

19713-60

5/16/2001

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

MAY 16 2001

Mr. Luz G. Piwonka
Registration Manager
DREXEL CHEMICAL COMPANY
1700 Channel Avenue
Memphis, TN 38113

SUBJECT: Drexel Simazine 4L, Reg. No. 19713-60
Your Application Dated February 13, 2001

Dear Mr. Piwonka:

The resubmission of the amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), was inadvertently omitted when the basic and alternate CSF's were accepted.

The amended label is acceptable provide you make the following changes:

1. It is recommended that under the "PPE" and in the "Agricultural Use Requirements" box change "waterproof gloves" to read "chemical resistant gloves category A".

Submit one(1) copy of your final printed labeling before you release the product for shipment. The amended labeling supersedes all previously accepted ones. A stamped copy of the labeling is enclosed for your records.

We apologize for any inconvenience this may have caused.

Sincerely,



Dan Rosenblatt
Acting Product Manager (25)
Herbicide Branch
Registration Division (7505C)

Enclosure

CONCURRENCES

SYMBOL ▶	7505C	7505C						
SURNAME ▶	MINOR, E.	Rosenblatt						
DATE ▶	May 14, 2001	5/14/2001						

2 8 7

ACCEPTED
with COMMENTS
In EPA Letter Dated
MAY 16 2001

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

19713-60

Drexel

Simazine 4L

Herbicide

Pre-emergence control of many annual Broadleaf weeds
and Grasses in agricultural and ornamental crops.

ACTIVE INGREDIENT:

Simazine: (2-chloro-4,6-bis[ethylamine]-
s-triazine) 42.1%

OTHER INGREDIENTS: 57.9%

TOTAL: 100.0%

This product contains 4 pounds of Simazine per gallon.

KEEP OUT OF REACH OF CHILDREN

CAUTION

See FIRST AID Below
SHAKE WELL BEFORE USING

EPA Reg. No. 19713-60

EPA Est. No. 19713-MS-1

Net Contents: _____

FIRST AID

IF SWALLOWED:

- Call a poison control center or doctor immediately for treatment advice.
- Have person sip a glass of water if able to swallow.
- Do not induce vomiting unless told to do so by a poison control center or doctor.
- Do not give anything by mouth to an unconscious person.

IF IN EYES:

- Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor for treatment advice.

IF ON SKIN OR CLOTHING:

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15 to 20 minutes.
- Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION: Harmful if swallowed. Avoid breathing of spray. Avoid contact with skin and eyes.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear: Long-sleeved shirt and long pants, shoes plus socks and waterproof gloves.

When handlers use aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

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

USER SAFETY RECOMMENDATIONS

Users should: 1) Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. 2) Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

ENVIRONMENTAL HAZARDS

Do not apply when weather conditions favor drift from areas treated. This product is a chemical which can travel (seep or leach) through soil and can contaminate groundwater which may be used as drinking water. This product has been found in groundwater as a result of agricultural use. Users are advised not to apply this product where the water table (groundwater) is close to the surface and where the soils are very permeable, i.e., well-drained soils such as Loamy sands. Your local agricultural agencies can provide further information on the type of soil in your area and the location of groundwater.

Do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard (WPS), 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, greenhouses and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about Personal Protective Equipment (PPE) and restricted entry interval (REI). The requirements in this box only apply to uses of this product that are covered by the WPS. Do not enter or allow worker entry into treated areas during the REI of 12 hours.

PPE required for early entry to treated areas that is permitted under the WPS and that involves contact with anything that has been treated, such as plants, soil or water is: Coveralls, shoes plus socks and waterproof gloves.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the WPS for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

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

CHEMIGATION

Apply this product only through sprinkler (including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set or hand move) irrigation systems. Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.

Manufactured By:

Drexel Chemical Company

P.O. BOX 13327, MEMPHIS, TN 38113-0327

SINCE 1972

If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

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

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

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

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

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

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

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

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

Information regarding agitation, time of pesticide application during water application and mixing instructions, is included in Sprinkler Chemigation statements.

The system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

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

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

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

PRE-EMERGENCE OR POST-EMERGENCE: Apply this product alone or in tank mixtures with other herbicides on this label which are registered for center pivot application, with irrigation water. Apply either after planting, before crop and weeds emerge, or after crop emergence, but before lay-by (20 to 30 inches) and before weeds exceed 1½ inches in height. Apply at rates recommended on this label. Prepare mixture with minimum of 1 part water to 1 part product. Injecting a larger volume of a more dilute slurry per hour will assure more accurate calibration of metering equipment. Maintain sufficient agitation to keep herbicide in suspension. Meter slurry into irrigation water during entire period. Apply in ½ to 1 inch of water. Use the lower water volume on Coarser textured soils, the higher volume on Finer textured soils. More than 1 inch water may reduce weed control by moving herbicide below the effective zone in the soil. Inject dilute slurry into system through positive displacement pump.

USE PRECAUTIONS:

1. Apply only through irrigation systems containing anti-siphon and check valves to prevent contamination of well during shutdown and overflow of solution.
2. Inject ahead of any right angle turn in the main line to ensure adequate mixing.

