



197 3-222
File 105-4

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DEC 14 1993

Barbara Brown
DREXEL CHEMICAL CO
P.O. Box 9306
Memphis, TN 38109

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Subject: Label Amendment Submission of 06/09/93 in Response to PR Notice 93-7
EPA Reg. No. 19713-292
ATRAZINE 90

Dear Registrant:

The labeling cited above and submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is accepted subject to the comments reflected on the enclosed sheet. A copy of your proposed labeling stamped "ACCEPTED WITH COMMENTS" is enclosed.

WHAT THIS ACCEPTANCE MEANS:

Based on your certification, the Agency has accepted the labeling changes that are necessary to comply with the Worker Protection Standard (WPS) labeling requirements of 40 CFR part 156, subpart K, described in PR Notices 93-7 and 93-11. Any other labeling changes submitted in connection with this amendment application but not directly related to compliance with the WPS have not been reviewed or accepted by the Agency. If you wish to make such changes, you must submit a separate amendment application proposing them. If your product is currently suspended, the acceptance of this labeling amendment does not affect the suspension in any way.

WHAT YOU NEED TO DO NEXT:

By the next label printing make all the specified changes to your labeling. Send to EPA one (1) copy of the final printed labeling:

- BEFORE selling or distributing any product bearing the final printed labeling
- AND
- WITHIN one year from date of this acceptance.



Recycled/Recyclable
Printed with Soy/Canola Ink on paper that
contains at least 50% recycled fiber

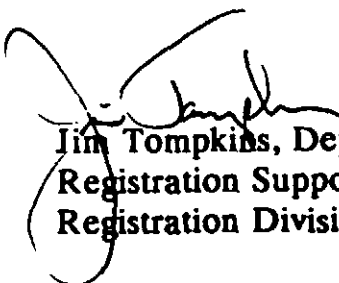
Submit the final printed labeling via the U.S. Postal Service to:

Document Processing Desk (FIN-LABEL)
Office of Pesticide Programs (7505C)
U.S. Environmental Protection Agency
401 M Street, SW
Washington, D.C. 20460-0001

Hand or courier deliveries of final printed labeling may be made to:

Document Processing Desk (FIN-LABEL)
Office of Pesticide Programs
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

Sincerely,



Jim Tompkins, Deputy Chief
Registration Support Branch
Registration Division (7505W)

Attachment

**RESTRICTED USE PESTICIDE
(GROUND AND SURFACE WATER CONCERNS)**

FOR RETAIL SALE TO AND USE ONLY BY CERTIFIED APPLICATORS OR PERSONS UNDER THEIR DIRECT SUPERVISION, AND ONLY FOR THOSE USES COVERED BY THE CERTIFIED APPLICATOR'S CERTIFICATION. THIS PRODUCT IS A RESTRICTED USE HERBICIDE DUE TO GROUND AND SURFACE WATER CONCERNS. USERS MUST READ AND FOLLOW ALL PRECAUTIONARY STATEMENTS AND INSTRUCTIONS FOR USE IN ORDER TO MINIMIZE POTENTIAL FOR ATRAZINE TO REACH GROUND AND SURFACE WATER.

**DREXEL
ATRAZINE 90
HERBICIDE**

For Season-Long Weed Control in Corn, Conifers, Fallowland, Guava, Macadamia Nuts, Sorghum, Sugar Cane, Lawns, Turf, and Chemical Fallow.

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

ACTIVE INGREDIENTS:

Atrazine (2-chloro-4-ethylamino-6-isopropylamino-s-triazine)	85.50%
Related Compounds:	4.50%
INERT INGREDIENTS:	10.00%
TOTAL	100.00%

EPA REG NO. 19713-292
EPA EST NO. 19713-MS-1
NET CONTENTS: 25 lbs.

MANUFACTURED BY:
DREXEL CHEMICAL COMPANY
P.O. BOX 9306 -
MEMPHIS, TN 38109

06/93 - WPS REVISIONS
07/05/92

ACCEPTED
with COMMENTS
In EPA Letter Dated

DEC 14 1993

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

19713-292

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.

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

CAUTION. HARMFUL OR FATAL IF SWALLOWED. Avoid breathing of dust. Do not take internally. Causes moderate eye irritation. Avoid contact with eyes, skin or clothing.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers (other than mixers and loaders) who may be exposed to the dilute through application or other tasks must wear:

Coveralls

Waterproof gloves

Chemical-resistant footwear plus socks

Mixers and Loaders who may be exposed to the concentrate through mixing, loading, application or other tasks must wear:

Coveralls

Waterproof gloves

Chemical-resistant footwear plus socks

Protective eyewear

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

BEST AVAILABLE COPY

USER SAFETY RECOMMENDATIONS

Users should:

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

ENVIRONMENTAL HAZARDS

Atrazine can travel (seep or leach) through soil and can enter groundwater which may be used as drinking water. Atrazine has been found in groundwater. Users are advised not to apply atrazine to sand and loamy sand soils where the water table (groundwater) is close to the surface and where these soils are very permeable, i.e., well-drained. Your local agricultural agencies can provide further information on the type of soil in your area and the location of groundwater.

This pesticide is toxic to aquatic invertebrates. For terrestrial uses, do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high-water mark. Runoff and drift from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water by cleaning of equipment or disposal of wastes.

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 crops.

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GENERAL INFORMATION

Atrazine 90 Herbicide will control most annual broadleaf and grass weeds in corn, sorghum, sugarcane, and certain other crops as specified on this label such as barnyardgrass, witchgrass (*Panicum capillare*), yellow foxtail, green foxtail, wild oats, large (hairy) crabgrass, giant foxtail, velvetleaf, morning-glory, lambsquarters, pigweed, ragweed, nightshade, purslane and mustard. Atrazine 90 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.

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

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 Agricultural Extension Service for specific recommendations.

Since Atrazine 90 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 90 is nonflammable.

Care should be taken to avoid using Atrazine 90 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 90 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 postemergence 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.

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

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

Aerial Application: Use aerial application only where broadcast applications are specified. Apply in a minimum of 1 gal. of water for each pound of Atrazine 90 applied per acre. For postemergence 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.

Atrazine 90 is a dry formulation that should be mixed with water and applied as a spray.

Make a slurry by adding Atrazine 90 to water. Pour the slurry into the spray tank during or after filling. Sufficient hydraulic (jet) or mechanical agitation must be provided during mixing and application to keep the material in suspension.

