

HELENA BRAND

ATRAZINE 4L

HERBICIDE

For season-long weed control in corn and sorghum

Atrazine 4 L contains 4 lbs. active ingredients per gallon

**CAUTION: KEEP OUT OF REACH OF CHILDREN.
SEE ADDITIONAL PRECAUTIONS ON
SIDE PANEL**

ACTIVE INGREDIENTS:

Atrazine (2-chloro-4-ethylamino-6-isopropylamino-s triazine) 40.8%
Related compounds 2.2%

INERT INGREDIENTS:

TOTAL 57.0%
100.0%

MANUFACTURED BY
HELENA CHEMICAL COMPANY
MEMPHIS, TENNESSEE

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
- Do not contaminate domestic or irrigation water supplies or lakes, streams, or ponds
- Do not reuse container. Destroy when empty

IMPORTANT: Read the entire Directions For Use and the Conditions of Sale and Warranty before using this product

DIRECTIONS FOR USE

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 weather conditions, presence of other materials, or the manner of use or application all of which are beyond the control of Helena Chemical Company or the Seller. All such risks shall be assumed by the Buyer.

WARRANTY AND LIMITATION OF DAMAGES. Helena Chemical Company warrants that this material conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the Directions for Use and Conditions of Sale, subject to the inherent risks referred to therein. Helena Chemical Company makes no other express or implied warranty of **FITNESS** or **MERCHANTABILITY** and no agent of Helena Chemical Company is authorized to do so except in writing with a specific reference to this warranty. Any damages arising from a breach of this warranty shall be limited to direct damages and shall not include consequential commercial damages such as loss of profits or of value, etc.

GENERAL INFORMATION

Atrazine 4 L herbicide controls most annual broadleaf and grass weeds in corn and sorghum.

Apply at the rates given under each crop before or after weeds emerge. Use lower rates on light soils and low organic matter soils. Use higher rates on heavy soils and high organic matter soils.

Atrazine 4 L acts mainly through root absorption so rainfall or irrigation is needed to move it into the root zone. Should weeds develop, a shallow cultivation or rotary hoeing will generally result in better weed control.

Avoid using Atrazine 4 L near adjacent desirable trees, shrubs, or plants, or injury may occur.

NOTE: Helena Chemical Company does not recommend Atrazine 4 L in combination with other herbicides or oils except as specifically described on the label.

Atrazine 4 L is non-flammable.

APPLICATION PROCEDURES:

Atrazine 4 L a liquid formulation should be mixed with water or liquid fertilizer and applied as a spray. Pour Atrazine 4 L 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.

GROUND APPLICATION: Apply Atrazine 4 L in 10-40 gallons of water per acre to assure even coverage unless otherwise specified. Use TeeJet 8002, 8003 or 8004 fan type or other appropriate nozzles with equal or greater size openings for broadcast applications. Use TeeJet 8002-E, 8003-E or 8004-E or similar nozzle for band applications. Screens in nozzles and in suction and inline strainers should be no finer than 50-mesh. Use a pump with capacity sufficient to maintain 35-40 psi operating pressure.

AERIAL APPLICATION: Use only where broadcast applications are specified. Apply a minimum of 1 gallon of water for each 2 pints of Atrazine 4 L to be applied per acre. Do not apply where uniform coverage cannot be obtained or where excessive spray drift may occur. 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.

POSTEMERGENCE WEED CONTROL WITH ATRAZINE 4 L PLUS EMULSIFIABLE OIL IN WATER: The addition of oil to Atrazine 4 L in water sprays may speed the activity of Atrazine 4 L 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 precautions given below.

For combining with Atrazine 4 L use a crop oil designated for use with Atrazine 4 L containing at least 1% suitable emulsifier. Oils contaminated with water or other materials can cause compatibility problems and/or injury.

EQUIPMENT PROCEDURES FOR ATRAZINE 4 L AND EMULSIFIABLE OIL: 1. Thoroughly clean sprayer prior to use. Do not use sprayer contaminated with 2,4-D or other materials as crop damage or spray clogging may result. 2. Fill the spray tank with water, allowing for the addition of the Atrazine 4 L. 3. With the agitation system in operation, add the Atrazine 4 L. 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 use by flushing the system with water containing a detergent.

NOTE: Do not use oil in Atrazine 4 L sprays when corn or sorghum is under stress from prolonged cold, wet weather, poor fertility, or other factors or when corn or sorghum is wet and succulent from recent rainfall as crop injury may occur. 2) Do not use oils in sprays when treating imbed lines or any breeding stock as injury may occur. 3) Adding other insecticides, herbicides, liquid fertilizers, or other materials is not recommended because they may 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 4 L and emulsifiable oil in water per season. 6) All return lines to the tank must discharge below liquid level.

