

PM 25 19713-80 4-24-97 1078

NOTIFICATION

Please read instructions on reverse before completing form. Form Approved. OMB No. 2070-0060. Approval expires 05-31-98



United States  
Environmental Protection Agency  
Washington, DC 20460

<input type="checkbox"/>	Registration
<input type="checkbox"/>	Amendment
<input checked="" type="checkbox"/>	Other

OPP Identifier Number  
242943

Application for Pesticide - Section I

1. Company/Product Number 19713-80	2. EPA Product Manager Robert Taylor	3. Proposed Classification <input type="checkbox"/> None <input checked="" type="checkbox"/> Restricted
4. Company/Product (Name) Drexel Atrazine 5L	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Drexel Chemical Company P. O. Box 13327 Memphis, TN 38113-0327 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Alternate Name for Drexel Atrazine 5L  
Drexel Atraz<sup>(TM)</sup> - 5

NOTIFICATION  
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Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal	<input type="checkbox"/> Plastic
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt.	No. per container
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled				<input type="checkbox"/> Other _____	

Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Barbara Brown	Title Registration Specialist	Telephone No. (Include Area Code) 901/774-4370
<p align="center"><b>Certification</b></p> <p>I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.</p>		6. Date Application Received (Stamped)
2. Signature <i>Barbara Brown</i>	3. Title Registration Specialist	
4. Typed Name Barbara Brown	5. Date 3/28/97	

**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.



NOTIFICATION  
 APR 24 1997

# Atra - 5

## Herbicide

For season-long weed control in corn, conifers, fallowland, guava, macadamia nuts, sorghum, sugarcane, lawns, turf and chemical fallow.

**ACTIVE INGREDIENTS:**

Atrazine (2-chloro-4-ethylamino-6-isopropylamino-s-triazine)*	50.81%
Related compounds	2.67%

<b>INERT INGREDIENTS:</b>	46.52%
<b>TOTAL:</b>	100.00%

**KEEP OUT OF REACH OF CHILDREN**  
**CAUTION**

Read Entire Label Before Using This Product  
 SHAKE WELL BEFORE USING

EPA Reg. No. 19713-80  
 EPA Est. No. 19713-MS-1

80SP-0397

**STATEMENT OF PRACTICAL TREATMENT**

**IF SWALLOWED:** Contact your local Poison Control Center, hospital or physician. If the patient is unconscious, maintain breathing and heartbeat (cardiopulmonary resuscitation). If the patient is conscious and alert, induce vomiting (syrup of ipecac or stimulate the back of the throat with finger). Never give anything by mouth to an unconscious person!  
**IF ON SKIN:** Remove contaminated clothing and wash skin with soap and plenty of water. If irritation develops, get medical attention.  
**IF IN EYES:** Flush with plenty of water. Get medical attention if irritation persists.  
**NOTE TO PHYSICIAN:** There is no specific antidote for atrazine. If this product is ingested, induce emesis of lavage stomach. The use of an aqueous slurry of activated charcoal may be considered.

**PRECAUTIONARY STATEMENTS**

Hazards to Humans and Domestic Animals

**CAUTION:** Harmful or fatal if swallowed. Avoid breathing of dust. Do not take internally. Causes moderate eye irritation. Avoid contact with eyes, skin or clothing.  
**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, waterproof gloves 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, waterproof gloves, 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.

**USER SAFETY RECOMMENDATIONS**

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

**ENVIRONMENTAL HAZARDS**

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. 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 sink holes. 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 ft. around natural or impounded lakes and reservoirs. If this product is applied to highly erodible land, the 66 foot buffer or set-back from runoff points must be planted to crop or seeded with grass or other suitable crop.

**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 such as *Barnyardgrass, Giant Foxtail, Green Foxtail, Lambsquarters, Large (hairy) Crabgrass, Morningglory, Mustard, Nightshade, Pigweed, Purslane, Ragweed, Velvetleaf, Wild Oats, Witchgrass (Panicum capillare) and Yellow Foxtail.*  
 ATRA-5 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.



Manufactured By:  
**Drexel Chemical Company**  
 P. O. BOX 13327, MEMPHIS, TN 3113-0327

**BEST AVAILABLE COPY**

Since ATRA-5 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.

ATRA-5 is non-flammable.