3. Chemical injection pumps and water pumps must have interlocking controls to ensure simultaneous shutoff.

4. Application when drift may occur from windy conditions, when system joints and connections are leaking or when nozzles are not providing uniform distribution may cause crop injury.

5. Where sprinkler distribution patterns do not overlap sufficiently, unacceptable weed control may result. Where sprinkler distribution patterns overlap excessively, crop injury may result.

GENERAL INFORMATION

This product is a herbicide that should be applied before weeds emerge or following removal of weed growth. It controls a wide variety of annual broadleaf and grass weeds when used at selective rates in agricultural and ornamental crops. Where a range of application rates is given, use the low rate on Coarser textured soil and soil lower in organic matter, use the high rate on Finer textured soil and soil higher in organic matter.

To avoid spray drift, do not apply under windy conditions. Avoid spray overlap, as crop injury may result.

Simazine enters weeds mainly through their roots; moisture is needed to move it into the root zone. Very dry soil conditions and lack of rainfall following application may necessitate shallow cultivation or rotary hoeing. This product is non-corrosive to equipment and non-flammable.

Annual Weeds Controlled		
Alyssum	Fireweed	Ragweed
Annual bluegrass	Fivehook bassia	Rattail fescue
Annual morningglory	Flora's paintbrush	Redmaids
Annual ryegrass	Florida pusley	Russian thistle
Barnyardgrass	Foxtails	Shepherdspurse
(Watergrass)	Goosegrass	Signalgrass
Burclover	Groundsel	(Bracharia spp.)
Carelessweed	Henbit	Silver hairgrass
Carpetweed	Junglerice	Smartweed
Common chickweed	Krawel (German moss)	Spanishneedles
Crabgrass	Common lambsquarters	Speedwell
(Digitaria spp.)	Nightshade	Tansymustard
Downy brome	Pepperweed	Wild mustard
(Cheatgrass)	Pigweed	Wild oats
Fall panicum	Pineappleweed	Witchgrass
Fiddleneck	Prickly lettuce	Yellow flower
Flaree	Common purslane	pepperweed

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

APPLICATION PROCEDURES

GROUND APPLICATION: Use conventional ground sprayers equipped with nozzles that provide accurate and uniform application. Be certain that nozzles are uniformly spaced and the same size. Calibrate sprayer before use and recalibrate at the start of each season and when changing carriers. Unless otherwise specified, use a minimum of 20 gals. of spray mixture per acre.

Use a pump with capacity to: 1) Maintain 35 to 40 psi at nozzles, 2) provide sufficient agitation in tank to keep mixture in suspension, and 3) to provide a minimum of 20% bypass at all times. Use centrifugal pumps which provide propeller shear action for dispersing and mixing this product. The pump should provide a minimum of 10 gallons per minute per 100 gallon tank size circulated through a correctly positioned sparger tube or jets.

Use screens to protect the pump and to prevent nozzles from clogging. Screens placed on the suction side of the pump should be 16-mesh or coarser. Do not place a screen in the recirculation line. Use 50-mesh or coarser screens between the pump and boom, and where required, at the nozzles. Check nozzle manufacturer's recommendations. For band applications, calculate amount to be applied per acre as follows:

band width in inches x broadcast rate = amount needed
row width in inches per acre per acre

AERIAL APPLICATION: Use aerial application only where specified in the use directions. Apply in a minimum of 1 gallon of water for each quart of this product applied per acre. Avoid applications under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur.

Avoid application to humans or animals. Flagmen and loaders should avoid inhalation of spray mist and prolonged contact with skin.

MIXING PROCEDURES

All Uses: 1) Be sure sprayer is clean and not contaminated with any other materials or crop injury or sprayer clogging may result. 2) Fill tank ¼ full with clean water, nitrogen solution or complete fluid fertilizer. 3) Start agitation. 4) Be certain that the agitation system is

working properly and creates a rippling or rolling action on the liquid surface. 5) If any dry herbicides are being tank-mixed, add them to the tank and allow them to become thoroughly suspended. 6) Then pour this product directly from jug into tank. 7) Continue filling tank until 90% full. Increase agitation if necessary to maintain surface action. 8) Add other liquid tank-mix herbicide(s) after this product is thoroughly suspended. 9) Finish filling tank. Maintain agitation to avoid separation of materials. 10) Empty tank as completely as possible before refilling to prevent buildup of emulsifiable concentrate residue from possible tank-mix herbicides. 11) If an emulsifiable concentrate film starts to build up in tank, drain it and clean with strong detergent solution or solvent. 12) Clean sprayer thoroughly immediately after use by flushing system with water containing a detergent.

