


Keep out of reach
of children. See
additional caution
statements on bag.

ATRAFINE

brand of
atrazine
80w



**For season-long
weed control in corn
and sorghum.**

**For weed control in
certain other crops;
in noncrop areas;
and industrial sites.**

**Active
Ingredients: 80%**
Atrazine (2-chloro-
4-ethylamino-
6-isopropylamino-
s-triazine)... 74.4%
Related
compounds... 5.6%

Inert ingredients: 20%
Total 100%

**Five Pounds
Net Weight**

ACCEPTED
15061-1
6-5-73
FEDERAL BUREAU OF INVESTIGATION
U.S. DEPARTMENT OF JUSTICE
WASHINGTON, D.C. 20535

ATRAFINE is a Trade Mark of
Ltd
Sole 400, Birco Building
820 Colburn
Montreal 771, Canada
Telephone: (514) 886-4738

DIRECTIONS FOR USE AND CONDITIONS OF SALE AND WARRANTY

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

Conditions of Sale and Warranty

The Directions For Use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Soluja or the Seller. All such risks shall be assumed by the Buyer.

Soluja warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the Directions For Use, subject to the inherent risks referred to above. Soluja makes no other express or implied warranty of Fitness or Merchantability or any other express or implied warranty. In no case shall Soluja or the Seller be liable for consequential, special or indirect damages resulting from the use or handling of this product. Soluja and the Seller offer this product and the Buyer and user accept it, subject to the foregoing Conditions of Sale and Warranty which may be varied only by agreement in writing signed by a duly authorized representative of Soluja.

General Information

ATRAFINE 80W herbicide will control most annual broadleaf and grass weeds in corn, sorghum, sugarcane, pineapple, and certain other crops. It will also control most annual and many perennial broadleaf and grass weeds in noncrop areas and industrial sites. ATRAFINE 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 light soils and soils low in organic matter, the higher rate should be used on heavy soils and soils high in organic matter.

Since ATRAFINE acts mainly through root absorption, its effectiveness depends on rainfall or irrigation to move it into the root zone. Should weeds develop, particularly under dry or minimal moisture conditions, a shallow cultivation or rotary hoeing will generally result in better weed control.

ATRAFINE 80W is a wettable powder that should be mixed with water and applied as a spray. Make a slurry by adding ATRAFINE to water. Pour the slurry into the spray tank during or after filling. Sufficient hydraulic (jet) or mechanical agitation should be provided during mixing and application to keep the material in suspension.

Wash sprayer thoroughly immediately after use.

ATRAFINE 80W is noncorrosive to equipment and metal, nonflammable and has low electrical conductivity.

Care should be taken to avoid using ATRAFINE where adjacent desirable trees, shrubs, or plants might be injured.

Store ATRAFINE 80W in a dry place.

Ground application:

For uniform distribution in broadcast applications TeeJet 8003 or 8004 fan type or similar nozzles with openings of equal or greater size should be used. For band applications use TeeJet 8003-E or 8004-E or similar type nozzles. Screens in nozzles as well as those in suction and in-line strainers should be not finer than 50-mesh size. A suitable pump with capacity to deliver 10-12 gpm should be used and operating pressure should be 35-40 psi. Use 20-40 gals. of water per acre to assure even coverage unless otherwise specified.

Aerial application:

Use only where broadcast applications are specified. Apply a minimum of 1 gal. of water for each 1 — 1 1/2 lbs. of ATRAFINE 80W to be applied per acre.

Avoid application under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur.

CAUTION: Do not apply ATRAFINE 80W to crops or areas where it may be injurious to desirable plants, animals, or humans. Do not apply to areas where it may be injurious to fish, birds, or other wildlife. Do not apply to areas where it may be injurious to bees or other beneficial insects. Do not apply to areas where it may be injurious to aquatic life. Do not apply to areas where it may be injurious to soil microorganisms. Do not apply to areas where it may be injurious to plants or animals that are sensitive to herbicides. Do not apply to areas where it may be injurious to crops or areas where it may be injurious to the environment. Do not apply to areas where it may be injurious to humans or animals. Do not apply to areas where it may be injurious to the environment. Do not apply to areas where it may be injurious to crops or areas where it may be injurious to the environment. Do not apply to areas where it may be injurious to humans or animals. Do not apply to areas where it may be injurious to the environment.

