

ACCEPTED

Nov. 11 1981

Grifflex 4L™

For Season-long Weed Control in Corn, Sorghum and Certain Other Crops

Contains 4 pounds active ingredient per gallon

ACTIVE INGREDIENTS	
Atrazine (2-chloro-4-ethylamino-6-isopropylamino-s-triazine)	43.30%
Related compounds	42.00%
INERT INGREDIENTS	1.30%
	56.70%

KEEP OUT OF REACH OF CHILDREN

CAUTION

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 on skin, wash with plenty of soap and water.

If in eyes, flush with plenty of water. Get medical attention if irritation persists.

If inhaled, remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

See side panel for additional precautionary statements.



GRIFFIN CORPORATION
VALDOSTA, GEORGIA 31607

NET CONTENTS 2 1/2 Gallons

EPA REG. NO. 18122AC
EPA EST. NO. 18125A3

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS & DOMESTIC ANIMALS
CAUTION

Harmful if swallowed. Avoid inhalation of spray mist. Do not get in eyes. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

ENVIRONMENTAL HAZARDS

Do not contaminate domestic or irrigation water supplies, lakes, streams or ponds.

DIRECTION FOR USE

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

STORAGE AND DISPOSAL

Do not reuse container. Destroy when empty.

GENERAL INFORMATION

Griffex™ 4L herbicide controls most annual broadleaf and grass weeds in corn, sorghum and certain other crops.

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

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

Avoid using **Griffex™ 4L** near adjacent desirable trees, shrubs, or plants. Injury may occur.

NOTE: Griffex does not recommend **Griffex™ 4L** in combination with other herbicides or oils except as specifically described on the label.

Griffex™ 4L is non-flammable.

APPLICATION PROCEDURES

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

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

Aerial Application: Use only where broadcast applications are specified. Apply a minimum of 1 gallon of water for each 2 pints of **Griffex™ 4L** to be applied per acre. Do not apply where uniform coverage cannot be obtained or where excessive spray drift may occur. Avoid application directly to animals or humans. Flagmen or loaders should avoid inhalation of spray mist or contact with skin and should wash thoroughly before eating and at the end of each day's operation.

Post-emergence Weed Control with Griffex™ 4L plus Emulsifiable Oil in Water: The addition of oil to **Griffex™ 4L** in water sprays may speed the activity of **Griffex™ 4L** and provide quicker kill of weeds. However, under certain conditions the use of oil may seriously damage corn or sorghum. To minimize the possibility of damage, follow the directions, precautions, and precautions given below.

For combining with **Griffex™ 4L**, use a crop oil designated for use with **Griffex™ 4L** containing at least 1% suitable emulsifier. Oils contaminated with water or other materials can cause phytotoxicity problems and crop injury.

Equipment Procedures for Griffex™ 4L and Emulsifiable Oil:

- Thoroughly clean sprayer prior to use. Do not use sprayer contaminated with 2,4-D or other materials as crop damage or sprayer clogging may result.
- Fill the spray tank with water, allowing for the addition of the **Griffex™ 4L**.
- With the agitation system in operation, add the **Griffex™ 4L**.
- Add the emulsifiable oil last.
- 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.
- If an oil film starts to build up in the tank, drain the tank and clean out with a strong detergent solution or solvent.
- Clean the sprayer thoroughly immediately after use by flushing the system with water containing a detergent.

Note:

- Do not use oil in **Griffex™ 4L** sprays when corn or sorghum is under stress from prolonged cold, wet weather, poor fertility, or other factors or when corn or sorghum is wet and susceptible from recent rainfall as crop injury may occur.
- Do not use oils in sprays when treating hybrid lines or any breeding stock as injury may occur.
- Adding other insecticides, herbicides, liquid fertilizers, or other materials is not recommended because they may cause compatibility problems or crop injury.
- Store and handle emulsifiable oil carefully. Oil contaminated with even a small amount of water may not emulsify properly when added to the tank.
- Do not make more than one application of **Griffex™ 4L** in any one year in any one crop.
- Avoid contact with the tank, hose, or discharge line when spraying.

CORN

The application will control most annual broadleaf and grass weeds such as barnyardgrass, crabgrass, *Panicum capillare*, yellow foxtail, green foxtail, wild rice, large hairy crabgrass, giant foxtail, velvetleaf, morning glory, lambquarters, pigweed, ragweed, nightshade, purslane, and mustard.

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

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

Preplant: Broadcast in the spring after plowing at the rate indicated below. Apply before, during or after final seedbed preparation. If soil is tilled or worked after application, good deep incorporation of **Griffex™ 4L**. Best results have been obtained when **Griffex™ 4L** is applied within two weeks prior to planting.

