planting, apply a maximum of 3.2 pints per acre as a broadcast spray. If the soil coverage with plant residue is less than 30% at-planting, a maximum of 2.6 pints per acre may be applied.

**On Soils Not Highly Erodible\*\***

Apply 3.2 pints per acre as a broadcast spray.

\*Broadleaf control (Eastern CO, Western KS, Western NE, NM, OK Panhandle, West TX and Eastern WY): On Sand, Loamy sand, Sandy loam, mild to strongly alkaline soil and all recently leveled soil, apply no more than 1.9 pts. per acre, either pre-plant or pre-emergence. On other soils in these areas, apply rate in this table for Broadleaf and Grass control.

\*\*As defined by the Soil Conservation Service (SCS)

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/more 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.

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**FOR POST-EMERGENCE APPLICATION**

If no atrazine was applied prior to Corn emergence, apply a maximum of 3.2 pints per acre broadcast. If a post-emergence treatment is required following an earlier herbicide application, the total atrazine applied may not exceed 2.5 pounds of active ingredient (4 pints of this product) per acre per calendar year.

**POST-EMERGENCE 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:

Type Oil	Ground Application	Aerial Application
Oil Concentrate (Crop or Petroleum-derived)	0.8 qt. per acre	0.4 to 0.8 qt. per acre
Petroleum-derived oil	0.8 gal. per acre	1.6 qts. per acre

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 post-emergence control of those weeds listed under "THIS PRODUCT APPLIED ALONE — CORN AND GRAIN SORGHUM; PRE-PLANT SURFACE-APPLIED, PRE-PLANT INCORPORATED OR PRE-EMERGENCE", broadcast 3.2 pints per acre 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 post-emergence control of those weeds listed under "THIS PRODUCT APPLIED ALONE — CORN AND GRAIN SORGHUM; POST-EMERGENCE WITH EMULSIFIABLE OIL OR OIL CONCENTRATE IN WATER", broadcast 1.9 pints per acre plus emulsifiable oil or oil concentrate before Lambsquarters and Pigweed 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 and Restrictions for Applications of This Product Plus Emulsifiable Oil or Oil Concentrate in Water to Corn**

1. Do not use oils in sprays when treating inbred lines or any breeding stock, as injury may occur.
2. Adding other insecticides, herbicides, liquid fertilizers or other materials is not recommended with this product and emulsifiable oil in water because they cause compatibility problems or crop injury.
3. Store and handle emulsifiable oil carefully. Oil contaminated with even a small amount of water may not emulsify properly when added to the tank.
4. Do not use oil in sprays containing this product when Corn is under stress from prolonged cold, wet weather, poor fertility or other factors or when Corn is wet and succulent from recent rainfall, as crop injury may occur.
5. Do not exceed 2.5 pounds of active ingredient (4 pints of this product) per acre per calendar year.
6. Post-emergence application to Corn must be made before Corn exceeds 12 inches in height.

**TANK MIXTURE WITH THIS PRODUCT FOR CORN**

This product may be tank-mixed with these herbicides for control of certain Broadleaf and Grass weeds in Corn:

metolachlor	alachlor
metolachlor + paraquat	alachlor + glyphosate
metolachlor + glyphosate	alachlor + paraquat
metolachlor + simazine	paraquat
metolachlor + simazine + paraquat	glyphosate
metolachlor + simazine + glyphosate	simazine
simazine + glyphosate	simazine + paraquat
propachlor	butylate 6.7E

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.

Note: When the labels of the above herbicides refer to Atrazine 80W, use equivalent rates of this product. One pound of Atrazine 80W equals 1.6 pints of this product.

**THIS PRODUCT PLUS SIMAZINE 4L OR SIMAZINE 90DF**

In addition to the weeds listed under "THIS PRODUCT APPLIED ALONE — CORN AND GRAIN SORGHUM; PRE-PLANT SURFACE-APPLIED, PRE-PLANT INCORPORATED OR PRE-EMERGENCE" and "THIS PRODUCT APPLIED ALONE — CORN AND GRAIN SORGHUM; POST-EMERGENCE WITH EMULSIFIABLE OIL OR OIL CONCENTRATE IN WATER", this combination also controls Carpetweed, Crabgrass and Fall panicum. Broadcast tank mix before planting, at-planting or after planting, but before crop and weeds emerge, at rates in "TABLE 2". Use the 1:1 ratio for control of most weeds. Use the 1:2 ratio for expected heavy infestations of Crabgrass and Fall panicum. Cultivate shallowly if weeds develop.

