

pm 25

1990-381

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

18

Deverly Randall
Regulatory Affairs Technician
c/o Universal Cooperatives, Inc.
P.O. Box 460
Minneapolis, Minnesota 55440

Dear Ms. Randall:

Subject: Liquid Atrazine 4L
EPA Reg. No. 1990-381
RE: Amended Labeling (Risk Reduction Measures)
Your Submission Dated June 9, 1992

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable subject to the comments listed below. A stamped label is enclosed for your records. Five copies of the finished labeling must be submitted prior to releasing the product for shipment.

1. On page 9 please revise the 3rd sentence of the 3rd paragraph which specifies a second band application of atrazine in the event of a crop failure to read as follows: If Liquid Atrazine 4L is applied in a band and sorghum is replanted in the untreated row middles, Liquid Atrazine 4L can be applied in a band to the second planting provided the maximum application rate of 2.5 ai/A per calendar year is not exceeded.

Sincerely yours,

Robert J. Taylor
Product Manager (25)
Fungicide-Herbicide Branch
Registration Division (H7505C)

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CONCURRENCES

SYMBOL	H7505C							
SURNAME	Muller							
DATE	6/16/92							

OFFICIAL FILE COPY

RESTRICTED USE PESTICIDE (GROUND AND SURFACE WATER CONCERNS)

FOR RETAIL SALE TO AND USE ONLY BY CERTIFIED APPLICATORS OR PERSONS UNDER THEIR DIRECT SUPERVISION, AND ONLY FOR THOSE USES COVERED BY THE CERTIFIED APPLICATOR'S CERTIFICATIONS.

THIS PRODUCT IS A RESTRICTED USE HERBICIDE DUE TO GROUND AND SURFACE WATER CONCERNS. USERS MUST READ AND FOLLOW ALL PRECAUTIONARY STATEMENTS AND INSTRUCTIONS FOR USE IN ORDER TO MINIMIZE POTENTIAL FOR ATRAZINE TO REACH GROUND AND SURFACE WATER.

EPA Reg. No. 1990-381
EPA Est. No. 32761-MO-3

Farmland

Liquid Atrazine 4L

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

CAUTION

KEEP OUT OF REACH OF CHILDREN

For Professional or Agricultural Use Only

PRECAUCION AL USUARIO: Si usted no lee ingles, no use este producto hasta que le etiqueta haya sido explicado ampliamente.

Shake well before using.

ACTIVE INGREDIENTS:

Directions for use
See inside of booklet for complete directions for use and additional precautionary statements.

Atrazine: 2-chloro-4-ethylamino-
6-isopropylamino-s-triazine 40.8%
Related compounds 2.2%
INERT INGREDIENTS 57.0%
TOTAL 100.0%

Net Contents: 2.5 Gallons

contains 4 lbs. active ingredients per gal.

Manufactured by Farmland Industries, Inc.
General Office Kansas City, MO 64116

Revision Date 6/6/92

ACCEPTED
with **COMMENTS**
in EPA Letter Dated:

JUN 18 1992

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

1990-381

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STOP
READ ALL
DIRECTIONS FOR
USE AND
PRECAUTIONS
BEFORE
USING.

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

Caution: Keep out of reach of children

Harmful or fatal if swallowed. Do not get in eyes. Avoid contact with skin, inhalation of vapors or spray mist and contamination of food and feed.

User Protection: Users are required to wear long-sleeve shirts and long pants or equivalent, chemical resistant gloves, and boots (waterproofed). In addition, persons involved in mixing/loading operations are required to use heavy-duty chemical resistant gloves or neoprene gloves and a face shield or goggles.

Statement of Practical Treatment

First Aid Procedures: If poisoning is suspected, do not wait for symptoms to develop. Immediately begin the recommended procedures below. Contact a physician, the nearest hospital or the nearest Poison Control Center. Tell the person contacted the type and amount of exposure, describe the symptoms and follow the advice given.

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.

