Reg no: 45115-68. PM-25 136

IDA, INC.

ATRAZINE 4 FLOWABLE

For season-long weed control in corn and sorghum, for weed control in certain other crops, in non-crop and industrial sites.

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

Atrazine 4F contains 4 lbs. active ingredients per gallon.

KEEP OUT OF REACH OF CHILDREN

CAUTION

SEE SIDE PANEL FOR STATEMENT OF PRACTICAL TREATMENT.

SHAKE WELL BEFORE USING

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION Harmful or fatal if swallowed. Causes moderate eye irritation. Do not get in eyes, on skin, or on clothing. Wear goggles. Harmful if swallowed, inhaled, or absorbed through the skin. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating. Remove contaminated clothing and wash before reuse.

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

STATEMENT OF PRACTICAL TREATMENT

IF SWALLOWED Call a Physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

IF IN EYES Immediately flush eyes with plenty of water. Get medical attention if irritation develops.

IF ON SKIN Immediately flush skin with plenty of soap and water while removing contaminated clothing and shoes. If irritation develops, seek medical attention.

ENVIRONMENTAL HAZARDS

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

Atrazine can travel (seep and leach) through soil and 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.

ACCEPTED
Oct-4 1988.
Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 45115-68

EPA REGISTRATION NUMBER: 45115-

EPA ESTABLISHMENT NUMBER:

NET CONTENTS: 2.5 Gallons / 9.45 Liters

MANUFACTURED FOR: IDA, INC.
2215 West Street, Suite 2
Germantown, TN 38138

FARMWORKER SAFETY STATEMENT

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

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

Written or oral warnings must be given to workers who are expected to be in a treated area or in an area about to be treated with this product. Oral warnings must inform workers of areas or fields that may not be entered without specific protective clothing until sprays have dried and appropriate actions to take in case of accidental exposure, as described under Precautionary Statements on this label. When oral warnings are given, warnings shall be given in a language customarily understood by the workers. Oral warnings must be given if there is reason to believe that written warnings cannot be understood by workers. Written warnings must include the following information: "CAUTION. Area treated with atrazine on (date of application). Do not enter without appropriate protective clothing until sprays have dried. In case of accidental exposure, refer to Statement of Practical Treatment on the ATRAZINE 4F label."

GENERAL INFORMATION

ATRAZINE 4F will control most annual broadleaf and grass weeds in corn, sorghum, sugarcane, pineapple and in certain other crops as specified on this label such as barnyardgrass, witchgrass, fall panicum, cocklebur, velvetleaf, green foxtail, wild oats, large crabgrass, crabgrass, giant foxtail, velvetleaf, morningglory, lambsquarters, pigweed, ragweed, nightshade, purslane and mustard. It is also effective in non-crop areas and industrial sites for control of most annual and many perennial broadleaf and grass weeds. ATRAZINE 4F may be applied before or after weeds emerge.

In this label 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 soil and soils high in organic matter.

Following many years of continuous use of this product and chemically related products, biotypes of some of the weeds listed on this label have been reported which cannot be effectively controlled by this and related products. Where this is known or suspected and weeds controlled by this product are expected to be present along with resistant biotypes, we recommended the use of this product in combinations or in sequence with other registered herbicides which are not triazines. If only resistant biotypes are expected to be present, use a registered non-triazine herbicide. Consult with your State Agricultural Extension Service for specific recommendations.

Since ATRAZINE 4F 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 4F is nonflammable.

Care should be taken to avoid using ATRAZINE 4F 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 4F 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 gal of spray mixture/A for all preplant incorporated, preplant surface, preemergence, and postemergence applications (with or without oil or 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 proper shear action for dispersing and mixing this product. The pump should provide a minimum of 10 gal/min/100 gal 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 a 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:

$$\frac{\text{band width in inches}}{\text{row width in inches}} \times \text{broadcast rate per acre} = \text{amount needed per acre of field}$$

Aerial Application

Use aerial application only where broadcast applications are specified. Apply a minimum of 1 qt of water for each quart of ATRAZINE 4F 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.

