

19713-80

PM25

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DrexelATRAZINE 5L  
HERBICIDE

ACCEPTED

APR 3 0 1987

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

For Season-Long Weed Control in Corn, Established Orchardgrass Grown for Seed (Pacific Northwest Only), Conifers, Fallowland, Guava, Macadamia Nuts, Pineapple, Sorghum, Sugar Cane, Rangeland, Lawns, Turf, Chemical Fallow, Forest and Christmas Tree Plantations, Perennial Ryegrass Grown for Seed Protection (Pacific Northwest Only), and Nonselective Weed Control on Noncrop Sites.

ATRAZINE 5L CONTAINS 5 LBS. ACTIVE INGREDIENTS PER GALLON.

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

SEE ADDITIONAL PRECAUTIONS ON FOLD-OUT PANELS

**ACTIVE INGREDIENTS:**

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

INERT INGREDIENTS: .....46.52%

TOTAL.....100.0%

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

NET CONTENTS: 2.5 Gallons/9.45 Liters

SHAKE WELL BEFORE USING

Manufactured By:

 **Drexel Chemical Company**

P.O. BOX 8306, MEMPHIS, TENN. 38108-0306

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

**HARMFUL** IF SWALLOWED. Avoid Breathing of Spray. Do Not Take Internally. Causes moderate eye irritation. Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling and before eating or drinking. Wear regular-long-sleeved work clothing. Change to clean clothing daily.

Do not apply this product in such a manner as to directly or through drift expose workers or other persons. The area being treated must be vacated by unprotected persons.

**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 or lavage stomach. The use of an aqueous slurry of activated charcoal may be considered.

**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.

This pesticide is toxic to aquatic invertebrates. Do not apply directly to water or wetlands. Runoff and drift from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water by cleaning of equipment or disposal of wastes.

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# FARMWORKER SAFETY STATEMENT

Do not enter treated areas without protective clothing until sprays have dried.

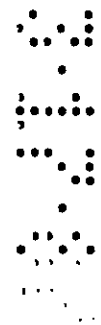
Because certain states may require more restrictive reentry intervals for various crops treated with this product, consult your State Department of Agriculture for further information.

Written or oral warnings must be given to workers who are expected to be in a treated area or in an area about to be treated with this product. Oral warnings must inform workers of areas or fields that may not be entered without specific protective clothing until sprays have dried, and appropriate actions to take in case of accidental exposure, as described under Precautionary Statements on this label. When oral warnings are given, warnings shall be given in a language customarily understood by workers. Oral warnings must be given if there is reason to believe that written warnings cannot be understood by workers. CAUTION. Area treated with Atrazine on (date of application). Do not enter without appropriate protective clothing until sprays have dried. In case of accidental exposure, flush eyes or skin with plenty of water. Call physician if irritation persists. Remove and wash contaminated clothing before reuse.

## GENERAL INFORMATION

Atrazine 5L Herbicide will control most annual broadleaf and grass weeds in corn, sorghum, sugarcane, pineapple and in certain other crops as specified on this label, such as barnyardgrass, witchgrass (*Panicum capillare*), yellow foxtail, green foxtail, wild oats, large (hairy) crabgrass, giant foxtail, velvetleaf, morning-glory, lambsquarters, pigweed, ragweed, nightshade, purslane and mustard. It is also effective in non-crop areas and industrial sites for control of most annual and many perennial broadleaf and grass weeds. Atrazine 5L 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 soils low in organic matter, and the higher rate should be used on fine textured soils and soils 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 Atrazine 5L 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.

Atrazine 5L is non-flammable.

Care should be taken to avoid using Atrazine 5L 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 Atrazine 5L 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/A for all preplant incorporated, preplant surface, preemergence, 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 (3) to 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.

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For band application, calculate the amount to be applied per acre as follows:

<u>band width in inches</u>		<u>broadcast rate</u>	<u>amount needed</u>
<u>row width in inches</u>	X	<u>per acre</u>	<u>per acre of field</u>

#### Aerial Application

Use aerial application only where broadcast applications are specified. Apply in a minimum of 1 qt. of water for each quart of Atrazine 5L 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.

Avoid application to humans or animals. Flagmen and loaders should avoid inhalation of spray mist and prolonged contact with skin, and should wash thoroughly before eating and at the end of each day's operation.

#### ATRAZINE 5L IN WATER APPLICATIONS

ATRAZINE 5L a liquified formulation, should be mixed with water and applied as a spray. Pour ATRAZINE 5L 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.