If Swallowed: Call a physician or Poison Control Center immediately. Drink 1 or 2 glasses of water and induce vomiting by touching the back of throat with finger, or if available, by administering Syrup of Ipecac. Do not induce vomiting or give anything by mouth to an unconscious person.

On Skin: Immediately remove contaminated clothing, wipe away excess material from the skin. Wash with plenty of soap and water. Do not attempt to neutralize with chemical agents. Get medical attention.

In Eyes: Immediately flush the eyes with large amounts of running water for a minimum of 15 minutes. Hold the eyelids apart during the flushing to ensure rinsing of the entire surface of the eyes and lids with water. Do not attempt to neutralize with chemical agents. Obtain medical attention if irritation occurs.

If Inhaled: Remove victim to uncontaminated atmosphere. If not breathing, give artificial respiration, preferable mouth-to-mouth. Get medical attention.

Environmental Hazards

Groundwater Protection: Atrazine can travel (seep or leach) through soil and can enter groundwater which may be used as drinking water. Atrazine has been found in groundwater. Users are advised not to apply Atrazine to sand and loamy sand soils where the water table (groundwater) is close to the surface and where these soils are very permeable, i.e., well-drained. Your local agricultural agencies can provide further information on the type of soil in your area and the location of groundwater. Groundwater contamination may be reduced by diking and flooring of permanent liquid bulk storage sites with an impermeable material.

This product may not be mixed/loaded, or used within 50 feet of all wells including abandoned wells, drainage wells, and sink holes. This product may not be mixed or loaded within 50 feet of intermittent streams and rivers, natural or impounded lakes and reservoirs. This product may not be applied aerially or by ground within 66 feet of the points where field surface water runoff enters perennial or intermittent streams and rivers or within 200 ft. around natural or impounded lakes and reservoirs. If this product is applied to highly erodible land, the 66 foot buffer or set-back from runoff points must be planted to crop or seeded with grass or other suitable crop.

Do not apply this product through any type of irrigation system.

Fish and Wildlife Hazards: This pesticide is toxic to aquatic invertebrates. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not apply when weather conditions favor drift from treated areas. Runoff and drift from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment wash waters.

Directions For Use

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

Important: Read the entire Directions for Use and the Conditions of Sale and Warranty before using this product. If terms are not acceptable, return the unopened product container at once.

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Re-Entry Statement

Do not enter treated areas without protective clothing until sprays have dried. Protective clothing consists of long-sleeved shirt, long pants, gloves, hat and shoes.

Because certain states may require more restrictive re-entry 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. All workers not directly involved with the application of this product must be removed from the area to be treated. All other workers must be informed of the area which is to be treated and informed not to enter the area without the proper protective clothing listed above until such time as the spray has dried. In the event a worker is exposed to this product, he should inform his supervisor immediately of the type of exposure in order that proper protective treatment may be given. When oral warnings are given, warnings shall be given in a language customarily understood by workers. Oral warnings must be given if there are reasons to believe that written warnings cannot be understood by workers. Written warnings must include the following information: "CAUTION: Area treated with Atrazine on (insert date of treatment). Do not enter without appropriate protective clothing until spray has dried. In case of accidental exposure, inform supervisor immediately."

Storage and Disposal

Storage

Keep This Material Out of the Reach of Children

Store only in the original container with cap securely tightened. Containers must be stored in a cool, dry, well-ventilated area. Store away from food, feeds and fertilizers. Do not contaminate water, food, feed by storage or disposal.

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

Spill or Leak Procedures: In the event of a spill or leak, make sure all personnel involved in spill cleanup follow good industrial hygiene practices. Small spills can be handled routinely. Cover the spill with an absorbent material such as vermiculite or sawdust to prevent dust. Sweep up the material and place in an appropriate chemical waste container. Seal container and dispose of according to "Pesticide" disposal instructions below. Wash the spill area with a saturated solution of sodium carbonate and a strong detergent. Flush the spill area with water to remove any residue. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire or other emergency, call 1-800-868-8372 day or night.