Compatibility test: To determine the tank mix compatibility of this product with liquid fertilizer, crop oil, spreaders, or other recommended pesticides, use this test method. Nitrogen solutions or complete fluid fertilizers may replace all or part of the water in the spray in Corn. Since liquid fertilizers can vary, even within the same analysis, check compatibility each time before use. Be especially careful when using complete suspension or fluid fertilizers as serious compatibility problems are more apt to occur. Commercial application equipment may improve compatibility in some instances. Check compatibility using this procedure:

1. Add 1 pint of fertilizer to each 2 one-quart glass jars with tight lids.
2. To one of the jars, add ¼ teaspoon of a compatibility agent approved for this use (¼ teaspoon is equivalent to 2 pints per 100 gallons of spray). Cap and shake until mixed. Examples of compatibility agents include Compex® and Unite®.
3. To both jars, add the appropriate amount of herbicide(s). If more than one herbicide is used, add them separately with dry herbicides first, flowables next, and emulsifiable concentrates last. After each addition, cap and shake until thoroughly mixed. The appropriate amount of herbicides for this test follows (assuming a spray volume of 25 gallons per acre):

Dry herbicides: For each pound per acre, add 1½ teaspoons to each jar. Fluff up wettable powder products before measuring.

Liquid Herbicides: For each pint per acre, add ½ teaspoon to each jar.

For a spray volume other than 25 gallons per acre, change the teaspoons added to each jar as follows:

$$\frac{25 \text{ gallons} \times \text{number of teaspoons given above}}{\text{desired gallons of spray volume per acre}} = \text{teaspoons to add to each jar}$$

4. After adding all ingredients, put lids on and tighten. Shake jars vigorously one minute. Let the mixtures stand 15 minutes and then look for separation, large flakes, precipitates, grease, gels, medium to heavy oily film on the jar, or other signs of incompatibility. Determine if the compatibility agent is needed in the spray mixture by comparing the two jars. If either mixture separates, but can be remixed readily, the mixture can probably be sprayed as long as good agitation is used.

If the mixtures are incompatible, test the following methods of improving compatibility: A) Slurry the dry herbicide(s) in water before addition, or B) Add ½ of the compatibility agent to the fertilizer and the other ½ to the emulsifiable concentrate or flowable herbicide before addition to the mixture. If still incompatible, do not use the materials mixed in the same spray tank.

Rotational Crops and Perennial Crop Replanting

To avoid crop injury, observe the following precautions: 1) If rotating treated land the year following application, plant only Corn, unless otherwise stated in this label. 2) If replanting perennial crops or if rotating land to crops other than Corn, do not apply this product in the year preceding planting these crops.

FRUIT AND NUT CROPS

Apply the spray to the orchard or vineyard floor, avoiding contact with fruit, foliage or stems. Recommended rates are based on broadcast treatment. For band applications or spot applications around trees in fruit or nut plantings, reduce the broadcast rate of this product and water per acre in proportion to the area actually sprayed.

USE PRECAUTIONS (All Fruit and Nut crops): To avoid crop injury: 1) Apply only to orchards or groves where trees have been established 12 months or more, unless specified differently. 2) Make only one application per year, except as noted otherwise. 3) Do not use on Gravelly, Sand or Loamy sand soil. 4) Immediately following application, limit overhead sprinkler irrigation to ½ inch.

ALMONDS, PEACHES AND NECTARINES (CA only)

Apply 1 to 2 quarts of this product per treated acre in a 2 to 4 foot band on each side of the tree row. Apply before weeds emerge in late Fall or early Winter. Weeds controlled by 1 quart of this product include Burclover, Common chickweed, Shepherdspurse and Wild mustard. Apply only once each year.

USE PRECAUTIONS: To avoid crop injury: 1) Do not treat trees established in the grove less than 3 years; 2) Do not treat the Mission (TX) variety of Almonds; 3) Do not apply to Almond trees propagated on Plum rootstocks; 4) Do not replant Almonds, Peaches or

Nectarines in treated soil for 12 months after treatment; 5) Do not apply on soil with less than 1% organic matter; 6) Do not treat trees where water will accumulate.

APPLES, PEARS, SOUR CHERRIES

Apply 2 to 4 quarts per acre.

AVOCADOS (CA and FL only)

Apply 2 to 4 quarts per acre after final preparation of grove.

BLUEBERRIES AND CANEBERRIES (Blackberries, Boysenberries, Loganberries, Raspberries)

Apply 2 to 4 quarts per acre in the Spring or apply a split application of 2 quarts per acre in the Spring plus 2 quarts per acre in the Fall. Apply in a minimum of 40 gallons of water per acre. On planting less than 6 months old use half the above rates.

To control Quackgrass, apply 4 quarts per acre in the Fall or split the application, applying 2 quarts per acre in the Fall plus 2 quarts per acre in the Spring when Quackgrass is actively growing.

Note: Do not apply when fruit is present or illegal residues may result.

CRANBERRIES

MA: Apply up to 4 quarts per acre either before Spring growth begins or in the Fall after harvest.

Other Areas: Apply 2 quarts per acre before Spring growth begins.

FILBERTS

Apply 2 to 4 quarts per acre in the Fall or apply a split application of 2 quarts per acre in the Fall plus 2 quarts per acre in the Spring.