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

ATRAZINE 4F IN WATER APPLICATIONS

ATRAZINE 4F, a liquefied formulation, should be mixed with water and applied as a spray. Pour ATRAZINE 4F into the tank during or after filling. Hydraulic (jet) or mechanical agitation is recommended during mixing and application to keep the materials in suspension. All return lines to the tank must discharge below liquid level and agitation should not be so violent as to cause air bubbles to form in the liquid. Wash sprayer thoroughly after use.

ATRAZINE 4F 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 4F on corn and sorghum. Mixing should be accomplished as described under ATRAZINE 4F IN 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 directed treatment for corn, or crop injury may occur.

Compatibility Test: Since liquid fertilizers can vary, even within the same analysis, always check compatibility with herbicide(s) each time before use. Be especially careful when using complete suspension or fluid fertilizers as serious compatibility problems are more likely to occur. Commercial application equipment may improve compatibility in some instances. The following test assumes a spray volume of 25 gal/A. For other spray volumes make appropriate changes in the ingredients. Check compatibility using this procedure:

1. Add 1 pt of fertilizer to each of 2 one-quart jars with tight lids.
2. To one of the jars add ¼ tsp or 1.2 ml of a compatibility agent approved for this use such as Compex® or Unite® (¼ 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 tsp to each jar. LIQUID HERBICIDES: For each pint to be applied per acre, add 0.5 tsp or 2.5 ml to each jar.
4. After adding all ingredients, put lids on and tighten and invert each jar 10 times to mix. Let the mixtures stand 15 min 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 ½ of the compatibility agent to the fertilizer and the other ½ of the emulsifiable concentrate or flowable herbicide before addition to the mixture. If incompatibility is still observed, do not use the mixture.

Note: In the event of a compatibility problem when mixing oil with this product and water, a compatibility agent such as Compex® or Unite® should be used. Any of the above oils contaminated with water or other materials can cause compatibility problems and/or crop injury.

ATRAZINE 4F PLUS EMULSIFIABLE OIL OR OIL CONCENTRATE

Adding emulsifiable oil (petroleum derived), petroleum derived oil concentrate, or single or mixed crop derived oil concentrates 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 15% but not more than 20% suitable emulsifier or surfactant blend.
2. Petroleum derived oil containing at least 1% suitable emulsifier.

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 ¼ full with clean water, nitrogen solution, or complete liquid fertilizer. (3) Start agitation. (4) Be certain that the agitation system is working properly and creates a rippling or rolling action on the liquid surface. (5) Pour product directly from container into tank. (6) Continue filling tank until 90% full. Increase agitation if necessary to maintain surface action. (7) Add emulsifiable oil or 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.

Apply this product only through sprinkler including center pivot, lateral move, end tow, side wheel roll, traveler, big gun, solid set, or hand move irrigation system(s). Do not apply this product through any type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.

If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.

Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Do not apply when wind speed favors drift beyond the area intended for treatment.

Continuous agitation of the pesticide supply tank for the duration of the application period is recommended.

The pesticide is to be applied continuously for the duration of the water application.

Mixing Instructions:

Prepare mixture with a minimum of 1 part water to 1 part product.

SPRINKLER CHEMIGATION

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

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

PRECAUTIONS:

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

Instructions For Safe Handling

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

INSTRUCTIONS FOR USE

Corn

Atrazine 4F may be applied either before planting, at planting or after planting as indicated below.

Preplant (Broadleaf and Grass Weed Control)

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

Pre-emergence (Broadleaf and Grass Weed Control):

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

Post-emergence (Broadleaf and Grass Weed Control):

Apply before weeds exceed 1.5 inches in height, at the rate indicated in Table I.

TABLE I

For Control of Broadleaf and Grass Weeds*

Soil Texture	Atrazine 4F Broadcast Rate Per Acre
Light Soils: sands, loamy sands and sandy loams	4 pints
Medium Soils: silt and clay loams that are low in organic matter	4.75 pints
Heavy Soils: silt and clay loams with medium to high organic matter and clays (including the dark prairie soils of the Corn Belt)	6 pints
Peats, muck and high organic clays (apply post-emergence only)	6 pints

For Preplant or Pre-emergence Applications in Western Kansas, Western Nebraska, Eastern Colorado, Eastern Wyoming, New Mexico, West Texas and the Panhandle of Oklahoma. On sands, loamy sands, sandy loams, mild to strongly alkaline soils and all recently leveled soils, apply 2-4 pts. per acre for broadleaf weed control. Broadleaf weeds such as pigweed, lambsquarters, nightshade, purslane and kochia will be controlled. On other soil types in the areas above, make applications at the rate shown in Table I for broadleaf and grass weed control.