#### ATRAZINE 5L 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 preplant applications of ATRAZINE 5L 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  $\frac{1}{4}$  tsp or 1.2 milliliters of a compatibility agent approved for this use, such as Compex® or Unite® ( $\frac{1}{4}$  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:

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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 herbicide(s) in water before addition, or (B) add  $\frac{1}{2}$  of the compatibility agent to the fertilizer and the other  $\frac{1}{2}$  of the emulsifiable concentrate or flowable herbicide before addition to the mixture. If incompatibility is still observed, do not use the mixture.

#### ATRAZINE 5L PLUS EMULSIFIABLE OIL OR OIL CONCENTRATE

Adding emulsifiable oil (petroleum-derived, petroleum-derived oil concentrate, or single or mixed crop-derived oil concentrate) to postemergence water-based sprays in corn and sorghum may improve weed control. However, under certain conditions, the use of either type of oil may seriously injure the crop. To minimize this possibility, 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<sup>®</sup> or Unite<sup>®</sup> 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  $\frac{1}{2}$  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.

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### CENTER PIVOT SPRINKLER APPLICATION

Pre-emergence or post-emergence: Apply ATRAZINE 5L alone, or in tank mixtures with other herbicides on this label which are registered for center pivot application, with irrigation water. Apply either after planting before crop and weeds emerge, or after crop emergence, but before lay-by (20-30 inches) and before weeds exceed 1.5 inches in height. Apply at rates recommended on this label. Prepare mixture with a minimum of 1 part water to 1 part product. Injecting a larger volume of a more dilute slurry per hour will assure more accurate calibration of metering equipment. Maintain sufficient agitation to keep herbicide in suspension. Meter slurry into irrigation water during entire period. Apply in  $\frac{1}{2}$  - 1 inch of water: Use the lower water volume on coarser textured soils, the higher volume on finer textured soils. More than 1 inch of water may reduce weed control by moving herbicide below the effective zone in the soil. Inject dilute slurry into system through a positive displacement pump.

### PRECAUTIONS:

1. Apply only through irrigation systems containing anti-siphon and check valves to prevent contamination of well during shutdown and overflow of solution.
2. Inject ahead of any right angle turn in the main line to insure adequate mixing.
3. Chemical injection pumps and water pumps must have interlocking controls to insure simultaneous shutoff.
4. Application when drift may occur from windy conditions, when system joints and connections are leaking, or when nozzles are not providing uniform distribution may cause crop injury.
5. Where sprinkler distribution patterns do not overlap sufficiently, unacceptable weed control may result. Where sprinkler distribution patterns overlap excessively, crop injury may result.

### INSTRUCTIONS FOR SAFE HANDLING

Avoid application directly to animals or humans. Flagmen or loaders should avoid inhalation of spray mist or contact with skin and should wash thoroughly before eating and at the end of each day's operation. See Precautionary Statements for Further Information.

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# **DIRECTIONS FOR USE**

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

## **ATRAZINE 5L APPLIED ALONE - CORN OR GRAIN SORGHUM**

Preplant Surface-Applied, Preplant Incorporated, or Pre-emergence (or Post-emergence at 3.2 pt/A with Oil)

### **Broadleaf or Grass Weeds Controlled**

barnyardgrass (watergrass)	cocklebur	nightshade
giant foxtail	groundcherry	pigweed
green foxtail	jimsonweed	purslane
large (hairy) crabgrass	kochia	ragweed
wild oats	lambsquarters	velvetleaf
witchgrass	annual morning-glory	(buttonweed)
(Panicum capillare)	mustards	
yellow foxtail		

Post-emergence with Emulsifiable Oil or Oil Concentrate in Water

(2 pt. Oil plus 1.9 pt. product/A)

### **Broadleaf Weeds Controlled**

annual morning-glory	pigweed
cocklebur	ragweed
jimsonweed	smartweed
lambsquarters	wild buckwheat
mustards	velvetleaf

## **CORN**

ATRAZINE 5L may be applied either before planting, at planting, or after planting as indicated below.

Preplant 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 2/3 the recommended rate of ATRAZINE 5L shown in Table 1 for the soil texture as a split treatment 30-45 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. 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 Roundup). Observe directions for use, precautions, and restrictions on the label of the contact herbicide.

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

Preplant Incorporated (Broadleaf and Grass 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 ATRAZINE 5L. Best results have been obtained when ATRAZINE 5L is applied within two weeks prior to planting.