**PRE-PLANT 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 recommended rate of this product

and simazine shown in "TABLE 2" up to 45 days prior to planting. Refer to "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 "THIS PRODUCT APPLIED ALONE — PRE-PLANT 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.

**PRE-PLANT INCORPORATED**

Apply to the soil and incorporate in Spring before, during or after final seedbed preparation. Avoid deep incorporation. For best results, apply within two weeks prior to planting.

**PRE-EMERGENCE**

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

TABLE 2 TANK MIXTURES WITH SIMAZINE 4L OR 90DF ON CORN				
Soil Texture	BROADCAST RATE PER ACRE			
	1:1 Ratio*		1:2 Ratio**	
	This Product	Simazine 4L or 90DF	This Product	Simazine 4L or 90DF
Sand, Loamy sand, Sandy loam	1.6 pts.	1.1 lbs. of 90DF or 2 pts. of 4L	1.1 pts.	1.5 lbs. of 90DF or 2.6 pts. of 4L
Loam, Silt loam, Silt, Clay loam, Sandy clay loam, Silty clay loam, Sandy clay or Silty clay with low organic matter	1.9 pts.	1.33 lbs. of 90DF or 2.4 pts. of 4L	1.3 pts.	1.8 lbs. of 90DF or 3.2 pts. of 4L
Loam, Silt loam, Silt, 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)	2.4 pts.	1.6 lbs. of 90DF or 3 pts. of 4L	1.5 pts.	2.1 lbs. of 90DF or 3.8 pts. of 4L

\*For control of most weeds.  
\*\*For control of expected heavy infestations of Crabgrass and Fall panicum. Refer to "CORN" sections of this label and to Simazine 4L or Simazine 90DF label for further directions, limitations and precautions.

**THIS PRODUCT PLUS SIMAZINE 4L OR 90DF PLUS PARAQUAT**

For kill of existing vegetation and 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 non-ionic surfactant, such as Surf-Ac® 820. Continue agitation during application. Broadcast 1.6 to 3.2 pints of this product plus 1.1 to 2.2 pounds of Simazine 90DF (or 2 to 4 pints of Simazine 4L or 1.25 to 2.5 pounds of Simazine 80W) plus a suitable amount of paraquat in 20 to 60 gallons 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 pint of a non-ionic surfactant, such as Surf-Ac 820, per 100 gallons of spray mixture. Use the higher rate of paraquat specified on the label if existing vegetation is 4 to 6 inches tall. This mixture will not control weeds taller than 6 inches. Refer to paraquat and simazine labels for further limitations, use precautions and restrictions.

FOR ALL APPLICATIONS PRIOR TO CROP EMERGENCE
<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 2.6 pints per acre as a broadcast spray. If the soil coverage with plant residue is less than 30% at-planting, apply a maximum of 2.7 pints per acre as a broadcast spray. If the soil with plant residue is less than 30% at-planting, a maximum of 2.9 pints per acre may be applied.
<b>On Soils Not Highly Erodible</b> Apply 2.6 pints per acre as a broadcast spray.
*As defined by the Soil Conservation Service (SCS).

**THIS PRODUCT PLUS SIMAZINE 4L, 80W OR 90DF PLUS GLYPHOSATE**

Use as tank mixture for pre-emergence and post-emergence 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, use precautions, restrictions and limitations. In the absence of these tank mix instructions on generic labeling, follow the advice given below.

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**Use Precautions and Restrictions for all applications to Corn:**

1. To avoid crop injury and illegal residues, do not apply more than 2.5 pounds per acre of active ingredient (4 pints per acre of this product) per calendar year.
2. For best control of Velvetleaf and Cocklebur, the application rate cannot be less than 2 pounds per acre of active ingredient, either alone or in tank mix combinations.
3. 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.

**Note:** For all applications to Corn—Do not graze or feed forage from treated areas for 21 days following application or illegal residues may result.

**SORGHUM AND SORGHUM-SUDAN HYBRIDS (Grain and Forage Types)**

**PRE-PLANT SURFACE APPLIED**

**Broadleaf and Grass Control:** 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 recommended 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 or glyphosate). Observe directions for use, 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.