Care should be taken to avoid using ATRA-5 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 ATRA-5 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 PRECAUTIONS ON THIS LABEL MAY RESULT IN POOR WEED CONTROL, CROP INJURY, OR ILLEGAL RESIDUES.**

**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 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; and to (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/minute/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 application, calculate the amount to be applied per acre as follows:

$$\frac{\text{band width in inches} \times \text{broadcast rate}}{\text{row width in inches}} = \frac{\text{amount needed}}{\text{per acre in field}}$$

**AERIAL APPLICATION:** Use aerial application only where broadcast applications are specified. Apply in a minimum of 1 qt. of water for each quart of ATRA-5 applied per acre. For post-emergence treatments on corn and sorghum, apply recommended rate in a minimum of 2 gal. of water/A. Avoid applications under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur.

**ATRA-5 IN WATER APPLICATIONS**

ATRA-5, a liquified formulation, should be mixed with water and applied as a spray. Pour ATRA-5 into the tank during or after filling. Hydraulic (jet) or mechanical agitation is recommended during mixing and application to keep the materials in suspension. All return lines to the tank must discharge below liquid level and agitation should not be so violent as to cause air bubbles to form in the liquid. Wash sprayer thoroughly after use.

**ATRA-5 IN 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 ATRA-5 on corn and sorghum. Mixing should be accomplished as described under water applications. 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, except as noted under Lay-by treatment for corn, 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 gal. 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 1/4 tsp. or 1.2 milliliters of a compatibility agent approved for this use, such as Compex® or Unite® (1/4 tsp. is equivalent to 2 pt. per 100 gal. 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.
4. After adding all ingredients, put lids on 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 herbicides(s) in water before addition, or (B) Add 1/4 of the compatibility agent to the fertilizer and the other 1/4 of the emulsifiable concentrate or flowable herbicide before addition to the mixture. If incompatibility is still observed, do not use the mixture.

**ATRA-5 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% but not more than 20% 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.

**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.
- 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.

**DIRECTIONS FOR USE**

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

Do not apply this product 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 regulations.

**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.

Personal Protective Equipment 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
- Waterproof gloves
- Chemical-resistant footwear plus socks

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

**ROTATIONAL CROPS—ALL USES**

1. Land treated with ATRA-5 should not be planted to any crop except corn or sorghum until the following year or injury may occur.
2. If ATRA-5 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 area of the West where rainfall is sparse and erratic or where irrigation is required, use ATRA-5 to control weeds in corn only when corn is the follow crop or a crop of untreated corn, or sorghum is to precede other rotational crops.
4. In Western MN and Eastern parts of the Dakotas, NE and KS, corn treated with ATRA-5 should not be followed with soybeans if the broadcast rate applied was more than 3.2 pts. per acre (or comparable rate in a band) or injury may occur.
5. Injury may occur to soybeans planted in North Central IA and South Central MN the year following an ATRA-5 application on Harps, Canisteo, Stroden or other 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 ATRA-5 application or injury may occur.

**BEST AVAILABLE COPY**

**Pre-plant Surface-Applied, Pre-plant Incorporated, or Pre-emergence (or Post-emergence at 3.2 pts./A with Oil)  
Broadleaf or Grass Weeds Controlled:**

Annual Morningglory	Mustards
Barnyardgrass*	Nightshade
Cocklebur*	Pigweed
Giant Foxtail**	Purslane
Green Foxtail*	Ragweed
Groundcherry	Sicklepod**
Jimsonweed	Velvetleaf* (Buttonweed)
Kochia	Wild Oats
Lambsquarters	Witchgrass* ( <i>Panicum capillare</i> )
Large (Hairy) Crabgrass*	Yellow Foxtail

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

**Post-emergence with Emulsifiable Oil or Oil Concentrate in Water (2 pts. Oil plus 1.9 Pts./A)  
Broadleaf Weeds Controlled:**

Annual Morningglory	Pigweed
Cocklebur	Ragweed
Jimsonweed	Smartweed
Lambsquarters	Velvetleaf* (Buttonweed)
Mustards	Wild Buckwheat

\*Partial control only on medium and fine-textured soils.  
Where there are state/local requirements regarding atrazine use (including lower maximum rates and/or set-backs) 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 regulations.

**CORN**

ATRA-5 may be applied either before planting, at planting, or after planting as indicated below.

**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, IL, IN, IA, KS, KY, MN, MO, MT, NE, ND, SD, WI, WY. Apply the recommended rate of ATRA-5 shown in Table 1 up to 30 days prior to planting. On coarse-textured soils, do not apply more than two weeks prior to planting.

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.

**PRE-PLANT INCORPORATED**

**Broadleaf and Grass Weed 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. If soil is tilled or worked after application, avoid deep incorporation of ATRA-5. Best results have been obtained when ATRA-5 is applied within two weeks prior to planting.

**PRE-EMERGENCE OR AT PLANTING**

**Broadleaf and Grass Weed Control:** Apply during or shortly after planting prior to weed emergence at the rate indicated in Table 1.