**PRE-EMERGENCE (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, at the rate indicated in Table 1.

**TABLE 1**

**For Control of Broadleaf and Grass Weeds\***

<b>SOIL TEXTURE</b>	<b>ATRAZINE 5L BROADCAST RATE/A</b>
<b>COARSE</b> Sand, loamy sand, sandy loam	3.2 pts.
<b>MEDIUM</b> Silt and clay loam low in organic matter	3.8 pts.
<b>FINE</b> Silt and clay loam with medium to high organic matter, clay (including the dark prairie soils of the Corn Belt)	4.8 pts.
Peat, muck, high organic clay (post-emergence only)	4.8 pts.

\*Broadleaf control (eastern CO, western KS, western NE, NM, OK Pan Handle, 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 p<sup>+</sup>/A, either preplant or preemergence. On other soils in these areas, apply rate in Table 1 for broadleaf and grass control.

**LAY-BY TREATMENT (Broadleaf and Grass Control):**

Broadcast 1.6 to 3.2 pt/A before weeds are 1.5 inches tall and corn is 20-30 inches tall. When using nitrogen solutions, direct the spray to lower 3-4 inches of cornstalks to avoid corn foliage injury.

**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 - 1 qt/A
Petroleum-derived oil	1 gal/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 Preplant Incorporated and Pre-emergence. Broadcast 3.2 pt/A plus emulsifiable oil or oil concentrate after weed emergence, but before weeds reach 1.5 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 pt/A plus emulsifiable oil or oil concentrate before pig-weed 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 ATRAZINE 5L PLUS EMULSIFIABLE OIL IN WATER TO CORN

1. Do not use oil in ATRAZINE 5L 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 ATRAZINE 5L 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 make more than one application of ATRAZINE 5L and emulsifiable oil in water per season (except as recommended for control of yellow nutsedge, quackgrass, and Canada thistle on this label).

#### PROBLEM WEEDS

##### FOR CONTROL OF YELLOW NUTSEDGE AND CANADA THISTLE

ATRAZINE 5L will control yellow nutsedge (*Cyperus esculentus*) and Canada thistle (*Cirsium arvense*) when applied as indicated below. For best results, ATRAZINE 5L should be used each year until yellow nutsedge or Canada thistle is eliminated or reaches a level of infestation where neither weed species is a problem. If regrowth of yellow nutsedge or Canada thistle occurs following the last application of ATRAZINE 5L during the season, cultivate once. When ATRAZINE 5L is applied post-emergence to the weeds, 1 gallon of emulsifiable crop oil should be applied per acre.

For control of yellow nutsedge and Canada thistle with ATRAZINE 5L several alternative methods of use are available. These methods are listed in order of preference below. If other weed species, such as annual grasses, are also expected, use alternative 2 or 4.

1. Broadcast 3.2 pt/A plus 1 gal of emulsifiable oil or 1 qt of oil concentrate. Apply after crop and yellow nutsedge or Canada thistle emerge, but before yellow nutsedge reaches a height of 3 inches or Canada thistle reaches a height of 6 inches. Repeat application before lay-by (20-30 inches), 10-20 days after the first application.

2. Broadcast 3.2 pt/A preplant incorporated for control of yellow nutsedge, or broadcast 3.2 pt/A during or shortly after planting, but prior to crop or weed emergence for control of Canada thistle. Follow with an application of 3.2 pt/A plus 1 gal. of emulsifiable oil or 1 qt. of oil concentrate after corn and weeds emerge, but before yellow nutsedge or Canada thistle reaches height of 6 inches.
3. Broadcast 6.4 pt/A plus 1 gal. of emulsifiable oil or 1 qt. of oil concentrate after crop emerges, but prior to lay-by (20 - 30 inches). Apply after yellow nutsedge and Canada thistle emerge, but before yellow nutsedge is 3 inches tall or Canada thistle is 6 inches tall.
4. Broadcast 6.4 pt/A before, during or shortly after planting, but before crop or weed emergence (yellow nutsedge control only).

NOTE: Do not use emulsifiable oil or oil concentrate when corn is wet or under stress, especially when using 6.4 pt/A of this product, or crop injury may occur. See "Precautions for applications with emulsifiable oil or oil concentrate in water" for additional directions.

#### FOR QUACKGRASS CONTROL ON LAND GOING INTO CORN PRODUCTION

Split Application: Broadcast 3.2 pts. acre in the fall or spring and plow 1 - 3 weeks later. Broadcast a second application at the rate of 3.2 pts. per acre in the spring before, during or after planting, but before weeds are 1.5 inches high. This split application will control both quackgrass and most annual broadleaf and grass weeds.

Single Application: Broadcast 4.8 to 6.4 pts per acre in the fall or spring. Plow 1 - 3 weeks after application.