Layby Treatment (Broadleaf and Grass Weed Control):

Broadcast 2-4 pts. per acre in a minimum of 5 gals. of water or nitrogen solution before weeds are 1.5 inches high and corn is 20-30 inches high. When nitrogen solutions are used, direct the spray to the lower 15 inches of cornstalk to avoid corn foliage injury. *Agitation in the spray tank during application is essential.*

Post-emergence Broadleaf and Grass Weed Control With Atrazine 4F Plus *Emulsifiable Oil in Water*

Broadcast 4 pts. per acre after weed emergence, but before weeds reach 1.5 inches in height. Add emulsifiable oil at the rate of 1 gallon per acre for ground applications and .5 gallon per acre for aerial applications.

Post-emergence Broadleaf Weed Control With Atrazine 4F Plus Emulsifiable Oil In Water

Broadcast 2-4 pts. per acre for control of broadleaf weeds such as annual morningglory, cocklebur, lambsquarters, mustard, pigweed, ragweed, smartweed and wild buckwheat. Applications should be made before pigweed and lambsquarters reach six inches in height and before all other weeds reach four inches in height. Add emulsifiable oil at the rate of 1 gallon per acre for ground application and 0.5 gallon per acre for aerial applications. A cultivation may be necessary if all weeds are not controlled or if regrowth of weeds occurs.

Precautions for Applications of Atrazine 4F Plus Emulsifiable Oil In Water to Corn

1. Do not use oil in Atrazine 4F 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 4F and emulsifiable oil in water because they cause compatibility problems or crop injury.*
4. Store and handle emulsifiable oil carefully. Oil contaminated with even a small amount of water may not emulsify properly when added to the tank.
5. Do not make more than one application of Atrazine 4F and emulsifiable oil in water per season (except as recommended for control of yellow nutsedge and Canada thistle on this label).

PROBLEM WEEDS

For Control of Yellow Nutsedge and Canada Thistle

Atrazine 4F will control yellow nutsedge (Cyperus esculentus) and Canada thistle (Cirsium arvense) when applied as indicated below. For best results, Atrazine 4F should be used each year until yellow nutsedge or Canada thistle is eliminated or reaches a level of infestation where neither weed species is a problem. If regrowth of yellow nutsedge or Canada thistle occurs following the last application of Atrazine 4F during the season, cultivate once. When Atrazine 4F is applied post-emergence to the weeds, 1 gallon of emulsifiable crop oil should be added per acre.

For control of yellow nutsedge and Canada thistle with Atrazine 4F several alternative methods of use are available. These methods are listed *in order of preference below. If other weed species, such as annual* grasses, are also expected, use an alternative method that includes a preplant or pre-emergence treatment plus a post-emergence combination with emulsifiable oil or apply all the Atrazine 4F preplant or pre-emergence.

1. Broadcast 4 pts. of Atrazine 4F plus 1 gallon of emulsifiable oil per acre after the crop has emerged and after yellow nutsedge or Canada thistle plants emerge, but before yellow nutsedge plants reach a height of 3 inches or Canada thistle plants reach a height of 6 inches. Follow with a second application of 4 pts. of Atrazine 4F plus 1 gal. of oil per acre 10 to 20 days but prior to lay-by (20-30 inches) after the initial application has been made.
2. Broadcast 4 pts. of Atrazine 4F per acre preplant. Follow with an application of 4 pts. of Atrazine 4F plus 1 gallon of oil per acre, after the corn and weeds emerge, but before nutsedge plants reach a height of 3 inches (for nutsedge control only).
3. Broadcast 4 pts. of Atrazine 4F per acre during or shortly after planting, but prior to crop or weed emergence. Follow with an application of 4 pts. of Atrazine 4F plus 1 gallon of oil per acre after the corn and weeds emerge, but before yellow nutsedge plants reach a height of 3 inches or Canada thistle plants reach a height of 6 inches.
4. Broadcast 8 pts. of Atrazine 4F plus 1 gallon of oil per acre after the crop has emerged but prior to lay-by (20-30 inches) and after yellow nutsedge and Canada thistle plants emerge, but before nutsedge reaches a height of 3 inches or Canada thistle is more than 6 inches tall.
5. Broadcast 8 pts. of Atrazine 4F per acre preplant (for yellow nutsedge control only).
6. Broadcast 8 pts. of Atrazine 4F per acre during or shortly after planting, but prior to crop or weed emergence. (For yellow nutsedge control only).