**POST-EMERGENCE**

**Broadleaf and Grass Weed Control:** Apply before weeds exceed 1.5 inches in height before corn exceeds 12 inches in height at rate recommended 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 3.2 pts./A as a broadcast spray.	
If the soil coverage with plant residue is less than 30% at planting, a maximum of 2.4 pts./A may be applied.	
On Soils Not Highly Erodible	
Apply 3.2 pts./A 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 pt./A, either pre-plant or pre-emergence. On other soils in these areas, apply rate in Table 1 for broadleaf and grass control.	
**As defined by the Soil Conservation Service (SCS)	

**FOR POST-EMERGENCE APPLICATION**

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

Where there are state/local requirements regarding atrazine use (including lower maximum rates and/or set-backs) 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.

**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)	1 qt./A	.5 to 1 qt./A
Petroleum-derived oil	2.4 qts./A	2 qt./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 post-emergence control of those weeds listed under "Pre-plant Incorporated and Pre-emergence."

Broadcast 3.2 pts./A 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 "Post-emergence with Emulsifiable Oil or Oil Concentrate in Water." Broadcast 1.9 pts./A 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.

**PRECAUTIONS FOR APPLICATIONS OF ATRA-5 PLUS EMULSIFIABLE OIL IN WATER TO CORN**

1. Do not use oil in ATRA-5 sprays 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.
2. Do not use oils in sprays when treating inbred lines or any breeding stock as injury may occur.
3. Adding other insecticides, herbicides, liquid fertilizers or other materials is not recommended with ATRA-5 and emulsifiable oil in water because they cause compatibility problems or crop injury.
4. Store and handle emulsifiable oil carefully. Oil contaminated with even a small amount of water may not emulsify properly when added to the tank.
5. Do not exceed 2.5 lbs. active ingredient (4 pts. 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 ATRA-5 FOR CORN**

This product may be 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 6.7 E	Paraquat
Glyphosate	Propachlor
Metolachlor	Simazine
Metolachlor + glyphosate	Simazine + glyphosate
Metolachlor + paraquat	Simazine + paraquat

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 ATRA-5. One lb. of 80W equals 1.28 pt. of 5L.

**ATRA-5 PLUS SIMAZINE 4L OR SIMAZINE 80W**

In addition to the weeds listed under "ATRA-5 Applied Alone - Corn and Grain Sorghum - Pre-plant Surface - Applied, Pre-plant Incorporated, or Pre-emergence," 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 in CO, IL, IN, IA, KS, KY, MN, MO, MT, NE, ND, SD, WI, and WY. Apply the recommended rate of ATRA-5 and simazine shown in Table 2 up to 30 days prior to planting. Applications made less than 30 days prior to planting may be as either a split or single treatment. On coarse-textured soils, do not apply more than two weeks prior to planting. Refer to the "ATRA-5 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 the 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.

50/8

**TABLE 2  
TANK MIXTURES WITH SIMAZINE 4L OR 80W ON CORN**

**BROADCAST RATE / A**

Soil Texture	1:1 Ratio*		1:2 Ratio**	
	ATRAZINE 5L	Simazine 4L or 80W	ATRAZINE 5L	Simazine 4L or 80W
Sand, Loamy Sand, sand Loam	1.6 pts.	2 pts. or 1.25 lbs	1.1 pts.	2.6 pts. or 1.67 lbs
Loam, Silt Loam, Silt, Clay Loam, Sandy Clay Loam, Silty Clay Loam, Sandy Clay, or Silty Clay with Low Organic Matter	1.92 pts.	2.4 pts. or 1.5 lbs	1.3 pts.	3.2 pts. or 2 lbs
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.	3 pts. or 1.8 lbs	1.5 pts.	3.84 pts. or 2.4 lbs

\*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 80W label for further directions, limitations and cautions.

**ATRA-5 PLUS SIMAZINE 4L OR 80W 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, apply 1.6 to 3.2 pts. ATRA-5 plus 2 to 4 pts. Simazine 4L or 1.25 to 2.5 lbs. Simazine 80W plus 1 to 2 pts. paraquat per sprayed acre prior to, during or after planting, but before crop emergence. Use the low rates of atrazine and simazine on light soils, and the higher rates on heavy clay soils. Use 20 to 60 gals. of diluted spray per sprayed acre. Add Surf-Ac 820 or another non-ionic surfactant at the rate of 8 fl. oz. per 100 gals. diluted spray. Add the atrazine to the spray tank while agitating, then add the simazine, paraquat, and Surf-Ac 820. Continue agitation during application. Use the 2 pts. rate of Surf-Ac 820. Use the 2 pts. rate of paraquat 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 and precautions.