**PRE-PLANT INCORPORATED**

**Broadleaf and Grass Control:** Broadcast in Spring after plowing at rate 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 two weeks prior to planting.

**PRE-EMERGENCE 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".

**PRE-EMERGENCE**

**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.

TABLE 3	
<p><b>PRE-PLANT SURFACE, PRE-PLANT INCORPORATED AND PRE-EMERGENCE APPLICATIONS*</b> (For Broadleaf and Grass Weed Control in Sorghum)</p>	
<p><b>For All Soil Applications Prior to Crop Emergence 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 3.2 pints per acre as a broadcast spray. If the soil coverage with plant residue is less than 30% at-planting, a maximum of 2.6 pints per acre may be applied.</p>	
<p><b>On Soils Not Highly Erodible**</b> Apply 3.2 pints per acre as a broadcast spray.</p>	
<p>*Do not apply pre-plant in AL, AR, FL, GA, LA, MS, NC, NM, OK, SC, TN or TX. Do not apply pre-emergence in NM, OK or TX, except in Northeast OK and the TX Gulf Coast and Becklands areas. **As defined by the Soil Conservation Service (SCS).</p>	

**POST-EMERGENCE APPLICATION**

If no atrazine was applied prior to Sorghum emergence, apply a maximum of 3.2 pints per acre broadcast. If a post-emergence treatment is required following an earlier herbicide application, the total of this product applied may not exceed 2.5 pounds active ingredient (4 pints of this product) per acre per calendar year.

**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, Corn or Sorghum may be replanted. Do not make a second broadcast application, or injury may occur. If originally applied in a band and Corn or Sorghum is replanted in untreated row middles, this product may be applied in a band to the second planting, provided the maximum application rate of 2.5 pounds of active ingredient per acre of atrazine per calendar year is not exceeded.

**PRE-EMERGENCE**

**Broadleaf Weed Control in Furrow-irrigated Bedded Sorghum (AZ and CA only):** For pre-emergence control of Broadleaf weeds, broadcast 1.3 to 1.9 pints per acre after bed preparation, during or after planting, but before Sorghum and weeds emerge and before the first furrow irrigation. Several irrigations should follow the application, making sure that all soil is thoroughly wet.

**Use Precautions and Restrictions for Pre-emergence Applications of This Product to Furrow-irrigated Bedded Sorghum Grown in AZ and CA**

To avoid possible Sorghum injury, do not use on Sand or Loamy sand soils or on Sorghum planted in the furrow. Additionally, applications made to Sorghum growing on alkali soils or where cuts, fills or erosions have exposed calcareous or alkali subsoils may result in crop injury. In case of crop failure, do not replant Sorghum for 8 months following application. Corn may be planted immediately.

**POST-EMERGENCE**

**Broadleaf and Grass Control:** Apply before weeds exceed 1.5 inches in height at the rate indicated in "TABLE 4". Application may be made to Sorghum reaching up to 12 inches in height.

TABLE 4 POST-EMERGENCE 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 loams	Completely emerged	3.2 Pints
Olton and Pullman clay soils	At least 6 inches high	3.2 Pints
Silty clay loams and heavier soils	Completely emerged	3.2 Pints

\*For post-emergence applications, if there has been no previous soil application to the crop, the maximum rate is 3.2 pints per acre. If there has been a previous soil application to that crop, do not exceed a total of 4 pints per acre per calendar year.

**POST-EMERGENCE**

**Broadleaf Weed Control with This Product Plus Emulsifiable Oil or Oil Concentrate in Water:** Broadcast 1.9 pints per acre for control of 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 to 12 inches in height, but before it reaches 12 inches. In all other areas, apply after Sorghum reaches the 3-leaf stage. Add emulsifiable oil at a rate of 1 gallon per acre for ground applications and 0.5 gallon per acre for aerial applications or add 1 quart per acre of oil concentrate for ground applications. A cultivation may be necessary if all weeds are not controlled or if regrowth of weeds occurs.

For the list of weeds controlled, see "THIS PRODUCT APPLIED ALONE — CORN AND GRAIN SORGHUM; PRE-PLANT SURFACE-APPLIED, PRE-PLANT INCORPORATED OR PRE-EMERGENCE" and "THIS PRODUCT APPLIED ALONE — CORN AND GRAIN SORGHUM; POST-EMERGENCE WITH EMULSIFIABLE OIL OR OIL CONCENTRATE IN WATER".