Sugarcane

For control of most nonrhizomatous weeds, such as crabgrass, jungleweed, wiregrass, foxtail, amaranths, Florida paintbrush, fireweed and similar plants. Broadcast 2 1/2 — 5 lbs. per acre in sufficient 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 Petitory Weed (artillery weed) (Florida only). Apply 1/2 — 3/4 lb. per acre in a least 40 gals. of water per acre as a directed spray. Add 2 qts. of surfactant for each 50 gals. of spray and be sure weed forage is thoroughly covered.

Precautions: Do not apply ATRAFINE 80W to crops or areas where it may be injurious to desirable plants, animals, or humans. Do not apply to areas where it may be injurious to fish, birds, or other wildlife. Do not apply to areas where it may be injurious to bees or other beneficial insects. Do not apply to areas where it may be injurious to aquatic life. Do not apply to areas where it may be injurious to soil microorganisms. Do not apply to areas where it may be injurious to plants or animals that are sensitive to herbicides. Do not apply to areas where it may be injurious to crops or areas where it may be injurious to the environment. Do not apply to areas where it may be injurious to humans or animals. Do not apply to areas where it may be injurious to the environment.

Forest and Christmas Tree Plantations

Douglas Fir, Grand Fir, Noble Fir, White Fir, Lodgepole Pine, Ponderosa Pine, and Sooty Pine (Pacific Northwest — west of Cascades only)

Annual broadleaf and grass weed control. Broadcast 2 1/2 — 5 lbs. in sufficient water to assure thorough coverage. For band application, reduce the rate of ATRAFINE 80W and volume of water in proportion to the area treated. For example, when treating a 4-foot band over trees planted in rows 8 feet apart, apply 1 1/4 — 2 1/2 lbs. per acre. Apply between fall and early spring while trees are dormant or soon after transplanting and before weeds are 1 1/2 inches high.

Quackgrass control. Broadcast 5 lbs. per acre in sufficient water for adequate coverage. Apply in fall or early spring while trees are dormant and before weed seedlings are more than 1 1/2 inches high. This application will also control most annual broadleaf and grass weeds.

Perennial Ryegrass Grown for Seed (Pacific Northwest only)

For the control of annual broadleaf and grass weeds such as annual ryegrass, rattail fescue, and similar species. Broadcast 1 1/2 lbs. in 15 gals. or more water per acre, after first fall rains.

Nonselective Weed Control on Noncrop Land

Apply ATRAFINE 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 the higher rates on heavy clay and muck soils. Do not contaminate domestic or irrigation water supplies, or lakes, streams, or ponds. Use sufficient water to assure thorough coverage. Use at least 1 gal. of water for each pound of ATRAFINE, more if practical. Mechanical bypass or jet agitation is necessary to keep ATRAFINE in suspension during application. Most annual broadleaf and grass weeds. Broadcast 6-12 1/2 lbs. per acre.

Hard-to-kill annual and many perennial broadleaf and grass weeds. Broadcast 12 1/2 — 25 lbs. per acre.

For longer residual control in regions of high rainfall and a long growing season, apply 25 — 50 lbs. broadcast per acre.

Hard-to-kill biennial and perennial weeds such as bull thistle and sowthistle. Broadcast 25 — 50 lbs. per acre.

For small areas, 4 1/2 oz. per 1,000 sq. ft. is equivalent to 12 1/2 lbs. per acre.

Corn

One application will control most annual broadleaf and grass weeds such as barnyardgrass, witchgrass, yellow foxtail, green foxtail, wild oats, crabgrass, giant foxtail, velvetleaf, morningglory, lambsquarters, pigweed, ragweed, night shade, purslane, and mustard. ATRAFINE 80W may be applied whether before planting, at planting, or after planting using 2 1/2 - 5 lbs. per acre as indicated below.

For pre-plant and pre-emergence application, nitrogen solutions or complete liquid fertilizers may replace all or part of the water as a carrier for ATRAFINE 80W. Do not apply after corn has emerged as there is danger of liquid fertilizers causing crop injury.

Pre-plant

Broadcast in the spring after plowing at the rate indicated in the table below. Application may be made before, during, or after final seedbed preparation. If soil is tilled or worked after application, avoid deep incorporation of ATRAFINE 80W. Best results have been obtained when ATRAFINE 80W is applied within 2 weeks prior to planting.

Pre-emergence

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

Post-emergence

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

Note: For band applications, reduce the broadcast rate of ATRAFINE 80W in proportion to the area treated.