Disposal

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

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

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Conditions of Sale and Warranty

Conditions of Sale: This product is sold subject to and buyer and users are deemed to have accepted the terms contained in the **CONDITIONS OF SALE AND WARRANTY, DIRECTIONS FOR USE AND PRECAUTIONARY STATEMENTS**, which may be varied only by agreement in writing by a duly authorized representative of FARMLAND INDUSTRIES, INC.

Inherent Risks: The directions for use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as presence of other materials or use of the product in a manner inconsistent with its labeling, all of which are beyond the control of FARMLAND INDUSTRIES, INC., or the seller. All such risks shall be assumed by the buyer.

Warranty Limitations: FARMLAND INDUSTRIES, INC., warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the **DIRECTIONS FOR USE**, subject to the inherent risks referred to above. FARMLAND INDUSTRIES, INC., MAKES NO OTHER EXPRESSED OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY OR ANY OTHER EXPRESSED OR IMPLIED WARRANTY.

Limitation of Liability: In no case shall FARMLAND INDUSTRIES, INC., or the seller be liable for consequential, special or indirect damages resulting from the use or handling of this product. No claim of any kind shall be greater in amount than the purchase price of the product in respect of which such damages are claimed.

Do not reuse empty container. Apply this product only as specified on this label.

General Information

LIQUID ATRAZINE 4L herbicide will control many annual broadleaf and grass weeds in corn and sorghum including:*

Annual Morningglory	Kochia	Nightshade	Velvetleaf**
Barnyardgrass (watergrass)***	Lambsquarters	Pigweed	Wild Oats
Giant Foxtail**	Large (hairy) Crabgrass**	Purslane	Witchgrass (Panicum Capillare)***
Green Foxtail***	Mustards	Ragweed	Yellow Foxtail***

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

** partial control only

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

Atrazine may be applied before or after weeds emerge. The continuous use of this product and other triazines may cause the development of biotypes of grasses and broadleaf weeds that cannot be effectively controlled. Where this is known or suspected, LIQUID ATRAZINE 4L should be either tank mixed with or used in conjunction with a registered grass herbicide approved for use with Atrazine which is not in the triazine class of chemicals. Read and follow all directions for use and precautions on the labels of products to be tank mixed with Atrazine. Consult your State Extension Service for specific recommendations for your area.

In each case where a range of rates is given, the lower rate should be used on coarse-textured soils and soils low in organic matter, and the higher rate should be used on fine-textured soils and soils high in organic matter. Since Atrazine acts mainly through root absorption, its effectiveness depends on rainfall or irrigation to move it into the root zone. Should weeds develop, a shallow cultivation or rotary hoeing will generally result in better weed control.

This product is nonflammable.

Do not apply this product through any type of irrigation system.

Care should be taken to avoid using Atrazine where adjacent desirable trees, shrubs or plants may be injured. Avoid using near adjacent desirable plants or in greenhouses, or injury may occur.

NOTE: FARMLAND INDUSTRIES, INC., does not recommend the use of LIQUID ATRAZINE 4L in combination with other herbicides or oils, except as specifically described on this label.

Application Procedures

Ground Application: For the most uniform distribution of broadcast applications, use 80 degrees flat fan-type nozzles. For band applications, use flat fan even-spray nozzles. Screens and strainers should be no finer than 50 mesh. Use a pump with capacity to (1) provide sufficient hydraulic agitation during mixing and application to keep the material in suspension and (2) maintain 30-40 psi operating pressure. Unless otherwise specified, use a minimum of 5 gallons of water per acre for preplant incorporated, pre-emergence and post (without oil or surfactant) application. Use a minimum of 10 gallons of water per acre for all postemergence applications combined with oil or surfactant. For band applications, calculate the amount to be applied per acre as follows:

<u>Band width in inches</u>		<u>Rate/A for</u>		<u>Amount needed for</u>
<u>Row width in inches</u>	X	<u>Broadcast Treatment</u>	=	<u>Band Treatment</u>

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Aerial Application: For preplant and pre-emergence broadcast treatments, apply at a 1:1 ratio LIQUID ATRAZINE 4L to water (example: recommendation calls for 1 quart of product and is mixed with 1 quart of water) to be applied per acre. For postemergence treatments, apply the recommended rate of LIQUID ATRAZINE 4L plus oil in a minimum of 2 gallons of water per acre. Avoid applications under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur. The above water volumes are the minimum to be applied per acre.