**Use Precautions and Restrictions for Applications of This Product Plus Emulsifiable Oil or Oil Concentrate in Water to Sorghum—See "USE PRECAUTIONS AND RESTRICTIONS FOR APPLICATIONS OF THIS PRODUCT PLUS EMULSIFIABLE OIL IN WATER TO CORN".**

**Broadleaf Weed Control with This Product Plus Surfactant (CO, Western KS, NM, OK, TX and Desert regions of AZ and CA only):** Broadcast 1.9 pints of this product plus 0.75 to 1.5 pints of surfactant per acre after Sorghum reaches 6 inches in height, but before weeds reach 1.5 inches in height. Apply only on Sandy loam and Fine textured soils.

**Use Precautions and Restrictions for All Applications to Sorghum**

1. Heavy rains immediately following application tend to result in excessive concentrations of herbicide in seed furrow, resulting in possible crop injury. Applications to furrow-planted Sorghum should not be made until furrows are leveled (plowed-in). Deep planter marks or seed furrows should also be leveled before application.
2. Application made to Sorghum growing under stress caused by minor element deficiency or to Sorghum growing on highly calcareous soils may result in crop injury.
3. Following harvest, plow (moldboard or disk-plow) and thoroughly till the soil in the Fall or Spring to minimize possible injury to rotational Spring-seeded crops, regardless of rate used.
4. Injury may occur if both this herbicide, pre-plant surface, pre-plant incorporated or pre-emergence and an at-planting systemic insecticide applied in-furrow are used.
5. The maximum application rate for Sorghum is 2.5 pounds of active ingredient per acre per calendar year.
6. For all soil applications prior to crop emergence (except for pre-emergence 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.

7. For post-emergence applications, do not apply to Sand or Loamy sand, or injury may occur.

**Note:** Do not graze or feed forage from treated areas for 21 days following application or illegal residues may result.

#### TANK MIXTURES FOR GRAIN SORGHUM

**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® (cyometrinil). Refer to the metolachlor label for all directions, use precautions, restrictions and limitations.

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

#### WINTER WEED CONTROL IN TX

For post-emergence control of Winter weeds only, such as Annual thistle, Henbit and Seeding dock on Fall bedded land in the Gulf Coast and Blacklands of TX, apply 0.6 to 0.8 quart per acre post-emergence to the weeds in November or December to land that will be planted to Corn, Forage sorghum or Grain sorghum the following Spring. For best results, add a suitable surfactant such as Surf-Ac 820 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 1 quart per acre.

Normal weed control programs may be used in the following: Corn, Forage sorghum or Grain sorghum crop.

**Note:** Do not plant any crops except Corn, Forage sorghum or Grain sorghum the Spring following this treatment or illegal residues may result.

#### CHEMICAL FALLOW — THIS PRODUCT ALONE

**WHEAT - SORGHUM - FALLOW:** This treatment controls annual Broad-leaf and Grass weeds following Wheat harvest and in the following Sorghum crop when grown under minimum-tillage. Broadcast 4.8 pints to Wheat stubble immediately following Wheat harvest. 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 application of this product. Plant Sorghum into Wheat stubble the following Spring with minimum disturbance of the soil. 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 AND GRAIN SORGHUM; PRE-PLANT SURFACE-APPLIED, PRE-PLANT INCORPORATED OR PRE-EMERGENCE" and "THIS PRODUCT APPLIED ALONE — CORN AND GRAIN SORGHUM; POST-EMERGENCE WITH EMULSIFIABLE OIL OR OIL CONCENTRATE IN WATER".

#### Use Precautions and Restrictions:

1. Use only on Silt loam or Fine textured soil.
2. Wheat - Sorghum - Fallow cropping sequence must be followed.
3. Do not apply following Sorghum harvest.

**Notes:** To avoid illegal residues, do not graze or feed forage from treated area to livestock. To avoid illegal residues and crop injury, do not plant any crop other than those on this label within 18 months following treatment.

**WHEAT - CORN - FALLOW (CO, KS, ND, NE, SD, WY):** This product controls Cheatgrass (Downy brome, Chess), Kochia, Mustard, 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.