#### TANK MIXTURES WITH ATRAZINE 4L FOR CORN

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

Dual<sup>®</sup> (metolachlor)  
 Dual<sup>®</sup> + Paraquat  
 Dual<sup>®</sup> + Roundup<sup>®</sup> (glyphosate)  
 Dual<sup>®</sup> + Simazine  
 Dual<sup>®</sup> + Simazine + Paraquat  
 Dual<sup>®</sup> + Simazine + Roundup  
 Bexton<sup>®</sup> or Ramrod (propachlor)

Lasso<sup>®</sup> or Lasso<sup>®</sup> EC (alachlor)  
 Lasso<sup>®</sup> or Lasso<sup>®</sup> EC + Roundup  
 Lasso<sup>®</sup> or Lasso<sup>®</sup> EC + Paraquat  
 Paraquat  
 Roundup  
 Simazine  
 Simazine + Paraquat  
 Simazine + Roundup  
 Sutan<sup>®</sup> + 6.7 E

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 ATRAZINE 5L. One lb of 80W equals 1.28 pt of 5L.

#### ATRAZINE 5L + ORTHO PARAQUAT PLUS

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 3.2-4.8 pts. ATRAZINE 5L plus 1 to 2 pts. Paraquat per acre, as a broadcast spray. Refer to both labels for directions, limitations and cautions. Apply 20 to 60 gallons diluted spray per acre. Add Surf-Ac 820 or another non-ionic surfactant at the rate of 8 fl. oz. per 100 gallons diluted spray. Add Atrazine to spray tank first mixing thoroughly in water. Then add Paraquat and surfactant. Constant agitation recommended at all times.

Atrazine plus Paraquat may be applied in liquid nitrogen and/or complete liquid fertilizer solutions when 25 or more gallons of dilute solution are applied per acre in combination with 1 or 2 pts. of Surf-Ac 820 or another non-ionic surfactant per 100 gallons. Equipment must be adjusted and calibrated to obtain thorough coverage of undesirable vegetation. Inadequate coverage and/or absence of a non-ionic surfactant will result in severe reduction of Paraquat activity. Phosphate containing liquid fertilizer solutions will reduce the activity of Paraquat. When liquid fertilizer solutions containing phosphorus are used with Paraquat, and a rapid kill is desired, use the high paraquat rate.

Refer to the Paraquat label for further directions, limitations and cautions.

#### ATRAZINE 5L PLUS ALACHLOR 4 EC PLUS ORTHO PARAQUAT PLUS

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 1.6-3.2 pts. ATRAZINE 5L plus 4 to 5 pts. Alachlor 4 EC plus 1 to 2 pts. Paraquat Plus per acre prior to, during, or after planting, but before crop emergence. Use 20 to 60 gals. of diluted spray per treated area. Add Surf-Ac 820 at 8 oz. per 100 gal. of diluted spray. Add the atrazine to the spray tank while agitating, then add the alachlor, paraquat and Surf-Ac 820. Continue agitation during application. Refer to Alachlor label for caution and for specific rates for a given soil type.

ATRAZINE 5L PLUS DUAL<sup>R</sup> 8E and ATRAZINE 4L PLUS DUAL<sup>R</sup> 8E PLUS SIMAZINE 4L or 80W

Preplant Incorporated or Pre-emergence: In addition to the weeds controlled by ATRAZINE 5L alone, Dual<sup>R</sup> 8E + ATRAZINE 5L or Dual<sup>R</sup> 8E + ATRAZINE 5L + Simazine 4L applied preplant surface, preplant incorporated, or pre-emergence, also controls the following weeds: browntop panicum, cocklebur, common purslane, hairy nightshade, lambsquarters, morningglory, ragweed, smartweed, and velvetleaf.

Apply Dual<sup>R</sup> 8E + ATRAZINE 5L or Dual<sup>R</sup> 8E + ATRAZINE 5L + Simazine 4L preplant surface, preplant incorporated, or pre-emergence.

Preplant Surface Applied: Follow instructions for use of Dual<sup>R</sup> 8E alone under Application Procedures and under application instructions for Dual<sup>R</sup> 8E alone on corn. Apply Dual<sup>R</sup> 8E + ATRAZINE 5L or Dual<sup>R</sup> 8E + ATRAZINE 5L + Simazine 4L on medium soils (2.5 pts./A Dual<sup>R</sup> 8E + 2.6-3.2 pts./A of ATRAZINE 5L or Simazine 4L or ATRAZINE 5L + Simazine 4L combined) and on fine soils 2.5-3 pts./A Dual<sup>R</sup> 8E + 3.2-4.1 pts./A of ATRAZINE 5L or ATRAZINE 5L + Simazine 4L combined in minimum-tillage and no-tillage systems in CO, IL, IN, IA, KS, KY, MN, MO, MT, NE, ND, SD, WI, WY. Apply the tank mixtures as a split or single treatment in those states and as indicated in the Dual<sup>R</sup> 8E alone Preplant Surface Applied section of the Dual<sup>R</sup> 8E label for corn. On coarse soils, apply 2 pts./A of Dual<sup>R</sup> 8E and 2.6 pts./A of ATRAZINE 5L or ATRAZINE 5L + Simazine 4L combined.