USE PRECAUTIONS: If trees are planted on a hillside, excessive soil erosion may result from the elimination of weeds.

Note: Do not apply when Nuts are on the ground during the harvest period.

GRAPEFRUIT, LEMONS, ORANGES

AZ (Lemons and Oranges only): Apply a split application of 1.6 quarts per acre in the Spring plus 1.6 quarts per acre in the Fall.

CA: Apply 2 to 4 quarts per acre in a single application or apply 2 quarts per acre in the Fall and 2 quarts per acre in the Spring.

USE PRECAUTIONS: Do not use in the Imperial, Coachella or Palo Verde Valleys or crop injury may occur.

FL (Grapefruit and Oranges Only): Apply 4 quarts of this product to weed-free soil during the Spring and/or Fall to control weeds expected to emerge during these periods. Apply prior to emergence of weeds or after emerged weeds have been controlled with a contact herbicide. Use caution to keep the treatment off the foliage, fruit or trunk of Citrus trees.

TX (Grapefruit and Oranges only): Apply 4 to 4.8 quarts per acre.

USE PRECAUTIONS (All Areas)—To avoid crop injury: 1) Do not use in nurseries. 2) Do not apply to bedded Grapefruit, Lemons or Oranges (except for FL Grapefruit and Oranges). 3) Do not apply to trees under stress from freeze damage for one year after the freeze. 4) In FL, do not exceed 8 quarts of this product during any one growing season.

GRAPES

Apply 2 to 4.8 quarts per acre any time between harvest and early Spring.

USE PRECAUTION: Do not use in vineyards established less than three years or crop injury may occur.

MACADAMIA NUTS

Apply 2 to 4 quarts in 50 gallons of water per acre before harvest and just prior to weed emergence. Repeat application as necessary.

Note: Do not apply when Nuts are on the ground during the harvest period, as illegal residues may result.

OLIVES

Apply 2 to 4 quarts per acre following grove preparation in the Fall. Repeat annually in mid-Winter.

PEACHES, PLUMS, SWEET CHERRIES

Apply 1.6 to 4 quarts per acre. Apply in late Fall to early Spring prior to weed emergence.

USE PRECAUTIONS—To avoid crop injury: 1) Peaches—Use only in AR, LA, MO, OK, TX and states East of the Mississippi River. For CA, see specific directions in the ALMONDS, PEACHES AND NECTARINES (CA ONLY) section. 2) Plums and Sweet cherries—Use only in MO and states East of the Mississippi River, except TN.

PECANS

Apply 2 to 4 quarts per acre before weeds emerge in the Spring.

USE PRECAUTIONS—To avoid crop injury: 1) Do not use West of the Pecos River in TX or in AZ, CA or NM. 2) Do not make applications to transplanted trees that have been established less than two years in the grove.

Note: Do not apply when Nuts are on the ground or illegal residues may result. Do not allow animals to graze treated areas.

STRAWBERRIES

OR and WA: For control of Chickweed, Groundsel, Mustard and Shepherdspurse, apply broadcast 1 quart per acre. In fields where overhead irrigation is used to activate this product, apply after harvest at time of bed renovation. In fields where overhead irrigation is not available, apply during early October through November.

USE PRECAUTIONS—To avoid crop injury: 1) Make only one application per growing season. 2) Do not apply within 4 months after transplanting.

WALNUTS

Apply 2 to 4 quarts per acre. Leveling and furrowing operations after application will lessen effectiveness of weed control.

Note: Do not apply when Nuts are on the ground or illegal residues may result.

TANK MIX COMBINATIONS FOR FRUIT AND NUT CROPS TANK MIXTURE WITH BROMACIL 80W FOR GRAPEFRUIT AND ORANGES (FL Only)

Use in Grapefruit and Oranges in FL for control of Balsamapple, Black nightshade, Carpetweed, Crabgrass, Cudweed, Dayweed, Florida pusley, Horseweed, Pepperweed, Pigweed, Poorjoe, Ragweed, Rattlebox, Spanishneedles and Sandbur, and for partial control of Bermudagrass, Bahiagrass, Pangolagrass, Paragrass and Torpedograss. Apply 4 quarts of this product plus 3 to 4 pounds of Bromacil 80W per acre beneath trees in a minimum of 40 gallons of water per acre before or soon after weed growth begins. Use caution to keep the spray off the foliage, fruit or trunk of Citrus trees. When mixing, add Bromacil 80W slurry to water in spray tank, agitate thoroughly, then add this product and agitate thoroughly again. Use the lower rates for light weed infestations or all applications in bedded Citrus areas.

Use the higher rates for heavy weed infestations only in ridge grown Citrus areas. Temporary yellowing of Citrus leaves may occur following treatment.

USE PRECAUTIONS—To avoid crop injury: 1) Do not use in nurseries or where trees are under stress from freeze damage for one year after the freeze. 2) Do not use on soil with less than 1% organic matter or on poorly drained soil. 3) Do not treat trees planted in irrigation furrows. 4) Do not treat diseased trees such as those with foot rot. 5) Do not use in groves interplanted with other trees or desirable plants, or in home Grapefruit or Orange plantings, or in areas where roots of other valuable plants or trees may extend. 6) Treated areas may be planted to Citrus trees one year after application. 7) Do not rotate to other crops within two years after application.