LIQUID ATRAZINE 4L in Water Applications: LIQUID ATRAZINE 4L, a liquefied formulation, should be mixed with water and applied as a spray. Pour LIQUID ATRAZINE 4L into the tank during or after filling. Hydraulic (jet) or mechanical agitation is recommended during mixing and application to keep the material 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.

LIQUID ATRAZINE 4L in Liquid Fertilizer Application: Nitrogen solutions or complete liquid fertilizers may replace all or part of the water as a carrier for pre-emergence, preplant incorporated, or preplant surface ground application on corn and sorghum. Mixing should be accomplished as described under water applications. Do not apply in nitrogen solution or complete liquid fertilizer after corn or sorghum emerges or crop injury may occur.

LIQUID ATRAZINE 4L Plus emulsifiable Oil in Water Applications: The addition of emulsifiable oil to post emergence Atrazine in water sprays may speed the activity of Atrazine and provide quicker kill of weeds. However, under certain conditions, the use of oil may seriously damage corn or sorghum. To minimize the possibility of damage, follow the directions, procedures and precaution given below.

For combining with Atrazine, use a crop oil designated for use with Atrazine containing 1-2% suitable emulsifier. Several oils of this type are on the market. Oils contaminated with water or other materials can cause compatibility problems and/or crop injury.

Mixing Procedures - all uses:

- (1) Thoroughly clean sprayer prior to use. Do not use sprayer contaminated with 2, 4-D or other materials as crop damage or sprayer clogging may result.
 - (2) Fill Spray tank one-half to two-thirds full of clean water.
 - (3) With the agitation system in operation, add the Atrazine.
 - (4) Add the emulsifiable oil last.
 - (5) Empty the tank as completely as possible before refilling to prevent a buildup of oil in the tank. Keep the agitation system in operation to avoid a separation of the oil from the water in the spray mixture still remaining in the tank.
 - (6) If an oil film starts to build up in the tank, drain the tank and clean out with a strong detergent solution or solvent.
 - (7) Clean the sprayer thoroughly immediately after using by flushing the system with water containing a detergent.
- Do not apply this product through any type of irrigation system.

Rotational Crop Suggestions - all uses:

- (1) Land treated with Liquid Atrazine 4L should not be planted to any crop except corn or sorghum until the following year or injury may occur.
- (2) If Atrazine is applied after June 10, do not rotate with crops other than corn or sorghum the next year or injury may occur.
- (3) In the high plains or intermountain areas of the west where rainfall is sparse and erratic or where irrigation is required, use Liquid Atrazine 4L only when corn or sorghum is to follow corn or sorghum, or a crop of untreated corn or sorghum is to precede other rotational crops.
- (4) In western Minnesota and eastern parts of the Dakotas, Nebraska and Kansas, corn or sorghum treated with Liquid Atrazine 4L should not be followed with soybeans if the broadcast rate applied was more than 4 pints per acre (or comparable rate in a band) or soybean injury may occur.
- (5) Injury may occur in soybeans planted in north-central Iowa and south-central Minnesota the year following a Liquid Atrazine 4L application on Harps, Canistota, Storden or other soils having a calcareous surface layer.
- (6) Do not plant sugarbeets, tobacco, vegetables (including dry beans), spring-seeded small grains, or small-seeded legumes and grasses the year following Liquid Atrazine 4L application or injury may occur.

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DIRECTIONS FOR USE

Corn:

LIQUID ATRAZINE 4L may be applied either before planting, at planting or after planting as indicated below.

For soil applications prior to crop emergence (i.e., early preplant, preplant incorporated, preplant surface, at planting or preemergence) see table 1.