ATRAZINE 90 IN LIQUID FERTILIZER APPLICATIONS

Nitrogen solutions or complete liquid fertilizers may replace all or part of the water as a carrier for preemergence and preplant applications of Atrazine 90 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. Commerical application equipment may improve compatibility in some instances. The following test assumes a spray volume of 25 gal./A. For other spray volumes, make appropriate changes in the ingredients. Check compatibility using this procedure:

1. Add 1 pint of fertilizer to each of 2 one-quart jars with tight lids.
2. To one of the jars add 1/4 tsp. or 1.2 milliliters of a compatibility agent approved for this use, such as Complex^R or Unite^R (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 teaspoons 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 mixture 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 1/2 of the compatibility agent to the fertilizer and the other 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 90 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^R or Unite^R should be used. Any of the above oils contaminated with water or other materials can cause compatibility problems and/or crop injury.

MIXING PROCEDURES - ALL USES: (1) Be sure sprayer is clean and not contaminated with any other materials or crop injury or sprayer clogging may result. (2) Fill tank 1/4 full with clean water, nitrogen solution, or complete liquid fertilizer. (3) Start agitation. (4) Be certain that the agitation system is working properly and creates a rippling or rolling action on the liquid surface. (5) Pour the Atrazine directly from bag into tank. (6) Continue filling tank until 90% full. Increase agitation if necessary to maintain surface action. (7) Add emulsifiable oil, oil concentrate, or tank mix herbicide(s) after this product is thoroughly suspended. (8) Finish filling tank. (9) Empty tank as completely as possible before refilling to prevent buildup of oil or emulsifiable concentrate residue. Maintain agitation to avoid separation of materials. (10) If an oil or emulsifiable concentrate film starts to build up in tank, drain it and clean with strong detergent solution or solvent. (11) Clean sprayer thoroughly immediately after use by flushing system with water containing a detergent.

DIRECTIONS FOR USE

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

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

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), notification to workers, and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

Do not enter or allow worker entry into treated areas during the restricted entry interval (Reentry Interval - 12 hours).

Personal Protective Equipment required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soils or water is:

Coveralls

Waterproof gloves

Chemical-resistant footwear plus socks

Protective eyewear

Notify workers of the application by warning them orally and by posting warning signs at entrances to treated areas.

ROTATIONAL CROPS - ALL USES

1. Land treated with Atrazine 90DF should not be planted to any crop except corn or sorghum until the following year or injury may occur.
2. If Atrazine 90DF is applied after June 10, do not rotate with crops other than corn or sorghum the next year or injury may occur.

3. In the High Plains and Intermountain area of the West where rainfall is sparse and erratic or where irrigation is required, use Atrazine 90 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.
4. In Western Minnesota and Eastern parts of the Dakotas, Nebraska and Kansas, corn treated with Atrazine 90 should not be followed with soybeans if the broadcast rate applied was more than 2.2 lbs./A (or comparable rate in a band) or injury may occur.
5. Injury may occur to soybeans planted in North Central Iowa and South Central Minnesota the year following an Atrazine 90 application on Harps, Canisteo, Stroden or other soils having a calcareous surface layer.
6. Do not plant sugar beets, tobacco, vegetables (including dry beans), spring-seeded small grains or small-seeded legumes and grasses the year following Atrazine 90 application or injury may occur.

ATRAZINE 90 APPLIED ALONE - CORN OR GRAIN SORGHUM

Preplant Surface-Applied, Preplant Incorporated, or
Preemergence (or Post emergence at 2.2 lbs./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**	lambsquarters	sicklepod**
wild oats	annual morning-	velvetleaf***
witchgrass	glory	(buttonweed)
(Panicum capillare)***	mustards	yellow foxtail

Postemergence with Emulsifiable Oil or Oil Concentrate in
Water (1.3 lbs./A)

Broadleaf Weeds Controlled

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

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

**Partial control only

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

CORN

ATRAZINE 90 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, and WY. Apply the recommended rate of ATRAZINE 90 shown in Table 1 up to 30 days prior to planting. On coarse-textured soils, do not apply more than two weeks prior to planting.

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

Observe directions for use, precautions, and restrictions on the label of the contact herbicide.

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

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 90. Best results have been obtained when Atrazine 90 is applied within two weeks prior to planting.

PREEMERGENCE OR AT PLANTING (Broadleaf and Grass Weed Control):

Apply during or shortly after planting prior to weed emergence at the rate indicated in Table 1.

POSTEMERGENCE (Broadleaf and Grass Weed Control):

Apply before weeds exceed 1.5 inches in height and before corn exceeds 12 inches in height at rate recommended in Table 1.

TABLE 1
For Control of Broadleaf and Grass Weeds*

FOR ALL SOIL APPLICATIONS PRIOR TO CROP EMERGENCE

On Highly Erodible Soils (as defined by the Soil Conservation Service (SCS))

If conservation tillage is practiced, leaving at least 30% of the soil covered with plant residues at planting, apply 2.2 lbs./A as a broadcast spray.

If the soil coverage with plant residue is less than 30% at planting, a maximum of 1.8 lbs./A may be applied.

On Soils Not Highly Erodible, Apply 2.2 lbs./A as a broadcast spray.

FOR POSTEMERGENCE APPLICATION

If no atrazine was applied prior to corn emergence, apply 2.2 lbs./A broadcast apply. If a postemergence treatment is required following an earlier herbicide application, the total atrazine applied may not exceed 2.5 lbs. active ingredient (2.8 lbs. of this product) per acre per calendar year.

*Broadleaf control (Eastern CO, Western KS, Western NE, NM, OK Pan Handle, West TX, and Eastern WY): On sand, loamy sand, sandy loam, mild to strongly alkaline soil and all recently leveled soil, apply no more than 1.3 lb./A, either preplant or preemergence. On other soils in these areas, apply rate in Table 1 for broadleaf and grass control.

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

POSTEMERGENCE 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 oil 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 postemergence control of those weeds listed under Preplant Incorporated and Preemergence. Broadcast 2.2 lbs./A plus emulsifiable oil or oil concentrate after weed emergence, but before weeds reach 1.5 inches in height and before corn exceeds 12 inches in height.

BROADLEAF CONTROL: For postemergence control of those weeds listed under Postemergence with emulsifiable oil or oil concentrate in water. Broadcast 1.3 lbs./A plus emulsifiable oil or oil concentrate before pigweed and lambsquarters reach 6 inches in height and before all other weeds reach 4 inches in height. A cultivation may be necessary if all weeds are not controlled or if weeds regrow.

PRECAUTIONS FOR APPLICATIONS OF ATRAZINE 90 PLUS EMULSIFIABLE OIL IN WATER TO CORN

1. Do not use oil in Atrazine 90 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 90 and emulsifiable oil in water because they cause compatibility problems or crop injury.
4. Store and handle emulsifiable oil carefully. Oil contaminated with even a small amount of water may not emulsify properly when added to the tank.

5. Do not exceed 2.5 lbs. active ingredient (or 2.8 lbs. of this product) per acre calendar year.
6. Postemergence applications to corn must be made before corn exceeds 12 inches in height.