Note: Apply only once per year and avoid contact with foliage and fruit with spray or mist, or illegal residues may result.

TANK MIXTURE WITH GRAMOXONE® EXTRA

This tank mix is effective in the following Fruit and Nut crops for kill of existing vegetation for residual control of the annual Broadleaf and Grass weeds claimed for this product applied alone. This combination is also effective for top kill and suppression of perennial weeds. In FL, this mixture may be applied in Spring or Fall to emerged weeds.

Use this tank mix on these crops:

Almonds (CA only)	Macadamia nuts
Apples	Olives
Avocados (CA and FL ¹ only)	Oranges ²
Cherries (Sour and Sweet ³)	Peaches ³
Filberts	Pears
Grapefruit (CA and TX only)	Pecans
Grapes	Plums ⁴
Lemons (AZ and CA only)	Walnuts

Apply the rate given for this product under the appropriate crop on this label plus 1½ to 2½ quarts Gramoxone Extra* in 50 to 200 gallons (30 to 50 gallons for Pecans) of water per acre to the orchard floor, avoiding contact with fruit, foliage or stems. Add a non-ionic surfactant, such as X-77*, at ½ pint per 100 gallons of spray. Apply when weeds are succulent and new growth is 1 to 6 inches tall. For mature woody weeds or difficult to control perennial weeds, re-treat or spot treat with Gramoxone Extra if regrowth occurs.

Add this product to the spray tank first (refer to "MIXING PROCEDURES" section of this label), then add Gramoxone Extra and the surfactant last. Provide constant agitation during mixing and application to keep the mixture in suspension.

USE PRECAUTIONS (To avoid crop injury): 1) Apply the tank mix only once per year. 2) Use a shield for young trees and vines. Refer to this label and Gramoxone Extra labels for further directions, specific weeds controlled and precautions and limitations on each crop.

¹In Avocados in FL, this tank mix also controls Balsamapple, Rattlebox, amaranth and at the higher rate of each herbicide, it suppresses Coral vine.

²In Oranges in FL, apply 4 qts. of this product per acre per application. Do not exceed 8 qts. of this product during any one growing season.

³Limited to AR, CA, LA, MO, OK, TX and states East of the Mississippi River. As appropriate, refer to sections "ALMONDS, PEACHES AND NECTARINES (CA ONLY)" or "PEACHES, PLUMS AND SWEET CHERRIES" for rate of this product and other information.

⁴Limited to MO and states East of the Mississippi River, except TN.

*Based on a product containing 1.5 lbs. of Gramoxone Extra per gallon.

TANK MIXTURE WITH ROUNDUP®

This tank mixture is effective in Grape vineyards and in the following bearing or non-bearing tree crops for control of existing vegetation and for residual control of the annual Broadleaf and Grass weeds claimed for this product applied alone. This combination is also effective for partial control of perennial weeds contacted by the spray mixture during application.

Use this tank mixture on these crops:

Almonds** (CA only)	Macadamia nuts**
Apples*	Oranges* (AZ, CA, FL and TX)
Avocados* (CA and FL only)	Peaches**
Cherries (Sour and Sweet ²)	Pears*
Filberts**	Pecans**
Grapefruit* (CA, FL, TX)	Plums**
Grapes*	Walnuts**
Lemons* (AZ and CA)	

Use the appropriate rate given elsewhere on this label for this product applied alone to the crop being treated. Add to the spray tank 1 to 5 qts. of Roundup per acre depending on weeds present and their growth state. Also add an agriculturally approved non-ionic surfactant at 0.5% by volume of spray solution. Apply the mixture in 10 to 40 gallons of water per acre as a post-emergence spray to the weeds at the appropriate weed growth stage given on the Roundup label.

Add this product to the spray tank first, then add Roundup. Provide constant agitation during mixing and application to keep the mixture in suspension. Refer to "APPLICATION PROCEDURES" section of this label for further directions.

USE PRECAUTIONS: To avoid crop injury, take extreme care to avoid contact of herbicide solution, spray, drift or mist with foliage or green bark of trunk, branches, suckers, fruit or other parts of trees or vines. Observe precautions on this label and Roundup label for each crop involved. Refer to the labels of both herbicides for further directions, specific weeds controlled and precautions and limitations on each crop.

*Allow a minimum of 14 days between last application and harvest.

**Allow a minimum of 21 days between last application and harvest of these crops.

²Limited to AR, CA, LA, MO, OK, TX and states East of the Mississippi River. For CA, see specific directions in the "ALMONDS, PEACHES AND NECTARINES (CA ONLY)" section.

³Plums and Sweet cherries: Limited to MO and states East of the Mississippi River, except TN.