Soil type	Rate per acre of ATRAFINE 80W		
	Broadcast in 20-40 gals. of water / A	20-inch Band* in 10-20 gals. of water / A	13-inch Band* in 7-14 gals. of water / A
Light soils Sands, loamy sands and sandy loams	2 1/2 lbs.	1 1/4 lbs.	13 oz.
Medium soils Silt and clay loams that are low in organic matter	3 lbs.	1 1/2 lbs.	1 lb.
Heavy soils Silt and clay loams with medium to high organic matter and clays	3 3/4 lbs.	1 lb. 14 oz.	1 1/4 lbs.
Peats, mucks, and high organic clays (apply post-emergence only)	3 3/4 lbs.	1 lb. 14 oz.	1 1/4 lbs.

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

Post-emergence Weed Control with ATRAFINE-oil-water Emulsions

The addition of oil to ATRAFINE in water sprays may speed the activity of ATRAFINE and provide quicker kill of weeds. However, under certain conditions the use of oil may seriously damage corn. To minimize the possibility of damage to corn, follow the directions, procedures, and precautions given below.

Ground application

Broadcast 2 1/2 lbs of ATRAFINE and 1 gal of emulsifiable oil* in 20-40 gals of water per acre after emergence but before weeds reach 1 1/2 inches in height.

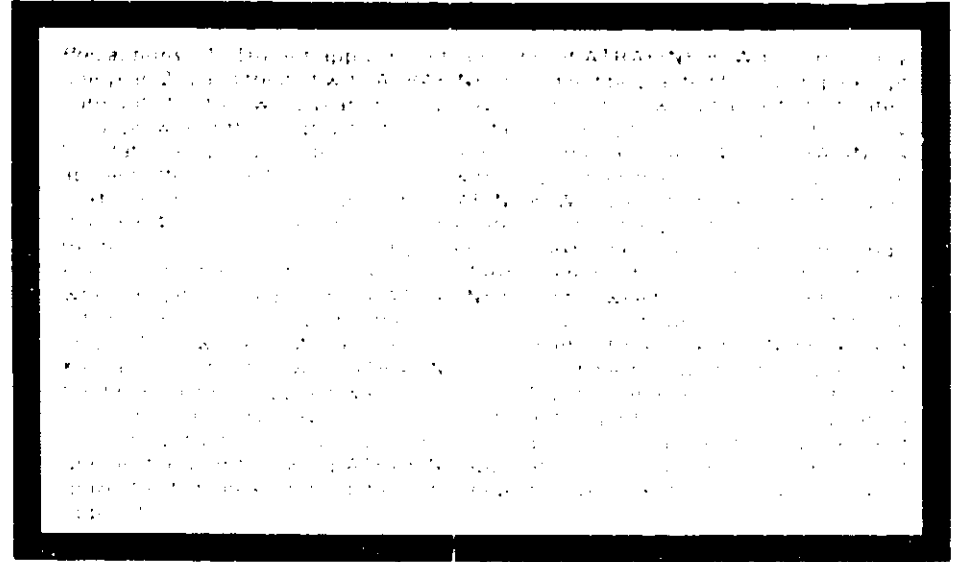
Aerial application

Broadcast 2 1/2 lbs of ATRAFINE and 1/2 gal of emulsifiable oil* in no less than 5 gals of water per acre after weed emergence but before weeds reach 1 1/2 inches in height.

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

Procedures: 1) Thoroughly clean sprayer prior to use. Do not use sprayer contaminated with 2,4-D or other materials as corn damage or sprayer clogging may result. 2) In a separate container, make a thin slurry of ATRAFINE in water, thoroughly wetting the ATRAFINE. 3) Fill the spray tank with water, allowing for the addition of the ATRAFINE. 4) With the agitation system in operation, add the ATRAFINE slurry. 5) Add the emulsifiable oil last. 6) Empty the tank as completely as possible before refilling to prevent a buildup of oil in the tank. Keep the agitation system in operation to avoid a separation of the oil from the water in the spray mixture still remaining in the tank. 7) If an oil film starts to build up in the tank, drain the tank and clean out with a strong detergent solution or solvent. 8) Clean the sprayer thoroughly immediately after use by flushing the system with water containing a detergent.

Note: 1) Do not use oil in ATRAFINE 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 oil 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 ATRAFINE oil-water emulsions 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 ATRAFINE-oil-water spray per season.



Northern Nutgrass or Yellow Nutsedge (Cyperus esculentus) Control

Broadcast 5 lbs. per acre pre-plant, pre-emergence, or post-emergence before nutgrass is more than 1 1/2 inches high. If applied before nutgrass begins growth, cultivate within 2-3 weeks. If applied after nutgrass has emerged, cultivate within 10-14 days.