**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 3.2 pts./A as a broadcast spray. If the soil coverage with plant residue is less than 30% at planting, apply a maximum of 2.4 pts./A.  
On Soils Not Highly Erodible\*\*: Apply 3.2 pts./A as a broadcast spray.  
\*As defined by the Soil Conservation Service (SCS)

**ATRA-5 PLUS SIMAZINE 4L OR 80W PLUS GLYPHOSATE**  
When applied as recommended under the conditions described, this tank mixture controls many emerged weeds, and gives pre-emergence control of many annual weeds when corn will be planted directly into a cover crop, established or in previous crop residues.

Apply this tank mixture in 20 to 60 gallons of water per acre immediately before, during or after planting, but before crop emergence. As density of stubble, crop residue or weeds increases, spray gallonage and rate should be increased within the recommended ranges to insure complete coverage.

**Annual Weeds:** Apply atrazine and simazine to actively growing grasses and broadleaf weeds that are 6 inches tall at the rates given in Table 3 plus 1 quart of glyphosate per acre. If the weeds are over 6 inches tall, increase the rate of glyphosate to 1.5 qts.

**Perennial Weeds:** At normal application rates in minimum tillage systems, perennial weeds may not be at the proper stage of growth for control. See the "General Information" section of the glyphosate label for the proper stage of growth for perennial weeds. Apply the atrazine and simazine at the rates given in Table 3 plus 2 to 4 qts. of glyphosate per acre. This combination will provide top kill and reduce competition from many emerged perennial grass and broadleaf weeds.

Note: Do not use this tank mix on sand or loamy sand soils. Do not exceed 4 qts. of glyphosate per acre in this tank mixture. Not recommended to control Bermudagrass or Johnsongrass in minimum tillage systems.

**TABLE 3  
ATRAZINE 5L PLUS SIMAZINE 4L OR 80W FOR MIXTURE WITH GLYPHOSATE**

**Broadcast Rate per Acre**

Soil Texture	Broadcast Rate per Acre	
	ATRAZINE 5L	Simazine* 4L or 80W
Coarse: Sandy Loam only	1.6 pts.	2 pts. or 1.25 lbs.
Medium: Loam, Silt Loam, Silt, Sandy Clay Loam	1.6 to 2.3 pts.	2 to 2.75 pts. or 1.25 to 1.75 lbs.
Fine: Silty Clay, Loam, Clay Loam, Sandy Clay, Silty Clay, Clay	1.9 to 2.6 pts.	2.35 to 3.15 pts. or 1.25 to 2 lbs.

\*Use the higher rate of Atrazine 5L and simazine in the recommended ranges in soil with greater than 3% organic matter.  
On Highly Erodible Soils\*: If conservation tillage is practiced, leaving at least 30% of the soil covered with plant residues at planting, apply 3.2 pts./A as a broadcast spray. If the soil coverage with plant residue is less than 30% at planting, a maximum of 2.4 pts./A may be applied.  
On Soils Not Highly Erodible\*\*: Apply 3.2 pts./A as a broadcast spray.  
\*As defined by the Soil Conservation Service (SCS)

**PRECAUTIONS FOR ALL APPLICATIONS TO CORN**

1. Post-emergence application to corn must be made before corn reaches 12 inches in height.
2. The maximum application rate for corn is 2.5 lbs. a.i. per acre per calendar year. Applications for Quackgrass suppression in corn are restricted to Spring application only. No Fall applications are permitted.
3. To avoid crop injury and illegal residues do not apply more than 4 pts. per acre of ATRA-5 to corn in any one year.
4. Following harvest of a treated crop, 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 the rate used.
5. Do not graze treated area or feed treated forage to livestock for 21 days following application or illegal residues may result.
6. For best control of Cocklebur and Velvetleaf, the application rate cannot be less than 2 lbs./A active ingredient, either alone or in tank mix combination.

For post-emergence applications plus emulsifiable oil or oil concentrate, see additional precautions under that section of this label.

**SORGHUM AND SORGHUM-SUDAN HYBRIDS**

Grain and Forage Types: Apply before planting, at planting, or after planting. See Corn section for weeds controlled.

**PRE-PLANT SURFACE-APPLIED**

**Broadleaf and Grass Control:** Use on medium-and-fine-textured soil with minimum-tillage or no-tillage systems only in CO, IL, IN, IA, KS, KY, MN, MO, MT, NE, ND, SD, WI, WY. Apply 2/3 the recommended rate of atrazine shown in Table 4 for the soil texture as a split treatment 30 to 45 days prior to planting and the remainder at planting. Applications made less than 30 days prior to planting may be as either a split or single treatment. Under dry conditions, irrigation after application is recommended to move atrazine 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, 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 4. 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**

**Broadleaf and Grass Control:** Apply at rate shown in Table 4 before weeds exceed 1.5 inches in height and before sorghum exceed 12 inches in height.