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

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

Soil texture	Rate per acre of Griffex™ 4L		
	Broadcast in 10-40 gal of water/A	20 inch band† in 5-20 gal of water/A	13-inch band† in 4-14 gal of water/A
Light soils: Sandy, loamy sands and sandy loams	4 pints	2 pints	1 1/2 pints
Medium soils	4 1/2 pints	2 1/2 pints	1 3/4 pints
Silt and clay loams that are low in or gamic matter	4 1/2 pints	2 1/2 pints	1 3/4 pints
Heavy soils: Silt and clay loams with medium to high organic matter and clays	5 pints	3 pints	2 pints
Peats, mucks and high organic clays (Apply post-emergence only)	5 pints	3 pints	2 pints

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

Northern Nutgrass or Yellow Nutsedge (*Cyperus esculentus*): Control: Broadcast 8 pints per acre preplant, 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: Single Application: Broadcast 4 pints per acre in the fall or spring and plow 1-3 weeks later. Broadcast a second application at the rate of 4 pints per acre in the spring before, during or after planting, but before weeds are 1 1/2 inches high.

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

Post-emergence weed control with Griffex™ 4L plus emulsifiable oil in water: Ground Application: Broadcast 4 pints of **Griffex™ 4L** and 1 gal of emulsifiable oil in 20-40 gal of water per acre after emergence but before weeds reach 1 1/2 inches in height.

Aerial Application: Broadcast 4 pints of **Griffex™ 4L** and 1 gal of emulsifiable oil in no less than 5 gal of water per acre after weed emergence but before weeds reach 1 1/2 inches.

PRECAUTIONS

- Do not apply more than 8 pints of **Griffex™ 4L** to corn in any one year.
- Land treated with **Griffex™ 4L** should not be planted to any crop except corn until the following year or injury may occur.
- Following harvest of a treated crop, plow in or disband or disk plow and thoroughly till the soil in fall or spring to minimize possible injury to rotational spring seeded crops regardless of the rate used.
- If **Griffex™ 4L** is applied after June 15, do not rotate with corn or other crops in the next year or injury may occur.
- If **Griffex™ 4L** is used at a broadcast rate higher than 5 pints per acre, and if used in a band application, a crop of winter wheat or sorghum should not be planted in the treated area.
- In the High Plains and intermediate areas of the United States, where corn is planted in the fall or where irrigation is required, use **Griffex™ 4L** for control of weeds only when necessary to follow a crop of a legume or cereal grain. To prevent winter rotation injury, do not follow a corn crop with a legume or cereal grain in the fall or winter. In western Minnesota and eastern part of North Dakota, Nebraska and Kansas, corn treated with **Griffex™ 4L** should not be followed by winter wheat. If the broadcast rate applied was more than 4 pints per acre, or if comparable rate of **Griffex™ 4L** is applied to spring seeded small grains, or to a winter wheat crop, or to a winter wheat crop, **Griffex™ 4L** application or injury may occur.
- Do not plant sugar beets, field beans, lupines, or field peas in the spring seeded small grains, or to a winter wheat crop, or to a winter wheat crop, **Griffex™ 4L** application or injury may occur.
- Do not spray treated areas of corn until the corn is at least 21 days following application.

TANK MIXTURES ON CORN

Dual™ 6E (S-metolachlor) controls most weeds in corn. Refer to Dual™ 6E label for a complete list of weeds controlled and application directions.

Sim Trol 90F or Sim Trol 4L (simazine) controls most weeds in corn. Refer to Sim Trol 90F or Sim Trol 4L label for a complete list of weeds controlled and application directions.

Use as tank mixtures for control of many annual weeds including carpetweed, crabgrass, fall panicum, foxtail, green foxtail, large hairy crabgrass, pigweed, ragweed, and velvetleaf. Apply before planting or at planting or after planting, but before top and weeds emerge, at rates in Table 2a. Use 1/2 rate for control of winter weeds. Use 1/2 rate for expected heavy infestations of crabgrass and foxtail. Apply a minimum of 20 gal of water/A. Cultivate channels. Water is desired.

Preplant: Apply in spring during or after final seedbed preparation. If soil is tilled or worked after application, good deep incorporation of tank mixture is desired. For best results, apply within two weeks before planting.

Pre-emergence: Apply in spring during or after final seedbed preparation and before top and weeds emerge. Refer to Dual™ 6E or Sim Trol 90F or Sim Trol 4L label for further directions.

