

# ATRAZINE 4L-B

## Herbicide

For Use by Commercial Applicators  
(Contains 4 lbs. Active Ingredients per Gallon)  
For season-long weed control in corn, sorghum,  
and certain other crops.

**ACCEPTED**  
**OCT 26 1982**  
Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under  
EPA Reg. No. 201-409

ACTIVE INGREDIENTS	BY WEIGHT
Atrazine (2-chloro-4-ethylamino-6-isopropylamino-s-triazine).....	40.8%
Related compounds .....	2.2%
<b>INERT INGREDIENTS .....</b>	<b>57.0%</b>
<b>TOTAL</b>	<b>100.0%</b>

**NOTE CONDITIONS OF SALE AND WARRANTY  
BEFORE ACCEPTING THIS PRODUCT**

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

**STATEMENT OF PRACTICAL TREATMENT**  
**IF SWALLOWED**, drink one or two glasses of water immediately and induce vomiting by sticking finger down back of throat.  
**IN CASE OF CONTACT**, immediately flush eyes or skin with plenty of water. Get medical attention if irritation persists.  
**SEE SIDE PANEL FOR ADDITIONAL PRECAUTIONS**

EPA Reg. No. 201-409

EPA Est. No. 201-1L-1

Shell Chemical Company  
A Division of Shell Oil Company  
One Shell Plaza  
P.O. Box 3871  
Houston, Texas 77001

**PRECAUTIONARY STATEMENTS  
HAZARD TO HUMANS AND DOMESTIC ANIMALS  
CAUTION**

May be fatal if swallowed. Harmful if absorbed through the skin. Avoid breathing vapors or spray mist. Avoid contact with eyes, skin or clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before reuse. For 24 hour emergency medical assistance, call (713) 473-9461.

**ENVIRONMENTAL HAZARDS**

Do not apply directly to lakes, ponds or streams. Do not contaminate water by cleaning of equipment or disposal of wastes. In case of significant spill, call (713) 473-9461 or CHEMTREC (800) 424-9300.

**DIRECTIONS FOR USE**

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

**STORAGE AND DISPOSAL**

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

**Pesticide Disposal:** Pesticide, spray mixture, or rinsate that cannot be used according to label instructions must be disposed of according to Federal, State or local procedures.

**Container Disposal:** Thoroughly clean container before reuse.

Maintain sufficient agitation to keep herbicide in suspension. Meter slurry into irrigation water during entire period. Apply in 0.5-1 inch of water. Use the lower 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 tank. (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 sufficient unacceptable weed control may result. Where sprinkler distribution patterns overlap excessively, crop injury may result.

**Problem Weeds:**

Atrazine 4L-B will control yellow nutsedge (*Cyperus esculentus*) and Canada thistle (*Cirsium arvense*) when applied according to directions. For best results, apply each year until yellow nutsedge or Canada thistle is eliminated or reaches a level of infestation where neither weed is a problem. If yellow nutsedge or Canada thistle regrow following last application cultivate once. When Atrazine 4L-B is applied postemergence to the weeds, add 1 gal. of emulsifiable crop oil or 1 qt. of oil concentrate per acre.

Six alternative methods of use for control of yellow nutsedge and Canada thistle are listed below in order of preference. If other weed species, such as annual grasses, are also expected, use alternative 2, 3, 5 or 6.

1. Broadcast 4 pt. plus 1 gal. of emulsifiable oil or 1 qt. of oil concentrate per acre after crop and yellow nutsedge or Canada thistle emerge, but before yellow nutsedge reaches a height of 3 inches or Canada thistle reaches a height of 6 inches. Repeat application before lay-by (20-30 inches), 10-20 days after the first application has been made.

2. Broadcast 4 pt. per acre preplant. Follow with an application of 4 pt. plus 1 gal. of emulsifiable oil or 1 qt. of oil concentrate per acre, after corn and weeds emerge, but before yellow nutsedge reaches a height of 3 inches (yellow nutsedge control only).
3. Broadcast 4 pt. per acre during or shortly after planting, but prior to crop or weed emergence. Follow with an application of 4 pt. plus 1 gal. of emulsifiable oil or 1 qt. of oil concentrate per acre, after corn and weeds emerge, but before yellow nutsedge reaches a height of 3 inches or Canada thistle reaches a height of 6 inches.
4. Broadcast 8 pt. plus 1 gal. of emulsifiable oil or 1 qt. of oil concentrate per acre after crop emerges, but prior to lay-by (20-30 inches) and after yellow nutsedge and Canada thistle emerge, but before yellow nutsedge is 3 inches tall or Canada thistle is 6 inches tall.
5. Broadcast 8 pt. per acre preplant (yellow nutsedge control only).
6. Broadcast 8 pt. per acre during or shortly after planting, but prior to crop or weed emergence (yellow nutsedge control only).