When using Simazine 80W use equivalent rates.

Preplant Incorporated or Pre-emergence: Follow instructions for use of Dual<sup>R</sup> 8E alone under Application Procedures. Apply Dual<sup>R</sup> 8E + ATRAZINE 5L or Dual<sup>R</sup> 8E + ATRAZINE 5L + Simazine 4L using the appropriate rates from table 2.

Note: Do not make more than one application per year.

TABLE 2

## Broadcast Rates Per Acre

	Less than 3% organic matter		3% organic matter or greater	
	ATRAZINE*5L + Dual 8E	OR ATRAZINE 5L** + Dual 8E + Simazine** 4L or 80W	ATRAZINE*5L + Dual 8E	OR ATRAZINE 5L** + Dual 8E + Simazine** 4L or 80W
<b>SOIL TEXTURE</b> <b>COARSE:</b> Sand, loamy sand, sandy loam	1.6-3.2 pts. + 1.25-1.5 pts.	0.8-1.6 pts. + 1.25-1.5 pts. + 1.1-2 pts. Sim 4L -or- .7-1.2 lbs. Sim 80W	1.9-3.2 pts. + 1.5 pts.	1.0-1.6 pts. + 1.5 pts. + 1.25-2 pts. Sim 4L -or- .8-1.2 lbs. Sim 80W
<b>MEDIUM:</b> Loam, silt loam, clt	1.9-3.2 pts. + 1.5-2 pts.	1.0-1.6 pts. + 1.5-2 pts. + 1.25-2 pts. Sim 4L -or- .8-1.2 lbs. Sim 80W	2.6-3.2 pts. + 2 pts.	1.3-1.6 pts. + 2 pts. + 1.6-2 pts. Sim 4L -or- 1-1.2 lbs. Sim 80W
<b>FINE:</b> Sandy clay loam, sandy clay loam, silty clay, sandy clay, clay loam, clay	2.6-3.2 pts. + 2 pts.	1.3-1.6 pts. + 2 pts. + 1.6-2 pts. Sim 4L -or- 1-1.2 lbs. Sim 80W	2.6-3.2 pts.*** + 2-2.5 pts.***	1.3-1.6 pts.*** + 2-2.5 pts. + 1.6-2 pts. Sim 4L*** -or- 1-1.2 lbs. Sim 80W***
muck or peat DO NOT USE				

\*On soils having between 6% and 20% organic matter, DualR 8E may be used up to 3.5 pts./A in tank mix combination with 4.8 pts./A of ATRAZINE 5L.

\*\*When using the tank mixture of ATRAZINE 5L + DualR 8E + Simazine 4L or 80W, use equal rates of each as shown when heavy broadleaf weed infestations are expected. When heavy infestations of crabgrass or fall panicum are expected, use a 1:2 ratio of active ATRAZINE + Simazine instead of 1:1 ratio given in Table 2 above.

\*\*\*For cocklebur, yellow nutsedge, and velvetleaf control on fine-textured soils above 3% organic matter: Apply 3.2 pts. ATRAZINE 5L or the same total amount of Atrazine + Simazine with 2-2.5 pts. of DualR 8E/A.

**ATRAZINE 5L Plus Dual 8E Post-Emergence****WEEDS CONTROLLED:**

barnyardgrass	green foxtail	lambsquarters	ragweed
(watergrass)	yellow foxtail	mustard	smartweed
crabgrass		pigweed	velvetleaf
crowfootgrass	jimsonweed	prickly sida	
fall panicum	kochia	purslane	
giant foxtail			

Weeds Partially Controlled: cocklebur, morning-glory, yellow nutsedge.

Apply early post-emergence using the appropriate rates from Table 3. Apply this tank mixture before grass and broadleaf weeds pass the 2-leaf stage and before corn exceeds 5 inches in height. Application to weeds larger than the 2-leaf stage will generally give unsatisfactory control. Occasionally some corn leaf burn may result, but this should not affect later growth or yield. Do not apply this post-emergence tank mixture in fluid fertilizer, as severe crop injury may occur.