TANK MIXTURES WITH ATRAZINE 90 FOR CORN

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

metolachlor	alachlor
metolachlor + paraquat	alachlor + glyphosate
metolachlor + glyphosate	alachlor + paraquat
metolachlor + simazine	paraquat
metolachlor + simazine + paraquat	simazine
metolachlor + simazine + glyphosate	propachlor
butylate 6.7E	simazine + paraquat
	simazine + glyphosate

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 rate of ATRAZINE 90. One lb. of 80W equals 0.9 lb. of ATRAZINE 90.

ATRAZINE 90 + PARAQUAT

For kill of Existing Vegetation and Residual Weed Control where corn will be planted directly into a cover crop, established sod or in previous crop residues.

Apply 1.1 to 2.2 lbs. Atrazine 90 plus 1-2 pts. paraquat per acre, as a broadcast spray. Refer to both labels for directions, limitations and cautions. Apply 20-60 gallons diluted spray per acre. Add Surf-AC 820 or another nonionic surfactant at the rate of 8 fl. oz./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 nonionic surfactant per 100 gallons. Equipment must be adjusted and calibrated to obtain thorough coverage of undesirable vegetation. Inadequate coverage and/or absence of a nonionic 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 90 PLUS ALACHLOR PLUS PARAQUAT

For kill of Existing Vegetation and Residual Weed Control Where Corn Will Be Planted Directly Into a Cover Crop, Established Sod or in Previous Crop Residues.

Apply 1.1-2.2 lbs. Atrazine 90 plus 4-5 pts. alachlor plus 1-2 pts. paraquat per acre prior to, during, or after planting, but before crop emergence. Use 20-60 gal. of diluted spray per treated area. Add Surf-AC 820 at 8 oz./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 90 PLUS METOLACHLOR AND ATRAZINE 90 PLUS METOLACHLOR PLUS SIMAZINE 4L OR 80W

Preplant Incorporated or Preemergence: In addition to the weeds controlled by Atrazine 90 alone, metolachlor 8E + Atrazine 90 or metolachlor 8E + Atrazine 90 + simazine 4L applied preplant surface, preplant incorporated, or preemergence, also controls the following weeds: browntop panicum, cocklebur, common purslane, hairy nightshade, lambsquarters, morningglory, ragweed, smartweed and velvetleaf.

Apply metolachlor 8E + Atrazine 90 or metolachlor 8E + Atrazine 90 + Simazine 4L preplant surface, preplant incorporated, or preemergence.

Preplant Surface Applied: Follow instructions for use of metolachlor 8E alone under Application Procedures and under application instructions for metolachlor 8E alone on corn.

Apply metolachlor 8E + Atrazine 90 or metolachlor 8E + Atrazine 90 + simazine 4L on medium soils (2.5 pts./A metolachlor 8E + 1.8-2.2 lbs./A of Atrazine 90 or simazine 4L or Atrazine 90 + simazine 4L combined) and on fine soils 2.5-3 pts./A metolachlor 8E + 2.2 lbs./A of Atrazine 90 or Atrazine 90 + simazine 4L combined in minimum-tillage and no-tillage systems in CO, IL, IN, IA, KS, KY, MN, MO, MT, NE, ND, SD, WI and WY. Apply the tank mixtures as a split or single treatment in those states and as indicated in the metolachlor 8E alone Preplant Surface Applied section of the metolachlor 8E label for corn. On coarse soils, apply 2 pts./A of metolachlor 8E and 1.8 lbs./A of Atrazine 90 or Atrazine 90 + simazine 4L combined.

When using simazine 80W use equivalent rates.

Preplant Incorporated or Preemergence: Follow instructions for use of metolachlor 8E alone under Application Procedures. Apply metolachlor 8E + Atrazine 90 or metolachlor 8E + Atrazine 90 + 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* 90		Atrazine **90		Atrazine* 90
Atrazine**90				
	+ OR	+	+	OR +
	metolachor	metolachor	8E metolachor	metolachor 8E
	+			+
		Simazine**		Simazine**
		4L or 80W		4L or 80W
SOIL TEXTURE				
COARSE:	1.1-2.2 lb.	.55-1.1 lbs.	1.3-2.2 lb.	.70-1.1 lb.
Sand, loamy	+	+	+	+
sand, sandy,	1.25-1.5 pts.	1.25-1.5 pts.	1.5 pts.	1.5 pts.
loam	+	+	+	+
	1.1-2pt.	Sim.4L	1.25-2 pt	Sim4L
	-or-		-or-	
	.7-1.2 lbs.	Sim.80W	.8-1.2 lbs.	Sim80W
MEDIUM:	1.3-2.2 lb.	.70-1.1 lbs.	1.8-2.2 lb.	.90-1.1 lb
Loam,	+	+	+	+
silt loam,	1.5-2 pts.	1.5-2 pts.	2 pts.	2 pts.
silt		+		+
		1.25-2 pts.		1.6-2 pt.
		Sim. 4L		Sim. 4L
		-or-		-or-
		.8-1.2 lbs.		1-1.2 lb.
		Sim. 80W		Sim. 80W
FINE:	1.8-2.2 lbs.	.90-1.1 lbs.	1.8-2.2 lb***	.90-1.1 lb***
Silty clay	+	+	+	+
loam, sandy	2 pts.	2 pts.	2-2.2 pts.***	2-2.5 pts.
clay loam,		+		+
silty clay,		1.6-2 pts.		1.6-2 pts.
sandy clay,		Sim. 4L		Sim. 4L***
clay loam,		-or-		-or-
clay		1-1.2 lbs.		1-1.2 lb.
		Sim. 80W		Sim. 80W***
muck or peat			DO NOT USE	

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 2.2 lbs./A as a broadcast spray.

If the soil coverage with plant residue is less than 30% at planting, a maximum of 1.8 lbs./A may be applied.

On Soils Not Highly Erodible

Apply 2.2 lbs./A as a broadcast spray.

*On soils having between 6% and 20% organic matter, metolachlor may be used up to 3.5 pts./A in tank mix combinations with 2.2 lb./A of Atrazine 90.

**When using the tank mixture of Atrazine 90 + metolachlor 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 2.2 lbs. Atrazine 90 or the same total amount of Atrazine + Simazine with 2-2.5 pts. of metolachlor 8E/A.

ATRAZINE 90 PLUS METOLACHLOR 8E POSTEMERGENCE

WEEDS CONTROLLED:

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

Weeds Partially Controlled: cocklebur, morningglory, yellow nutsedge.

Apply early postemergence 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 postemergence tank mixture in fluid fertilizer, as severe crop injury may occur.