TABLE 2a
Tank Mixtures with Simazine on Corn

Soil texture	Dual™ 6E (S-metolachlor) Rate (pints/A)	Sim Trol 90F or Sim Trol 4L Rate (pints/A)	Total Rate (pints/A)
Light soils: Sandy, loamy sands and sandy loams	4 pints	4 pints	8 pints
Medium soils	4 1/2 pints	4 1/2 pints	9 pints
Silt and clay loams that are low in or gamic matter	4 1/2 pints	4 1/2 pints	9 pints
Heavy soils: Silt and clay loams with medium to high organic matter and clays	5 pints	5 pints	10 pints
Peats, mucks and high organic clays (Apply post-emergence only)	5 pints	5 pints	10 pints

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

Preplant or pre-emergence (Eastern and Central Nebraska and Northeast Kansas Only)
For preplant and pre-emergence applications, nitrogen solutions or complete liquid fertilizers may replace all or part of the water as a carrier for Griffex™ 4L. Do not apply after sorghum has emerged as there is danger of liquid fertilizers causing crop injury.

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

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

Preplant and Pre-emergence Application
(In Eastern and Central Nebraska and Northeast Kansas Only)

Broadleaf and grass weeds control

Soil texture	20 inch band in 5.20 gal. of water A	13 inch band in 4.14 gal. of water A
Sand to sandy loam eroded slopes and low in organic matter	4.4 lbs of Griffex™ 4L	3.3 lbs of Griffex™ 4L
Other soils may require band applications	4.4 lbs of Griffex™ 4L	3.3 lbs of Griffex™ 4L

1 lb. per acre of Griffex™ 4L controls 1.5 pints of weeds.

For control of broadleaves and grasses, apply post-emergence application at a rate of less than ten gallons of water per acre at the rate indicated in the table below. Weeds should not exceed 1 1/2 inches in height at application.

Post-emergence Application
Weeds should not be more than 1 1/2 inches high.

Soil texture	20 inch band in 5.20 gal. of water A	13 inch band in 4.14 gal. of water A
Sandy loam	4.4 lbs of Griffex™ 4L	3.3 lbs of Griffex™ 4L
Silt loam to sandy clay loam	4.4 lbs of Griffex™ 4L	3.3 lbs of Griffex™ 4L
Clay and Pulman clay soils	4.4 lbs of Griffex™ 4L	3.3 lbs of Griffex™ 4L
Silty clay loams and heavier soils	4.4 lbs of Griffex™ 4L	3.3 lbs of Griffex™ 4L

Post-emergence Application
Weeds should not be more than 1 1/2 inches high.

Soil texture	20 inch band in 10.40 gal. of water A	13 inch band in 8.28 gal. of water A
Sandy loams and heavier soils of Oklahoma, New Mexico, Texas, West Kansas, Colorado, and desert regions of Arizona and California only	4.4 lbs of Griffex™ 4L	3.3 lbs of Griffex™ 4L

*Based on 40 inch rows
†Up to 100 ft.

Post-emergence broadleaf weed control with Griffex™ 4L (Eastern and Central Nebraska and Northeast Kansas Only)
New Mexico, Oklahoma, and Texas Only: Apply Griffex™ 4L at the rate indicated in the table below before boot stage. Treat broadcast weeds that are less than 1 1/2 inches high.

Ground Application: Broadcast at the rate indicated in the table below. Use 20-40 gal of water per acre.

Aerial Application: Broadcast at the rate indicated in the table below. Use less than 5 gallons of water per acre.

PRECAUTIONS

- Heavy rains immediately following application may cause loss of effectiveness of herbicide in seed furrow, resulting in possible crop injury. Application to furrow planted sorghum should not be made until furrows are well covered with soil. Seed and plant emergence in seed furrows should also be reviewed before application.
- Application made to sorghum growing in the stubble of a previous crop should be made only to sorghum growing on high soil fertility soils.
- Do not plant any rotation crops other than those specified in the Suggestions for Rotational Crops Section below for 18 months following application.
- Do not graze or feed forage from treated areas for 21 days following application.
- Following harvest of a treated crop, plow, moldboard, and disk the soil thoroughly to the soil in fall or spring to minimize possible carryover to the spring seedbed, regardless of the rate used.

Suggestions For Rotational Crops

- Sorghum or corn may be planted the year following treatment.
- All other rotational crops may be planted 18 months after application.
- When the broadcast rate used does not exceed 2.2 lbs per acre for wheat may be planted 15 months after application.

TANK MIXTURES ON GRAIN SORGHUM

Igran® EDW
Use as tank mixture for control of certain broadleaf and grass weeds in grain sorghum. Refer to Igran EDW label for all directions, weeds controlled, precautions, and limitations.

