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APR 18 1989

Ms. Carol D. Campbell  
Drexel Chemical Company  
P.O. Box 9306  
Memphis, TN 38109

Dear Ms. Campbell:

Subject: Drexel Atrazine 4b  
EPA Registration No. 19713-11  
Re: Labeling  
Your Submission Dated March 22, 1989

The subject submission has been reviewed by our Agency. Your label is acceptable with the following comments. Please make the changes listed below.

1. All products released for shipment after April 30, 1988 must bear the revised labeling described in PR Notice 87-1. Failure to comply could result in a Notice of Intent to Cancel your product's registration.
2. The Agency has revised its water contamination statement to read "Do not contaminate water when disposing of equipment washwaters." Delete the old statement "Do not contaminate water by cleaning of equipment or disposal of wastes."

Submit five (5) copies of your final printed labeling before you release the product for shipment.

56209:I:Giles:T-13:KENCO:04/07/89:04/18/89:aw:vo:de

CONCURRENCES

SYMBOL								
SURNAME								
DATE								

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A stamped copy of the label is enclosed for your records.

Please note that we do not have a record of your submission dated November 8, 1987.

Sincerely yours,

Robert J. Taylor  
Product Manager (25)  
Fungicide-Herbicide Branch  
Registration Division (H7504C)

Enclosure



Acceptable with  
Comments

ACCEPTED  
with COMMENTS  
in EPA Label:

APR 18 1989

ATRAZINE 4L  
HERBICIDE

Under the Fungicide, Insecticide, and Plant Growth Regulator Act, as amended, this pesticide is registered under EPA Reg. No. 19713-11

For Season-Long Weed Control in Corn,  
Conifers, Fallowland, Guava, Macadamia Nuts,  
Pineapple, Sorghum, Sugar Cane, Rangeland, Lawns, Turf, Chemical Fallow,  
Forest and Christmas Tree Plantations,  
and Nonselective Weed Control on  
Noncrop Sites.

ATRAZINE 4L CONTAINS 4 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).....	40.8%
Related Compounds.....	2.2%
INERT INGREDIENTS: .....	57.0%
TOTAL.....	100.0%

EPA Reg. No. 19713-11  
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 9306 MEMPHIS, TENN. 38109-0306

## PRECAUTIONARY STATEMENTS

## HAZARDS TO HUMANS AND DOMESTIC ANIMALS

HARMFUL OR FATAL 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. ✓

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 4L Herbicide will control most annual broadleaf and grass weeds in corn, sorghum, sugarcane, pineapple and 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 4L 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 4L 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 4L is non-flammable.

Care should be taken to avoid using ATRAZINE 4L 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 4L 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. ✓

**BEST AVAILABLE COPY**

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

$\frac{\text{band width in inches}}{\text{row width in inches}}$	X	broadcast rate per acre	=	amount needed per acre of field
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#### 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 4L 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 4L IN WATER APPLICATIONS

ATRAZINE 4L a liquified formulation, should be mixed with water and applied as a spray. Pour ATRAZINE 4L 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 4L 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 4L 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<sup>®</sup> or Unite<sup>®</sup> ( $\frac{1}{4}$  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:

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 4L 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) Wash sprayer thoroughly after use by flushing system with water.



### CENTER PIVOT SPRINKLER APPLICATION

Pre-emergence or post-emergence: Apply ATRAZINE 4L 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.

**DIRECTIONS FOR USE**

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

**ATRAZINE 4L APPLIED ALONE - CORN OR GRAIN SORGHUM**

Preplant Surface-Applied, Preplant Incorporated, or Pre-emergence (or Post-emergence at 4 pt/A with Oil)

Broadleaf or Grass Weeds Controlled

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

Post-emergence with Emulsifiable Oil or Oil Concentrate in Water  
(2 + 2.4 pt/A)

Broadleaf Weeds Controlled

annual morning-glory	pigweed
cocklebur	ragweed
Jimsonweed	smartweed
lambquarters	wild buckwheat
mustards	velvetleaf

**CORN**

ATRAZINE 4L 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 4L 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 4L. Best results have been obtained when ATRAZINE 4L 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\*

SOIL TEXTURE	ATRAZINE 4L BROADCAST RATE/A
<u>COARSE</u>	
Sand, loamy sand, sandy loam	4 pts.
<u>MEDIUM</u>	
Silt and clay loam low in organic matter	4.75 pts.
<u>FINE</u>	
Silt and clay loam with medium to high organic matter, clay (including the dark prairie soils of the Corn Belt)	6 pts.
Peat, muck, high organic clay (post-emergence only)	6 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 2.4 pt/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 2-4 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 4 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 2.4 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 4L PLUS EMULSIFIABLE OIL IN WATER TO CORN

1. Do not use oil in ATRAZINE 4L 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 4L 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 4L 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 4L will control yellow nutsedge (*Cyperus esculentus*) and Canada thistle (*Cirsium arvense*) when applied as indicated below. For best results, ATRAZINE 4L 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 4L during the season, cultivate once. When ATRAZINE 4L 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 4L, 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 4 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 4 pt/A preplant incorporated for control of yellow nutsedge, or broadcast 4 pt/A during or shortly after planting, but prior to crop or weed emergence for control of Canada thistle. Follow with an application of 4 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 8 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 8 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 8 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 4 pts. per acre in the fall or spring and plow 1 - 3 weeks later. Broadcast a second application at the rate of 4 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 6 - 8 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 4L. One lb of 80W equals 1.6 pt of 4L.

#### ATRAZINE 4L + 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 4 to 6 pts. ATRAZINE 4L 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 4L 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 2 to 4 pts. ATRAZINE 4L 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 4L 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 4L alone, Dual<sup>R</sup> 8E + ATRAZINE 4L or Dual<sup>R</sup> 8E + ATRAZINE 4L + 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 4L or Dual<sup>R</sup> 8E + ATRAZINE 4L + 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 4L or Dual<sup>R</sup> 8E + ATRAZINE 4L + Simazine 4L on medium soils (2.5 pts./A Dual<sup>R</sup> 8E + 3.2-4 pts./A of ATRAZINE 4L or Simazine 4L or ATRAZINE 4L + Simazine 4L combined) and on fine soils 2.5-3 pts./A Dual<sup>R</sup> 8E + 4-5 pts./A of ATRAZINE 4L or ATRAZINE 4L + 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 3.2 pts./A of ATRAZINE 4L or ATRAZINE 4L + 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 4L or Dual<sup>R</sup> 8E + ATRAZINE 4L + 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*4L + Dual 8E	OR Atrazine**4L + Dual 8E + Simazine** 4L or 80W	Atrazine*4L + Dual 8E	OR Atrazine** 4L + Dual 8E + Simazine** 4L or 80W
SOIL TEXTURE COARSE: Sand, loamy sand, sandy loam	2-4 pts. + 1.25-1.5 pts.	1-2 pts. + 1.25-1.5 pts. + 1.1-2 pts. Sim 4L -or- .7-1.2 lbs. Sim 80W	2.35-4 pts. + 1.5 pts.	1.25-2 pts. + 1.5 pts. + 1.25-2 pts. Sim 4L -or- .8-1.2 lbs. Sim 80W
MEDIUM: Loam, silt loam, silt	2.35-4 pts. + 1.5-2 pts.	1.25-2 pts. + 1.5-2 pts. + 1.25-2 pts. Sim 4L -or- .8-1.2 lbs. Sim 80W	3.25-4 pts. + 2 pts.	1.6-2 pts. + 2 pts. + 1.6-2 pts. Sim 4L -or- 1-1.2 lbs. Sim 80W
FINE: Silty clay loam, sandy clay loam, sandy clay, sandy clay, clay loam, clay	3.25-4 pts. + 2 pts.	1.6-2 pts. + 2 pts. + 1.6-2 pts. Sim 4L -or- 1-1.2 lbs. Sim 80W	3.25-4 pts.*** + 2-2.5 pts.***	1.6-2 pts.*** + 2-2.5 pts. + 1.6-2 pts. Sim 4L*** -or- 1-1.2 lbs. Sim 80W***
much or peat	DO NOT USE			