TANK MIXTURE WITH SOLICAM®

For improved control of such weeds as Clover, Cutleaf evening primrose, Dandelion, Henbit, Horseweed or Marestalk, Lambsquarters and Puncturevine, apply this product in tank mixture with Solicam DF on these crops: Oranges, Grapefruit and Lemons.

Apply 4 quarts per acre of this product plus 4 to 5 pounds of Solicam DF Herbicide (78.6% active ingredient) in 20 to 100 gallons of water per acre. This product + Solicam may be applied in tank mixture with Gramoxone Extra or Roundup.

Follow the labeled directions and restrictions of use on labels of the herbicides used in mixtures with this product.

USE PRECAUTIONS: Keep this product + Solicam mixtures from contacting foliage, fruits and stems of Citrus trees during spraying.

TANK MIXTURE WITH SURFLAN®

Use this tank mix in the following crops for pre-emergence control of all weeds claimed on both labels:

Almonds	Lemons
Apples	Oranges
Avocados	Peaches
Caneberries	Pears
Cherries	Pecans
Filberts	Plums
Grapefruit	English Walnuts
Grapes	

Apply the rate given for this product under the appropriate crop on this label plus 2.67 to 5.33 lbs. of Surflan 75W or 2 to 4 qts. of Surflan A.S. in 20 to 40 gals. of water per acre. Refer to the Surflan 75W or Surflan A.S. label for complete tank mix directions and use 0.8 qt. of this product for each pound of Simazine 80W. Observe all precautions and limitations on this label and Surflan labels.

FIELD CROPS

CORN

Nitrogen solutions or complete liquid fertilizers may replace all or part of the water as a carrier for this product. (Determine the physical compatibility of this product with fertilizer before use. Refer to the "GENERAL INFORMATION" section of this label for a compatibility test procedure.) Do not apply after Corn has emerged as there is danger of liquid fertilizers causing crop injury. Use a minimum of 10 gallons of spray mixture per acre.

PRE-EMERGENCE: Apply before weeds and Corn emerge. Use the appropriate rate in the table below.

PRE-PLANT: Apply in the Spring after plowing at the appropriate rate in the table below. Apply before, during or after final seedbed preparation. If soil is tilled or worked after application, avoid deep incorporation of this product. Best results will be obtained when this product is applied within 2 weeks before planting.

Under dry weather conditions, pre-plant applications may give better weed control than pre-emergence. If weeds develop, particularly under relatively dry conditions, a shallow cultivation will generally result in better weed control.

Soil Texture	Broadcast* rate per acre
Coarse textured soil: Sand, Silt and Loam that is low in organic matter.	4 pints
Medium textured soil: Soil containing moderate amounts of clay and organic matter	4.8 pints
Fine textured soil: Loam that is high in organic matter and clay (including dark prairie soils of Corn Belt)	6 pints
Organic soil: Peat, Muck and high-organic clay	8 pints
*For calculation of band treatment rate, see "GENERAL INFORMATION" section.	

QUACKGRASS CONTROL: Broadcast 6 to 8 pints per acre in the Fall. Plow two to three weeks later, or if erosion is a problem, delay plowing until Spring.

WINTER ANNUAL BROADLEAF CONTROL—PRE-EMERGENCE FALL APPLICATION

For pre-emergence control of Winter annual weeds, such as Annual bluegrass, Common chickweed, Downy brome, Henbit, Shepherds-purse, Tansymustard, Wild mustard and others, broadcast 1 quart per acre of this product after harvest of the preceding crop and prior to weed emergence on land to be planted to Corn the following year. A tillage operation may precede the application. Do not apply to frozen ground. If this product is used in the Fall Corn weed control program, do not exceed 2 quarts of this product pre-emergence in the Spring.

Note: Do not graze treated areas or illegal residues may result.

USE PRECAUTIONS: 1) Do not apply more than 8 pints of this product per acre of Corn per year. 2) Do not plant any crop except Corn until the following year, or injury may occur. 3) Following harvest, plow and thoroughly till the soil in Fall or Spring to minimize possible injury to Spring-seeded rotational crops, regardless of the rate used. 4) If this product is used at a rate higher than 6 pints per acre or equivalent band rate, a crop of untreated corn should precede the next rotational crop. 5) Do not apply this product pre-plant incorporated for weed control in Corn in the High Plains and Intermountain areas of the West (including Central and Western KS, Western NE, Western OK and the Panhandle of TX) where rainfall is sparse and erratic or where irrigation is required. 6) In the High Plains and Intermountain areas of the West where rainfall is sparse and erratic or where irrigation is required, use this product only when Corn is to follow Corn or when a crop of untreated Corn is to precede other rotational crops. 7) In Western MN and Eastern parts of the Dakotas, KS and NE, do not rotate to Soybeans if the rate applied was more than 4 pints per acre of equivalent band rate or injury may occur. 8) Injury may occur to Soybeans planted in North-Central and Northwest IA, South-Central and Southwest MN, Northeast NE, Southeast SD, and other areas the year following application on soils having a calcareous surface layer. 9) Do not plant Sugar beets, Tobacco, Vegetables (including Dry beans), Spring-seeded small grains or Small-seeded legumes and grasses the year following application of this product or injury may occur.