Quackgrass Control on Land Going into Corn Production

Split Application: Broadcast 2 1/2 lbs per acre in the fall or spring and plow 1-3 weeks later. Broadcast a second application at the rate of 2 1/2 lbs per acre in the spring before, during or after planting, but before weeds are 1 1/2 inches high. This split application will control both quackgrass and most annual broadleaf and grass weeds.

Single Application: Broadcast 3 3/4 lbs. - 5 lbs. per acre in the fall or spring. Plow 1-3 weeks after application.

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

ATRAFINE 80W may be used to control many annual broadleaf and grass weeds in sorghum. Apply at the rate indicated in the tables below. Weeds should not be more than 1 1/2 inches high at time of application. When making band application, reduce the broadcast rate per acre in proportion to the area treated.

Pre-plant and pre-emergence application (In eastern and central Nebraska and northeastern Kansas only)**

Soil type	Rate per acre of ATRAFINE 80W		
	Broadcast in 20-40 gals of water/A	20" band* in 10-20 gals of water/A	13" band* in 7-14 gals of water/A
Sand to sandy loam, eroded slopes and soils low in organic matter	Do not use		
Other soils (Shallow incorporation may improve control)	2 1/2 - 3 lbs	1 1/4	13 oz - 1 lb

*Based on 40 inch row spacing. **See pre-plant recommendations for corn. Non-pressure nitrogen solutions or complete liquid fertilizers may be substituted for all or part of the water as a carrier for ATRAFINE. Do not apply nitrogen solutions/fertilizers after crop emergence as damage may result.

Post-emergence application**

Weeds to be controlled and soil type	Stage or height of sorghum at treatment	Rate per acre of ATRAFINE 80W		
		Broadcast in 20-40 gals of water/A	20" band* in 10-20 gals of water/A	13" band* in 7-14 gals of water/A
Broadleaf and grass weeds				
Sand or loamy sand		do not use		
Sandy loam		See Broadleaf Weeds Below		
Silt loam to sandy clay loam	Completely emerged	2 1/2 - 3 lbs	1 1/4	13 oz - 1 lb
Often and Pullman clay soils	At least 6 inches high	2 1/2 - 3 lbs	1 1/4	13 oz - 1 lb
Silty clay loams and heavier soils	Completely emerged	3 - 3 1/4 lbs	1 lb - 14 oz	1 1/4 lbs
Broadleaf weeds sandy loams and heavier soils in Okla., N.M., Tex., West Kans., Colo., and desert regions of Ariz. and Calif. only	At least 6 inches high	1 1/2 lbs plus 3/4 - 1 1/2 pts surfactant	3/8 - 3/4 pt surfactant	1 1/2 lb plus surfactant

*Based on 40-inch row spacing. **Up to "close in"

Post-emergence Broadleaf Weed Control with ATRAFINE-oil-water Emulsions (New Mexico, Oklahoma, and Texas only)

The addition of oil to post-emergence ATRAFINE water sprays may speed the activity of ATRAFINE and provide quicker kill of annual broadleaf weeds. However, under certain conditions, the use of oil may seriously damage sorghum. To minimize the possibility of damage to sorghum, follow the directions and procedures given below.

Ground application:

Broadcast 1 1/2 lbs of ATRAFINE and 1 gal of emulsifiable oil* in 20-40 gals of water per acre when sorghum is 6-10 inches in height and before it reaches the boot stage. Treat before broadleaf weeds reach 6 inches in height.

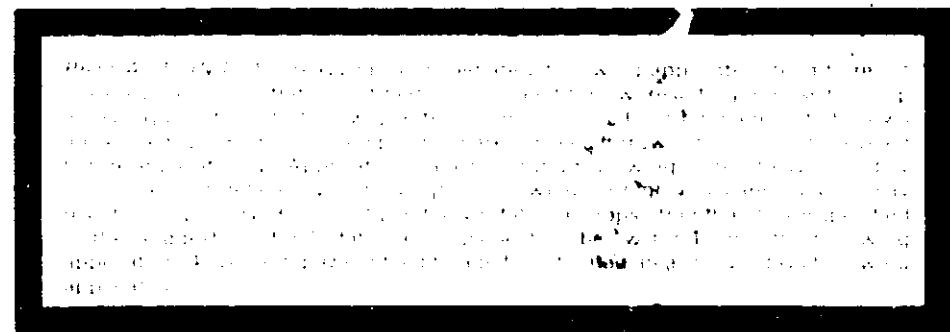
Aerial application:

Broadcast 1 1/2 lbs of ATRAFINE and 1/2 gal of emulsifiable oil* in no less than 5 gals of water per acre when sorghum is 6-10 inches in height and before it reaches the boot stage. Treat before broadleaf weeds reach 6 inches in height.