\*On soils having between 6% and 20% organic matter, Dual<sup>P</sup> 8E may be used up to 3.5 pts./A in tank mix combination with 3 qts./A of ATRAZINE 4L.

\*\*When using the tank mixture of ATRAZINE 4L + Dual<sup>P</sup> 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 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 4 pts. ATRAZINE 4L or the same total amount of Atrazine + Simazine with 2-2.5 pts. of Dual<sup>P</sup> 8E/A.



**ATRAZINE 4L 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 4L plus Dual<sup>®</sup> 8E

POST-EMERGENCE CORN		
SOIL TEXTURE	BROADCAST RATES PER ACRE	
	Atrazine 4L	+ DUAL <sup>®</sup> 8E
COARSE: Sand, loamy sand, sandy loam	2.35 pts.	1.5 pts.
MEDIUM: Loam, silt, silt loam	3.25 pts.	2 pts.
FINE: Sandy clay loam, silty clay loam, clay loam, sandy clay, silty clay, clay	3.25-4 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 4 pts. ATRAZINE 4L 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 4L + DUAL<sup>R</sup> 8E - SIMAZINE 4L or 80W WITH PARAQUAT OR ROUNDUP<sup>R</sup> FOR  
MINIMUM - TILLAGE OR NO - TILLAGE SYSTEMS**

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 4L + Dual<sup>R</sup> 8E or ATRAZINE 4L + Dual<sup>R</sup> 8E + Simazine 4L or 80W. A 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 4L + Dual 68E	OR Atrazine 4L + Dual 68E + Simazine 4L or 80W
SOIL TEXTURE		
Coarse: Sand, Loamy sand, Sandy m	2.35 pts. + 1.5 pts.	1.26 pts. + 1.5 pts. + 1.25 pts. or 8 lbs.
Medium: Loam, silt loam, silt	3.25 pts. + 2 pts.	1.6 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	3.25 to 4 pts. + 2 to 2.5 pts.	1.6 to 2 pts. + 2 to 2.5 pts. + 1.5 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 4L 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 4L + Simazine (4L or 80W) instead of the 1:1 ratio given above.

\*\*\*For cocklebur, yellow nutsedge, and velvetleaf control on ATRAZINE 4L fine-textured soils above 3% organic matter, apply 4.5 pts./A of ATRAZINE 4L, or equivalent, or the same total amount of ATRAZINE 4L + Simazine with 2-2½ pts./A of Dual<sup>R</sup> 8E.

ATRAZINE 4L 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 4L Plus Alachlor 4EC on Corn  
(Surface Application)**

Soil Texture	Surface Application Rate/A			
	Less than 3% organic matter		3% or more organic matter	
	ATRAZINE 4L	Alachlor 4EC	ATRAZINE 4L	Alachlor 4EC
COARSE loamy sand, sandy loam	.75 to 1 qts.	2 qts.	1 to 1.5 qts.	2 qts.
MEDIUM Loam, silt loam, silt	1 to 1.25 qts.	2 qts.	1.25 to 1.5 qts.	2 qts.
FINE Silty clay loam, sandy clay loam, silty clay, sandy clay, clay	1.2 to 1.5 qts.	2.25 qts.	1.25 to 1.75 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 1 quart per acre of ATRAZINE 4L on coarse soils.

ATRAZINE 4L 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 4L	Alachlor 4EC	ATRAZINE 4L	Alachlor 4EC
MEDIUM Loam, silt loam, silt	1.25 qts.	2.5 qts.	1.5 qts.	2.5 qts.
HEAVY Silty clay loam, sandy clay loam, silty clay, sandy clay, clay	1.5 qts.	2.75 qts.	1.75 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 4L 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 4L 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 4L PLUS ALACHLOR 4EC PLUS ORTHO PARAQUAT PLUS or ATRAZINE 4L PLUS ALACHLOR 4EC PLUS ROUNDUP®

MINIMUM OR CONVERSATION 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® to the rates of ATRAZINE 4L 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 4L PLUS PROPACHLOR 65W

Use a tank mixture of ATRAZINE 4L 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 2.10 - 3.20 pts. of ATRAZINE 4L 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 4L 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 2.8 pts. per acre of ATRAZINE 4L 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. Non-pressure 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 4L 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.



ATRAZINE 4L PLUS SIMAZINE 4L OR SIMAZINE 80W

In addition to the weeds listed under ATRAZINE 4L Applied Alone - Corn and Grain Sorghum - Preplant Surface - Applied, Preplant Incorporated, or Pre-emergence, this combination also controls crabgrass, fall panicum, and carpetweed.

Broadcast tank mix before planting, at planting, or after planting, but before crop and weeds emerge, at rates in Table 7. 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.

Preplant Surface - Applied: 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, and WY. Apply 2/3 the recommended rate of ATRAZINE 4L and Simazine shown in Table 7 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. Refer to the ATRAZINE 4L Alone - Preplant Surface - Applied section of the corn label for additional details.

If weeds are present at time of treatment, apply in a tank mix combination with a contact herbicide (for example, paraquat or 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: 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.

TABLE 7

## TANK MIXTURES WITH SIMAZINE 4L OR 80W ON CORN

Soil texture	Broadcast rate/A					
	1:1 Ratio*			1:2 Ratio**		
	This product	Simazine 80W	Simazine 4L	This product	Simazine 80W	Simazine 4L
Sand, loamy sand, sandy loam	2 pts.	1.25 lb	2 pts.	1.32 pts.	1.67 lb	2.6 pts.
Loam, silt loam, silt, clay loam, sandy clay loam, silty clay loam, sandy clay, or silty clay with low organic matter	2.4pts.	1.5 lb	2.4 pts.	1.6 pts.	2 lb.	3.2 pts.
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)	3 pts.	1.8 lb.	3 pts.	1.92 pts.	2.4 lb	3.84 p s.