NOTE:

Oil should be used in Atrazine sprays when corn is wet or under stress, especially when using 8 pts. of Atrazine 4F per acre. See precaution section under Post emergence Applications of Atrazine 4F plus Emulsifiable Oil in Water on Corn for additional directions.

For Quackgrass Control On Land Going Into Corn Production

SPLIT APPLICATION: Broadcast 4 pts. per acre in the fall or spring and plow 1-3 weeks later. Broadcast a second application at the rate of 4 pts. *per acre in the spring before, during or after planting, but before* weeds are 1.5 inches high. This split application will control both quackgrass and most annual broadleaf and grass weeds.

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

TANK MIXTURES WITH ATRAZINE 4F FOR CORN

Atrazine 4F plus Paraquat CL

For control of existing vegetation and residual control where corn will be planted directly into a cover crop, established sod or in previous crop residues — Broadcast 4-6 pts. Atrazine 4F and 1-2 pts. Paraquat CL per acre in 20-60 gallons of water per acre. Add 8 oz. of non-ionic surfactant per 100 gallons of diluted spray. Add Atrazine 4F to spray tank first and thoroughly mix with water. Add the Paraquat and surfactant last. Refer to the Paraquat CL label for further directions, limitations and cautions.

Atrazine 4F plus Alachlor 4EC

Use a tank mixture of Atrazine 4F plus Alachlor 4EC for the control of most annual broadleaf and grass weeds in corn (field and silage corn only) such as barnyardgrass, black nightshade, brachiaria, carpetweed, crabgrass, fall panicum, Florida pusley, giant foxtail, green foxtail, yellow foxtail, goosegrass, lambsquarters, pigweed, purslane, mustard, common ragweed, smartweed and witchgrass. This combination also reduces competition from buttonweed (velvetleaf), cocklebur and annual morningglory. Make applications at the rate indicated in Table II. For preplant applications, apply within 7 days of planting and incorporate to a depth of 2 to 3 inches. For pre-emergence applications, apply to the soil surface after planting, but before the crop or weeds emerge. For post-emergence treatments, make applications until weeds reach the two-leaf stage, and the corn is no more than three inches tall.

TABLE II

Tank Mixtures of Atrazine 4F Plus Alachlor 4EC On Corn (Field and Silage Only)

	Broadcast Rate Per Acre			
	Less than 3% organic matter		More than 3% organic matter	
Soil Texture	Atrazine 4F (Pts./A)	Alachlor 4EC (Qts./A)	Atrazine 4F (Pts./A)	Alachlor 4EC (Qts./A)
Light sandy soil	2	1.5	2	1.5
Silt loam soil	2-2.4	1.75	2-2.4	2.0
Heavy clay soil	2.4-3.2	2.5	2.4-3.2	2.5

Note: Apply in a minimum of 20 gallons of water per acre. Non-pressure fluid fertilizer may replace water part of the water used as a carrier for applications applied to the soil surface before crop emerges. Add the Atrazine 4F to the spray tank first and thoroughly mix with water. Add the Alachlor last.

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

Refer to the Alachlor 4EC label for further directions, limitations and cautions.