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

Procedures: 1) Thoroughly clean sprayer prior to use. Do not use sprayer contaminated with 2,4-D or other materials as sorghum damage or sprayer clogging may result. 2) In a separate container, make a thin slurry of ATRAFINE in water, thoroughly wetting the ATRAFINE. 3) Fill the spray tank with water, allowing for the addition of the ATRAFINE. 4) With the agitation system in operation, add the ATRAFINE slurry. 5) Add the emulsifiable oil last. 6) Empty the tank as completely as possible before refilling to prevent a buildup of oil in the tank. Keep the agitation system in operation to avoid a separation of the oil from the water in the spray mixture still remaining in the tank. 7) If an oil film starts to build up in the tank, drain the tank and clean out with a strong detergent solution or solvent. 8) Clean the sprayer thoroughly immediately after use by flushing the system with water containing a detergent.

Note: 1) Do not use oil in ATRAFINE 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 rainfall as crop injury may occur. 2) Do not use oil in ATRAFINE 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 ATRAFINE-oil-water spray per season.



Suggestion for Rotational Crops: 1) Sorghum or corn may be planted the year following treatment. 2) All other rotational crops may be planted 18 months after application. 3) When the broadcast rate used does not exceed 1 1/2 lbs per acre, fall wheat may be planted 15 months after application.

DIRECTIONS FOR USE AND CONDITIONS OF SALE AND WARRANTY

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Solyo warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the Directions For Use, subject to the inherent risks referred to above. Solyo makes no other express or implied warranty of Fitness or Merchantability or any other express or implied warranty. In no case shall Solyo or the Seller be liable for consequential special or indirect damages resulting from the use or handling of this product. Solyo and the Seller offer this product and the Buyer and user accept it, subject to the foregoing Conditions of Sale and Warranty, which may be varied only by agreement in writing signed by a duly authorized representative of Solyo.

General Information

ATRAFINE BOW herbicide will control most annual broadleaf and grass weeds in corn, sorghum, sugarcane, pineapple and certain other crops. It will also control most annual and many perennial broadleaf and grass weeds in noncrop areas and industrial sites. ATRAFINE 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 light soils and soils low in organic matter; the higher rate should be used on heavy soils and soils high in organic matter.

Since ATRAFINE acts mainly through root absorption, its effectiveness depends on rainfall or irrigation to move it into the root zone. Should weeds develop particularly under dry or unusual moisture conditions, a shallow cultivation or rotary hoeing will generally result in better weed control.

ATRAFINE BOW is a suitable powder that should be mixed with water and applied as a spray. Make a slurry by adding ATRAFINE to water. Pour the slurry into the spray tank during or after filling. Sufficient hydraulic (jet) or mechanical agitation should be provided during mixing and application to keep the material in suspension.

Wash sprayer thoroughly immediately after use.

ATRAFINE BOW is noncorrosive to equipment and metal nonflammable and has low electrical conductivity.

Care should be taken to avoid using ATRAFINE where adjacent desirable trees, shrubs, or plants might be injured.

Store ATRAFINE BOW in a dry place.

Ground Application

For uniform distribution in broadcast applications, Tee-Jet 8003 or 8004 fan type or similar nozzles with openings of equal or greater size should be used. For band applications use Tee-Jet 8003 E or 8004 E or similar type nozzles. Screens in nozzles as well as those in suction and in line strainers should be not finer than 50 mesh size. A suitable pump with capacity to deliver 10-12 gpm should be used and operating pressure should be 35-40 psi. Use 20-40 gal. of water per acre to assure even coverage unless otherwise specified.

Aerial Application

Use only where broadcast applications are specified. Apply a minimum of 1 gal. of water for each 1 1/2 lbs. of ATRAFINE BOW to be applied per acre.

Avoid application under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur.

Applications

For control of most nonbromusoid weeds, such as crabgrass, junglerice, wiregrass, foxtail, amaranth, Florida panicgrass, freeseed and similar plants, broadcast 2 1/2 - 5 lbs. per acre in sufficient 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 anytime after emergence as a directed spray.

For control of emerged Petitory Weed (entire weed) (Florida only), Apply 1 2/3 - 3 4/5 lb. per acre in a least 40 gal. of water per acre as a directed spray. Add 2 qts. of surfactant for each 50 gal. of spray and be sure weed foliage is thoroughly covered.