\*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.

#### ATRAZINE 80W PLUS SIMAZINE 4L OR 80W 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 2 to 4 pts. Atrazine 4L plus 2-4 pts. Simazine 4L or 1.25 to 2.5 lbs. Simazine 80W plus 1 to 2 pts. Ortho Paraquat Plus 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 Paraquat CL if existing vegetation is 4 - 6 inches tall. This mixture will not control weeds taller than 6 inches. Refer to Paraquat and Simazine labels for further limitations and precautions.

# ATRAZINE 4L PLUS SIMAZINE 4L OR 80W PLUS ROUNDUP

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 8 plus 1 quart of Roundup per acre. If the weeds are over 6 inches tall, increase the rate of Roundup to 1.5 qts.

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 Roundup label for the proper stage of growth for perennial weeds. Apply the Atrazine and Simazine at the rates given in Table 8 plus 2-4 qts. of Roundup 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 Roundup per acre in this tank mixture. Not recommended to control bermudagrass or johnsongrass in minimum tillage systems.

TABLE 8: Atrazine 4L plus Simazine 4L or 80W for mixture with Roundup.

Soil Texture	Broadcast Rate Per Acre	
	Atrazine 4L*	Simazine * 4L or 80W
Coarse: sandy loam only	2 pts.	2 pts. or 1.25 lbs.
Medium: loam, silt loam, silt, sandy clay loam	2-2.8 pts.	2-2.75 pts/ or 1.25-1.75 lbs.
Fine: silty clay loam, clay loam, sandy clay, silty clay, clay	2.4-3.2 pts.	2.35-3.15 pts. or 1.25-2 lbs.

\*Use the higher rate of Atrazine and Simazine in the recommended ranges in soil with greater than 3% organic matter.

**ATRAZINE 4L PLUS SUTAN + 6.7-E**

A tank mix combination of ATRAZINE 4L and SUTAN + 6.7-E can be applied and mixed into the soil before planting for weed control in corn. This combination will control a broader spectrum of weeds than will either material used alone. In addition, potential hazard of ATRAZINE residues affecting certain succeeding crops is reduced because a lower rate of ATRAZINE can be used when it is combined with SUTAN + 6.7-E than when it is used alone.

FOLLOW ALL USE PRECAUTIONS AND WARNINGS THAT APPEAR ON THE SUTAN + 6.7-E LABEL, SUPPLEMENTARY SUTAN + 6.7-E LITERATURE AND ELSEWHERE ON THIS LABEL.

MAKE ONLY ONE APPLICATION PER CROP AFTER TREATMENT WITH ATRAZINE 4L SUTAN + 6.7-E COMBINATION. DO NOT PLANT ANY CROP EXCEPT CORN UNTIL THE FOLLOWING YEAR OR INJURY MAY OCCUR.

DO NOT USE ON MILO OR SORGHUM.

DO NOT USE ON CORN SEED STOCK (BREEDERS, FOUNDATION, OR INCREASE).

For weeds controlled by ATRAZINE 4L Sutan + 6.7-E see the Sutan + 6.7 E Label.

The ATRAZINE 4L /SUTAN + 6.7-E combination can be mixed with water or combined with fluid (solution, slurry or suspension) fertilizers and applied as a spray, or can be impregnated on dry bulk fertilizers.

See Appendix III on SUTAN + 6.7-E label for Tank Mix Directions.

ATRAZINE 4L SUTAN + 6.7-E FLUID FERTILIZER TANK MIX.

The ATRAZINE 4L SUTAN + 6.7-E combination can be combined with fluid fertilizers for applications made before planting. However, the physical compatibility with these fluid fertilizers must be determined before combining in the spray tank, and even though found to be compatible, constant agitation is necessary to keep the ATRAZINE SUTAN + 6.7-E evenly mixed with the fluid fertilizer during application.

In some areas discing 2 to 3 times spaced at 4 to 6 week intervals during fall and winter can be done. If this cannot be done, start with fall plowing followed by several discings in the spring before planting. The discing cuts rhizomes into small pieces and brings them to the surface, where both the weather and SUTAN +<sup>R</sup> 6.7-E will kill or weaken them.

Rhizome Bermudagrass: The rhizomes and stolons of bermudagrass must be cut up thoroughly so that four or less nodes remain on a strand. For control of bermudagrass, the disc must be set to cut 6 inches deep.

For Suppression of Broadleaf Signalgrass: For early and mid-season suppression, use 7-1/3 pts. of SUTAN + 6.7-E and 1 to 1-1/2\* quarts ATRAZINE 4L per acre. Cultivation or application of a post-emergence herbicide recommended for broadleaf signalgrass will aid in extending control to late season.

For Suppression of Hemp Dogbane: For early and mid season suppression, use 7-1/3 pints of SUTAN + 6.7-E and 1 to 1-1/2\* quarts ATRAZINE 4L per acre. Cultivation or application of a post-emergence herbicide recommended for hemp dogbane may aid in extending control beyond mid-season.

\*Use the higher rate of ATRAZINE 4L on soils with over 5% organic matter.

Fall Application: For use only in Minnesota, Northern Iowa (North of Interstate 80), Northeast Nebraska (North of Interstate 80 and East of State Highway 14), South Dakota (East of Missouri river), Wisconsin and Northern Illinois (North of Interstate 80). Apply and incorporate 7-1/3 pints SUTAN + 6.7-E and 1-1/2 quarts ATRAZINE 4L per acre in the late Fall before the ground freezes.

See Appendix IV on the SUTAN + 6.7-E label for directions on use of dry bulk fertilizer applied in the Fall with this combination.

NOTE: Do not use Fall Application for suppression of wild cane.

#### CULTURAL PRACTICES FOLLOWING APPLICATION

Should weeds develop, a shallow cultivation or rotary hoeing will generally result in better weed control. When cultivating for any reason, it should be shallow; i.e., no more than 1/2 the depth the herbicide was incorporated.

RECOMMENDATIONS

NOTE: The ATRAZINE 4L/SUTAN + 6.7-E tank mix combination is not recommended on corn grown in Arizona or in the ten Southernmost California counties.

For all uses, cultivation is recommended in addition to the ATRAZINE 4L/SUTAN + 6.7-E treatment in fields with moderate to heavy infestations of wild cane, nutgrass, sandbur, johnsongrass, seedlings, rhizome, bermudagrass, Texas panicum or volunteer sorghum.

Broadcast Rates Per Acre Conventional spray - ATRAZINE 4L/SUTAN + 6.7-E: Center pivot sprinklers - ATRAZINE 4L/SUTAN + 6.7-E.

For control of annual grasses and broadleaf weeds: Use 3-3/4 to 4-3/4 pints SUTAN + 6.7-E and 1 to 1-1/2\* quarts ATRAZINE 4L per acre. Use the higher rate of SUTAN + 6.7-E on medium (medium fine textured-silt loam, clay loam, etc.) to fine (fine textured-clay) soils and for sandbur and johnsongrass seedling control.