TANK MIXTURE ON CORN

Atrazine Tank Mix: Use this product in a pre-plant or pre-emergence tank mixture with Atrazine 90DF, Atrazine 80 or Atrazine 4L for control of many annual weeds including Carpetweed, Crabgrass, Fall panicum, Foxtail, Lambsquarters, Morningglory, Pigweed, Ragweed and Velvetleaf.

Apply at the rates given in the following chart. Use the 1:1 ratio for most and the 2:1 ratio for expected heavy infestations of Crabgrass and Fall panicum.

Soil Texture	Broadcast Rate Per Acre			
	1:1 Ratio		2:1 Ratio	
	This Product	Atrazine 80*	This Product	Atrazine 80*
Sand, Loamy sand, Sandy loam	1 qt.	1.25 bs.	1.33 qts.	0.63 lb.
Loam, Silt loam, Silt, Clay loam, Sandy clay loam, Silty clay loam, Sandy clay or Silty clay with low organic matter	1.2 qts.	1.5 bs.	1.6 qts.	1 lb.
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)	1.44 qts.	1.8 bs.	1.92 qts.	1.2 lbs.
*When using Atrazine 4L or Atrazine 90DF, use equivalent rates. One lb. of Atrazine 80 equals 0.8 qt. of Atrazine 4L or 0.9 lb. of Atrazine 90DF.				

Refer to the Atrazine label for complete directions. Also refer to the Atrazine label and the "CORN" section of this label for precautions and limitations.

Eradicane® Tank Mix: Use in a pre-plant incorporated tank mixture for control of all weeds claimed on both this label and Eradicane labels, including partial control (suppression) of Shattercane (Wild cane). Fluid fertilizer may replace all or part of the water in the spray. Check the physical compatibility of mixture with fertilizer before use. Refer to the "GENERAL INFORMATION" section of this label for a compatibility test procedure. Use a minimum of 20 gallons of spray volume per acre. Refer to the Eradicane label for incorporation directions. Use the higher rate of this product on Fine textured soil and where heavy Broadleaf infestations are expected. Use the higher rate of Eradicane for heavy Nutsedge and Bermudagrass infestations. For partial control (suppression) of Shattercane, broadcast and incorporate immediately before planting 2 to 4 pints of this product plus 7.33 pints of Eradicane 6.7E (or 8 pints Eradicane Extra) per acre. For control of the other weeds claimed on both labels, broadcast and incorporate 2 to 6 pints of this product plus 4.75 to 7.33 pints of Eradicane 6.7E (or 5.33 to 8 pints of Eradicane Extra) per acre. Observe all precautions and limitations on this label and Eradicane labels.

Gramoxone Extra Tank Mix: Use in a tank mixture where Corn will be planted directly in a cover crop, established sod or previous crop residues. This combination controls existing vegetation and provides residual control of the annual Broadleaf and Grass weeds listed under the "GENERAL INFORMATION" section.

Add this product to the spray tank, mix thoroughly with water and then add Gramoxone Extra and a non-ionic surfactant. Provide constant agitation during mixing and application to keep the mixture in suspension.

Apply 4 to 6 pints of this product plus 1.5 to 2.5 pints of Gramoxone Extra* in 20 to 60 gallons of water per acre as a broadcast spray, either before or after planting, but before Corn emerges. Add a non-ionic surfactant at the rate of 0.5 pint per 100 gallons of spray volume. For further information, see "GENERAL INFORMATION", precautionary statements and notes on this product and the Gramoxone Extra labels.

*Based on a product containing 1.5 pounds of Gramoxone Extra per gallon.

Sutan® Tank Mix: Use in a pre-plant incorporated tank mixture for control of all weeds claimed on this label and Sutan+ label, including partial control (suppression) of Shattercane (Wild cane). Fluid fertilizer may replace all or part of the water in the spray. Check the physical compatibility of mixture with fertilizer before use. Refer to the "GENERAL INFORMATION" section of this label for a compatibility test procedure. Use a minimum of 20 gals. of spray volume per acre. Refer to the Sutan+ label for incorporation directions. Use the higher rate of this product on Fine textured soil and where heavy Broadleaf infestations are expected. For partial control (suppression) of Shattercane, broadcast and incorporate immediately before planting 2 to 4 pints of this product plus 7.33 pints of Sutan+ 6.7E per acre. For control of the other weeds claimed on both labels, broadcast and incorporate 2 to 6 pints of this product plus 4.75 pints of Sutan+ 6.7E per acre. Observe all precautions and limitations on this label and Sutan+ labels.

NURSERIES, CHRISTMAS TREE PLANTINGS, SHELTERBELTS NURSERIES (See List)

Apply 2 to 3 quarts in at least 25 gallons of water per acre in Fall or Spring.

USE PRECAUTIONS—To avoid plant injury: Do not apply for at least one year after transplanting.