TABLE 3: ATRAZINE 90 + METOLACHLOR 8E

SOIL TEXTURE	POST EMERGENCE CORN	
	BROADCAST RATES PER ACRE ATRAZINE 90	+ METOLACHLOR
COARSE:		
Sand, loamy sand, sandy loam	1.3 lbs.	1.5 pts.
MEDIUM:		
Loam, silt, silt loam	1.8 lbs.	2 pts.
FINE:		
Sandy clay loam, silty clay loam, clay loam, sandy clay, silty clay, clay	1.8 - 2.2 lbs.*	2-2.5 pts.

If no atrazine was applied prior to corn emergence, apply 2.2 lbs./A broadcast apply. If a postemergence treatment is required following an earlier herbicide application, the total atrazine applied may not exceed 2.5 lbs. active ingredient (2.8 lbs. of this product) per acre per calendar year.

*For better control of cocklebur, morningglory, velvetleaf and yellow nutsedge on fine-textured soils above 3% organic matter, apply 2.2 lbs. Atrazine 90 with 2-2.5 pts. of metolachlor 8E per acre.

ROTATIONAL CROPS

Follow the crop rotation instructions on the metolachlor 8E label for metolachlor plus Atrazine Preplant Incorporated or Preemergence - Corn.

ATRAZINE 90 + METOLACHLOR 8E + SIMAZINE 4L OR 80W WITH PARAQUAT OR GLYPHOSATE FOR MINIMUM-TILLAGE OR NO-TILLAGE SYSTEMS

In a 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 glyphosate may be added to a tank mix of Atrazine 90 + metolachlor 8E or Atrazine 90 + metolachlor + simazine 4L or 80W. When used as directed, the paraquat portion of the tank mixture controls most emerged annual weeds and suppresses many perennial weeds. Glyphosate combinations will control emerged annual and perennial weeds when applied as directed on the glyphosate label.

The Atrazine 90 + metolachlor 8E or Atrazine 90 + metolachlor 8E + simazine 4L or 80W portion of the tank mixture provides preemergence control of the weeds listed on the metolachlor 8E label in the tank mixture section for metolachlor 8E + Atrazine or metolachlor 8E + Atrazine + simazine preplant incorporated or preemergence.

Application: Apply before, during or after planting, but before the corn emerges, at the rate in Table 4. Add paraquat or glyphosate at the following broadcast rates:

Paraquat: 1-2 pts. per acre plus 8 oz. Surf-AC 820 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.

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

Glyphosate: 1.5 qts. per acre for existing annual weeds, or 2-4 qts. per acre for existing perennial weeds. See the glyphosate 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.

TABLE 4

	BROADCAST RATES PER ACRE	
	ATRAZINE 90* + METOLACHLOR	ATRAZINE 90** OR + METOLACHLOR + SIMAZINE 4L OR 80W
SOIL TEXTURE		
COARSE:	1.3 lbs.	.70 lbs.
Sand, loamy sand,	+	+
Sandy loam	1.5 pts.	1.5 pts.
		+
		1.25 pts. or 8 lbs.

MEDIUM:	1.8 lbs.	.9 lbs.
Loam, silt loam,	+	+
silt	2 pts.	2 pts.
		+
		1.6 pts. Simazine 4L
		or
		1 lb. Simazine 80W
FINE:***	1.8 - 2.2 lbs.	.9 - 1.1 lbs.
Silty clay loam,	+	+
sandy clay loam,	2 - 2.5 pts.	2 - 2.5 pts.
silty clay, sandy		+
clay, clay loam,		1.6 - 2 pts. Simazine 4L
clay		or
		1.0 - 1.2 lbs. Simazine 80W

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 2.2 lbs./A as a broadcast spray.

If the soil coverage with plant residue is less than 30% at planting, a maximum of 1.8 lbs./A may be applied.

On soils Not Highly Erodible

Apply 2.2 lbs./A as a broadcast spray.

- *Use simazine in preference to Atrazine when heavy infestations of crabgrass or fall panicum are expected.
- **When using tank mixture of Atrazine 90 plus metolachlor 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 active Atrazine 90 + Simazine (4L or 80W) instead of the 1:1 ratio given above.
- ***For cocklebur, yellow nutsedge, and velvetleaf control on Atrazine 90 fine-textured soils above 3% organic matter, apply 2.2 lbs./A of Atrazine 90, or equivalent, or the same total amount of Atrazine 90 + simazine with 2-2 1/2 pts./A of metolachlor.

ATRAZINE 90 PLUS ALACHLOR

Use as tank mixture for control of many annual broadleaf and grass weeds in corn (field, hybrid seed, silage, sweet, popcorn), including barnyard-grass, 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 preemergence 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 postemergence 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 90 PLUS ALACHLOR ON CORN (Surface Application)

Soil Texture	Surface Application Rate/A			
	Less than 3% organic matter		3% or more organic matter	
	Atrazine 90	Alachlor 90	Atrazine 4EC	Alachlor
COARSE: Loamy sand, sandy loam	.8-1.1 lbs.	2 qts.	1.1-1.65 lbs.	2 qts.
MEDIUM: Loam, silt loam, silt	1.1-1.3 lbs.	2 qts.	1.3-1.65 lbs.	2 qts.
FINE: Silty clay loam, sandy clay, loam, silty clay, sandy clay, clay	1.3-1.65 lbs.	2.25 qts.	1.3-1.8 lbs.	2.5 qts.

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 2.2 lbs./A as a broadcast spray.

If the soil coverage with plant residue is less than 30% at planting, a maximum of 1.8 lbs./A may be applied.

On Soils Not Highly Erodible

Apply 2.2 lbs./A as a broadcast spray.

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 qts. of alachlor 4EC per acre in this tank mixture on coarse soils and 3-4 qts. on medium or fine textured soils to reduce competition for hard-to-control weeds.

ATRAZINE 90 PLUS ALACHLOR 4EC ON CORN
(Preplant Incorporated Application)

TABLE 6

Preplant Incorporated Application Rate Per Acre				
SOIL TEXTURE	Less than 3% organic matter		3% or more organic matter	
	ATRAZINE	ALACHLOR	ATRAZINE	ALACHLOR
	90	4EC	90	4EC
MEDIUM:				
Loam, silt loam, silt	1.3 lbs.	2.5 qts.	1.65 lbs.	2.5 qts.
FINE:				
Silty clay loam, sandy clay loam, silty clay, sandy clay, clay	1.65 lbs.	2.75 qts.	1.8 lbs.	2.75 qts.

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 2.2 lbs./A as a broadcast spray.

If the soil coverage with plant residue is less than 30% at planting, a maximum of 1.8 lbs./A may be applied.

On Soils Not Highly Erodible

Apply 2.2 lbs./A as a broadcast spray.

NOTE: Use 3-4 qts. 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 qt. 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 90 to spray tank, thoroughly mix with water, then add alachlor 4EC. Follow mixing procedures in the section, "Application Procedures" of this label.