For control of nutsedge and Texas panicum (in addition to the broadleaf weeds and other annual grasses listed): Use 4-3/4 to 7-1/3 pints of SUTAN + 6.7-E and 1 to 1-1/2\* quarts per acre. Use the higher rates of SUTAN + 6.7-E on medium (medium fine textured-silt loam, clay loam, etc.) soils, fine (fine textured-clay) soils and for heavy infestations.

For partial control (suppression) of Wild Cane (and for control of the broadleaf weeds and annual grasses listed): When applied and incorporated immediately before planting, SUTAN + 6.7-E at the rate of 7-1/3 pints and 1 to 1-1/2\* quarts ATRAZINE 4L per acre will reduce competition from wild cane. On continuous corn acreage with high cane speed population, rotation to another crop is recommended.

NOTE: See preceding SUTAN + 6.7-E section for wild cane supplemental cultural and tillage practices.

For control of Johnsongrass and Bermudagrass (in addition to the broadleaf weeds and annual grasses listed): Apply and disc-incorporate SUTAN + 6.7-E just before planting at the rate of 4-3/4 to 7-1/3 pints plus 1 to 1-1/2\* quarts of ATRAZINE 4L per acre. Use the higher rate of SUTAN + 6.7-E on medium (medium fine textured-silt loam, clay loam, etc.) soils, fine (fine textured-clay) soils, for rhizome johnsongrass suppression and for heavy infestations. Disc a second time at right angles to the first. Cultivate at least once, preferably twice.

Johnsongrass: Using a program of plowing and disking followed by SUTAN + 6.7-E and ATRAZINE 4L will give good control of seedlings and greatly reduce competition from plants coming from rhizomes.

## CENTER PIVOT SPRINKLER APPLICATION

Apply ATRAZINE 4L/SUTAN + 6.7-E with irrigation water before planting (see PLANTING on the SUTAN + 6.7-E label) or immediately after planting before either corn or weeds emerge. It is important that application be done immediately after the last tillage operation since poor results will occur if the weeds have germinated before application of the herbicide. Meter the pre-mixed ATRAZINE 4L/SUTAN + 6.7-E into the irrigation water during the entire period. Apply in  $\frac{1}{2}$  to 1 inch of water or sufficient water to penetrate the soil to a depth of 5 to 7 inches. Good agitation of the pre-mixed ATRAZINE/SUTAN + 6.7-E should be maintained during the entire application period. See Appendix III on the SUTAN + 6.7-E label for tank mixing directions for ATRAZINE 4L with SUTAN + 6.7-E.

## USE PRECAUTIONS:

- A. Apply the product only through center pivot irrigation systems containing anti-siphon and check valves which will prevent water source contamination and overflow of the slurry tank and containing interlocking controls between the metering device and the water pump to insure simultaneous shut-off.
- B. Inject the product with a positive displacement pump into the main line ahead of a right angle turn to insure adequate mixing.
- C. Application of more than recommended quantities of irrigation water may result in decreased product performance by removing the chemical from the zone of effectiveness.
- D. Do not apply when wind speed favors drift, when system connections or fittings leak, when nozzles do not provide uniform distribution or when lines containing the product must be dismantled and drained.

## PLANTING

Do not plant seed deeper than 2 inches. For a ATRAZINE 4L/SUTAN + 6.7-E application made before planting, seeding can be done immediately, or it may be delayed up to 2 weeks. To avoid removing ATRAZINE 4L/SUTAN + 6.7-E from the row (with loss of weed control in the row), do not move or shape soil after treatment, such as by planting in deep furrows. If it is necessary to work the soil following application and incorporation but before planting, do not work the soil deeper than depth the herbicides were incorporated.

Refer to Appendix II on SUTAN + 6.7-E label regarding the procedure for testing the compatibility of ATRAZINE/SUTAN + 6.7-E combination with fluid fertilizers.

#### IMPREGNATION ON DRY BULK FERTILIZERS

Dry bulk fertilizers (except single superphosphate, treble superphosphate and nitrate fertilizers) may be impregnated or coated with ATRAZINE 4L/SUTAN + 6.7-E. However, uniform distribution of ATRAZINE 4L/SUTAN + 6.7-E on fertilizer particles and uniform application are necessary to assure good results. See Appendix IV on SUTAN + 6.7-E label for information and directions for impregnation and use for these combinations.

#### APPLICATION AND SOIL INCORPORATION DIRECTIONS

##### SPRAY APPLICATION AND MECHANICAL INCORPORATION

Apply the recommended dosage in 10 to 50 gals. of water per acre (use the higher gallonage in arid areas) using a properly calibrated, low-pressure type nozzle (flood, fan or swirl chamber) on boom-type sprayer having good, but not excessive agitation. Check frequently during application to be sure nozzles are free from clogging and are delivering a uniform spray pattern. Read directions on this label concerning nozzle and screen sizes.

The herbicides must be incorporated into the soil immediately after application to prevent loss of the SUTAN + 6.7-E. Whenever possible, application and incorporation should be done in the same operation. Apply the herbicides to soil dry enough to permit good soil mixing.

See Appendix I on SUTAN + 6.7-E label for Soil Mixing (incorporation) before Planting Directions.

Loss of weed control will result from any delay in incorporation if SUTAN + 6.7-E is applied to a moist soil surface.

If there must be a delay (less than one hour) in incorporation of the herbicides when application and incorporation are done in separate operations, SUTAN + 6.7-E must be applied to a dry soil surface (at least  $\frac{1}{2}$  inch deep) and free from dew and incidental moisture.

**IMPORTANT:** Thorough mixing of SUTAN + 6.7-E in the soil is necessary. The soil must be in good tilth. Improper discing or poor tilth (large clods) may result in unsatisfactory control.



### PRECAUTIONS FOR ALL APPLICATIONS TO CORN

1. To avoid crop injury and illegal residues do not apply more than 8 pts. per acre of ATRAZINE 4L to corn in any one year.
2. 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.
3. Do not graze treated area or feed treated forage to livestock for 21 days following application or illegal residues may result.

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

### SUGGESTIONS FOR ROTATIONAL CROPS

1. Land treated with ATRAZINE 4L should not be planted to any crop except corn or sorghum until the following year or injury may occur.
2. If ATRAZINE 4L is applied after June 10, do not rotate with crops other than corn or sorghum the next year or injury may occur.
3. If the broadcast rate or equivalent band application rate exceeds 6 pt/A of ATRAZINE 4L or 6 pt/A of ATRAZINE 4L Plus Simazine 4L (or equivalent of another formulation), a crop of untreated corn or sorghum should precede the next rotational crop.
4. In the High Plains and Intermountain area of the West where rainfall is sparse and erratic or where irrigation is required, use Atrazine 4L to control weeds in corn only when corn is to follow corn or a crop of untreated corn, or sorghum is to precede other rotational crops.
5. In Western Minnesota and Eastern parts of the Dakotas, Nebraska and Kansas, corn treated with ATRAZINE 4L should not be followed with soybeans if the broadcast rate applied was more than 4 pts. per acre (or comparable rate in a band) or injury may occur.
6. Injury may occur to soybeans planted in North Central Iowa and South Central Minnesota the year following an ATRAZINE 4L application on Harps, Canisteo, Stroden or other soils having a calcareous surface layer.
7. Do not plant sugar beets, tobacco, vegetables (including dry beans), spring-seeded small grains or small-seeded legumes and grasses the year following ATRAZINE 4L application or injury may occur.