CORN

One application will control most annual broadleaf and grass weeds such as barnyardgrass, witchgrass, Panicum capillare, yellow foxtail, green foxtail, wild oats, large hairy crabgrass, giant foxtail, velvet-leaf, morningglory, lambsquarters, pigweed, ragweed, nightshade, purslane, and mustard.

Atrazine 4 L may be applied either before planting, at planting, or after planting at the rate indicated below.

For preplant and preemergence applications, nitrogen solutions or complete liquid fertilizers may replace all or part of the water as a carrier of Atrazine 4 L. Do not apply after corn has emerged as there is danger of liquid fertilizer causing crop injury.

Preplant:

Broadcast in the spring after plowing at the rate indicated below.

Apply before, during or after final seedbed preparation. If soil is tilled or worked after application, avoid deep incorporation of Atrazine 4 L. Best results have been obtained when Atrazine 4 L is applied within two weeks prior to planting.

Preemergence:

Apply during or shortly after planting prior to weed emergence at the rate indicated below.

Postemergence:

Apply before weeds exceed 1 1/2 inches in height at the rate indicated below.

Soil Texture	Rate per acre of Atrazine 4 L		
	Broadcast In 10-40 Gals. of water/A	20 inch band* In 5-20 gals. of water/A	13 inch band* In 4-14 gals. of water/A
Light soils Sandy, loamy sands and sandy loams	4 pints	2 pints	1 1/2 pints
Medium soils Silt and clay loams that are low in organic matter	4 1/2 pints	2 1/2 pints	1 3/4 pints
Heavy soils Silt and clay loams with medium to high organic matter and clays	6 pints	3 pints	2 pints
Peats, muck, and high organic clays. Apply post- emergence only.	6 pints	3 pints	2 pints

*Based on 40-inch row spacing. For other band or row widths, adjust the rate in proportion to the area actually treated.

Northern Nutgrass or Yellow Nutsedge (Cyperus esculentus) Control:

Broadcast 8 pts. per acre preplant, preemergence, or postemergence before nutgrass is more than 1 1/2 inches high. If applied before nutgrass begins growth, cultivate within 2-3 weeks. If applied after nutgrass has emerged, cultivate within 10-14 days.

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 1/2 inches high.

Single Application: Broadcast 6-8 pts. per acre in the fall or spring. Plow 1-3 weeks after application.

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ACTIVE INGREDIENTS:

Atrazine (2-chloro-4-ethylamino-6-isopropylamino-s-triazine)
Related compounds

40.8%
2.2%

INERT INGREDIENTS:

57.0%

TOTAL

100.0%

MANUFACTURED BY
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Postemergence weed control with Atrazine 4 L plus emulsifiable oil in water:

Ground Application: Broadcast 4 pts. of Atrazine 4 L and 1 gal. of emulsifiable oil in 20-40 gals. of water per acre after emergence but before weeds reach 1 1/2 inches in height

Aerial Application: Broadcast 4 pts. of Atrazine 4 L in 1/2 gal. of emulsifiable oil in no less than 5 gals. of water per acre after weed emergence but before weeds reach 1 1/2 inches

Precautions: 1) Do not apply more than 8 pts. of Atrazine 4 L to corn in any one year. 2) Land treated with Atrazine 4 L should not be planted to any crop except corn until the following year or injury may occur. 3) Following harvest of a treated crop, plow (moldboard or disk plow) and thoroughly till the soil in fall or spring to minimize possible injury to rotational spring-seeded crops regardless of the rate used. 4) If Atrazine 4 L is applied after June 10 do not rotate with crops other than corn or sorghum the next year or injury may occur. 5) If Atrazine 4 L is used at a broadcast rate higher than 6 pts. per acre (or comparable rates in a band application) a crop of untreated corn or sorghum should precede the next rotational crop. 6) In the High Plains and Intermountain areas of the West where rainfall is sparse and erratic or where irrigation is required use Atrazine 4 L 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. 7) In western Minnesota and eastern parts of the Dakotas, Nebraska and Kansas, corn treated with Atrazine 4 L 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. 8) Do not plant sugar beets, tobacco, vegetables (including dry beans), spring-seeded small grains, or small-seeded legumes and grasses the year following Atrazine 4 L application or injury may occur. 9) Do not graze treated area or feed treated forage to livestock for 21 days following application.

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

Preplant or preemergence (Eastern and Central Nebraska and Northeast Kansas Only)

For preplant and preemergence applications, nitrogen solutions or complete liquid fertilizers may replace all or part of the water as a carrier for Atrazine 4 L. Do not apply after sorghum has emerged as there is danger of liquid fertilizers causing crop injury.