**NOTE:** Do not use emulsifiable oil or oil concentrate when corn is wet or under stress, especially when using 8 pt. of this product per acre. See "Precautions for Applications with Emulsifiable Oil or Oil Concentrate in Water" for additional directions.

**Quackgrass Control on Land Going Into Corn Production:**

Split application: Broadcast 4 pt. per acre in the fall or spring. Plow 1-3 weeks later. Broadcast a second application at 4 pt. 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 pt. per acre in the fall or spring. Plow 1-3 weeks later.

**TANK MIXTURES ON CORN**

**DUAL 8E:**

Use as tank mixture for control of certain broadleaf and grass weeds in corn. Refer to Dual 8E label for all directions, weeds controlled, precautions and limitations.

**LASSO or Lasso EC (alachlor):** Use as tank mixture for control of many annual broadleaf and grass weeds in corn (field, hybrid seed, silage, sweet, popcorn), including barnyardgrass, 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 morningglory, cocklebur, and velvetleaf (buttonweed).

For preemergence or early postemergence broadcast application, use rates in Table 2. 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 2  
TANK MIXTURES WITH LASSO ON CORN**

Soil Texture	Broadcast Rate/Acre			
	Less than 3% Organic Matter		3% or more Organic Matter	
	ATRAZINE 4L-B	LASSO	ATRAZINE 4L-B	LASSO
<b>COARSE*</b> Sand, loamy sand, sandy loam	2 pt.	1.5 qt.	2 pt.	1.5 qt.
<b>MEDIUM</b> Loam, silt loam, silt	2-2.4 pt.	1.75 qt.	2.4-2.8 pt.	2 qt.
<b>FINE</b> Silty clay loam, sandy clay loam, silty clay, sandy clay, clay loam, clay	2.4-3.2 pt.	2.25 qt.	2.4-3.2 pt.	2.5 qt.
*When applied via center pivot irrigation on coarse soils, apply 2 pt. of Atrazine 4L-B and 2 qt. of LASSO per acre.				

For preplant incorporated applications, use 0.4 pt. more of Atrazine 4L-B plus 0.5 qt. of Lasso per acre than indicated in Table 2. Use no more than 3.2 pt. of Atrazine 4L-B plus 2.5 qt. of Lasso per acre. Broadcast within 7 days before planting and incorporate 2 inches deep.

Apply tank mixture in a minimum of 20 gal. of water per acre. Liquid fertilizer may replace all or part of the water. Add Atrazine 4L-B to spray tank, thoroughly mix with water, then add Lasso. Follow mixing procedures in the section "Application Procedures" of this label.

Refer to Lasso label for information concerning center pivot irrigation applications and other directions, limitations, and cautions.

**PRINCEP 80W or PRINCEP 4L (Sulfazine)**

Use as tank mixture for control of many annual weeds including carpetweed, crabgrass, fall panicum, foxtail, lambequarter, morningglory,

pigweed, ragweed, and velvetleaf. Apply before planting, at planting, or after planting, but before crop and weeds emerge, at rates in Table 3. Use 1:1 ratio for control of above weeds. Use 1:2 ratio for expected heavy infestations of crabgrass and fall panicum. Apply in a minimum of 20 gal. of water per acre. Cultivate shallowly if weeds develop.

**Preplant:**

Apply in spring during or after final seedbed preparation. If soil is tilled or worked after application, avoid deep incorporation. For best results, apply within two weeks before planting.

**Preemergence:**

Apply during or shortly after planting, but before crop and weeds emerge.

Refer to Corn sections of this label and to Princep 80W or Princep 4L label for further directions, limitations, and cautions.