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, and WY. Apply the recommended rate of Liquid Atrazine 4L shown in Table 1 up to 45 days prior to planting. On coarse textured soils, do not apply more than two weeks prior to planting. If an unsatisfactory length of weed control results from adverse environmental conditions following early treatment, a follow-up application of an appropriately labeled herbicide may be used. If the follow-up treatment includes atrazine, do not exceed the labeled rate for corn indicated in Table 1.

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 the spring after plowing at the rate indicated in Table 1. Application may be made before, during or after final seed-bed preparation. If soil is tilled or worked after application, avoid deep incorporation of LIQUID ATRAZINE 4L. Best results have been obtained when LIQUID ATRAZINE 4L is applied within two weeks prior to planting.

Pre-emergence or At-Planting (Broadleaf and Grass Control): Apply during or shortly after planting prior to weed emergence at the rate indicated in Table 1.

Postemergence (Broadleaf and Grass Control): Apply before weeds exceed 1.5 inches in height and before corn reaches 12 inches in height. For postemergence applications, if there has been no previous soil application to that crop, the maximum rate is 2 pounds a.i./A. If there has been a previous soil application to that crop, do not exceed a total of 2.5 pounds a.i./A per calendar year. Apply at the rate indicated in Table 1.

TABLE 1 - For Control of Broadleaves and Grasses in Corn*

FOR ALL SOIL APPLICATIONS PRIOR TO CROP EMERGENCE

On Highly Erodible Soils (as defined by SCS)

If conservation tillage is practiced, leaving at least 30% of the soil covered with plant residues at planting, apply a maximum of 2 pounds a.i./A (4 pts./A) as a broadcast spray.

If the soil coverage with plant residue is less than 30% at planting, a maximum of 1.6 pounds a.i./A (3.2 pts./A) may be applied.

On Soils Not Highly Erodible

Apply 4 pts./A as a broadcast spray.

FOR POSTEMERGENCE APPLICATION

If no atrazine was applied prior to corn emergence, apply a maximum of 4 pts./A broadcast. If a postemergence treatment is required following an earlier herbicide application, the total atrazine applied may not exceed 2.5 lbs. active ingredient (5 pts. of this product) per acre per calendar year.

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* For preplant or pre-emergence applications (western Kansas, western Nebraska, eastern Colorado, eastern Wyoming, New Mexico, western Texas and the Panhandle of Oklahoma): on sands, loamy sands, sandy loams, mild to strong alkaline soils and all recently leveled soils. Apply no more than 2 pints per acre for broadleaf weed control, either preplant surface, preplant surface incorporated, or preemergence. Many broadleaf weeds including pigweed, lambsquarters, nightshade, purslane and kochia will be controlled. On other soil types in the areas above, make applications at the rate shown in Table 1 for broadleaf and grass control.

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

Postemergence Broadleaf and Grass Weed control with LIQUID ATRAZINE 4L Plus Emulsifiable Oil in Water: Broadcast 4 pints per acre after weed emergence, but before weeds reach 1.5 inches in height and before corn reaches 12 inches in height. Add emulsifiable oil at the rate of 1 gallon per acre for ground applications and one-half gallon per acre for aerial application.

Postemergence Broadleaf Weed Control with LIQUID ATRAZINE 4L Plus Emulsifiable Oil in Water: Broadcast 2.4 pints per acre for control of many broadleaf weeds including annual morning-glory, cocklebur, lambsquarter, mustard, pigweed, ragweed, smartweed and wild buckwheat. Application should be made before pigweed and lambsquarter reach 6 inches in height and before all other weeds reach 4 inches in height and before corn reaches 12 inches in height. Add emulsifiable oil at the rate of 1 gallon per acre for ground applications and one-half gallon per acre for aerial applications. A cultivation may be necessary if all weeds are not controlled or if regrowth of weeds occur.