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 Mts.)

Annual or tree and grass weed control: Broadcast 2 1/2 - 5 lbs. in sufficient water to assure thorough coverage. For band application, reduce the rate of ATRAFINE BOW and volume of water in proportion to the area treated. For example, when treating a 6-foot band over trees planted in rows 8 feet apart, apply 1 1/4 - 2 1/2 lbs. per acre. Apply between fall and early spring when trees are dormant or soon after transplanting and before weeds are 1 1/2 inches high.

Quickgrass control: Broadcast 5 lbs. per acre in sufficient water for adequate coverage. Apply in fall or early spring when trees are dormant and before weed seedlings are more than 1 1/2 inches high. This application will also control most annual broadleaf and grass weeds.

Perennial Ryegrass, Green for Seed (Pacific Northwest only)

For the control of annual broadleaf and grass weeds such as annual ryegrass, rascal fescue, and similar species: Broadcast 1 1/2 lbs. in 15 gals. or more water per acre after first fall rain.

Nonselective Weed Control on Noncrop Land

Apply ATRAFINE 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 the higher rates on heavy clay and muck soils. Do not contaminate domestic or irrigation water supplies, or lakes, streams, or ponds. Use sufficient water to assure thorough coverage. Use at least 1 gal. of water for each pound of ATRAFINE, more if practical. Mechanical tillage or plow application is necessary to keep ATRAFINE in suspension during application.

Most annual broadleaf and grass weeds: Broadcast 6-12 1/2 lbs. per acre.

Hard to kill annual and many perennial broadleaf and grass weeds: Broadcast 12 1/2 - 25 lbs. per acre.

For longer residual control in regions of high rainfall and a long growing season, apply 25 - 50 lbs. broadcast per acre.

Hard to kill biennial and perennial weeds such as bulb thistle and sorghum: Broadcast 25 - 50 lbs. per acre.

For small areas, 4 1/2 oz. per 1,000 sq. ft. is equivalent to 12 1/2 lbs. per acre.

Notes

One application will control most annual broadleaf and grass weeds such as *Digitaria*, *Setaria*, *Eleusine*, yellow foxtail, green foxtail, wild oat, crabgrass, gall, hemp, volunteer, nonbromusoid, foxtail, *Digitaria*, *Setaria*, *Eleusine*, night shade, purslane and similar. ATRAFINE BOW may be applied whether before planting, at planting, or after planting using 2 1/2 - 5 lbs. per acre as indicated below.

For pre-plant and pre-emergence application, nitrogen solutions or complete liquid fertilizers may replace all or part of the water as a carrier for ATRAFINE BOW. Do not apply after corn has emerged as there is a danger of liquid fertilizers causing crop injury.

Pre-plant

Broadcast in the spring after planting at the rate indicated in the table below. Application may be made before, during or after final seedbed preparation, if soil is tilled or worked after application - avoid deep incorporation of ATRAFINE BOW. Best results have been obtained when ATRAFINE BOW is applied within 2 weeks prior to planting.

Pre-emergence

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

Post-emergence

Apply before weeds exceed 1 1/2 inches in height at the rate indicated in the table below. Note: For band applications, reduce the broadcast rate of ATRAFINE BOW in proportion to the area treated.

Soil type	Rate per acre of ATRAFINE BOW		
	Broadcast in 20-40 gal. of water/A	20-inch Band* in 10-20 gal. of water/A	13-inch Band* in 7-14 gal. of water/A
Light soils Sandy, loamy sands and sandy loams	2 1/2 lbs.	1 1/4 lbs.	1 3/4 oz.
Medium soils Silt and clay loams that are low in organic matter	3 lbs.	1 1/2 lbs.	1 lb.
Heavy soils Silt and clay loams with medium to high organic matter and clays	3 3/4 lbs.	1 lb. 14 oz.	1 1/4 lbs.
Peats, mucks and high organic clays (apply pre-emergence only)	1 1/4 lbs.	1 lb. 14 oz.	1 1/4 lbs.

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

Post-emergence Weed Control with ATRAFINE oil-water Emulsions
The addition of oil to ATRAFINE in water sprays may speed the activity of ATRAFINE and provide quicker kill of weeds. However, under certain conditions the use of oil may seriously damage corn. To minimize the possibility of damage to corn, follow the directions, precautions and procedures given below.