Atrazine 4F plus Propachlor 65W

Use a tank mixture of Atrazine 4F plus Propachlor 65W for control of most annual broadleaf and grass weeds in corn (field, hybrid seed, silage and sweet corn only), such as annual ryegrass, barnyardgrass (watergrass), carpetweed, crabgrass, fall panicum, Florida pusley, giant foxtail, green foxtail, yellow foxtail, goosegrass, groundsel, *jimsonweed, lambsquarters, mustard, nightshade, pigweed, purslane, ragweed,* smartweed and sunflower. This combination also reduces competition from buttonweed (velvetleaf), cocklebur and annual morningglory. Broadcast 2.10-3.20 pts. of Atrazine 4F plus 3.8 to 6.0 lbs. of Propachlor 65W per acre on the surface any time from immediately after planting until broadleaf and grass weeds reach the two-leaf stage. Use the lower rates of Atrazine 4F and Propachlor 65W on the light-textured soils low in organic matter. Use the higher rates on heavy-textured soils high in organic matter. A minimum of 2.8 pts. per acre of Atrazine 4F in the tank mixture will give better control of annual morningglory, buttonweed (velvetleaf), cocklebur and sunflower.

Apply in a minimum of 20 gallons of water per acre. Non-pressure fluid fertilizer may replace all or part of the water used as a carrier for applications applied to the soil surface before crop or weeds emerge. Add the Atrazine 4F to the spray tank first and thoroughly mix with water. Cut the Propachlor 65W bag and fill with water to the fill line. Grasp the neck of the bag firmly and shake vigorously and add to the spray tank. Refer to Propachlor 65W label for further directions, limitations and cautions.

Precautions For All Applications To Corn

1. Do not apply more than 8 pts. per acre of Atrazine 4F to corn in a calendar year.
2. Following harvest of a treated crop, plow (moldboard or disk-plows) and thoroughly till the soil in the fall or spring to minimize possible injury to rotational spring-seeded crops, regardless of the rate used.
3. Do not graze treated area or feed treated forage to livestock for 21 days following application.

Suggestions For Rotational Crops

1. Land treated with Atrazine 4F should not be planted to any crop except corn or sorghum until the following year or injury may occur.
2. If Atrazine 4F is applied after June 10, do not rotate with crops other than corn or sorghum the next year or injury may occur.

3 If Atrazine 4F is used at a broadcast rate higher than 6 pts. per acre (or comparable rates in a band application) crop of untreated corn or sorghum should precede the next rotational crop.

4 In the high plains and intermountain area of the West where rainfall is sparse and erratic or where irrigation is required, use Atrazine 4F to control weeds in corn only when corn is to follow corn or a crop of untreated corn or sorghum is to precede other rotational crops.

5 In Western Minnesota and Eastern parts of the Dakotas, Nebraska and Kansas, corn treated with Atrazine 4F should not be followed with soybeans if the broadcast rate applied was more than 4 pts. per acre (or comparable rate in a band) or injury may occur.

6 Injury may occur to soybeans planted in North Central Iowa and South Central Minnesota the year following an Atrazine 4F application on Harps, Canisteo, Flroden or other soils having a calcareous surface layer.

7 Do not plant sugar beets, tobacco, vegetables (including dry beans), spring-seeded small grains or small-seeded legumes and grasses the year following Atrazine 4F application or injury may occur.

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

Atrazine 4F may be applied either before planting, at planting or after planting as indicated below.

Preplant (Broadleaf and Grass Weed Control):

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

Pre-emergence (Broadleaf and Grass Weed Control):

Apply during or shortly after planting, but prior to weed or crop emergence at the rate indicated in Table III.

TABLE III

Preplant and Pre-emergence Applications* For Broadleaf and Grass Weed Control in Sorghum

Soil Texture	*Organic Matter*	*Broadcast Rate of Atrazine 4F Per Acre*
Light Soils: sands, loamy sands, sandy loams and sandy clay loams	any level	DO NOT USE (except for pre-emergence use on bedded sorghum in Arizona and California as indicated below)
Medium and Heavy Soils	Less than 1%	
silt loams, clay loams	1% to 1.5%	3.2-4 pts.
and clays	More than 1.5%	3.2-4.75 pts.

*Atrazine 4F should not be applied preplant to sorghum grown in N. Mex., Okla., Texas, Ark., La., Tenn., Miss., Ala., Ga., Fla., S. Car., and N. Car. or pre-emergence to sorghum grown in N. Mex., Texas and Okla. except in N.E. Okla. and the Texas Gulf Coast.

In case of planting failures, sorghum can be replanted into soil previously treated with Atrazine 4F. Do not make a second broadcast application or injury may occur. If Atrazine 80W is applied in a band and sorghum is replanted in the untreated row middles, Atrazine 4F can be applied in a band to the second planting.