Table 3: ATRAZINE 5L plus Dual<sup>®</sup> 8E

POST-EMERGENCE CORN		
SOIL TEXTURE	BROADCAST RATES PER ACRE ATRAZINE 5L	+ DUAL <sup>®</sup> 8E
COARSE: Sand, loamy sand, sandy loam	1.9 pts.	1.5 pts.
MEDIUM: Loam, silt, silt loam	2.6 pts.	2 pts.
FINE: Sandy clay loam, silty clay loam, clay loam, sandy clay, silty clay, clay	2.6 to 3.2 pts. *	2-2.5 pts.

\*For better control of cocklebur, morning-glory, velvetleaf and yellow nutsedge on fine-textured soils above 3% organic matter, apply 3.2 pts. ATRAZINE 5L with 2-2.5 pts. of Dual 8E per acre.

**ROTATIONAL CROPS:**

Follow the crop rotation instructions on the Dual<sup>®</sup> 8E label for Dual plus Atrazine Preplant Incorporated or Pre-emergence - Corn.

**ATRAZINE 5L + DUAL<sup>R</sup> 8E - SIMAZINE 4L or 80W ~~WITH~~ PARAQUAT OR ROUNDUP<sup>R</sup> FOR  
MINIMUM - TILLAGE OR NO - TILLAGE SYSTEMS**

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In minimum-tillage or no-tillage systems where corn is planted directly into a cover crop, stale seedbed, established sod, or previous crop residues, the contact herbicides paraquat or Roundup<sup>R</sup> may be added to a tank mix of ATRAZINE 5L + Dual<sup>R</sup> 8E or ATRAZINE 5L + Dual<sup>R</sup> 8E + Simazine 4L or 80W. portion of the tank mixture provides pre-emergence control of the weeds listed on the Dual<sup>R</sup> 8E label in the tank mixture section for Dual<sup>R</sup> 8E + Atrazine or Dual<sup>R</sup> 8E + Atrazine + Simazine Preplant Incorporated or Pre-emergence.

Application: Apply before, during or after planting, but before the corn emerges, at the rate in Table 4. Add paraquat or Roundup<sup>R</sup> at the following broadcast rates:

Paraquat: 1 - 2 pts.\* per acre plus 8 oz. Surf-Ac 820<sup>R</sup> per 100 gals. of spray mixture. Use the lower rate for control of annual weeds less than 4 inches tall and the higher rate for weeds 4 - 6 inches tall. This treatment will not consistently control weeds taller than 6 inches.

\*Based on products containing 2 lbs. active ingredient per gal.

NOTE: Do not apply combinations containing paraquat in suspension type liquid fertilizers as the activity of paraquat will be reduced.

Roundup<sup>R</sup>: 1.5 qts. per acre for existing annual weeds, or 2 - 4 qts. per acre for existing perennial weeds. See the Roundup<sup>R</sup> label for weeds controlled and recommended rates for specific weeds.

Apply in 20 - 60 gals. of water or fluid fertilizer per acre with ground equipment.

\*Based on products containing 2 lbs. active ingredient per gal.



TABLE 4

## Broadcast Rates Per Acre

	ATRAZINE 5L + Dual 8E	OR	ATRAZINE 5L + Dual 8E + Simazine 4L or 80W
SOIL TEXTURE			
Coarse: Sand, Loamy sand, Sandy Loam	1.9 pts. + 1.5 pts.		1 pt. + 1.5 pts. + 1.25 pts. or 8 lbs.
Medium: Loam, silt loam, silt	2.6 pts. + 2 pts.		1.3 pts. + 2 pts. + 1.6 pts. Simazine 4L or 1 lb. Simazine 80W
Fine:*** Silty clay loam, sandy clay loam, silty clay, sandy clay, clay loam, clay	2.6 to 3.2 pts. + 2 to 2.5 pts.		1.3 to 1.6 pts. + 2 to 2.5 pts. + 1.6 to 2 pts. Simazine 4L or 1.0 to 1.2 lbs. Simazine 80W

\*Use Simazine in preference to Atrazine when heavy infestations of crabgrass or fall panicum are expected.

\*\*When using tank mixture of ATRAZINE 5L plus Dual plus Simazine, use equal rates of Atrazine and Simazine as shown when heavy broadleaf weed infestations are expected. When heavy infestations of crabgrass or fall panicum are expected, use a 1:2 ratio of ATRAZINE 5L + Simazine (4L or 80W) instead of the 1:1 ratio given above.

\*\*\*For cocklebur, yellow nutsedge, and velvetleaf control on ATRAZINE 5L fine-textured soils above 3% organic matter, apply 3.6 pts./A of ATRAZINE 5L, or equivalent, or the same total amount of active ATRAZINE 5L + Simazine with 2-2½ pts./A of Dual<sup>R</sup> 8E.