Preplant: Broadcast in the spring after plowing at the rate indicated in the table below. Application may be made before, during or after final seedbed preparation. If soil is tilled or worked after application avoid deep incorporation of Atrazine 4 L. Best results have been obtained when Atrazine 4 L is applied within two weeks prior to planting.

Preemergence: Apply during or shortly after planting prior to weed emergence at the rate indicated in the table below.

Preplant and Preemergence Application in Eastern and Central Nebraska and Northeastern Kansas Only

Broadleaf and grass weed control

Soil Texture	Rate per acre of		
	Broadcast In 10-40 Gals of water A	20-Inch band* In 5-20 Gals of water A	13-Inch Band* In 4-14 Gals of water A
Sand to sandy loam washed slopes and soils low in organic matter	DO NOT USE		
Other soils, shallow in corporation may im- prove control	4-4 1/2 pints	2-2 1/2 pints	1-1 1/2 pints

*Based on 40 inch row spacing. When making band applications reduce the broadcast rate per acre in proportion to the area treated.

Postemergence broadleaf weed control with Atrazine 4 L plus emulsifiable oil in water (New Mexico, Oklahoma & Texas only)

Apply when sorghum is 6-10 inches high and before boot stage. Treat broadleaf weeds before they reach 6 inches.

Ground Application: Broadcast 2 1/2 pts. of Atrazine 4 L and 1/2 gal. of emulsifiable oil in 20-40 gals. of water per acre

Aerial Application: Broadcast 2 1/2 pts. of Atrazine 4 L and 1/2 gal. of emulsifiable oil in no less than 5 gallons of water per acre.

Postemergence: For the control of broadleaves and grasses, apply postemergence applications of Atrazine 4 L in no less than ten gallons of water per acre at the rate indicated in the table below. Weeds should not exceed 1 1/2 inches in height at application.

Postemergence application: Weeds should not be more than 1 1/2 inches high

Soil Texture	Weed Height at Application	Rate per acre of Atrazine 4 L		
		Broadcast In 10-40 gals of water A	20-Inch band In 5-20 gals of water A	13-Inch Band In 4-14 gals of water A
Broadleaf and grass weeds				
Sandy loam washed slopes		DO NOT USE		
Sandy loam washed slopes				
Silt loam washed slopes	Emerging	4-4 1/2 pints	2-2 1/2 pints	1-1 1/2 pints
Other soils washed slopes	6-10 inches high	4-4 1/2 pints	2-2 1/2 pints	1-1 1/2 pints
Silt loam washed slopes	Emerging	6 pints	3 pints	1 1/2 pints

Broadleaf weeds

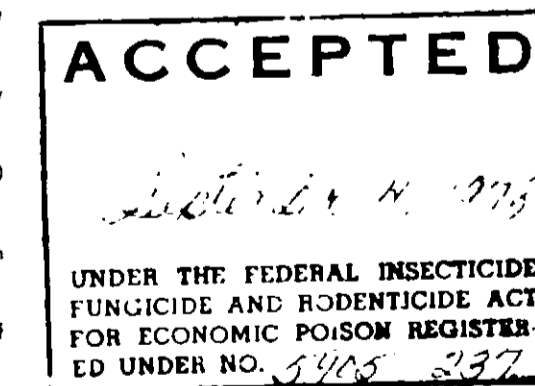
Sandy loam washed slopes New Mexico New Mexico Texas, West Kan. Colo. and desert regions of Ariz. and Calif. only	At least 6 inches high	2 1/2 pints plus 1/2 pint emulsifiable oil	1 1/2 pint plus 3/8 pint emulsifiable oil	1 1/2 pint plus 1/4 pint emulsifiable oil
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*Based on 40 inch row spacing
†Up to 1/2 inch

Precautions: 1) Heavy rains immediately following application tend to result in excessive concentrations of herbicide in seed furrow, resulting in possible crop injury. Applications to furrow-planted sorghum should not be made until furrows are leveled, plowed or deep plant 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 light, calcareous soils may result in crop injury. 3) Do not plant any rotational crops other than those specified in the Suggestions For Rotational Crops section below for 18 months following application. 4) Do not graze or feed forage from treated areas for 21 days following application. 5) Following harvest of a treated crop, plow, moldboard or disk plow, and thoroughly till the soil in fall or spring to minimize possible injury to rotational spring-seeded crops, regardless of the rate used.

Suggestions For Rotational Crops:

- 1) Sorghum or corn may be planted the year following treatment.
- 2) All other rotational crops may be planted 18 months after application.
- 3) When the broadcast rate used does not exceed 2 1/2 pts. per acre fall wheat may be planted 18 months after application.



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