**TABLE 3  
TANK MIXTURES WITH PRINCEP ON CORN**

Soil Texture	Broadcast Rate/Acre			
	1:1 Ratio*		1:2 Ratio**	
	ATRAZINE 4L-B	PRINCEP 80W or PRINCEP 4L	ATRAZINE 4L-B	PRINCEP 80W or PRINCEP 4L
<b>COARSE:</b> Sand, loamy sand, sandy loam	2 pt.	1.25 lb. or 2 pt.	1.32 pt.	1.67 lb. or 2.67 pt.
<b>MEDIUM:</b> Loam, silt loam, silt, clay loam, sandy clay loam, silty clay loam, sandy clay, or silty clay with low organic matter	2.4 pt.	1.5 lb. or 2.4 pt.	1.6 pt.	2 lb. or 3.2 pt.
<b>FINE:</b> Loam, silt loam, silt, clay loam, sandy clay loam, silty clay loam, sandy clay or silty clay with medium to high organic matter, and clay (including dark prairie soils of the Corn Belt)	3 pt.	1.8 lb. or 3 pt.	1.92 pt.	2.4 lb. or 3.84 pt.
*For control of above weeds. **For control of expected heavy infestations of crabgrass and fall panicum.				

**Propachlor 65WP**

Use a tank mixture for control of many annual broadleaf and grass weeds in corn (field, hybrid seed, silage and sweet corn only), including annual morningglory, annual ryegrass, barnyardgrass (watergrass), buttonweed (velvetleaf), carpetweed, cocklebur, crabgrass, fall panicum, Florida pusley, giant foxtail, green foxtail, yellow foxtail, goosegrass, groundsel, jimsonweed, lambsquarters, mustard, nightshade, pigweed, purslane, ragweed, smartweed, and sunflower. Broadcast 2.1-3.2 pt. of Atrazine 4L-B plus 3.8-6 lb. of Propachlor 65WP per acre on soil surface any time after planting until broadleaf and grass weeds reach the 2-leaf stage. Use lower rates on coarse-textured soil low in organic matter. Use higher rates on fine-textured soil high in organic matter.

Use a minimum of 2.8 pt. per acre of Atrazine 4L-B in tank mixture for better control of annual morningglory, buttonweed (velvetleaf), cocklebur, and sunflower.

Apply in a minimum of 20 gal. per acre. Non-pressure fluid fertilizer may replace all or part of the water used as a carrier for applications before crop and weeds emerge. Add Atrazine 4L-B to spray tank and thoroughly mix with water. Then, cut the propachlor 65WP bag and fill with water to fill line. Grasp neck of bag firmly, shake vigorously, and add contents to spray tank.

Refer to propachlor 65WP label for further directions, limitations, and cautions.

**Paraquat CL:**

For control of existing vegetation and residual control where corn will be planted directly into cover crop, established sod, or in previous crop residues, broadcast 4-6 pt. of Atrazine 4L-B and 1-2 pt. Paraquat CL in 20-60 gal. of water per acre. Add 8 oz. of a nonionic surfactant, such as X-77, per 100 gal. of dilute spray. Add Atrazine 4L-B to water in spray tank, agitate until thoroughly mixed with water, and then add Paraquat CL and surfactant.

**Princep 80W plus Paraquat CL:**

Use as tank mixture with Princep 80W and Paraquat CL 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. Add Atrazine 4L-B and Princep 80W to water in spray tank, agitating until thoroughly mixed. Then add Paraquat CL and a nonionic surfactant such as X-77. Continue agitation during application. Apply 2-4 pt. of Atrazine 4L-B plus 1.25-2.5 lb. of Princep 80W plus 1-2 pt. Paraquat CL in 20-60 gal. of water per sprayed acre within 3 weeks before, during, or after planting, but before corn crop emerges. Add 8 fl. oz. of a nonionic surfactant, such as X-77, per 100 gal. diluted spray. Use lower rates of Atrazine 4L-B and of Princep 80W on coarse soil, and higher rates on fine-textured soil. Use the 2 pt. rate of Paraquat CL if existing vegetation is 4-6 inches tall. This mixture will not control weeds taller than 6 inches.

Refer to further limitations and precautions on labels for this product, Princep 80W, and Paraquat CL.