**TABLE 4  
PRE-PLANT SURFACE, PRE-PLANT INCORPORATED, AND PRE-EMERGENCE APPLICATION\***

**FOR BROADLEAF AND GRASS WEED CONTROL IN SORGHUM**

On Highly Erodible Soils\*\*: If conservation tillage is practiced, leaving at least 30% of the soil covered with plant residues at planting, apply 3.2 pts./A as a broadcast spray. If the soil coverage with plant residue is less than 30% at planting, a maximum of 2.4 pts./A may be applied.  
On Soils Not Highly Erodible: Apply 3.2 pts./A as a broadcast spray.  
\*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 Blackland areas.  
\*\*As defined by the Soil Conservation Service (SCS)

**FOR POST-EMERGENCE APPLICATION**

If no atrazine was applied prior to sorghum emergence, apply 4 pts./A broadcast. If a post-emergence treatment is required following an earlier herbicide application, the total atrazine applied may not exceed 2.5 lbs. active ingredient (4 pts. of this product) per acre per calendar year. Where there are state/local requirements regarding atrazine use (including lower

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maximum rates and/or set-backs) 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.

**PRE-EMERGENCE BROADLEAF WEED CONTROL IN FURROW IRRIGATED BEDDED SORGHUM**

(AZ and CA only): For pre-emergence control of broadleaf weeds such as *Groundcherry, Lambsquarters, Morningglory, Mustard, Pigweed and Purslane*, broadcast 1.3 to 1.9 pts./A. Use the lower rate on coarse-textured soils and soils low in organic matter and use the high rate on fine-textured soils and soils high in organic matter. Make application after bed preparation, during or after planting, but before sorghum and weeds have emerged and before the first furrow irrigation. Several irrigations should follow the application, making sure that all soil is thoroughly wet.

**PRECAUTIONS FOR PRE-EMERGENCE APPLICATIONS OF ATRA-5 TO FURROW IRRIGATED BEDDED SORGHUM GROWN**

(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 eight months following application.

Corn may be planted immediately.

**POST-EMERGENCE**

**Broadleaf and Grass Weed Control:** Apply before weeds exceed 1.5 inches in height at the rate indicated in Table 5. Application may be made up to sorghum reaching 12 inches in height.

Soil Texture	Minimum Height of Sorghum at Treatment	Broadcast Rate ATRAZINE 5L
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 pts.
Olton and Pullman Clay soils	At least 6 inches high	3.2 pts.
Silty Clay Loams and heavier soils	Completely emerged	3.2 pts.

For post-emergence applications, if no atrazine was applied prior to sorghum emergence, apply 4 pts./A broadcast application. If post-emergence treatment is required following an earlier herbicide application, the total atrazine applied may not exceed 2.5 lbs. active ingredient (4 pts. of this product) per acre per calendar year.

**POST-EMERGENCE BROADLEAF WEED CONTROL WITH ATRA-5 PLUS EMULSIFIABLE OIL OR OIL CONCENTRATE IN WATER**

Broadcast 1.9 pts. per acre for control of broadleaf weeds such as *Annual Morningglory, Cocklebur, Lambsquarters, Mustard, Pigweed, Ragweed, Smartweed and Wild Buckwheat*. Application should be made before *Pigweed and Lambsquarter* 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 10 inches in height, but before it reaches 12 inches. In all other areas, apply after sorghum reaches the three-leaf stage. Add emulsifiable oil at the rate of 1 gal./A for ground applications and 0.5 gal./A for aerial applications, or add 1 qt./A of oil concentrate for ground application. A cultivation may be necessary if all weeds are not controlled or if regrowth of weeds occurs. For the list of weeds controlled, see "ATRA-5 Applied Alone—Corn or Grain Sorghum—Post-emergence with Emulsifiable Oil or Oil Concentrate in Water".

**PRECAUTIONS FOR APPLICATION OF ATRA-5 PLUS EMULSIFIABLE OIL OR OIL CONCENTRATE IN WATER TO SORGHUM—See "Precautions for Applications with Emulsifiable Oil or Oil Concentrate in Water" in Corn section.**

**POST-EMERGENCE BROADLEAF WEED CONTROL WITH ATRA-5 PLUS SURFACTANT**

(CO, Western KS, NM, OK, TX, and Desert Regions of AZ and CA only): Broadcast 1.9 pts. of ATRA-5 plus .075 to 1.5 pts. of surfactant/A after sorghum reaches 6 inches in height, but before weeds reach 1.5 inches in height. Apply only on sandy loams and finer-textured soils.