Precautions for Applications of LIQUID ATRAZINE 4L Plus Emulsifiable Oil in Water to Corn:

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

Tank-Mixtures with LIQUID ATRAZINE 4L on Corn: LIQUID ATRAZINE 4L Plus Paraquat CL - For control of existing vegetation and residual control where corn will be planted directly into a cover crop, established sod or in previous crop residues: Broadcast 4 pints LIQUID ATRAZINE 4L and 1-2 pints Paraquat CL per acre in 20-60 gallons of water per acre. Add 8 ounces of non-ionic surfactant per 100 gallons of dilute spray. Add LIQUID ATRAZINE 4L to spray tank first and thoroughly mix with water. Add the Paraquat and surfactant last. Refer to Paraquat CL label for further directions, limitations and cautions.

LIQUID ATRAZINE 4L Plus Alachlor 4EC: Use a tank-mixture of LIQUID ATRAZINE 4L plus Alachlor 4EC for the control of many annual broadleaf and grass weeds in corn (field and silage corn only) including annual morning-glory, barnyard grass, black nightshade, Brachiaria, buttonweed (velvetleaf), carpetweed, cocklebur, crabgrass, fall panicum, Florida pusley, giant foxtail, green foxtail, yellow foxtail, goosegrass, lambsquarters, pigweed, purslane, mustard, common ragweed, smartweed and witchgrass.

Make applications at the rates indicated in Table 2. For preplant applications, apply within 7 days of planting and incorporate to a depth of 2-3 inches. For pre-emergence applications, apply to the soil surface after planting, but before the crop or weeds emerge. For postemergence treatments, make applications until weeds reach the two-leaf stage, and the corn is no more than 3 inches tall.

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TABLE 2 - Tank-Mixtures of LIQUID ATRAZINE 4L plus Alachlor 4EC on Corn (Field and Silage Only)

	Broadcast Rate Per Acre			
	Less than 3% organic matter		More than 3% organic matter	
	Liquid Atrazine 4L (pts./A)	Alachlor 4EC (qts./A)	Liquid Atrazine 4L (pts./A)	Alachlor 4EC (qts./A)
Soil Texture				
Light sandy soils	2	1.5	2	1.5
Silt loam soils	2 to 2.4	1.5 to 1.75	2 to 2.4	1.75 to 2
Heavy clay soils	2.4 to 3.2	2 to 2.5	2.4 to 3.2	2 to 2.5

NOTE: Apply in a minimum of 20 gallons of water per acre. Non-pressure fluid fertilizer may replace all or part of the water used as a carrier for application applied to the soil surface before crop emerges. Add the LIQUID ATRAZINE 4L to the spray tank first and thoroughly mix with water. Add the Alachlor last. At least 12 weeks must elapse following treatment with LIQUID ATRAZINE 4L Plus Alachlor 4EC before immature corn forage can be harvested or fed to cattle. Refer to the Alachlor 4EC label for further directions, limitations and cautions.

Precautions for all Applications to Corn:

- (1) The maximum application rate for corn is 2.5 lbs. active ingredient per acre per calendar year. Therefore, do not apply more than 5 pints of LIQUID ATRAZINE 4L on 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) For best control of velvetleaf and cocklebur, the application rate cannot be less than 2 pounds per acre of active ingredient, either alone or in tank mix combinations.
- (4) Do not graze treated area or feed-treated forage to livestock for 21 days following application.

For postemergence applications plus emulsifiable oil, see additional precautions under that section of the label:

Sorghum and Sorghum-Sudan Hybrids (Grain and Forage Types):

LIQUID ATRAZINE 4L may be applied either before planting or after planting as indicated below.

For soil applications prior to crop emergence (i.e., early preplant, preplant incorporated, preplant surface, at planting or preemergence) see table 1.

Preplant Incorporated (Broadleaf and Grass Control): Broadcast in the spring after plowing at the rate indicated in Table 1. Application may be made before, during or after final seed-bed preparation. If soil is tilled or worked after application, avoid deep incorporation of LIQUID ATRAZINE 4L. 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 the rate indicated in Table 3.