At least 12 weeks must elapse following treatment with Atrazine 90 Plus alachlor 4EC before immature corn forage can be harvested or fed to cattle.

Refer to alachlor 4EC label for information concerning other directions, limitations and cautions.

ATRAZINE 90 PLUS ALACHLOR PLUS PARAQUAT OR ATRAZINE 90 PLUS ALACHLOR PLUS GLYPHOSATE

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

When applied as directed under the conditions described, these tank mixtures control many emerged annual weeds, suppress many emerged perennial weeds and give preemergence 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 15-60 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 glyphosate 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 WEEDS

Add glyphosate or paraquat to the rates of Atrazine 90 and alachlor given in table 5.

PARAQUAT

When used as directed, paraquat in tank mixtures 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 preemergence weed control.

Broadcast Treatment - Apply 1-2 pts. of paraquat in this tank mixture immediately before, during or after planting but BEFORE CROP EMERGENCE. Use the 2 pt. rate if any weeds are 4-6 inches tall. This mixture may not control weeds taller than 6 inches.

As density of stubble, crop residue of 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.

GLYPHOSATE

Annual Weeds - Use 1.5 qts. of glyphosate herbicide per acre in tank mixture with Atrazine plus alachlor 4EC for control of many emerged annual grass and broadleaf weeds. For emerged annual weeds controlled, see the "Weeds Controlled" section of the label for glyphosate.

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 glyphosate for the proper stage of growth for perennial weeds. Use of 2-4 qts. of glyphosate 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 glyphosate. 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 glyphosate 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 qts. of glyphosate herbicide per acre.

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

ATRAZINE 90 PLUS PROPACHLOR

Use a tank mixture of Atrazine 90 plus propachlor 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 morningglory.

Broadcast 1.2-1.8 lbs. of Atrazine 90 plus 3.8-6.0 lbs. of propachlor 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 90 and propachlor on the light-textured soils low in organic matter. Use the higher rates on heavy-textured soils high in organic matter.

A minimum of 1.6 lbs./A of Atrazine 90 in the tank mixture will give better control of annual morning-glory, buttonweed (velvetleaf), cocklebur and sunflower.

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 2.2 lbs./A as a broadcast spray.

If the soil coverage with plant residue is less than 30% at planting, a maximum of 1.8 lbs./A may be applied.

On Soils Not Highly Erodible

Apply 2.2 lbs./A as a broadcast spray.

Apply in a minimum of 20 gals. of water per acre. Nonpressure 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 90 to the spray tank first and thoroughly mix with water. Cut the propachlor 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 90 PLUS SIMAZINE OR SIMAZINE 80W

In addition to the weeds listed under Atrazine 90 Applied Alone - Corn and Grain Sorghum - Preplant Surface - Applied, Preplant Incorporated, or Preemergence, 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 the recommended rate of ATRAZINE 90 and Simazine shown in Table 7 up to 30 days prior to planting. Applications made less than 30 days prior to planting may be as either a split or single treatment. On coarse-textured soils, do not apply more than two weeks prior to planting. Refer to the Atrazine 90 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 glyphosate). Observe directions for use, precautions and restrictions on the label of the contact herbicide.

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

Preplant Incorporated: Apply to the soil and incorporate in the spring before, during, or after final seedbed preparation. Avoid deep incorporatoin. For best results, apply within two weeks prior to planting.

Preemergence: 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 Simazine Product	80W	or 4L	This Simazine Product	80W	or 4L
Sand, loamy sand, sandy loam	1.1 lbs.	1.25 lb.	2 pts.	.75 lbs.	1.67 lb.	2.6 pt.
Loam, silt loam, silt, clay loam, sandy clay loam, silty clay loam, sandy clay, or silty clay with low organic matter	1.3 lbs.	1.5 lbs.	2.4 pts.	.9 lbs.	2 lbs.	3.2 pt.
Loam, silt loam, silt, clay loam, sandy clay loam, sandy clay, or silty clay with medium to high organic matter, and clay (including dark prairie soils of the Corn Belt)	1.6 lbs.	1.8 lbs.	3 pts.	1.10 lbs.	2.4 lbs.	3.84 pts.

*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 90 PLUS SIMAZINE 4L OR 80W PLUS PARAQUAT

For Kill of Existing Vegetation and Residual Weed Control Where Corn Will Be Planted Directly Into a Cover Crop, Established Sod or in Previous Crop Residues.

Apply 1.2-2.2 lbs. Atrazine 90 plus 2-4 pts. Simazine 4L or 1.25 to 2.5 lbs. Simazine 80W plus 1-2 pts. paraquat per sprayed acre prior to, during or after planting - but before crop emergence. Use the low rates of Atrazine and Simazine on light soils, and the higher rates on heavy clay soils. Use 20-60 gals. of diluted spray per sprayed acre. Add Surf-AC 820 or another nonionic 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 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 90 PLUS SIMAZINE 4L OR 80W PLUS GLYPHOSATE

When applied as recommended under the conditions described, this tank mixture controls many emerged weeds, and gives preemergence control of many annual weeds when corn will be planted directly into a cover crop, established in previous crop residues.

Apply this tank mixture in 20-60 gallons of water per acre immediately before, during or after planting, but BEFORE CROP EMERGENCE. As density of stubble, crop residues 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 qt. of glyphosate per acre. If the weeds are over 6 inches tall, increase the rate of glyphosate to 1.5 qts.

PERENNIAL WEEDS - At normal application 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 glyphosate label for the proper stage of growth for perennial weeds. Apply atrazine and simazine at the rates given in Table 8 plus 2-4 qts. of glyphosate per acre. This combination will provide top kill and reduce competition from many emerged perennial grass and broadleaf weeds.

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

TABLE 8:
ATRAZINE 90 PLUS SIMAZINE 4L OR 80W FOR MIXTURE WITH
GLYPHOSATE

SOIL TEXTURE	BROADCAST RATE PER ACRE	
	ATRAZINE 90*	SIMAZINE* 4L OR 80W
COARSE: Sandy loam only	1.1 lbs.	2 pts. or 1.25 lbs.
MEDIUM: Loam, silt loam, silt, sandy clay loam	1.1 - 1.6 lbs.	2-2.75 pts./or 1.25-1.75 lbs.
FINE: Silty clay, loam, clay loam, sandy clay, silty clay, clay	1.3 - 1.8 lbs.	2.35-3.15 pts. or 1.25 - 2 lbs.

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 2.2 lbs./A as a broadcast spray.

If the soil coverage with plant residue is less than 30% at planting, a maximum of 1.8 lbs./A may be applied.

On Soils Not Highly Erodible

Apply 2.2 lbs./A as a broadcast spray.

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

ATRAZINE 90 PLUS BUTYLATE

A tank mix combination of Atrazine 90 and butylate 6.7E 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 butylate than when it is used alone.