**PRECAUTIONS FOR ALL APPLICATIONS TO SORGHUM**

1. Post-emergence application to sorghum must be made before sorghum reaches 12 inches in height.
2. The maximum application rate for sorghum is 2.5 lbs. active ingredient per acre per calendar year. Application for Quackgrass suppression in sorghum is

- restricted to a Spring application only. No Fall applications are permitted.
3. 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 (plow-in). Deep planter marks or seed furrows should also be leveled before application.
  4. 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.
  5. Do not graze or feed forage from treated areas for 21 days following application or illegal residues may result.
  6. Following harvest of a treated crop, 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.
  7. 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.

For applications to furrow-irrigated bedded sorghum in AZ and CA and for post-emergence applications plus emulsifiable oil, see additional precautions under these sections of this label.

See "Suggestions for Rotational Crops" at the end of Corn Section.

**TANK MIXTURES FOR GRAIN SORGHUM**

**ATRA-5 + METOLACHLOR on Grain Sorghum (Cyometrinil-Treated Seed)**  
The ATRA-5 + metolachlor tank mixture provides control of weeds listed on label under the ATRA-5 + metolachlor on corn tank mix section.

Apply ATRA-5 + metolachlor pre-plant incorporated or pre-emergence using the appropriate rates from Table 6, Pre-plant Incorporated or Pre-emergence.

Soil Texture	Less than 1.5% organic matter ATRAZINE 5L + metolachlor	1.5% organic matter or greater ATRAZINE 5L + metolachlor
Coarse: Sand, Loamy Sand, Sandy Loam	Do Not Use	Do Not Use
Medium: Loam, Silt, Silt Loam	Do Not Use	1.9 pts. + 1.5 pts.
Fine: Silty Clay Loam, Sandy Clay, Loam, Silty Clay, Sandy Clay, Clay Loam, Clay	1.9 pts. + 1.5 pts.	2.3 to 2.6 pts. + 1.75 to 2 pts.

<sup>†</sup>On highly erodible soils, as defined by the Soil Conservation Service (SCS), if conservation tillage is practiced, leaving at least 30% of the soil covered with plant residues at planting, apply 3.2 pts./A as a broadcast spray. If the soil coverage with plant residue is less than 30% at planting, a maximum of 2.4 pts./A may be applied. On soils not highly erodible, apply 3.2 pts./A as a broadcast spray.  
\*Do not use in NM, OK, or TX except in Northeast OK and the Texas Gulf Coast areas. Do not apply pre-plant incorporated in AZ or the Imperial Valley of CA.

**Precautions:**

1. Applications of atrazine + metolachlor on highly alkaline soils or on eroded areas where calcareous subsoils are exposed may cause sorghum injury.
2. If sorghum seed is not properly treated with cyometrinil, atrazine + metolachlor will severely injure the crop.
3. Under high soil moisture conditions prior to sorghum emergence, injury may occur following the use of atrazine + metolachlor. The crop will normally outgrow this effect.
4. Do not use atrazine + 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 TX**

For post-emergence 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 0.8 to 1 qt/A post-emergence 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 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 qt per acre. Normal weed control programs may be used in the following corn, grain sorghum or forage sorghum crop.

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

**CHEMICAL FALLOW-ATRA-5 ALONE WHEAT-SORGHUM-FALLOW**

This treatment controls annual broadleaf and grass weeds following wheat



harvest and in the following sorghum crop when grown under minimum tillage. Apply 4.8 pts. to wheat stubble immediately following wheat harvest. If weeds are present, remove them with a sweep plow or other suitable implement after application or use an approved contact herbicide before or after application of ATRA-5. 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 "ATRA-5 Applied Alone—Corn or Grain Sorghum—Pre-plant Surface Applied, Pre-plant Incorporated, or Pre-emergence".

#### Precautions:

1. Use only on silt loam or finer textured soil.
2. Wheat-sorghum-fallow cropping sequence must be followed.
3. Do not apply following sorghum harvest.

Note: 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 (KS, NE):** 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.

Follow directions for use, notes and precautions in the "Wheat-Sorghum-Fallow" section above, substituting corn for references to sorghum.

**WHEAT-FALLOW-WHEAT (CO, KS, MT, NE, ND, SD, and WY):** For pre-emergence and control of *Cheatgrass (Downy Brome, Chess)*, *Common Lambsquarters*, *Field Pennygrass*, *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 pts./A on all soils except those listed under "Precautions."