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TABLE 3 - Broadleaf and Grass Weed Control in Sorghum (1),(2)

FOR ALL SOIL APPLICATIONS PRIOR TO CROP EMERGENCE

On Highly Erodible Soils (as defined by SCS)

If conservation tillage is practiced, leaving at least 30% of the soil covered with plant residues at planting, apply a maximum 2 pounds a.i./A (4 pts./A) as a broadcast spray.

If the soil coverage with plant residue is less than 30% at planting, a maximum of 1.6 pounds a.i./A (3.2 pts./A) may be applied.

On Soils Not Highly Erodible

Apply 4 pts./A as a broadcast spray.

FOR POSTEMERGENCE APPLICATION

If no atrazine was applied prior to sorghum emergence, apply a maximum of 4 pts./A broadcast. If a postemergence treatment is required following an earlier herbicide application, the total atrazine applied may not exceed 2.5 lbs. active ingredient (5 pts. of this product) per acre per calendar year.

(1) LIQUID ATRAZINE 4L should not be applied preplant surface or preplant incorporated to sorghum grown in AL, AR, FL, GA, LA, MS, NC, NM, OK, SD, TN, or TX. Do not apply pre-emergence to sorghum grown in NM, OK, or TX, except in northeast OK and the TX Gulf Coast and Blacklands areas.

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

3 In case of planting failure, sorghum or corn may be replanted into soil previously treated with LIQUID ATRAZINE 4L. Do not make a second broadcast application or injury may occur. If LIQUID ATRAZINE 4L is applied in a band and sorghum is replanted in the untreated row middles, LIQUID ATRAZINE 4L can be applied in a band to the second planting.

Postemergence Broadleaf Weed control with LIQUID ATRAZINE 4L Plus Emulsifiable Oil in Water: Broadcast 2.4 pts./A for control of broadleaf weeds including annual morning-glory, cocklebur, lambsquarters, mustard, pigweed, ragweed, smartweed and wild buckwheat. Application should be made before pigweed and lambsquarters reach 6 inches in height and before all other weeds reach 4 inches in height. In CO, western KS, NM, OK, TX, and other desert regions of AZ and CA, apply when sorghum is 6-12 inches in height, but before it reaches the boot stage. In all other areas, apply after sorghum reaches 3-leaf stage and before it exceeds 12 inches in height. Add emulsifiable oil at the rate of 1 gallon of emulsifiable oil/A for ground applications and 0.5 gal./A for aerial applications. A cultivation may be necessary if all weeds are not controlled or if regrowth of weeds occurs.

Precautions for Applications of LIQUID ATRAZINE 4L Plus Emulsifiable Oil in Water to Sorghum: See precautions under Atrazine Plus Emulsifiable Oil in Water Applications to Corn.

Postemergence Broadleaf Weed Control with LIQUID ATRAZINE 4L Plus Surfactant (CO, western KS, NM, OK, TX, and desert regions of AZ and CA only): Broadcast 2.4 pts./A LIQUID ATRAZINE 4L plus .75 to 1.5 pts. of surfactant after sorghum reaches 6 inches in height, but before weeds reach 1.5 inches in height. Do not apply to sandy loam and finer-textured soils.

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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) 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.
- (4) Crop injury may occur when this herbicide is either applied preplant incorporated or pre-emergence in conjunction with an at-planting systemic insecticide.
- (5) The maximum application rate for sorghum is 2.5 lbs. active ingredient (5 pts. of this product) per acre per calendar year.
- (6) For all soil applications prior to crop emergence (except for preemergence use on bedded sorghum in AX and CA), do not apply to coarse-textured soils, i.e., sand, loamy sand, sandy loam, or to medium- and fine-textured soils having less than 1% organic matter, or injury may occur.
- (7) For postemergence applications, do not apply to sand or loamy sand, or injury may occur.

Note: Do not graze or feed forage from treated areas for 21 days following application.

Rotational Crop Suggestions: See "rotational crop" recommendation under corn.

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