Ground application:
Broadcast 2 1/2 lbs of ATRAFINE and 1 gal of emulsifiable oil* in 20-40 gals of water per acre at or after emergence but before weeds reach 1 1/2 inches in height.

Aerial application:
Broadcast 2 1/2 lbs of ATRAFINE and 1 1/2 gal of emulsifiable oil* in no less than 5 gals of water per acre after weed emergence but before weeds reach 1 1/2 inches in height.
*For continuing with ATRAFINE use a crop oil designated for use with ATRAFINE containing at least 1 percent suitable emulsifier. Several oils of this type are on the market. Oils contaminated with water or other materials can cause compatibility problems and/or crop injury.

Precautions: 1) Thoroughly clean sprayer prior to use. Do not use sprayer contaminated with 2,4-D or other materials as corn damage or sprayer clogging may result. 2) In a separate container, make a thin slurry of ATRAFINE in water thoroughly wetting the ATRAFINE. 3) Fill the spray tank with water allowing for the addition of the ATRAFINE. 4) With the sprayer system in operation, add the ATRAFINE slurry. 5) Add the emulsifiable oil last. 6) Empty the tank as completely as possible before adding to prevent a buildup of oil in the tank. Keep the sprayer system in operation to avoid a separation of the oil from the water in the spray mixture still remaining in the tank. 7) If an oil film starts to build up in the tank, drain the tank and clean out with a strong detergent solution or solvent. 8) Clean the sprayer thoroughly immediately after use by flushing the system with water containing a detergent.

Notes: 1) Do not use oil in ATRAFINE 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 oil in sprays when treating infested areas 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 ATRAFINE oil-water spray per season.

Area Note: 1) Do not apply more than 5 lbs of ATRAFINE per acre in any one year. 2) Land treated with ATRAFINE should not be planted to corn or other crops into the fall following year. 3) Corn should not be planted into the fall following year if the soil is treated with ATRAFINE. 4) ATRAFINE should not be applied to corn or other crops in the fall following year if the soil is treated with ATRAFINE. 5) ATRAFINE should not be applied to corn or other crops in the fall following year if the soil is treated with ATRAFINE. 6) ATRAFINE should not be applied to corn or other crops in the fall following year if the soil is treated with ATRAFINE. 7) In western Minnesota and eastern parts of the Dakotas, Nebraska and Kansas, corn treated with ATRAFINE should not be followed with soybeans if the broadcast rate applied was more than 2 1/2 lbs per acre. A comparable rate in a hand-applied spray should be used. 8) ATRAFINE should not be applied to corn or other crops in the fall following year if the soil is treated with ATRAFINE. 9) ATRAFINE should not be applied to corn or other crops in the fall following year if the soil is treated with ATRAFINE. 10) ATRAFINE should not be applied to corn or other crops in the fall following year if the soil is treated with ATRAFINE.

Northern Nutsedge or Yellow Nutsedge (Cyperus aculeatus) Control
Broadcast 5 lbs per acre pre-emergence, or post-emergence before nutsedge is more than 1 1/2 inches high. If applied before nutsedge begins growth, cultivate within 2-3 weeks. If applied after nutsedge has emerged, cultivate within 10-14 days.

Spot Application: Broadcast 2 1/2 lbs per acre in the fall or spring and plow 1-3 weeks later. Broadcast a second application at the rate of 2 1/2 lbs per acre in the spring before plowing or after planting, but before weeds are 1 1/2 inches high. This spot application will control both nutsedges and most annual broadleaf and grass weeds.

Single Application: Broadcast 3 3/4 lbs. 5 lbs per acre in the fall or spring. Plow 1-3 weeks after application.

Borghen and Borghen-sulfolone Mixtures (Grass and Famine Types)

ATRAFINE BOW may be used to control many annual broadleaf and grass weeds in sorghum. Apply at the rate indicated in the tables below. Weeds should not be more than 1 1/2 inches high at time of application. When making band application reduce the broadcast rate per acre in proportion to the area treated.

Pre-plant and pre-emergence spot control (In eastern and central Nebraska and northwestern Kansas only)**

Broadleaf and grass weed control	Rate per acre of ATRAFINE BOW		
	Broadcast	20" band*	13" band*
Soil type	20-40 gals of water/A	10-20 gals of water/A	7-11 gals of water/A
Sand to sandy loam, great stream and soils low in organic matter	Do not use		
Other soils (Shallow incorporation may improve control)	2 1/2-3 lbs	1 1/4-1 1/2 lbs	1 1/2-1 1/2 lbs

*Based on 40 inch row spacing. **See pre-plant recommendations for corn. Non-pressure nitrogen solutions or complete liquid fertilizers may be substituted for all or part of the water as carrier for ATRAFINE. Do not apply nitrogen solutions/fertilizers at or near emergence as damage may result.