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)

##### ATRA-5 PLUS PARAQUAT

If weeds are present at application, a tank mix with paraquat may be used. Broadcast 0.8 to 1.6 pts. of this product plus 1 to 2 pts. of paraquat in 20 to 60 gals. of water/A by ground equipment. Add 0.5 to 1 pt. of a non-ionic surfactant, such as Surf-Ac 820, 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 2 pt. rate of paraquat 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, 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.

#### Precautions:

1. Do not use on sand 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 ft. using low drift nozzles at a maximum pressure of 40 psi and restrict application to periods when wind speed does not exceed 10 mph.

To assure that spray will not adversely affect adjacent sensitive non-target plants, apply ATRA-5 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, NE, ND, SD, and WY, including *Cheatgrass (Downy Brome, Chess)*, *Common (Annual) Broomweed*, *Little Barley*, *Medusahead*, *Sagewort*, and *Tumble Mustard*, broadcast 1.6 pts./A 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*, *Buffalo Grass*, *Crested Wheatgrass*, *Indiangrass*, *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.

Note: To avoid illegal residues:

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

#### SUGARCANE

For control of many broadleaf & grass weeds, such as *Amaranths*, *Crabgrass*, *Fireweed*, *Flora's Paintbrush*, *Foxtail*, *Jungle Rice*, *Wire Grass* and similar plants. Broadcast 1.6 to 3.2 qts./A at time of planting or ratooning, but before the cane emerges.

Broadcast aerially in a minimum of 5 gal. of spray per acre, or broadcast or band by ground equipment in a minimum of 20 gal. per acre, unless indicated otherwise. One additional application may be made over the cane as it emerges, and two additional applications may be made interline after emergence, as a 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 atrazine are used alone, apply in a minimum of 1 qt. of water for each 0.8 qt. of ATRA-5 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 non-target plants, apply ATRA-5 alone by aircraft at a minimum upwind distance of 400 ft. from sensitive plants.

#### FLORIDA

For control of emerged *Pellitory Weed (Artillery Weed)*. Apply 0.6 to 1 pt./A in 40 gals. of water per acre as a directed spray, by ground equipment prior to "close-in". Add 2 qts. of surfactant for each 50 gals. of spray and be sure weed foliage is thoroughly covered.

For control of *Alexandergrass*, *Large Crabgrass*, *Pellitory Weed (Artillery Weed)* and *Spiny Amaranth*, use one of the following methods at planting or ratooning.

1. Apply 6.4 pts./A pre-emergence. Follow with one or two applications, as needed, post-emergence to sugarcane and weeds, at 3.2 pts./A. Treat before weeds exceed 1.5 inches in height.
2. Apply 1 to 3 times, as needed, at 3.2 pts./A 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 pts./A to weedfree beds immediately after bed formation. Follow normal weed control after planting.

Precautions: To avoid crop injury:

1. Do not apply more than 10 qts. / A to any one crop of sugarcane.
2. If making 3.2 pts./A application during Summer fallow period do not exceed 6.4 qts. / A during remainder of the growing season, or illegal residues may result.

#### TEXAS

Use ATRA-5 for control of *Barnyardgrass*, *Pigweed*, *Purslane* and *Sunflower* in plant or ratoon sugarcane.

Apply 6.4 pts./A of ATRA-5 pre-emergence. Follow with one or two applications, as needed, at 4.8 pts./ A 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 qts. / 100 gals. to the spray and apply before weeds exceed 1.5 inches in height.

Precautions:

1. Do not apply ATRA-5 after "close-in."
2. Do not apply more than 20 pts. of ATRA-5 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.

#### 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, Knobscane Pine, Loblolly Pine (Shore Pine), Monterey Pine, Noble Fir, Ponderosa Pine, Scotch Pine, Slash Pine, Sitka Spruce and White Fir): Broadcast 3.2 to 6.4 pts. 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 applications prior to transplanting allow sufficient precipitation to activate atrazine before transplanting.

In areas where Spring and Summer rainfall is inadequate to activate atrazine, apply during Fall prior to Spring transplanting.

For the list of weeds controlled, see "ATRA-5 Applied Alone - Corn or Grain Sorghum - Pre-plant Surface Applied, Pre-plant Incorporated or Pre-emergence."

**QUACKGRASS CONTROL:** Broadcast 6.4 pts. 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.

Precautions: Temporary injury to trees may occur following the use of Atrazine on coarse-textured soil. To avoid injury:

1. Do not apply to seedbeds.
2. Also apply only once 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 ATRA-5 by aircraft at a minimum upwind distance of 400 ft. from sensitive plants.