**Precautions for all Applications to Corn:**

(1) Do not apply more than 8 pts. Atrazine 4L-B to corn in any one year. (2) Land treated with Atrazine 4L-B should not be planted to any crop except corn or sorghum until the following year or injury may occur. (3) Injury may occur in any crop other than corn or sorghum planted the year following treatment. (4) 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. (5) To avoid the possibility of injury to following fall or spring seeded crops, the use of BLADEx® Herbicide in place of Atrazine 4L-B is

recommended. Follow directions on the BLADEx label. (6) The use of Atrazine 4L-B on land that is to be rotated the following year to soybeans that will be treated with metribuzin (SENCOR or LEXONE) may increase the chance of injury. (7) If Atrazine 4L-B is applied after June 10, do not rotate with crops other than corn or sorghum the next year or injury may occur. (8) In the High Plains and Intermountain areas of the West where rainfall is sparse and erratic or where irrigation is required, use Atrazine 4L-B to control weeds in corn or sorghum only when corn or sorghum is to follow corn or a crop of untreated corn or sorghum is to precede other rotational crops. (9) Do not graze treated area or feed treated forage to livestock for 21 days following application.

**SORGHUM AND SORGHUM—SUDAN HYBRIDS  
(Grain and Forage Types)**

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

**Preplant (Broadleaf and Grass Control):**

Broadcast in spring after plowing at rate in Table 4. 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 before planting.

**Preemergence (Broadleaf and Grass Control):**

Apply during or shortly after planting before weed or crop emergence, at rate in Table 4.

**TABLE 4  
PREPLANT AND PREEMERGENCE BROADLEAF AND  
GRASS WEED CONTROL IN SORGHUM\***

<b>SOIL TEXTURE</b>	<b>ORGANIC MATTER</b>	<b>BROADCAST RATE/ACRE OF ATRAZINE 4L-B</b>
<b>COARSE:</b> Sand, loamy sand, sandy loam, sandy clay loam	Any level	DO NOT USE (except for pre-emergent use on bedded sorghum in AZ and CA as indicated below)
<b>MEDIUM AND FINE:</b> Silt loam, clay loam, clay	less than 1%	
	1-1.5%	
	more than 1.5%	4-4.75 pt.
<p>*Do not apply preplant in AL, AR, FL, GA, LA, MS, NC, NM, SC, TN, or TX. Do not apply pre-emergence in NM, OK, or TX, except in northeast OK and the TX Gulf Coast.</p> <p>In case of planting failure, sorghum may be replanted. Do not make a second broadcast application, as injury may occur. If originally applied in a band and sorghum is replanted in untreated row middles, Atrazine 4L-B may be applied in a band to the second planting.</p>		

**Preemergence Broadleaf Control in Furrow Irrigated Bedded Sorghum (AZ and CA only):**

For preemergence control of many broadleaf weeds, including groundcherry, lambsquarters, morningglory, mustard, pigweed, and purslane, broadcast 1.6-2.4 pt. per acre. Apply after bed preparation, during or after planting, but before sorghum and weeds emerge and before the first furrow irrigation. Follow with several regular irrigations to thoroughly wet all soil. Use lower rate on coarse-textured soil and soil low in organic matter; use higher rate on fine-textured soil and soil high in organic matter.

**Precautions for preemergence Application to Furrow Irrigated Bedded Sorghum Grown in AZ and CA:**

To avoid possible sorghum injury, do not use on sand or loamy sand soil or on sorghum planted in the furrow. Applications to sorghum growing on alkali soils or where cuts, fills, or erosions have exposed calcareous or alkali subsoils may cause crop injury. Do not replant sorghum for 8 months following application. Corn may be planted immediately.

**Postemergence (Broadleaf and grass control):**

Apply at rate in Table 5 before weeds exceed 1.5 inches in height. Apply up to "close-in".

TABLE 5 POSTEMERGENCE BROADLEAF AND GRASS WEED CONTROL IN SORGHUM		
Soil Texture	Minimum Sorghum Height At Treatment	Broadcast Rate/Acre
Sand or loamy sand	DO NOT USE	
Sandy loam	See directions for postemergence broadleaf weed control below	
Silt loam to sandy clay loam	Completely Emerged	4-4.75 pt.
Olton and Pullman clay soil	At least 6 inches	4-4.75 pt.
Silty clay loam and finer textured soil	Completely Emerged	6 pt.