On soils in ND and SD with a pH greater than 7.5, do not exceed 1.5 pounds active ingredient per acre of this product. For soils with a pH less than 7.5 in ND and SD, apply 1 to 2 pounds of active ingredient per acre. 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. In the event Grasses are present the following Spring, use a grass herbicide registered for use on Corn.

Follow directions for use, "NOTES" and "USE PRECAUTIONS AND RESTRICTIONS" in the preceding "WHEAT - SORGHUM - FALLOW" section, substituting Corn for references to Sorghum.

**WHEAT - FALLOW - WHEAT (CO, KS, ND, NE, SD, WY):** For pre-emergence 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 0.8 to 1.6 pints per acre on all soils except those listed under "USE PRECAUTIONS AND RESTRICTIONS".

For control of Pigweed and Wild sunflower, use the higher rate. Apply to stubble ground. Treat only once during same fallow period.

#### 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 4.8 pints of this product plus a suitable amount of paraquat in 20 to 60 gallons of water per acre by ground equipment. Add 0.5 to 1 pint of a non-ionic surfactant, such as Surf-Ac 820, per 100 gallons 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 to 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, use precautions and restrictions and limitations.

**WHEAT - FALLOW - WHEAT (CO, KS, ND, NE, SD, WY)**—This Product Plus Paraquat: If weeds are present at application, a tank mix with paraquat may be used. Broadcast 0.8 to 1.6 pints of this product plus a suitable amount of paraquat in 20 to 60 gallons of water per acre by ground equipment. Add 0.5 to 1 pint of a non-ionic surfactant, such as Surf-Ac 820, per 100 gallons 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 to 6 inches. Apply to stubble ground. Treat only once during same fallow period. Refer to paraquat label for further directions, use precautions and restrictions 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 and Restrictions:

1. Do not use on sandy soil.
2. Do not treat eroded hillsides, caliche and rocky outcroppings or exposed calcareous subsoil.
3. Do not treat soils of the Rosebud and Canyon Series in Western NE and adjoining counties in CO and WY.
4. Do not treat soils with calcareous surface layers.
5. Avoid spray overlay.

**Note:** Do not graze treated areas within 6 months after application or illegal residues may result.

**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 feet, using low drift nozzles at a maximum pressure of 40 psi, and restrict application to periods when wind speed does not exceed 10 mph. To assure that spray will not adversely affect adjacent sensitive non-target plants, apply this product alone by aircraft at a minimum upwind distance of 400 feet from sensitive plants.

#### ROADSIDES

To control certain Annual weeds in established Perennial grasses along roadsides in CO, KS, MT, NE, ND, SD and WY, including Cheatgrass (Downy brome, Chess), Common (annual) broomweed, Little barley, Medusahead, Sagewort and Tumble mustard, broadcast 1.6 pints per acre in a minimum of 10 gallons 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, Indian-grass, Little bluestem, Side-oats grama, Switchgrass and Western wheatgrass. Apply only once per year. Temporary discoloration or other forms of injury to the desirable Perennial grasses may occur following application.

**Notes:** To avoid illegal residues:

1. Do not cut or feed roadside Grass hay.
2. Do not allow livestock to graze treated areas.

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

For control or suppression of the following weeds: Annual ragweed, Barnyardgrass, Black nightshade, Cheat, Cocklebur, Downy brome, Fall panicum, Field pennycress, Giant foxtail, Japanese brome, Kentucky bluegrass, Kochia, Lambsquarters, Little barley, Marehail, Pigweed, Prickly lettuce, Smooth brome, Sunflower and Yellow foxtail, refer to the directions for use, "NOTES" and "USE PRECAUTIONS AND RESTRICTIONS" in the following paragraphs:



Pure stands of newly-seeded Big bluestem, Eastern gamagrass and Switchgrass: Use only on Loam, Silt loam, Silty clay loam, Clay loam and Silty clay soils with at least 1% organic matter.

**Establishment:** Broadcast 1.6 quarts per acre of this product pre-plant incorporated or pre-emergence at time of seeding and prior to emergence of weeds. Prepare a good, firm seedbed. Plant one-half 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 0.8 to 1.6 quarts per acre to existing stands of Big bluestem and Switchgrass prior to the emergence of weeds. Use the low rate on soils containing from 1 to 2% 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:** Bluegrama, Indiangrass, Little bluestem, Sand lovegrass, Side-oats grama and Western wheatgrass. Broadcast 0.4 to 0.8 quart per acre 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 lower 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 feet 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 non-target plants, apply this product by aircraft at a minimum upwind distance of 400 feet from sensitive plants. Use 3 to 5 gallons per acre total water volume; use the higher water volume when a dense, heavy ground cover is present.