Pre-emergence Broadleaf Weed Control in Furrow Irrigated Bedded Sorghum (*Arizona and California only*):

For pre-emergence control of broadleaf weeds such as ground cherry, lambsquarters, morningglory, mustard, pigweed and purslane, broadcast 1.6 to 2.4 pts. per acre. Use the lower rate on coarse-textured soils and soils low in organic matter and use the high rate on fine-textured soils and soils high in organic matter. Make application after bed preparation, during or after planting, but before sorghum and weeds have emerged and before the first furrow irrigation. Several irrigations should follow the application, making sure that all soil is thoroughly wet.

Precautions for Pre-emergence Applications of Atrazine 4F to Furrow Irrigated Bedded Sorghum Grown in Arizona and California:

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 IV. Applications may be made up to cutoff.

TABLE IV

Post-emergence Broadleaf and Grass Weed Control in Sorghum

Soil Texture	*Minimum Height of Sorghum at Treatment*	*Broadcast Rate/Atrazine 4F*
Sand or loamy sand	DO NOT USE	
Sandy loam	See directions for broadleaf and weed control below	
Silt loam to sandy clay loams	Completely emerged	4-4.75 pts.
Clarion and Putnam clay soils	At least 6 inches high	4-4.75 pts.
Silty clay loams and heavier soils	Completely emerged	6 pts.

Post-emergence Broadleaf Weed Control with Atrazine 4F plus Emulsifiable Oil in Water:

Broadcast 2-4 pts. per acre for control of broadleaf weeds such as annual morningglory, cocklebur, lambsquarters, mustard, pigweed, ragweed, smartweed and wild buckwheat. Application should be made before pigweed and lambsquarters reach six inches in height and before all other weeds reach four inches in height. In Texas, New Mexico, Oklahoma, Western Kansas, Colorado and the desert regions of California and Arizona, apply when sorghum is 6-10 inches in height, but before it reaches the boot stage. In all other areas, apply after sorghum reaches the three-leaf stage. Add emulsifiable oil at the rate of 1 gallon per acre for ground applications and 0.5 gallon per acre for aerial applications. A cultivation may be necessary if all weeds are not controlled or if regrowth of weeds occurs.

Precautions for Application of Atrazine 4F plus Emulsifiable Oil in Water to Sorghum

1. Do not use oil in Atrazine 4F sprays when sorghum is under stress from prolonged cold, wet weather, poor fertility or other factors or when sorghum is wet and succulent from recent rainfalls as crop injury may occur.
2. Do not use in Atrazine 4F 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 because they may cause compatibility problems or crop injury.
4. Store and handle emulsifiable oil carefully. Oil contaminated with even a small amount of water may not emulsify properly when added to the tank.
5. Do not make more than one application of Atrazine 4F emulsifiable oil in water per season.

Post-emergence Broadleaf Weed Control with Atrazine 4F plus Surfactant

In Oklahoma, New Mexico, Texas, Western Kansas, Colorado and Desert regions of Arizona and California only:

Broadcast 2.4 pts. of Atrazine 4F plus .75 to 1.5 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.

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-in. Deep planter marks or seed furrows should also be leveled before application.
2. Application made to sorghum growing under stress caused by minor element deficiency or to sorghum growing on highly calcareous soils may result in crop injury.
3. Do not graze or feed forage from treated areas for 21 days following application.
4. Following harvest of a treated crop, plow (moldboard or disc-plow) and thoroughly till the soil in the fall or spring to minimize possible injury to rotational spring-seeded crops, regardless of rate used.

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

Suggestions for Rotational Crops:

See "Suggestions for Rotational Crops" at the end of corn section.

Sugar Cane:

For control of nonintegumatous weeds, such as crabgrass, junglerice, witchgrass, foxtail, amaranths, Florida pusley, ragweed and similar plants. Broadcast 2-4 quarts per acre in 20-50 gallons of water for adequate coverage of the soil surface at time of planting or ratooning, but before the cane emerges. 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.

For control of emerged Pelitary Weeds (artillery weed) (Florida only): Apply 8-12 pints per acre in 40 gallons of water per acre as a directed spray. Add 2 quarts of surfactant for each 50 gallons of spray and be sure weed foliage is thoroughly covered.