**Postemergence Broadleaf Control with Emulsifiable Oil or Oil Concentrate in Water:**

Broadcast 2.4 pt. per acre for control of many broadleaf weeds, including annual morningglory, cocklebur, lambsquarters, mustard, pigweed, ragweed, smartweed, and wild buckwheat. Apply before pigweed and lambsquarters reach 6 inches in height and before all other weeds reach 4 inches in height. In CO, western KS, NM, OK, TX and desert regions of AZ and CA, apply when sorghum is 6-10 inches in height, but before it reaches boot stage. In all other areas, apply after sorghum reaches the 3-leaf stage. Add emulsifiable oil at 1 gal. per acre for ground application and 0.5 gal. per acre for aerial applications. A cultivation may be necessary if all weeds are not controlled or if weeds regrow.

**Precautions for Applications with Emulsifiable Oil or Oil Concentrate in Water:**

See "Precautions for Applications with Emulsifiable Oil or Oil Concentrate in Water" in Application Procedures section of this label.

**Postemergence Broadleaf Control with Surfactant (CO, Western KS, NM, OK, TX and desert regions of AZ and CA only):**

Broadcast 2.4 pts. plus 0.75-1.5 pt. of surfactant per acre after sorghum reaches 6 inches in height, but before weeds reach 1.5 inches in height. Apply only on sandy loam and finer textured soil.

**Precautions for All Applications to Sorghum:**

(1) Heavy rain immediately following application tends to cause excessive concentrations of herbicide in seed furrow, resulting in possible crop injury. Do not apply to furrow-planted sorghum until furrows are leveled (plowed-in). Level deep planter marks or seed furrows before application. (2) Application to sorghum growing under stress caused by minor element deficiency or to sorghum growing on highly calcareous soil may result in crop injury. (3) Injury may occur in any crop other than corn or sorghum planted the year following treatment. (4) Following harvest, plow (mold-board or disk-plow) and thoroughly till soil in fall or spring to minimize possible injury to rotational spring-seeded crops, regardless of rate used. (5) Injury may occur if both this herbicide, preplant or preemergence, and an at-planting systemic insecticide are used.

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

**Additional Precautions:**

See "Precautions for all Applications to Corn" in Corn section of this label.



## **CHEMICAL FALLOW**

### **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 6 pt. to wheat stubble immediately following wheat harvest. If weeds are present, remove them with a sweep plow or other suitable implement after application. 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. **Precautions:** (1) Use only on a silt loam or finer textured soil. (2) Wheat-sorghum-fallow cropping sequence must be followed. (3) Do not apply following sorghum harvest.

**NOTE:** Do not graze or feed forage from treated area to livestock. Do not plant any crop other than those on this label within 18 months following treatment.

### **Wheat-Corn-Fallow (KS, NE):**

Atrazine 4L-B 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.

Apply with ground equipment only.

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 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, apply 1-2 pts. in 10-40 gal. of water per acre for ground application, or in a minimum of 5 gal. of water per acre for aerial application, 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.

If weeds are present at application, a tank mix with Paraquat CL may be used. Broadcast 1-2 pts. of Atrazine 4L-B plus 1-2 pt. of Paraquat CL in 20-60 gal. of water per acre by ground equipment. Add 0.5-1 pt. of a nonionic surfactant, such as X-77, per 100 gal. of spray mixture. Add Atrazine 4L-B to

spray tank first and thoroughly mix with water. Then add Paraquat CL, followed by surfactant. Use the 2 pt. rate of Paraquat CL 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 CL label for further directions, precautions, and limitations.

If weeds are present at application and Atrazine 4L-B 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 Atrazine 4L-B applied alone or in tank mixture with Paraquat CL, 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 spray overlap.

**NOTE:** Do not graze treated areas within 6 months after application.

### **RANGELAND:**

Atrazine 4L-B controls certain weeds, including cheatgrass (downy brome, chess), tumble mustard, sagewort, annual or common broomweed. Use lower rate on areas where cheatgrass is the major problem weed; use higher rate for other weeds.

For ground applications, use a minimum of 10 gals. of water per acre.

For aerial applications, use a minimum of 5 gals. of water per acre.

See "Application Procedures" for additional information.