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

**Apply before planting, at planting, or after planting. See Corn section for weeds controlled.**

Preplant 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 30-45 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 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 CONTROL)**

Broadcast in spring after plowing at rate in Table 9. 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 during or shortly after planting, but prior to weed or crop emergence at rate in Table 9.

**TABLE 9**  
**Preplant Surface, Preplant Incorporated,**  
**and Pre-emergence Applications \***  
**For Broadleaf and Grass Weed Control in Sorghum**

Soil Texture	Organic matter	Broadcast rate/Atrazine 4L
<b>COARSE</b> Sand, loamy sand, sandy loam	any level	DO NOT USE (except for pre-emergence use on bedded sorghum in AZ and CA as indicated below)
<b>MEDIUM AND FINE</b> Loam, silt loam, silt, clay loam, sandy clay loam, silt clay loam, sandy clay, silty clay, clay	less than 1%	
	1-1.5%	3.2-4 pt
	more than 1.5%	4-4.75 pt

\*Do not apply preplant 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.

In case of planting failures, sorghum can be replanted into soil previously treated with ATRAZINE 4L. Do not make a second broadcast application or injury may occur. If Atrazine 80W is applied in a band and sorghum is replanted in the untreated row middles, ATRAZINE 4L can 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 ground cherry, lambsquarters, morning-glory, mustard, pigweed and purslane, broadcast 1.60 to 2.40 pts. per acre. 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 ATRAZINE 4L TO FURROW IRRIGATED BEDDED SORGHUM GROWN IN AZ AND CA:**

To avoid possible sorghum injury, do not use on sand or loamy sand soils or on sorghum planted in the furrow. Additionally, applications made to sorghum growing on alkali soils or where cuts, fills or erosions have exposed calcareous or alkali subsoils, may result in crop injury. In case of crop failure, do not replant sorghum for 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 10. Application may be made up to close-in.

TABLE 10

## Post-emergence Broadleaf and Grass Weed Control in Sorghum

Soil Texture	Minimum Height of Sorghum at Treatment	Broadcast Rate/Atrazine 4L
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	4-4.75 pts.
Olton and Pullman clay soils	At least 6 inches high	4-4.75 pts.
Silty clay loams and heavier soils	Completely emerged	6 pts.

## POST-EMERGENCE BROADLEAF WEED CONTROL WITH ATRAZINE 4L PLUS EMULSIFIABLE OIL OR OIL CONCENTRATE IN WATER:

Broadcast 2.40 pts. per acre for control of broadleaf weeds such as annual morning-glory, cocklebur, lambsquarters, mustard, pigweed, ragweed, smartweed and wild buckwheat. Application should be made before pigweed and lambsquarters reach six inches in height and before all other weeds reach four inches in height. In CO, western KS, NM, OK, TX, and desert regions of AZ and CA, apply when sorghum is 6-10 inches in height, but before it reaches boot stage. In all other areas, apply after sorghum reaches the three-leaf stage. Add emulsifiable oil at the rate of 1 gal. per acre for ground application, and 0.5 gal. per acre for aerial applications, or add 1 qt. per acre 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 ATRAZINE 4L Applied Alone - Corn or Grain Sorghum - Post-emergence with Emulsifiable Oil or Oil Concentrate in Water.

PRECAUTIONS FOR APPLICATION OF ATRAZINE 4L 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 ATRAZINE 4L PLUS SURFACTANT (CO, western KS, NM, OK, TX, and desert regions of AZ and CA only):

Broadcast 2.40 pts. of ATRAZINE 4L plus .75-1.50 pts. of surfactant per acre 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.

TANK MIXTURES FOR GRAIN SORGHUMAtrazine 4L Plus Igran<sup>R80W</sup>

Use as tank mixture for control of certain broadleaf and grass weeds in grain sorghum.

ATRAZINE 4L plus Igran<sup>R</sup> 80W combination may be applied prior to planting with shallow incorporation, at planting time or immediately following planting, before weeds and sorghum emerge. Do not apply to emerged sorghum. When applying preplant with shallow incorporation, apply within two weeks of planting and incorporate into the top 1-2 inches of soil using a rolling cultivator, rotary hoe, spike tooth harrow, or similar implement. For sorghum planted on beds, apply and incorporate after bed formation.

In case of planting failures, sorghum may be replanted into soil previously treated with Atrazine and Igran combination. Do not apply a second broadcast application, or injury may occur. If Atrazine and Igran combination are applied in a band, and sorghum is replanted in the untreated row middles, Atrazine and Igran combinations may be applied in a band to the second planting.

If irrigation is necessary, irrigate during the first 36 hours after planting or wait until the sorghum is at least two inches tall, or injury may occur.

TABLE 11: ATRAZINE 4L plus IGRAN<sup>R</sup> 80W can be used in the regions indicated below. Do not use on sand or loamy sand soils.

ANNUAL BROADLEAF AND GRASS WEED CONTROL		BROADCAST RATE PER ACRE	
REGION	SOIL TEXTURE	ATRAZINE 4L	IGRAN <sup>R</sup> 80W
Illinois, Iowa, Eastern Kansas, Minnesota, Missouri, and Eastern and Central Nebraska South Dakota	Sandy loam	DO NOT USE	2 Lbs.
	Loam and finer	1.6 Pts.	2-2.5 Lbs.
Central Kansas Western Nebraska Oklahoma, and Texas	Sandy loam	DO NOT USE	2 Lbs.
	Loam and finer	DO NOT USE	2-2.5 Lbs.
Eastern Colorado and Western Kansas	Sandy loam and finer	DO NOT USE	2 Lbs.

NOTE: See precautions and suggestions for Crop Rotations on the Igran<sup>P</sup> 80W label under Igran plus Atrazine tank mix section.

Apply ATRAZINE 4L + Dual 8E pre-plant incorporated or pre-emergence using the appropriate rates from Table 12 Preplant Incorporated or Pre-emerge. Follow the use instructions on the Dual<sup>®</sup>8E label immediately preceding Table 12.

Soil Texture	Broadcast rates per acre	
	Less than 1.5% organic matter	1.5% organic matter or greater
	ATRAZINE 4L* + Dual <sup>R</sup> 8E	ATRAZINE 4L + Dual <sup>R</sup> 8E
Coarse: sand, loamy sand, sandy loam	Do Not Use	Do Not Use
Medium: loam, silt, silt loam	Do Not Use	2.35 pts. 4L + 1.5 pts.
Fine: silty clay loam, sandy clay loam, silty clay, sandy clay, clay loam, clay	2.35 pts. 4L + 1.5 pts.	2.9-3.25 pts. 4L + 1.75-2 pts.