**Notes:**

1. Do not cut or feed Grass hay to livestock.
2. Do not graze treated areas.
3. Do not use seeds for bird food.
4. Do not dump or spill product or dispose of containers within reach of livestock.
5. Follow all applicable restrictions for the Conservation Reserve Program.

**Use Precautions and Restrictions:** To avoid crop injury, make only one application per year. Slight discoloration of desirable grasses may occur following treatment. Injury may be enhanced when used on neutral or alkaline soils.

**SEVERE DROUGHT CONDITIONS**

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 circumstances.

**SUGARCANE**

**General Use Directions for All States:** For control of many Broadleaf and Grass weeds, including Amaranths, Crabgrass, Fireweed, Flora's paintbrush, Foxtail, Junglerice and Wiregrass, broadcast 3.2 to 6.4 pints per acre of this product at time of planting or ratooning, but before Sugarcane emerges.

Broadcast aerially in a minimum of 5 gallons of spray per acre or broadcast or band by ground equipment in a minimum of 20 gallons per acre, unless indicated otherwise. One additional application may be made over the Sugarcane as it emerges, and two additional applications may be made interline after emergence, as directed spray. 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 1 quart of water for each 0.8 quart of this product applied per acre.

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

**FLORIDA**

For control of emerged Pellitory weed (Artillery weed). Apply 0.6 to 1 pint per acre in 40 gallons of water per acre as a directed spray by ground equipment prior to "close-in". Add 2 quarts of surfactant for each 50 gallons of spray and be sure weed foliage is thoroughly covered.

For control of Alexandergrass, Large crabgrass, Pellitory (Artillery) weed and Spiny amaranth, use one of the following methods at planting or ratooning.

1. Apply 6.4 pints per acre pre-emergence. Follow with 1 or 2 applications, as needed, post-emergence to Sugarcane and weeds, at 3.2 pints per acre. Treat before weeds exceed 1.5 inches in height.
2. Apply 1 to 3 times, as needed, at 3.2 pints per acre post-emergence 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 3.2 pints per acre to weed-free beds immediately after bed formation. Follow normal weed control after planting.

**Use Precautions and Restrictions - To avoid crop injury:**

1. Do not apply more than 8 quarts per acre to any one crop of Sugarcane.
2. If making 3.2 pints per acre application during Summer fallow period, do not exceed 6.4 quarts per acre during 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 6.4 pints per acre of this product pre-emergence. Follow with 1 or 2 applications, as needed, at 4.8 pints per acre post-emergence to Sugarcane and weeds.

For best results, when weeds are emerged, add a non-ionic surfactant, such as Surf-Ac 820, at a concentration of 2 quarts per 100 gallons to the spray and apply before weeds exceed 1.5 inches in height.

**Use Precautions and Restrictions for All States and Uses:**

1. Do not apply this product after "close-in".
2. Do not apply more than 16 pints of this product to any one crop of cane.
3. Injury to Sugarcane may occur when under moisture stress, when soil is of low absorptive capacity or when land is first cropped to Sugarcane.

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 preceding "GENERAL USE DIRECTIONS FOR ALL STATES" and are consistent with the "USE PRECAUTIONS AND RESTRICTIONS FOR ALL STATES AND USES".

**CONIFERS**

For control of annual Broadleaf and Grass weeds prior to transplanting, after transplanting or in established Conifers (including Austrian pine, Bishop pine, Blue spruce, Douglas fir, Grand fir, Jeffrey pine, Knobcone pine, Loblolly pine (Shore pine), Lodgepole pine, Monterey pine, Noble fir, Ponderosa pine, Scotch pine, Sitka spruce, Slash pine and White fir): Broadcast 3.2 to 6.4 pints in a minimum of 5 gallons of water per acre by air or 10 gallons 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 AND GRAIN SORGHUM; PRE-PLANT SURFACE-APPLIED, PRE-PLANT INCORPORATED OR PRE-EMERGENCE" and "THIS PRODUCT APPLIED ALONE - CORN AND GRAIN SORGHUM; POST-EMERGENCE WITH EMULSIFIABLE OIL OR OIL CONCENTRATE IN WATER".