FOLLOW ALL USE PRECAUTIONS AND WARNINGS THAT APPEAR ON THE BUTYLATE LABEL, SUPPLEMENTARY BUTYLATE LITERATURE AND ELSEWHERE ON THIS LABEL.

MAKE ONLY ONE APPLICATION PER CROP. AFTER TREATMENT WITH ATRAZINE 90 AND BUTYLATE 6.7E 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 90 and butylate 6.7E see the butylate label.

The Atrazine 90/butylate 6.7E 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.

The Atrazine 90/butylate 6.7E 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/butylate 6.7E evenly mixed with the fluid fertilizer during application.

In some areas disking 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 diskings in the spring before planting. The disking cuts rhizomes into small pieces and brings them to the surface, where both the weather and butylate 6.7E 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 butylate 6.7E and .90-1.65* lbs. Atrazine 90 per acre. Cultivation or application of a postemergence 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 pts. of butylate and .90-1.65* lbs. Atrazine 90 per acre. Cultivation or application of a postemergence herbicide recommended for hemp dogbane may aid in extending control beyond mid-season.

*Use the higher rate of Atrazine 90 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 pts. butylate 6.7E and .9-1.65 lbs. Atrazine 90 per acre in the late Fall before the ground freezes.

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/butylate 6.7E 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 90/butylate 6.7E 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 90/butylate 6.7E.

For control of annual grasses and broadleaf weeds: Use 3 3/4- 4 3/4 pts. butylate 6.7E and .90-1.65 lbs. Atrazine 90 per acre. Use the higher rate of butylate 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 3/4-7 1/3 pts. of butylate 6.7E and 1.2-1.65 lbs. Atrazine 90 per acre. Use the higher rates of butylate 6.7E on medium (medium fine to 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, butylate 6.7E at the rate of 7-1/3 pts. and 1.1-1.65 lbs. Atrazine 90 per acre will reduce competition from wild cane. On continuous corn acreage with high cane seed population, rotation to another crop is recommended.

NOTE: See preceding butylate 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 butylate just before planting at the rate of 4 3/4-7 1/3 pts. plus .90-1.65 lbs. of Atrazine 90 per acre. Use the higher rate of butylate 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 butylate and Atrazine 90 will give good control of seedlings and greatly reduce competition from plants coming from rhizomes.

PLANTING

Do not plant seed deeper than 2 inches. For a Atrazine 90/butylate application made before planting, seeding can be done immediately, or it may be delayed up to 2 weeks. To avoid removing Atrazine 90/butylate 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 butylate 6.7E label regarding the procedure for testing the compatibility of Atrazine/butylate 6.7E 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 90/butylate.

However, uniform distribution of Atrazine 90/butylate on fertilizer particles and uniform application are necessary to assure good results. See butylate label for information and directions for impregnation and use for these combinations.

APPLICATION AND SOIL INCORPORATION DIRECTIONS

SPRAY APPLICATION AND MECHANICAL INCORPORATION

Apply this recommended dosage in 1-50 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 butylate 6.7E. 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 butylate 6.7E label for Soil Mixing (incorporation) before Planting Directions.

Loss of weed control will result from any delay in incorporation if butylate 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, butylate 6.7E must be applied to a dry soil surface (at least 1/2 inch deep) and free from dew and incidental moisture.

IMPORTANT: Thorough mixing of butylate 6.7E in the soil is necessary. The soil must be in good tilth. Improper disking 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 2.8 lbs. per acre of Atrazine 90 to corn in any one year.
2. For best control of velvetleaf and cocklebur, the application rate cannot be less than 2 lbs./A active ingredient, either alone or tank mix combination.
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 the rate used.

NOTE: FOR ALL APPLICATIONS TO CORN: Do not graze treated areas or feed treated forage to livestock for 21 days following application or illegal residues may result.

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

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

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

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 2/3 the recommended rate of Atrazine shown in Table 9 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 glyphosate). Observe directions for use precautions and restrictions on the label of the contact herbicide.

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

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.

TABLE 9
PREPLANT SURFACE, PREPLANT INCORPORATED,
AND PREEMERGENCE APPLICATIONS*
FOR BROADLEAF AND GRASS WEED CONTROL IN SORGHUM

FOR ALL SOIL APPLICATIONS PRIOR TO CROP EMERGENCE

On Highly Erodible Soils, as defined by the Soil Conservation Service (SCS)

If conservation tillage is practiced, leaving at least 30% of the soil covered with plant residues at planting, apply 2.2 lbs./A as a broadcast spray.

If the soil coverage with plant residue is less than 30% at planting, a maximum of 1.8 lbs./A may be applied.

Or Soils Not Highly Erodible, Apply 2.2 lbs./A as a broadcast spray.

FOR POSTEMERGENCE APPLICATION

If no atrazine was applied prior to sorghum emergence, apply 2.2 lbs./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 (2.8 lbs. of this product) per acre per calendar year.

*Do not apply preplant in AL, AR, FL, GA, LA, MS, NC, NM, OK, SC, TN, or TX. Do not apply preemergence in NM, OK, or TX, except in northeast OK and the TX Gulf Coast.

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

In case of planting failures, sorghum can be replanted into soil previously treated with Atrazine 90. Do not make a second broadcast application or injury may occur. If Atrazine 90 is applied in a band and sorghum is replanted in the untreated row middles, Atrazine 90 can be applied in a band to the second planting.

PREEMERGENCE BROADLEAF WEED CONTROL IN FURROW IRRIGATED BEDDED SORGHUM (AZ AND CA ONLY):

For preemergence control of broadleaf weeds such as ground cherry, lambs-quarters, morningglory, mustard, pigweed and purslane, broadcast 0.9 - 1.3 lbs. 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 PREEMERGENCE APPLICATIONS OF ATRAZINE 90 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.

POSTEMERGENCE (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 sorghum reaching 12 inches in height.

TABLE 10
POSTEMERGENCE BROADLEAF AND GRASS WEED CONTROL IN SORGHUM

SOIL TEXTURE	MINIMUM HEIGHT OF SORGHUM AT TREATMENT	BROADCAST RATE/ATRAZINE 90
Sand or loamy sand	DO NOT USE	
Sandy loam	See directions for broadleaf weed control below	
Silt loam to sandy clay loams	Completely emerged	2.2 - 2.6
Olton and Pullman clay soils	At least 6 inches high	2.2 - 2.6
Silty clay loams and heavier soils	Completely emerged	2.8

If no atrazine was applied prior to sorghum emergence, apply 2.2 lbs./A broadcast apply. If a postemergence treatment is required following an earlier herbicide application, the total atrazine applied may not exceed 2.5 lbs. active ingredient (2.8 lbs. of this product) per acre per calendar year.