ATRAZINE 5L PLUS ALACHLOR 4EC

Use as tank mixture for control of many annual broadleaf and grass weeds in corn (field, hybrid seed, silage, sweet, popcorn), including barnyardgrass, carpetweed, crabgrass, fall panicum, Florida pusley, foxtails (giant, green, yellow), goosegrass, jimsonweed, kochia, lambsquarters, mustard, nightshade, pigweed, purslane, ragweed, signalgrass (Brachiaria), smartweed, and witchgrass. This tank mix will reduce competition from the hard to control annual weeds - annual morning-glory, cocklebur, velvetleaf (buttonweed), and sandbur.

For pre-emergence or early post-emergence broadcast application, use rates in Table 5. Apply tank mixture any time from immediately after planting until weeds reach 2-leaf stage and corn is no more than 5 inches tall. On sweet corn, apply before crop and weeds emerge. Application after the 2-leaf weed stage will not give satisfactory control. With post-emergence application, occasional corn leaf burn should not affect growth or yield. If applied with liquid fertilizers, spray before crop emerges.

TABLE 5

Tank Mixtures of ATRAZINE 5L Plus Alachlor 4EC on Corn  
(Surface Application)

Soil Texture	Surface Application Rate/A			
	Less than 3% organic matter		3% or more organic matter	
	ATRAZINE5L	Alachlor 4EC	ATRAZINE5L	Alachlor 4EC
COARSE loamy sand, sandy loam	.6 to .8 qts.	2 qts.	.8 to 1.2 qts.	2 qts.
MEDIUM Loam, silt loam, silt	.8 to 1.0 qts.	2 qts.	1 to 1.2 qts.	2 qts.
FINE Silty clay loam, sandy clay loam, silty clay, sandy clay, clay	.96 to 1.2 qts.	2.25 qts.	1 to 1.4 qts.	2.5 qts.

NOTE: Use the higher rates in the recommended ranges in areas of heavy weed infestations, or for fields under irrigation. Use a minimum of 2.5 quarts of Alachlor 4EC per acre in this tank mixture on coarse soils and 3 to 4 quarts on medium or fine textured soils to reduce competition for hard-to-control weeds. When applied through center pivot irrigation or under sprinkler irrigation systems use a minimum of 2 quarts per acre of Alachlor 4EC and .8 quart per acre of ATRAZINE 5L on coarse soils.

ATRAZINE 5L PLUS ALACHLOR 4EC ON CORN  
(Preplant Incorporated Application)

Table 6

Soil Texture	Preplant Incorporated Application Rate per Acre			
	Less than 3% organic matter		3% or more organic matter	
	ATRAZINE 5L	Alachlor 4EC	ATRAZINE 5L	Alachlor 4EC
MEDIUM Loam, silt loam, silt	1.0 qts.	2.5 qts.	1.2 qts.	2.5 qts.
FINE Silty clay loam, sandy clay loam, silty clay, sandy clay, clay	1.2 qts.	2.75 qts.	1.4 qts.	2.75 qts.

NOTE: Use 3 to 4 quarts of Alachlor 4EC per acre for control of yellow nutsedge or to reduce competition from the hard-to-control weeds listed on this label.

NOTE: Two pass shallow incorporation is recommended to reduce competition from shattercane. Use the 4 quart rate for shattercane.

For preplant incorporated application, use rates in Table 6. Broadcast within 7 days before planting and incorporate 2 inches deep.

Apply tank mixture in a minimum of 20 gals. of water/A. Liquid fertilizer may replace all or part of the water. Add ATRAZINE 5L to spray tank, thoroughly mix with water, then add Alachlor 4 EC. Follow mixing procedures in the section, "Application Procedures" of this label.

At least 12 weeks must elapse following treatment with ATRAZINE 5L Plus Alachlor 4 EC before immature corn forage can be harvested or fed to cattle.

Refer to Alachlor 4EC label for information concerning center pivot irrigation applications and other directions, limitations and cautions

ATRAZINE 5L PLUS ALACHLOR 4EC PLUS ORTHO PARAQUAT PLUS or ATRAZINE 5L PLUS ALACHLOR 4EC PLUS ROUNDUP<sup>®</sup>

MINIMUM OR CONSERVATION TILLAGE SYSTEMS TANK MIXTURES. FIELD CORN OR SILAGE CORN ONLY.