SUGARCANE

For control of many annual broadleaf and grass weeds, including amaranths, crabgrass, fleabane, Florida pennbrush, foxtails, junglerice and wiregrass.
Broadcast 2-4 quarts in 20-50 gallons of water A for adequate coverage of the soil surface at time of planting or ratooning, but before cane emerges. One additional application may be made over cane as it emerges, and two additional applications may be made interline after emergence as directed sprays.

For control of emerged petitory weed (Florida only): Apply 0.8-1.2 pints in at least 40 gallons of water A as a directed spray. Add 2 quarts of surfactant for each 50 gallons of spray. Thoroughly cover weed foliage.

Precautions: (1) Do not apply after close in. (2) Do not apply more than 10 quarts A to any one crop of cane.

For control of broadleaf and grass weeds, including crabgrass, petitory (artillery) weed and spiny amaranth use only one of the following methods: a) planting or ratooning (Florida only).
1. Apply 4 quarts in 20-50 gallons of water A, pre-emergence, broadcast or banded. Follow with one or two broadcast or banded over the top applications as needed, post-emergence to sugarcane and weeds, at 2 quarts in 20-50 gallons of water A. Treat before weeds exceed 1 1/2 inches in height.
2. Apply 1-3 times as needed, at 2 quarts in 20-50 gallons of water A, either broadcast or banded over the top, post-emergence to sugarcane and weeds. Treat before weeds exceed 2 1/2 inches in height.

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 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)

This product controls cheatgrass, downy brome, chess, kochia, mustards, pigweed, Russian thistle, wild lettuce, wild sunflower, and volunteer wheat during period after wheat harvest. Weed control may extend into following corn crop grown under minimum tillage.
Apply with ground equipment only.
Follow directions for use, soils, and precautions in the Wheat Sorghum Fallow section above, substituting corn for reference to sorghum.

Wheat Fallow (CO, KS, MT, NE, ND, SD, and WY)

For pre-emergence 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 pt. in 10-40 gal. of water A for ground 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 of this product, it is used as a pre-planting use either an approved contact herbicide before or after treatment, or burp after treatment.

Use tillage to control weeds which escape during fallow period. Till before planting. For this product application 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 sandy soil. (2) Do not treat eroded hillsides, ravinche 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 applications.

Rangeand

This product controls certain weeds, including cheatgrass (downy brome, chess), tumble mustard, sagewort, and annual common broomweed. Use lower rate where cheatgrass is the problem weed. Do not graze for 6 months after application.
Apply 1.2 pt. in 10-40 gal. of water A for ground application on all soils except those listed under Precautions.
See Application Procedures for additional information.

Establishment of perennial range grasses (CA, ID, NV, OR, UT, WA)

Apply 1.2 pt. A in 10-40 gal. of water A after final spring plowing in the spring. Perennial range grasses may be seeded when soil is moist and soil temperature is 40-50°F. Treatment. Plant in deep furrows as well as in seedbeds. Perennial range grasses may be seeded in the fall. Perennial range grasses may be seeded in the spring. Perennial range grasses may be seeded in the fall. Perennial range grasses may be seeded in the spring. Perennial range grasses may be seeded in the fall. Perennial range grasses may be seeded in the spring.

Spring treatment: Seeded in fall. Apply 1.2 pt. A in 10-40 gal. of water A in spring before Apr. 30. Do not apply to established perennial grasses. Use 1.2 pt. of treated grass hay. Do not graze or feed forage from treated areas within 18 months after application. Do not graze or feed forage from treated areas within 18 months after application.

Warm Season Perennial Range Grasses - Midwest
Sudangrass
For control of many annual broadleaf grass weeds including, fleabane, foxtails, giant green and yellow, lambsquarters, pigweed, ragwort, smartweed, and sunflower.

For ground application use a minimum of 15 gal. of water A.
Use only on sandy, silty, clay loam, and silty clay soils with at least 1 percent organic matter.

For seedling: Apply 1.2 pt. A in 10-40 gal. of water A before wheat emergence. Prepare a good firm seedbed. Plant in deep furrows with a grass seed and preferential method for a present unadvised. If present unadvised, use of pre-planting sheeps, remove all tension from the disk openers. For best results, subsoil or disk after planting. Cut weeds that escape in July or August. Avoid chopping with grass seedlings.

Established stands: Apply 2 pt. A in April or May, before weed emergence.
Rotational crops: See Rotational Crops in Corn section.

Note: Do not graze or feed forage from treated areas within 4 months following application at and not for 3 months following application to established hay fields. Treat only once per year.

Due to material for CIBA GEIGY for methoxychlor, U.S. Patent No. 3,937,730
Igran trademark of CIBA GEIGY for herbicide, U.S. Patent No. 3,634,062

NOTICE: Seller warrants that the product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use, but neither this warranty nor any other warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE, express or implied, extends to the use of this product contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use.

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