POSTEMERGENCE BROADLEAF WEED CONTROL WITH ATRAZINE 90 PLUS EMULSIFIABLE OIL OR OIL CONCENTRATE IN WATER:

Broadcast 1.3 lbs. per acre for control of broadleaf weeds such as annual morningglory, cocklebur, lambsquarters, mustard, pigweed, ragweed, smart-weed 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 6-12 inches in height, but before it reaches boot stage. In all other areas, apply after sorghum reaches the three-leaf stage but before it exceeds 12 inches in height. Add emulsifiable oil at the rate of 1 gal. per acre for ground applications 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 90 Applied Alone - Corn or Grain Sorghum - Postemergence with Emulsifiable Oil or Oil Concentrate in Water.

PRECAUTIONS FOR APPLICATION OF ATRAZINE 90 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.

POSTEMERGENCE BROADLEAF WEED CONTROL WITH ATRAZINE 90 PLUS SURFACTANT (CO, WESTERN KS, NM, OK, TX, AND DESERT REGIONS OF AZ AND CA ONLY):

Broadcast 1.3 lbs. of Atrazine 90 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 SORGHUM

ATRAZINE 90 PLUS METOLACHLOR ON GRAIN SORGHUM
(CYOMETRINIL - TREATED SEED)

The ATRAZINE 90 + metolachlor tank mixture provides control of weeds listed on this label under the Atrazine 90 + metolachlor on corn tank mix section.

Apply ATRAZINE 90 + metolachlor preplant incorporated or preemergence using the appropriate rates from Table 12 Preplant Incorporated or Pre-emergence. Follow the use instructions on the metolachlor label.

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 2.2 lbs./A as a broadcast spray.

If the soil coverage with plant residue is less than 30% at planting, a maximum of 1.8 lbs./A may be applied.

On Soils Not Highly Erodible

Apply 2.2 lbs./A as a broadcast spray.

TABLE 11
ATRAZINE 90 + METOLACHLOR - GRAIN SORGHUM*

SOIL TEXTURE	BROADCAST RATES PER ACRE	
	LESS THAN 1.5% ORGANIC MATTER ATRAZINE 90* + METOLACHLOR	1.5% ORGANIC MATTER OR GREATER ATRAZINE 90 + METOLACHLOR
COARSE: sand, loamy sand, sandy loam	DO NOT USE	DO NOT USE
MEDIUM: loam, silt, silt loam	DO NOT USE	1.3 lbs. 90 + 1.5 pts.
FINE: silty clay loam, sandy clay loam, silty clay, sandy clay, clay loam, clay	1.3 lbs. 90 + 1.5 pts.	1.6-1.8 lbs. 90 + 1.75-2 pts.

*Do not use in NM, OK or TX except in northeast OK and the Texas Gulf Coast areas. Do not apply preplant incorporated in AZ or the Imperial Valley of CA.

PRECAUTIONS

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

ROTATIONAL CROPS: Refer to the crop rotation instructions on the metolachlor label for metolachlor + atrazine tank mixtures on corn.

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, plow (moldboard or disk-plow) and thoroughly till soil in fall or spring to minimize possible injury to spring-seeded rotational crops, regardless of rate used.
4. Injury may occur if both this herbicide, preplant surface, preplant incorporated, or preemergence, and an at-planting systemic insecticide applied in-furrow are used.
5. Do not apply more than 2.5 lbs. active ingredient (2.8 lbs. 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 AZ 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.

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

NOTE: Do not graze or feed forage from treated areas for 21 days following application, or illegal residues may result.

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 0.9-1.1 lbs./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 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 90 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 3.3 lbs. 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 90. 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 90 Applied Alone - Corn or Grain Sorghum - Preplant Surface-Applied, Preplant Incorporated, or Pre-emergence.

PRECAUTIONS:

1. Use only on silt loam or finer textured soil.
 2. Wheat-sorghum-fallow cropping sequence must be followed.
 3. Do not apply following sorghum harvest.
- NOTE: To avoid illegal residues, do not graze or feed forage from treated area to livestock. To avoid illegal residues and crop injury do not plant any crop other than those on this label within 18 months following treatment.

WHEAT-CORN-FALLOW (KS, NE): This product controls cheatgrass (downy brome, chess), kochia, mustards, pigweed, Russian thistle, wild lettuce, wild sunflower, and volunteer wheat during period after wheat harvest. Weed control may extend into following corn crop grown under minimum tillage.

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

WHEAT-FALLOW-WHEAT (CO, KS, MT, NE, ND, SD, and WY): For preemergence 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 .5-1.1 lbs./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 90 PLUS PARAQUAT

If weeds are present at application, a tank mix with paraquat may be used. Broadcast 3.3 lbs. of this product plus 1-2 pts. of paraquat in 20-60 gals. of water/A by ground equipment. Add 0.5-1 pt. of a nonionic surfactant, such as Surf-AC 820, per 100 gals. of spray mixture. Add this product to spray tank first and thoroughly mix with water. Then add paraquat, followed by surfactant. Use the 2 pt. rate of paraquat if weeds are 4-6 inches tall. This mixture will not control weeds taller than 6 inches. Apply to stubble ground. Treat only once during same fallow period. Refer to paraquat label for further directions, precautions, and limitations.

If weeds are present at application and this product is used alone, use either an approved contact herbicide before or after treatment, or tillage after treatment.

Use tillage to control weeds which escape during fallow period. Till before planting. For this product applied alone or in tank mixture with paraquat, plant at least 2 inches deep and 12 months or more after application.

PRECAUTIONS:

1. Do not use on sand soil.
2. Do not treat eroded hillsides, caliche and rocky outcroppings, or exposed calcareous subsoil.
3. Do not treat soils of the Rosebud and Canyon Series in Western NE and adjoining counties in CO and WY.
4. Do not treat soils with calcareous surface layers.
5. Avoid spraying 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 90 alone by aircraft at a minimum upwind distance of 400 ft. from sensitive plants.

ROADSIDES

To control certain annual weeds in established perennial grasses along roadsides in CO, KS, MT, NE, ND, SD, and WY, including cheatgrass (downy brome, chess), common (annual) broomweed, little barley, medusahead, sage-wort, and tumble mustard, broadcast 1.1 lbs./A in a minimum of 10 gal. 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, Flora's paintbrush, fireweed and similar plants. Broadcast 2.2-4.4 lbs. 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 lb. of Atrazine 90 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 90 alone by aircraft at a minimum upwind distance of 400 ft. from sensitive plants.