### **Establishment of Perennial Range Grasses (CA, ID, NV, OR, UT, WA):**

Apply 1.6-2 pt. per acre in fall after rains begin, but before ground freezes. Perennial range grass may be seeded when rain begins the next fall following treatment. Plant in deep furrows such as those made by a deep furrow rangeland drill. Treated areas may be grazed 7 months after seeding. However, to provide sufficient time for establishment of desirable range grasses, treated areas should not be grazed until the fall following seeding.

**Renovation of Existing Stands of Perennial Range Grasses:**

Central Great Plains (CO, KS, MT, ND, NE, SD, WY): Apply 1-2 pt. per acre in fall before ground freezes.

Southern Great Plains (Ok. TX): Apply 2 pt. per acre in spring before April 30.

West (CA, ID, NV, OR, UT, WA): Do not graze area to be treated for six months prior to application. Apply 1-1.5 pt. per acre by ground equipment in fall before the ground freezes.

Bluegrass and intermediate wheatgrass may be injured by this product at recommended rates.

Do not apply to crested and intermediate wheatgrasses. Do not cut or feed range grass hay. Do not cut or feed areas within seven months following fall application or three months following spring application. Apply only once per year.

**Warm Season Perennial Range Grasses - Midwest Switchgrass:**

For control of many annual broadleaf and grass weeds including cheatgrass, foxtails (giant, green and yellow), lambsquarters, pigweed, ragweed, smartweed, and velvetleaf.

For ground application use a minimum of 15 gal. of water per acre.

Use only on loam, silt loam, silty clay loam, clay loam, and silty clay soils with at least 1 percent organic matter.

**New Seeding:** Apply 4 pt. per acre after planting but before weeds emerge. Prepare a good, firm seedbed. Plant 0.5 inch deep with a grassland drill (preferred method) or a conventional drill. If a conventional drill is used on prepared seedbeds, remove all tension from the disk openers. For best results, cultipack or roll after planting. Clip weeds that escape in July or August. Avoid clipping switchgrass seedlings.

**Established Stands:** Apply 4 pt. per acre in April or early May, before weed emergence.

**Precautions:** See "Precautions for All Applications to Corn" in Corn section of this label.

**NOTE:** Do not cut for hay. Do not graze treated areas within 4 months following application at seeding or 3 months following application to established switchgrass. Treat only once per year.

**SUGARCANE**

For control of many annual broadleaf and grass weeds, including amaranths, crabgrass, fireweed,

Flora's paintbrush, foxtails, junglerice, and wiregrass: Broadcast 4-8 pts. in 20-50 gals. 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 directed sprays.

For control of emerged pellitory weed (Florida only): Apply 0.8-1.2 pt. per acre in at least 40 gals. of water per acre as a directed spray. Add 2 qts of surfactant for each 50 gals. of spray. Thoroughly cover weed foliage.

**Precautions:** (1) Do not apply after "close-in." (2) Do not apply more than 20 pt. per acre to any one crop of cane.

For control of alexandergrass, large crab-grass, pellitory (artillery) weed, and spiny amaranth, use one of the following methods at planting or ratooning (Florida only).

(1) Apply 8 pt. in 20-50 gal. of water per acre, pre-emergence, broadcast or banded. Follow with one or two broadcast or banded over-the-top applications as needed, postemergence to sugarcane and weeds, at 4 pt. in 20-50 gal. of water per acre. Treat before weeds exceed 1.5 inches in height.

(2) Apply 1-3 times as needed, at 4 pt. in 20-50 gal. of water per acre either broadcast or banded over-the-top, postemergence to sugarcane and weeds. Treat before weeds exceed 1.5 inches in height.

**FORESTS AND CHRISTMAS TREE PLANTATIONS**

Douglas Fir, Grand Fir, Noble Fir, White Fir, Lodgepole Pine, Ponderosa Pine and Scotch Pine  
**Annual broadleaf and grass weed control:**

Broadcast 4-8 pt. in 20-40 gals. of water per acre to assure thorough coverage. Apply between fall and early spring while trees are dormant or soon after transplanting and before weeds are 1.5 inches high.

**Quackgrass Control:**

Broadcast 8 pt. per acre in 20-40 gals. of water for adequate coverage. Apply in fall or early spring while trees are dormant and before weed seedlings are more than 1.5 inches high.

**Precautions:** (1) Do not graze treated areas. (2) Do not apply to seedbeds. (3) Do not make more than one application per year.

**CONDITIONS OF SALE AND WARRANTY**

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