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**ST. AUGUSTINEGRASS, CENTIPEDEGRASS, AND DORMANT BERMUDAGRASS**

ATRA-5 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. ATRA-5 may be applied with any pump-up or compressed air type sprayer or with a hose-on type sprayer.

ATRA-5 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.

Caution: Do not apply within the active root zone of vegetables or desirable ornamental plants such as Azaleas, Boxwoods, Camellias, etc. However, ATRA-5 treatments 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), various Annual Clovers, Chickweed (Common and Mouseear), Crabgrass, Cransbill, Gudweed, Dichondra, Florida Betony, Henbit, Knotweed, Lespedeza, Moneywort, Mustards, Narrowleaf Vetch, Parsley-piert, Sandspur, Smutgrass, Spurge, Spurweed, Swinecrest, and Woodsorrel.*

**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 ATRA-5 when *Spurweed* has emerged (December and January).

**Florida Betony:** This weed emerges in the Fall so an application of ATRA-5 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 ATRA-5 in early April followed with a second application in July. Do not apply to growing Bermudagrass.

Applications for *Florida Betony* or *Spurweed* generally will give control or suppression of the other weeds listed. However, as a general rule ATRA-5 will give the best control when applied to young tender weeds or just prior to weed emergence.

**ST. AUGUSTINE AND CENTIPEDEGRASSES**

ATRA-5 may be applied to established Centipede and St. Augustinegrasses 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.

ATRA-5 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.

Area to be Treated	Amount of ATRAZINE 5L
500 square feet	1.5 tablespoons
1000 square feet	3 tablespoons (1.5 ozs.)
3000 square feet	4.5 ounces
5450 square feet	8 ounces
10,900 square feet (0.25 acre)	1 pint
1 acre	2 quarts

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

\*In states other than Florida. For use on Turfgrass for sod in Florida, see "Turfgrasses for Sod (Florida only)" section above.

Bermudagrass, Centipede, St. Augustine, and Zoysia Grass Apply ATRA-5 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*. ATRA-5 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 "ATRA-5 Applied Alone—Corn or Grain Sorghum—Pre-plant Surface-Applied, or Pre-plant Incorporated, or Pre-emergence" section of this label, also apply ATRA-5 in late Winter before the weeds emerge. Apply in a minimum of 15 gals. of water per acre or 1 gal. per 1,000 sq. ft.

Where *Annual Bluegrass* is the major weed, use 1.6 pts. per acre (22 ml or 0.6 fl. oz. per 1,000 sq. ft.) Use 3.2 pts. per acre (or 1.2 oz. per 1,000 sq. ft.) for control of the other weeds named above. Do not exceed 1 qt. per acre per treatment on newly sprigged turfgrass or on Hybrid Bermudagrass such as Tiflawn, Tifway, and Ormond.

For continued Summer annual weed control, apply another 1.6 pts. 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.

Precautions: 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 Virginia 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.

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

**TURF GRASSES FOR SOD (FLORIDA ONLY)**

St. Augustinegrass, Centipede, and Zoysia grass Broadcast 3.2 to 6.4 pts./A according to soil texture to control those weeds listed under

"ATRA-5 Applied Alone—Corn or Grain Sorghum—Pre-plant Surface-Applied, or Pre-plant Incorporated, or Pre-emergence."

Muck or Peat	6.4 pts.	OLD BEDS: within 2 days after lifting sod NEW BEDS: 3 to 4 days after sprigging or plugging
Sandy Soil	3.2 pts.	OLD BEDS: within 2 days after lifting sod NEW BEDS: 7 to 10 days after sprigging or plugging

Precautions: 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.

**MACADAMIA NUTS**

For pre-emergence control of many broadleaf and grass weeds, including *Crabgrass, Fireweed, Florida Paintbrush, Foxtail, Spanishneedles and Wiregrass*. Broadcast 3.2 to 6.4 pts./A before harvest and before weeds emerge. Repeat as necessary. Do not spray when nuts are on 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 p/A of ATRA-5 in 20 to 50 gals. 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 gals. 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 pts. of ATRA-5 per year.

Complex\* trademark of Kalo Agricultural Chemicals Inc.

Surf-Ac\* trademark of Drexel Chemical Company

Unite\* trademark of Hopkins Agricultural Chemical Company

**STORAGE AND DISPOSAL**

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

**STORAGE INSTRUCTIONS:**  
Store in a cool dry location. Avoid storage at high temperatures. Keep container tightly sealed. Avoid contamination with acids or alkalis. 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 knowledgeable 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—CONDITION 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 Drexel 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 Drexel and is accepted as such by the Buyer.

**BEST AVAILABLE COPY**