Precautions:

1. Do not apply Atrazine 4F after "close-in."
2. Do not apply more than 9.5 quarts of Atrazine 4F to any one crop of cane.

Forest and Christmas Tree Plantations:

Douglas Fir, Grand Fir, Noble Fir, White Fir, Lodgepole Pine, Ponderosa Pine and Scotch Pine (Pacific Northwest—west of Cascade only.) Annual broadleaf and grass weed control. Broadcast 2-4 quarts in 20 to 40 gallons of water per acre to assure thorough coverage. For band applications, reduce rate of Atrazine 4F and volume of water in proportion to the acre treated. For example, when treating a 4 foot band over trees planted in rows 8 feet apart, apply 1-2 quarts per acre. Apply between fall and early spring when trees are dormant or soon after transplanting and before weeds are 1.5 inches high.

Quackgrass Control:

Broadcast 4 quarts per acre in 20-40 gallons of water for adequate coverage. Apply in fall or early spring when trees are dormant and before weed seedlings are more than 1.5 inches high. This application will also control most annual broadleaf and grass weeds.

Precautions:

1. Do not graze treated areas.
2. Do not apply to seedbeds.
3. Do not make more than one application per year.

Precautions:

1. Apply only to perennial ryegrass stands from which a seed crop has been harvested.
2. Do not apply Atrazine 4F to ryegrass more than 2 years in succession.
3. Do not graze treated land within 10 days of application.
4. Do not plant treated land to other crops for at least 90 months.

NONSELECTIVE WEED CONTROL ON NONCROP LAND:

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

Most annual broadleaf and grass weed: broadcast 6.67 pints to 10 quarts per acre. Hard to kill annual and many perennial broadleaf and grass weeds: broadcast 10-20 quarts per acre. Hard to kill biennial and perennial weeds such as bull thistle and Scotch thistle: broadcast 20-40 quarts per acre. For longer residual control in regions of high rainfall and long growing season, broadcast 20-40 quarts per acre. For small areas: 25 cm³ per 1000 sq. ft. is equivalent to 9.5 quarts per acre.

St. Augustine Grass, Centipede Grass, and Dormant Bermuda Grass

Atrazine 4F controls Sourweed, Florida Betony, Annual Bluegrass and many other problem weeds in home lawns, ornamental and recreational turf and other noncrop areas such as highway right-of-ways and similar

areas. Atrazine 4F may be applied with any pump-up or compressed air type sprayer. In a hose-on type sprayer, Atrazine 4F 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 4F 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 Suppressed:

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

Timing of Application:

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

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

Florida Betony: This weed emerges in the fall so an application of Atrazine 4F 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 4F 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 4F will give the best control when applied to young tender weeds or just prior to weed emergence.

St. Augustine and Centipede Grasses

Atrazine 4F 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 4F 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 4F	Suggested Amount of Water
500 sq. ft.	1.5 tablespoons	1 gallon
1,000 sq. ft.	3 tablespoons (1.5 oz.)	2 gallons
3,000 sq. ft.	4.5 ounces	8 gallons
5,450 sq. ft.	8 ounces	10 gallons
10,900 sq. ft.	1 pint	20 gallons
(.25 acre)		
1 acre	2 qts.	40 gallons

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. Avoid storage at high temperatures. Do not stack over 2 pallets high. Move containers by handles or cases. Do not move containers from one area to another unless they are securely sealed. Keep container tightly sealed when not in use. Keep away from any puncture source. Avoid storage near water supplies, food, feed and fertilizer. To avoid contamination. Avoid contamination with acids or alkalies. Store in original containers only. If the contents are leaking or material is spilled follow these steps:

1. Contain spill, absorb with a material such as saw dust, clay granules or dirt.
2. Collect and place in suitable containers for disposal.
3. Wash area with water and soap to remove remaining pesticide.
4. Follow washing with clean water rinse.
5. Place a leaking container in a plastic tub and transfer contents as soon as poss ble to an empty original container.
6. Do not allow run off to enter sewer or contaminate water supplies.
7. 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: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or incineration, or if allowed by state 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 test 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 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 the Seller and is accepted as such by the Buyer.