FLORIDA

For control of emerged Pellitory Weeds (artillery weed). Apply .4-.6 lbs./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 4.4 lbs./A preemergence. Follow with one or two applications, as needed, postemergence to sugarcane and weeds, at 2.2 lbs./A. Treat before weeds exceed 1.5 inches in height.
2. Apply 1-3 times, as needed, at 2.2 lbs./A postemergence 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 2.2 lbs./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 11 lb./A to any one crop of sugarcane.
2. If making 2.2 lbs./A application during summer fallow period do not exceed 8.8 lbs./A during the remainder of the growing season, or illegal residues may result.

TEXAS

Use Atrazine 90 for control of barnyardgrass, pigweed, purslane and sunflower, in plant or ratoon sugarcane.

Apply 4.4 lbs./A of Atrazine 90 preemergence. Follow with one or two applications, as needed, at 3.3 lbs. postemergence 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 90 after "close-in".
2. Do not apply more than 11 lbs. of Atrazine 90 to any one crop of cane.
3. Injury to sugarcane may occur when under moisture stress, when soil is of low absorptive capacity, or when land is first cropped to sugarcane.

CONIFERS

For control of annual broadleaf and grass weeds prior to transplanting, after transplanting or in established conifers (including Douglas fir, grand fir, noble fir, white fir, Austrian pine, bishop pine, Jefferey pine, knobcone pine, loblolly pine (shore pine), monterey pine, ponderosa pine, Scotch pine, slash pine, blue spruce, and Sitka spruce): Broadcast 2.2-4.4 lbs. 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 90 Applied Alone - Corn or Grain Sorghum - Preplant Surface Applied, Preplant Incorporated or Preemergence.

QUACKGRASS CONTROL: Broadcast 4.4 lbs. 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 90 by aircraft at a minimum upwind distance of 400 ft. from sensitive plants.

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

Atrazine 90 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 90 may be applied with any pump-up or compressed air type sprayer or with a hose on type sprayer. Atrazine 90 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 90 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.

CONTROL OF ANNUAL WEEDS IN BERMUDAGRASS ON COUNTY ROAD
RIGHTS-OF-WAY

Apply 2.2-4.4 lbs. of Atrazine 90 in 40-80 gallons of water per acre for control of annual bluegrass, black nightshade, cheat, cocklebur, common hop clover, (annual) broomweed, crabgrass, downy brome, Japanese brome, foxtails, horseweed, kochia, lambsquarters, little barley, maretail, mustards, pigweed (carelesseed), poorjoe, ragweed, Russian thistle, smartweed, smutgrass, sunflower, wild lettuce, and wild oats. Use the lower rates on coarse textured soils having lower organic matter percentages, and the higher rates on fine textured soils having higher organic matter percentages. For control of summer annual weeds, apply Atrazine 90 in the spring before weeds emerge. To control winter annual weeds, apply Atrazine 90 in the fall before weeds emerge or in the early spring before active growth resumes.

NOTE: Do not cut for hay or graze treated areas within 3 months following an application. Apply only once per year. Do not seed or transplant species which are sensitive to Atrazine 90 within 18 months after application.

Do not use on rights-of-ways where preservation of wild flowers is desired. Atrazine 90 may cause injury to wild flowers.

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 90 when spurweed has emerged (December and January).

Florida Betony: This weed emerges in the fall so an application of Atrazine 90 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 90 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 90 will give the best control when applied to young tender weeds or just prior to weed emergence.

ST. AUGUSTINE AND CENTIPEDE GRASS

Atrazine 90 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 90 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 90
500 sq. ft.	1.33 tablespoons
1000 sq. ft.	2.75 " (1.33 oz.)
3000 sq. ft.	5 tablespoons (4 oz.)
5450 sq. ft.	.27 lbs.
10900 sq. ft. (0.25 acre)	.55 lbs.
1 acre	2.2 lbs.

TURF GRASS FOR FAIRWAYS, LAWNS, SOD PRODUCTION* AND SIMILAR AREAS

*In states other than Florida. For use on turf grass for sod in Florida, see "Turfgrasses for Sod (Florida only)" section below.

Bermudagrass, Centipedegrass, St. Augustinegrass and Zoysia Grass.

Apply Atrazine 90 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 90 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 this label, also apply Atrazine 90 in late winter before the weeds emerge. Apply in a minimum of 15 gals. of water per acre or 1 gal./1000 sq. ft.

Where annual bluegrass is the major weed, use 1.1 lbs./A. Use 2.2 lbs./A for control of the other weeds named above. Do not exceed 1 qt./A per treatment on newly sprigged turfgrass or on hybrid bermudagrass such as Tiflawn, Tifway, and Ormond.

For continued summer annual weed control, apply another 1.1 lbs./A 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. Augustine grass, Centipedegrass, and Zoysia grass. Broadcast 2.2-4.4 lbs./A according to soil texture to control those weeds listed under Atrazine 90 applied Alone - Corn or Grain Sorghum - Preplant Surface - Applied, or Preplant Incorporated, or Preemergence.

Muck	Old Beds: within 2 days after lifting sod.
or 4.4 lbs.	
Peat	New Beds: 3-4 days after sprigging or plugging.
Sandy	Old Beds: within 2 days after lifting sod.
Soil 2.2 lbs.	New Beds: 7-10 days after sprigging or plugging.

If weeds regrow, apply an additional 2.2 lbs./A on muck or peat, or 1.1 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 preemergence control of many broadleaf and grass weeds, including crabgrass, foxtail, wiregrass, Flora's paintbrush, spanishneedles, and fireweed, broadcast 2.2-4.4 lbs./A before harvest and before weeds emerge. Repeat as necessary. Do not spray when nuts are on ground during harvest period. Do not apply by air.

GUAVA

Use only on established plantings which are at least 18 months old. Apply as a directed spray at 2.2-4.4 lbs. of Atrazine 90 in 20-50 gal. of spray mix preemergence or early postemergence to weeds. When applying postemergence, the use of a surfactant and greater spray volume (80-100 gal. 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 8.8 lbs. Atrazine per year.

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Unite trademark of Hopkins Agricultural Chemical Company

STORAGE AND DISPOSAL

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

STORAGE INSTRUCTIONS

Storage should be under lock and key and secure from access by unauthorized persons and children. Storage should be in a cool, dry area away from any heat or ignition source. Do not stack over 2 pallets high. Move bags carefully so as not to tear or puncture. Do not move containers from one area to another unless they are securely sealed. Keep container tightly sealed when not in use. Do not allow bags to become wet or store in a damp, humid area. Keep away from any puncture source. Avoid storage near water supplies, food, feed, and fertilizer to avoid contamination. Store in original container only. If the contents are leaking or material is spilled follow these steps:

1. Collect and place in suitable containers for disposal.
2. Wash area with water and soap to remove remaining pesticide.
3. Follow washing with clean water rinse.
4. Do not allow run off to enter sewer or contaminate water supplies.
5. Dispose of waste as indicated 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:

Completely empty bag into application equipment. Then dispose of bag 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.