When applied as directed under the conditions described, these tank mixtures control many emerged annual weeds, suppress many emerged perennial weeds and give pre-emergence control of many annual weeds when corn will be planted directly into a cover crop, established sod or in previous crop residues. These tank mixtures will not control regrowth from perennial weeds. Do not apply by air.

For mixing instructions, see the "Mixing Instructions" section of this label.

Apply these tank mixtures in 15 to 60 gals. 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.

Add the Atrazine to the spray tank while agitating then add the Alachlor 4EC, Paraquat and Surf-Ac 820. If Roundup herbicide is used in this tank mixture, add it to the tank last instead of the Paraquat and Surf-Ac 820.

#### CONTROL OR SUPPRESSION OF EMERGED WEED

Add Paraquat or Roundup<sup>®</sup> to the rates of ATRAZINE 5L and Alachlor 4EC given in Table 5.

#### PARAQUAT

When used as directed, Paraquat in tank mixture with Atrazine and Alachlor 4EC controls many emerged annual weeds and suppresses many emerged perennial weeds. In the absence of emerged vegetation, the Paraquat should be deleted, since this product does not provide pre-emergence weed control.

Broadcast Treatment - Apply 1 to 2 pints of Paraquat in this tank mixture immediately before, during or after planting but BEFORE CROP EMERGENCE. Use the 2 pint rate if any weeds are 4 to 6 inches tall. This mixture may not control weeds taller than 6 inches. As density of stubble, crop residue or weeds increases, spray gallonage should be increased within the recommended range for complete coverage. Add Surf-Ac 820 surfactant at 8 oz. per 100 gals. of diluted spray. Refer to the Paraquat label for precautionary statements.

ROUNDUP

**Annual Weeds** - Use 1.5 quarts of Roundup herbicide per acre in tank mixture with Atrazine plus Alachlor 4 EC for control of many emerged annual grass and broadleaf weeds. For emerged annual weeds controlled, see the "Weeds Controlled" section of the label for Roundup<sup>R</sup>.

**Perennial Weeds** - At normal application dates in minimum tillage systems, perennial weeds may not be at the proper stage of growth for control. See the "General Information" section of the label for Roundup for the proper stage of growth for perennial weeds. Use of 2 to 4 quarts of Roundup<sup>R</sup> herbicide per acre in the above tank mixtures under these conditions provides top kill and reduces competition from many emerged perennial grass and broadleaf weeds. For emerged perennial weeds controlled see the "Weeds Controlled" section of the label for Roundup. To obtain control, follow label recommendations for stage of growth and rate of application for specific perennial weeds. To obtain the desired stage of growth, it may be necessary to apply Roundup<sup>R</sup> herbicide alone in the late summer or fall and then follow with a label approved seedling weed control program at planting.

**NOTE:** When using this tank mixture, do not exceed 4 quarts of Roundup<sup>R</sup> herbicide per acre.

USE OF THIS MIXTURE FOR BERMUDAGRASS OR JOHNSONGRASS CONTROL IS NOT RECOMMENDED.

ATRAZINE 5L PLUS PROPACHLOR 65W

Use a tank mixture of ATRAZINE 5L plus Propachlor 65W for control of most annual broadleaf and grass weeds in corn (field, hybrid seed, silage, and sweet corn only), such as annual ryegrass, barnyardgrass, (watergrass), carpetweed, crabgrass, fall panicum, Florida pusley, giant foxtail, green foxtail, yellow foxtail, goosegrass, groundsel, jimsonweed, lambsquarters, mustard, nightshade, pigweed, purslane, ragweed, smartweed and sunflower. This combination also reduces competition from buttonweed (velvetleaf), cocklebur and annual morning-glory. Broadcast 1.7 to 2.6 pts. of ATRAZINE 5L plus 3.8 to 6.0 lbs. of Propachlor 65W per acre on the surface any time from immediately after planting until broadleaf and grass weeds reach the two-leaf stage. Use the lower rates of ATRAZINE 5L and Propachlor 65W on the light-textured soils low in organic matter. Use the higher rates on heavy-textured soils high in organic matter.

A minimum of 2.3 pts. per acre of ATRAZINE 5L in the tank mixture will give better control of annual morning-glory, buttonweed (velvetleaf), cocklebur and sunflower.

Apply in a minimum of 20 gals. of water per acre. Fluid fertilizer may replace all or part of water used as a carrier for applications applied to the soil surface before crop and weeds emerge. Add the ATRAZINE 5L to the spray tank first and thoroughly mix with water. Cut the Propachlor 65W bag and fill with water to the fill line. Grasp the neck of the bag firmly and shake vigorously and add to the spray tank.

Refer to Propachlor 65W label for further directions, limitations and cautions.