**QUACKGRASS CONTROL:** Broadcast 6.4 pints in a minimum of 5 gallons of water per acre by air or 10 gallons by ground between Fall and early Spring while trees are dormant and before Quackgrass is more than 1.5 inches tall.

**Use Precautions and 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. Temporary injury to trees may occur following use of this product on Coarse textured soil.
4. To avoid crop injury, do not apply to seedbeds.
5. Apply only once per year.

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**Aerial Application:** In order to assure that spray will be controlled within the target area when used according to label directions, make applications at a maximum height of 10 feet 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 non-target plants, apply this product by aircraft at a minimum upwind distance of 400 feet from sensitive plants.

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

This product controls Annual bluegrass, Florida betony, Spurweed and many other problem weeds in home lawn, ornamental and recreational turf and other non-crop areas such as highway right-of-ways and similar areas. 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.

**Use Precautions and Restrictions:** 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. Do not plant any crop (flower or vegetable gardens) to treated areas for 18 months or injury may result.

**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, Parsley-plant, 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:** The 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:** The best control of these weeds can be obtained by applying this product in early April followed with a second application in July. Do not apply to growing Bermudagrass.

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.

**ST. AUGUSTINE GRASS AND CENTIPEDEGRASSES**

This product may be applied to established St. Augustine grass and Centipectegrasses 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.

**RATE OF APPLICATION**

Determine the total area to be sprayed and base rate of application on the chart below. Avoid overlapping spray pattern while treating. Shake contents well before mixing.

Areas To Be Treated	Amount of This Product
500 sq. ft.	1.2 tbsps.
1,000 sq. ft.	2.4 tbsps. (1.2 fl. ozs.)
3,000 sq. ft.	3.6 fl. ozs.
5,450 sq. ft.	6.4 fl. ozs.
10,900 sq. ft. (0.25 acre)	0.8 pt.
1 acre	1.6 qts.

**TURFGRASSES FOR SOD (FL ONLY)**

**Centipectegrass, St. Augustine grass and Zoysiagrass:** Broadcast 3.2 to 6.4 pints per acre according to soil texture to control those weeds listed under "THIS PRODUCT APPLIED ALONE — CORN AND GRAIN SORGHUM; PRE-PLANT SURFACE-APPLIED, PRE-PLANT INCORPORATED OR PRE-EMERGENCE".

Muck or Peat	6.4 pts.	Old Beds: Within 2 days after filling sod.
		New Beds: 3 to 4 days after sprigging or plugging.
Sandy Soil	3.2 pts.	Old Beds: Within 2 days after filling sod.
		New Beds: 7 to 10 days after sprigging or plugging.

If weeds regrow, apply an additional 3.2 pints per acre on Muck or Peat, or 1.6 pints per acre on Sandy soil.

**Use Precautions and Restrictions — To avoid crop injury:**

1. Do not apply within 30 days prior to cutting or lifting.
2. Do not apply in combination with surfactants or other spray additives.
3. Use only on Turfgrass reasonably free of infestations of insects, nematodes and diseases.
4. On newly-sprigged Turfgrass, temporary slowing of growth may follow application.

**TURFGRASS FOR FAIRWAYS, LAWNS, SOD PRODUCTION\* AND SIMILAR AREAS**

\*Except FL, see "TURFGRASSES FOR SOD (FL ONLY)" in preceding section.

**BERMUDAGRASS, CENTIPEDEGRASS, ST. AUGUSTINE GRASS 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 pre-emergence portion of the "THIS PRODUCT APPLIED ALONE — CORN AND GRAIN SORGHUM; PRE-PLANT SURFACE-APPLIED, PRE-PLANT INCORPORATED OR PRE-EMERGENCE" and "THIS PRODUCT APPLIED ALONE — CORN AND GRAIN SORGHUM; POST-EMERGENCE WITH EMULSIFIABLE OIL OR OIL CONCENTRATE IN WATER" section of this label, also apply this product in late Winter before the weeds emerge. Apply in a minimum of 15 gallons of water per acre or 1 gallon per 1,000 square feet.