**Precautions:**

1. Applications of Atrazine + Dual<sup>R</sup> 8E 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 Concep, Atrazine + Dual<sup>R</sup> 8E will severely injure the crop.

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3. Under high soil moisture conditions prior to sorghum emergence, injury may occur following the use of Atrazine + Dual<sup>R</sup> 8E. The crop will normally out-grow this effect.
4. Do not use Atrazine + Dual<sup>R</sup> 8E on sorghum grown under dry mulch tillage or injury may occur.

Rotational Crops: Refer to the crop rotation instructions on the Dual 8E label for Dual<sup>R</sup> 8E + Atrazine tank mixtures on corn.

## PRECAUTIONS FOR ALL APPLICATIONS TO SORGHUM

1. Heavy rains immediately following application tend to result in excessive concentrations of herbicide in seed furrow, resulting in possible crop injury. Applications to furrow-planted sorghum should not be made until furrows are leveled (plow-in). Deep planter marks or seed furrows should also be leveled before application.
2. Application made to sorghum growing under stress caused by minor element deficiency or to sorghum growing on highly calcareous soils may result in crop injury.
3. Do not graze or feed forage from treated areas for 21 days following application or illegal residues may result.
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 rate used.
5. Injury may occur if both this herbicide, preplant surface, preplant incorporated, or preemergence, and an at-planting systemic insecticide applied in-furrow are used.

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

### Suggestions for Rotational Crops:

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

## WINTER WEED CONTROL IN TEXAS

For postemergence control of winter weeds only, such as henbit, seedling dock, and annual thistle on fall bedded land in the Gulf Coast and Blacklands of Texas. Apply 0.8 - 1 qt/A postemergence to the weeds in November or December to land that will be planted to corn, grain sorghum or forage sorghum the following spring. For best results add a suitable surfactant such as Surf Ac 820<sup>R</sup> 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-ATRAZINE 4L 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 6 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 ATRAZINE 4L. 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 ATRAZINE 4L Applied Alone - Corn or Grain Sorghum - Preplant Surface-Applied, Preplant Incorporated, or Preemergence.

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 pennycress, kochia, mustard, Russian thistle, wild lettuce, and suppression of volunteer wheat during fallow period of a wheat-fallow-wheat rotation, broadcast 1-2 pt/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)

##### ATRAZINE 4L PLUS IGRAN<sup>R</sup>80W

Use as tank mixture for control of certain broadleaf and grass weeds in wheat-sorghum-fallow after wheat harvest and in the following sorghum crop when grown under minimum tillage, or wheat-corn-fallow after wheat harvest and in the following corn crop when grown under minimum tillage.

##### WHEAT-SORGHUM-FALLOW

If weeds are present at time of application (in late July or August following wheat harvest), ATRAZINE 4L may be tank mixed with Igran<sup>R</sup>80W to control existing annual weeds. Broadcast 2-2.5 lbs. of Igran 80W plus 6 pts. of ATRAZINE 4L per acre. Add 1-2 pts. of a nonionic surfactant (such as Surf-Ac 820<sup>P</sup>) per 100 gals. of spray mixture. Add Igran<sup>R</sup>80W to the spray tank first and thoroughly mix with the water. Then add the ATRAZINE 4L, followed by the surfactant. Use the 2.5 lb. rate of Igran<sup>R</sup>80W if weeds are 4-6 inches tall. This mixture will not control weeds taller than 6 inches. Plant sorghum into the 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 the time of sorghum planting, remove them with a sweep plow or other suitable implement before planting. Refer to the ATRAZINE 4L label for further directions, precautions, and limitations.

NOTE: Do not graze or feed forage from treated areas.

##### WHEAT-CORN-FALLOW (KS and NE)

If weeds are present at time of application (in late July or August following wheat harvest), ATRAZINE 4L may be tank mixed with Igran<sup>R</sup>80W and applied to control existing annual weeds. Follow directions for use in the "Wheat-sorghum-Fallow" section above, substituting corn for references to sorghum.

##### WHEAT-FALLOW-WHEAT (CO, KS, MT, NE, ND, SD, WY)

##### ATRAZINE 4L PLUS IGRAN<sup>R</sup>80W

Use as tank mixture for control of certain broadleaf and grass weeds in wheat-fallow-wheat rotations. If weeds are present at time of application (normally in late July or August following wheat harvest), ATRAZINE 4L may be tank mixed with Igran<sup>R</sup>80W to control existing annual weeds. Broadcast 2-2.5 lbs. of Igran<sup>R</sup>80W plus 1-2 pts. of ATRAZINE 4L per acre.

Add 1-2 pts. of a nonionic surfactant (such as Surf-Ac 820<sup>R</sup> per 100 gals. of spray mixture. Add Igran<sup>R</sup>80W to the spray tank first and thoroughly mix with the water. Then add the ATRAZINE 4L followed by the surfactant. Use the 2.5 lb. rate of Igran<sup>R</sup>80W if weeds are 4-6 inches tall. This mixture will not control weeds taller than 6 inches. Treat with this tank mixture only once during the same fallow period. Use tillage to control weeds which escape during the fallow period. Plant wheat no sooner than 12 months after application. Refer to the ATRAZINE 4L label for further directions, precautions, and limitations.

NOTE: Do not feed forage or graze treated areas to livestock for six months following application.

#### ATRAZINE 4L PLUS PARAQUAT CL

If weeds are present at application, a tank mix with Paraquat CL may be used. Broadcast 1-2 pts. of this product plus 1-2 pts. of Paraquat CL in 20-60 gals. of water/A by ground equipment. Add 0.5-1 pt. of a nonionic surfactant, such as Surf-Ac 820<sup>R</sup>, per 100 gals. of spray mixture. Add this product to spray tank first and thoroughly mix with water. Then add Paraquat CL, followed by surfactant. Use the 2 pt. rate of Paraquat CL if weeds are 4-6 inches tall. This mixture will not control weeds taller than 6 inches. Apply to stubble ground. Treat only once during same fallow period. Refer to Paraquat CL 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 CL, 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 overlap.

**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 nontarget plants, apply Atrazine 4L alone by aircraft at a minimum upwind distance of 400 ft. from sensitive plants, or apply ATRAZINE 4L + Igran<sup>R</sup>80W a minimum upwind distance of 500 ft. from sensitive plants. When applying ATRAZINE 4L + Igran<sup>R</sup>80W by aircraft, use a minimum of 5 gals. of water per acre.

**PROSO MILLET**

For preplant or pre-emergence control of foxtails, kochia, common lambsquarters, redroot pigweed, Russian thistle, slimleaf lambsquarters and spotted spurge, apply 1-2 pt/A on soils with less than 2% organic matter, or apply 2-4 pt/A on soils with 2% or higher organic matter.