Post-emergence application**

Weeds to be controlled and soil type	Stage or height of sorghum at treatment	Rate per acre of ATRAFINE BOW		
		Broadcast in 20-40 gals of water/A	20" band* in 10-20 gals of water/A	13" band* in 7-11 gals of water/A
Broadleaf and grass weeds				Do not use
Sand to heavy sand				
Sandy loam				
See Broadcast Weeds Below				
Silt/clay sand, clay loam	Completely emerged	2 1/2-3 lbs	1 1/4-1 1/2 lbs	1 1/2-1 1/2 lbs
Onion and Pullman clay soils	At least 6 inches high	2 1/2-3 lbs	1 1/4-1 1/2 lbs	1 1/2-1 1/2 lbs
Silty clay loams and heavier soils	Completely emerged	3 3/4 lbs	1 to 1 1/4 lbs	1 1/4 lbs
Broadleaf weeds sandy loams and heavier soils in Okla., N.M., Tex., West. Kans., Colo. and desert regions of Ariz. and Calif. only				
	At least 6 inches high	1 1/2 lbs plus 3/4 pt. surfactant	3/4 pt. plus 1/2 lb. plus 3/8-3/4 pt. surfactant	1/2 lb. plus 1/2 pt. surfactant

*Based on 40-inch row spacing. **Up to close in.

Post-emergence Broadleaf Weed Control with ATRAFINE oil-water Emulsions (New Mexico, Oklahoma, and Texas only)
The addition of oil to post-emergence ATRAFINE water sprays may speed the activity of ATRAFINE and provide quicker kill of annual broadleaf weeds. However, under certain conditions, the use of oil may seriously damage sorghum. To minimize the possibility of damage to sorghum, follow the directions and procedures given below.

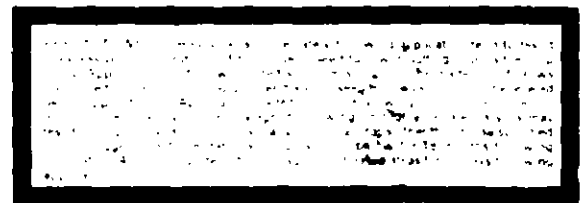
Ground application:
Broadcast 1 1/2 lbs of ATRAFINE and 1 gal of emulsifiable oil* in 20-40 gals of water per acre when sorghum is 6-10 inches in height and before it reaches the boot stage. Treat before broadleaf weeds reach 6 inches in height.

Aerial application:
Broadcast 1 1/2 lbs of ATRAFINE and 1 1/2 gal of emulsifiable oil* in no less than 5 gals of water per acre when sorghum is 6-10 inches in height and before it reaches the boot stage. Treat before broadleaf weeds reach 6 inches in height.

*For continuing with ATRAFINE use a crop oil designated for use with ATRAFINE containing at least 1 percent suitable emulsifier. Several oils of this type are on the market. Oils contaminated with water or other materials can cause compatibility problems and/or crop injury.

Precautions: 1) Thoroughly clean sprayer prior to use. Do not use sprayer contaminated with 2,4-D or other materials as sorghum damage or sprayer clogging may result. 2) In a separate container, make a thin slurry of ATRAFINE in water thoroughly wetting the ATRAFINE. 3) Fill the spray tank with water allowing for the addition of the ATRAFINE. 4) With the sprayer system in operation, add the ATRAFINE slurry. 5) Add the emulsifiable oil last. 6) Empty the tank as completely as possible before adding to prevent a buildup of oil in the tank. Keep the sprayer system in operation to avoid a separation of the oil from the water in the spray mixture still remaining in the tank. 7) If an oil film starts to build up in the tank, drain the tank and clean out with a strong detergent solution or solvent. 8) Clean the sprayer thoroughly immediately after use by flushing the system with water containing a detergent.

Notes: 1) Do not use oil in ATRAFINE 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 rainfall as crop injury may occur. 2) Do not use oil in ATRAFINE sprays when treating infested areas 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 ATRAFINE oil-water spray per season.



Suggestion for Rotational Crops: 1) Sorghum or corn may be planted the year following treatment. 2) All other rotational crops may be planted 18 months after application. 3) When the broadcast rate used does not exceed 1 1/2 lbs per acre fall wheat may be planted 16 months after application.

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