Where Annual bluegrass is the major weed, use 0.8 quart per acre (17.6 milliliters or 0.6 fluid ounce per 1,000 square feet). Use 1.6 quarts per acre (35.2 milliliters or 1.2 fluid ounces per 1,000 square feet) for control of the other weeds named above. Do not exceed 0.8 quart per acre per treatment on newly-sprigged Turfgrass or on hybrid Bermuda-grass such as Tiflawn, Titway and Ormond.

For continued Summer annual weed control, apply another 0.8 quart per acre at least 30 days after the previous application, but not after April 15. However, do not make more than two applications of this product per year.

**Use Precautions and Restrictions:** On newly-sprigged Turfgrass and hybrid Bermudagrass, temporary slowing of growth and yellowing may occur following application.

To avoid turf injury: 1) Use only on Turfgrass reasonably free of infestations of insects, nematodes and diseases. 2) Do not use on golf greens. 3) Do not use North of NC (except may be used in VA Coastal Plains) or West of the high rainfall areas of Eastern OK and Eastern TX. 4) Do not use on muck or alkaline soils. 5) Do not apply over the rooting area of trees or ornamentals not listed on this label. 6) Do not overseed with desirable Turfgrass within 4 months before or 6 months after treatment. 7) Do not apply this product to newly-seeded Bermudagrass until it has over-wintered and has a well-developed rhizome system. Do not exceed 1.6 quarts of product per acre within 12 months of seeding Bermudagrass.

**Note:** Do not graze or feed turf clippings to animals or illegal residues may result.

**Control of Annual Weeds in Bermudagrass Highway Rights-of-Way (OK Only):** Apply up to 1.6 quarts 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, Lambs-quarters, 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

**Notes — To avoid illegal residues:**

1. DO NOT cut or feed Grass hay from highway rights-of-way.
2. DO NOT allow livestock to graze treated areas.

**MACADAMIA NUTS**

For pre-emergence control of many Broadleaf and Grass weeds, including Crabgrass, Fireweed, Flora's paintbrush, Foxtail, Spanishneedles and Wiregrass, broadcast 3.2 to 6.4 pints per acre before harvest and before weeds emerge. Repeat as necessary. Do not spray when Nuts are on the ground during harvest period. Do not apply by air.

**GUAVA**

Use only on established plantings which are at least 18 months old. Apply as a directed spray at 3.2 to 6.4 pints per acre of this product in 20 to 50 gallons of spray mix pre-emergence or early post-emergence to weeds. When applying post-emergence, the use of a surfactant and greater spray volume (80 to 100 gallons of spray mix per acre) may enhance weed control.

This product controls many annual Broadleaf and Grass weeds, including Fireweed, Purslane, Scarlet pimpernel, Sowthistle and Spanishneedles.

**Notes — To avoid illegal residues:**

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 12.8 pints of this product per year.

## STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Store in a cool, dry location. Avoid storage at high temperatures. Keep container tightly sealed. Avoid contamination with acids or alkalies. Do not stack more than 2 pallets high to prevent crushing. Keep containers away from any source of puncture. Store in original container only.

Pesticides should be separated during storage to prevent cross-contamination of other pesticides, fertilizer, food and feed. Storage area should preferably be locked to prevent admittance by unauthorized or unknowledgeable persons. 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 allow to contaminate water supplies.
5. Dispose of according to instructions below.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**CONTAINER DISPOSAL:** Triple rinse (or equivalent). Then offer for recycling or reconditioning 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.

## WARRANTY—CONDITIONS OF SALE

OUR RECOMMENDATIONS FOR USE of this product are based upon tests believed reliable. Follow directions carefully. Timing and method of application, weather and crop conditions, mixtures with other chemicals not specifically recommended and other influencing factors in the use of this product are beyond the control of the Seller. Buyer assumes all risks of use, storage and handling of this material not in strict accordance with directions given herewith.

In no case shall the Manufacturer or the Seller be liable for consequential, special or indirect damages resulting from the use or handling of this product when such use and/or handling is not in strict accordance with directions given herewith. The foregoing is a condition of sale by the Seller and is accepted as such by the Buyer.

SURF-AC is a registered trademark of Drexel Chemical Company.  
Concep is a registered trademark of Novartis. Compex is a registered trademark of KALO Agricultural Chemicals, Inc. Unite is a registered trademark of HACO, Inc.