**PRECAUTIONS:** Make only one application per year to avoid crop injury and illegal residues.

**Rotational crops:** See "Rotational crops" in Corn sections.

**RANGELAND**

To control certain weeds, including cheatgrass (downy brome, chess), common (annual) broomweed, little barley, medusahead, sagewort, and tumble mustard. Use lower rate where cheatgrass is major problem weed; use higher rate for other weeds.

**Toxicous plants:** Tansymustard, pigweeds, lambsquarters, tumble mustard, cocklebur, and fiddleneck are controlled at 2 pt/A. Other mustards (Brassica spp) groundcherry (annual), broomweed, and threeawn or poverty grass (Aristida spp.) are partially controlled at 2 pt/A and controlled at 4 pt/A. Sneezeweed and dogbane are partially controlled at 4 pt/A.

**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 ATRAZINE 4L by aircraft at a minimum upwind distance of 400 ft. from sensitive plants.

#### ESTABLISHMENT OF PERENNIAL RANGE GRASSES IN WEST (CA, ID, NV, OR, UT, WA)

Apply 1.60-2 pts/A in fall after rains begin but before ground freezes. Perennial range grass may be seeded when rain begins the next fall following treatment. Plant in deep furrows such as those made by a deep furrow rangeland drill. Treated areas may be grazed 7 months after seeding. However, to provide sufficient time for establishment of desirable range grasses, treated areas should not be grazed until the fall following seeding.

#### RENOVATION OF EXISTING STANDS OF PERENNIAL RANGE GRASSES

Central Great Plains ( CO, KS, MT, NE, ND, SD, WY): Apply 1-2 pts/A in fall before ground freezes.

Southwest (AR, KS, LA, MS, NM, OK, TX) Apply 2 pt ATRAZINE 4L in early spring before regrowth, to established rangeland or pasture species such as Asiatic (Old World) bluestems, little and big bluestems, buffalograss, switchgrass, and Indiangrass.

West (CA, ID, NV, OR, UT, WA): Do not graze area to be treated for 6 months prior to application. Apply 1-1.5 pts/A by ground equipment in fall before ground freezes.

Bluegrass and intermediate wheatgrass may be injured by this product at recommended rates.

**NOTES:** To avoid illegal residues.

1. Do not apply more than once per year.
2. Apply only on neutral to acid soils.
3. Do not cut or feed range grass hay.
4. Do not graze treated area within 3 months following spring application, or within 7 months following fall application.
5. Do not dump or spill product or dispose of container within reach of livestock.

**PURE STANDS OF SWITCHGRASS AND BIG BLUESTEM (IA, IL, IN, KS, MN, MO, ND, NE, OH, SD, WI):** For control of those weeds listed under ATRAZINE 4L Applied Alone - Corn or Grain Sorghum - Preplant Surface-Applied, Preplant Incorporated, or Preemergence.

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

Establishment: Broadcast 4 pt/A after planting but before weeds and crop emerge. Prepare a good, firm seedbed. Plant  $\frac{1}{2}$  inch deep with a grassland drill (preferred method) or a conventional drill. If a conventional drill is used on prepared seedbeds, remove all tension from the disk openers. For best results, cultipack or roll after planting. Clip weeds that escape in July or August. Avoid clipping switchgrass or big bluestem seedlings.

Renovation of existing stands: Broadcast 4 pt/A in early spring, before regrowth of the crop, and before weed emergence.

Notes: To avoid illegal residues:

1. Do not cut for hay.
2. Do not graze treated areas within 4 months following application at seeding or 3 months following application to established switchgrass or big bluestem.
3. Treat only once per year.

Rotational crops: See "Rotational crops" in Corn section. Do not plant smallseeded legumes the year following application, or injury may occur.

#### 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 2 pt/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, brome grass, 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.

## SUGAR CANE

For control of many broadleaf & grass weeds, such as crabgrass, jungle rice, wire grass, foxtail, amaranths, Florida's paintbrush, fireweed and similar plants. Broadcast 2-4 qts. per acre 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 1 qt. of ATRAZINE 4L applied per acre.

AERIAL APPLICATION: In order to assure that spray will be controllable within the target area when used according to label directions, make applications at a maximum height of 10 ft. using low drift nozzles at a maximum pressure of 40 psi. and restrict application to periods when wind speed does not exceed 10 mph. To assure that spray will not adversely affect adjacent sensitive nontarget plants, apply ATRAZINE 4L alone by aircraft at a minimum upwind distance of 400 ft. from sensitive plants.

### FLORIDA

For control of emerged Pellitory Weeds (artillery weed). Apply .8 to 1.2 pts/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 (artillery) weed, and spiny amaranth, use one of the following methods at planting or ratooning.

1. Apply 8 pts/A pre-emergence. Follow with one or two applications, as needed, post-emergence to sugarcane and weeds, at 4 pts/A. Treat before weeds exceed 1.5 inches in height.
2. Apply 1-3 times, as needed, at 4 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 4 pt/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 qt/A to any one crop of sugarcane.
2. If making 4 pt/A application during summer fallow period do not exceed 8 qt/A during the remainder of the growing season, or illegal residues may result.

## TEXAS

Use ATRAZINE 4L for control of barnyardgrass, pigweed, purslane and sunflower, in plant or ratoon sugarcane.

Apply 8 pts/A of ATRAZINE 4L pre-emergence. Follow with one or two applications, as needed, at 6 pts/A post-emergence to sugarcane and weeds.

For best results when weeds are emerged, add a nonionic 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 Atrazine 4L after "close-in."
2. Do not apply more than 20 pts. of Atrazine 4L to any one crop of cane.
3. Injury to sugarcane may occur when under moisture stress, when soil is of low adsorptive 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 Douglas fir, grand fir, noble fir, white fir, Austrian pine, bishop pine, Jeffrey pine, knobcone pine, loblolly pine (shore pine), monterey pine, ponderosa pine, Scotch pine, slash pine, blue spruce, and Sitka spruce): Broadcast 4-8 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 Atrazine 4L Applied Alone - Corn or Grain Sorghum - Preplant Surface Applied, Preplant Incorporated or Pre-emergence.

QUACKGRASS CONTROL: Broadcast 8 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. 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 ATRAZINE 4L by aircraft at a minimum upwind distance of 400 ft. from sensitive plants.

#### NONSELECTIVE WEED CONTROL ON NONCROP LAND

For use on fence rows, around utility poles, and industrial sites, highway medians and shoulders, railroad right-of-way, lumberyards, petroleum tank farms, and in noncrop areas on farms, such as around buildings, equipment, and fuel storage areas, along fence and lanes. Do not use near adjacent desirable plants or in greenhouses, or injury may occur. Apply Atrazine 4L at rates recommended below before or soon after weeds begin growth. Post-emergence applications should be made when weeds are young and actively growing. Use higher rates on heavy clay and muck soils. Do not contaminate domestic or irrigation water supplies, or lakes, streams, or ponds. Use sufficient water to assure thorough coverage. Use at least 1 gal. of water for each quart of ATRAZINE 4L, more if practical. Mechanical by-pass or jet agitation is necessary to keep Atrazine 4L in suspension during application.

Note: Do not allow livestock to graze treated areas, or illegal residues may result.

Annual broadleaf and grass weeds (including barnyardgrass, cheatgrass, crabgrass, lambsquarters, foxtail, ragweed, puncturevine, and turkey mullein): Broadcast 4.8-10 qt/A.

Hard-to-kill annual and many perennial broadleaf and grass weeds (including bluegrass, burdock, Canada thistle, dogfennel, orchardgrass, plantain, quackgrass, purpletop, redtop, and smooth brome): Broadcast 10-20 qt/A.

Hard-to-kill biennial and perennial weeds (including bullthistle and sowthistle): Broadcast 20-40 qt/A.

For longer residual control in regions of high rainfall and a long growing season, broadcast 20-40 qt/A.

For small areas, 0.28 pt per 1,000 sq ft is equivalent to 10 qt/A.

ST. AUGUSTINE GRASS, CENTIPEDE GRASS, AND DORMANT BERMUDA GRASS

ATRAZINE 4L controls spurweed, Florida betony, annual bluegrass and many other problem weeds in home lawn, ornamental and recreational turf and other noncrop areas such as highway right-of-ways and similar areas.

ATRAZINE 4L may be applied with any pump-up or compressed air type sprayer or with a hose on type sprayer. ATRAZINE 4L 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 camellias, azaleas, boxwoods, etc. However, ATRAZINE 4L 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 SUPRESSED

Annual Bluegrass (Poa Annua), Chickweed (Common and Mouseear), Crabgrass, Cransbill, Cudweed, Dichondra, Florida Betony, Henbit, Knotweed, Lespedeza, Moneywort, Mustards, Narrowleaf Vetch, Parsley-Piert, Sandspur, Smutgrass, Spurge, Spurweed, Swinecrest, Woodsorrel and various annual clovers.

## TIMING OF APPLICATION

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

**Spurweed:** The best control of spurweed can be obtained by applying ATRAZINE 4L when spurweed has emerged (December and January).

**Florida Betony:** This weed emerges in the fall so an application of ATRAZINE 4L 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 ATRAZINE 4L in early April followed with a second application in July. Do not apply to growing Bermuda Grass.

Applications for Spurweed or Florida Betony generally will give control or suppression of the other weeds listed. However, as a general rule ATRAZINE 4L will give the best control when applied to young tender weeds or just prior to weed emergence.

## ST. AUGUSTINE AND CENTIPEDE GRASSES

ATRAZINE 4L may be applied to established St. Augustine and Centipede grasses during both the dormant and the growing season. Best results are usually obtained in the early spring or dormant periods when weeds are small or have not emerged. Follow rates below.

### DORMANT BERMUDA GRASS

ATRAZINE 4L may be applied to Bermuda grass during the dormant season only. Applications to Bermuda grass 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 4L
500 sq. ft.	1.5 tablespoons
1,000 " "	3 " (1.50 oz.)
3,000 " "	4.5 ounces
5,450 " "	8 ounces
10,900 " "	1 pint
(0.25 acre)	
1 Acre	2 Quarts

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# 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, Centipedegrass, St. Augustinegrass, and Zoysia Grass.

Apply ATRAZINE 4L 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. ATRAZINE 4L will control annual bluegrass even if it is emerged at time of treatment. For control of summer annual weeds listed in the preemergence portion of the ATRAZINE 4L. Applied Alone - Corn or Grain Sorghum section of this label, also apply ATRAZINE 4L 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 qt. per acre (22 ml or 0.75 fl. oz. per 1,000 sq. ft.) Use 2 qts. per acre (44 ml or 1.5 fl. 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 qt. 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, Centipedegrass, and Zoysia Grass

Broadcast 4-8 pt/A according to soil texture to control those weeds listed under ATRAZINE 4L applied Alone - Corn or Grain Sorghum - Preplant Surface-Applied, or Preplant Incorporated, or Preemergence.

Muck or Peat	8 pts.	Old Beds: within 2 days after lifting sod.
		New Beds: 3-4 days after sprigging or plugging.
Sandy Soil	4 pts.	Old Beds: within 2 days after lifting sod.
		New Beds: 7-10 days after sprigging or plugging.

If weeds regrow, apply an additional 4 pt/A on muck or peat, or 2 pt/A on sandy soil.

**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, foxtail, wiregrass, Flora's paintbrush, spanishneedles, and fireweed, broadcast 4-8 pt/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.

**PINEAPPLE**

For control of purslane, spanishneedles, annual grasses, annual bindweed, ageratum, amaranth, rattlepod, Flora's paintbrush, fireweed, spurge, indigo, and papalo, apply up to 12.8 pt/A as a blanket spray immediately after planting or following harvest. Make additional blanket or interspace applications of up to 3.2 pt/A at 1-2 month intervals as needed, prior to differentiation. Apply in 20-40 gals. of water per acre to assure thorough coverage.

**PRECAUTIONS:**

1. Do not apply more than 60 pts. (7.5 gal)/A per cycle.
2. Repeated monthly applications to plant foliage may slow plant growth and delay fruiting.

**NOTE:** Do not apply within 45 days of fruit harvest, or forage harvest if forage is to be fed to livestock, or illegal residues may result.

**GUAVA**

Use only on established plantings which are at least 18 months old. Apply as a directed spray at 4-8 pt/A of Atrazine 4L in 20-50 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 (80-100 gals. of spray mix per acre) may enhance weed control.

This product controls many annual broadleaf and grass weeds, including fireweed, purslane, scarlet pimpernel, spanishneedles, and sowthistle.

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 16 pt of ATRAZINE 4L per year.

Compex<sup>R</sup> trademark of Kalo Agricultural Chemicals, Inc.

Concep<sup>R</sup> trademark of Ciba-Geigy

Dual<sup>R</sup> trademark of Ciba-Geigy for metolachlor U.S. Patent No. 3,937,730

Igran<sup>R</sup> trademark of Ciba-Geigy for terbutryn

Lasso<sup>R</sup> trademark of Monsanto Company for alachlor

Roundup<sup>R</sup> trademark of Monsanto Company glyphosate herbicide

Surf-Ac 820<sup>R</sup> trademark of DREXEL CHEMICAL COMPANY

Sutan +<sup>R</sup> tradmeark of Stauffer Cherical Company for butylate

Unite<sup>R</sup> trademark of Hopkins Agricultral 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 alkalies.

Do not stack more than 8 pallets high to prevent crushing.

Keep containers away from any source of puncture.

Store in original container only.

Pesticides should be separated during storage to prevent cross contamination of other pesticides, fertilizer, food and feed.

Storage area should preferably be locked to prevent admittance by unauthorized or unknowledgeable persons.

If the container is damaged and leaking or material has been spilled follow these procedures:

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

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

**CONTAINER DISPOSAL:** Triple rinse (or equivalent). Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

### WARRANTY - 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 Chemical Company and is accepted as such by the Buyer.