CHRISTMAS TREE PLANTINGS AND SHELTERBELTS (See List) Remove weed growth before application. Apply 2 to 4 quarts in at least 25 gallons of water per acre after transplanting. Use the same rate for annual maintenance applications.

For Quackgrass control, apply 4 quarts per acre in the Fall or apply a split application of 2 quarts per acre in the Fall plus 2 quarts per acre in early Spring, after Quackgrass begins growth.

USE PRECAUTIONS—To avoid tree injury: 1) Do not use this product on seedbeds or cutting beds. 2) In CA, OR and WA, do not apply to Christmas trees or shelterbelts sooner than one year after transplanting. In other areas, do not apply to Christmas trees or shelterbelt transplants less than 2 years of age. 3) Do not use until soil is firmly settled around roots. 4) Do not apply more than once a year, except as directed for Quackgrass control.

Apply this product to these species of trees and shrubs, as recommended above:

Conifers		
Arbovitae	Juniper	Red pine (Norway pine)
Austrian pine	Knobcone pine*	Red spruce
Balsam fir	Lodgepole pine	Scotch pine
Bishop pine*	(Shore pine)	White cedar
Blue spruce	Monterey pine*	White fir
Douglas fir	Mugho pine	White pine
Fraser fir	Norway spruce	White spruce
Hemlock	Red cedar	Yew (Taxus spp.)
Deciduous Trees and Woody Ornamentals		
American elm	Dogwood	Palm (2 qts./A)*
Barberry	Eucalyptus	Pieris spp.
Bottle brush*	Holly (Ilex spp.)	(max 3.2 qts./A)
Boxelder	(max 3.2 qts./A)	Red oak
(Continued)		

Deciduous Trees and Woody Ornamentals (Continued)		
Bush honeysuckle	Honey locust	Russian olive
Caragana	Oleander*	Siberian elm
Carob*	Oregon grape	
Cotoneaster	(Mahonia spp.)	
*For CA only		

Surflan Tank Mix: On Christmas tree plantings, use this tank mix for pre-emergence control of weeds listed on the Surflan 75W (or Surflan A.S.) and this label. Use on field grown Conifer species listed on the labels for each herbicide plus Alpine fir, Black spruce, Colorado blue spruce, Coulter pine, Engelmann spruce, Giant redwood, Grand fir and Veitchi fir.

Broadcast the mixture as a directed spray to the soil surface or as an over-top spray, using 2 to 4 quarts of this product and 2.67 to 5.33 pounds of Surflan 75W (or 2 to 4 quarts of Surflan A.S.). Apply in sufficient water per acre to uniformly treat the area. Follow over-top sprays with sprinkler irrigation to move the herbicide from leaf surfaces to the soil. Remove weed growth before application. Mix weed residues, prunings or trash into the soil or remove them before treatment. Soil should be in good tilth and free of clods at time of application. Shallow cultivation (1 to 2 inches) after treatment will not reduce weed control. Observe all precautions and limitations on this label and Surflan labels.

Pennant® Tank Mix: This product may be tank mixed with Pennant Liquid herbicide to control weeds in containerized, field and liner* grown ornamentals and commercial landscapes. See the Pennant Liquid label for ornamental species, weeds controlled with this tank mixture and other information.

Note: Length of weed control may be reduced when continuous wet soil conditions follow herbicide application.

USE PRECAUTIONS—To avoid plant injury: 1) Do not use on seedbeds or on unrooted cuttings. 2) Do not use in greenhouses or other enclosed areas.

*Plants transplanted normally in rows in a nursery or similar area for further growth prior to transplanting to final growing place.

TURF

TURFGRASSES FOR SOD (FL Only)

St. Augustine grass, Centipedegrass, Zoysiagrass

Apply 2 to 4 quarts per acre, according to soil texture as indicated below:

Muck or Peat	4 qts.	Old beds	within 2 days after lifting of sod
		New beds	3 to 4 days after sprigging or plugging
Sandy soil	2 qts.	Old beds	within 2 days after lifting of sod
		New beds	7 to 10 days after sprigging or plugging

If weeds regrow, apply an additional 2 quarts on Muck or Peat, or 1 quart on Sandy soil.

USE PRECAUTIONS—To avoid crop injury: 1) Do not apply within 30 days prior to cutting or lifting. 2) Do not apply in combination with surfactants or other spray additives. 3) Use only on Turfgrass reasonably free of infestations of insects, nematodes and diseases. 4) On newly sprigged Turfgrass, temporary slowing of growth may follow application.

TURFGRASS FOR FAIRWAYS, LAWNS, SOD PRODUCTION*, AND SIMILAR AREAS

*In states other than FL. For use on Turfgrass for sod in FL, see "Turfgrasses for Sod (FL only)" section on previous page.

Bermudagrass, Centipedegrass, St. Augustine grass, Zoysiagrass
Apply this product after September 1 (after October 1 for Annual bluegrass) before emergence of Winter annual weeds. This product will control Annual bluegrass, Burclover, Common and Mouseear chickweed, Corn speedwell, Henbit, Hop clover, Lawn burweed, Paisley-plant and Spurweed. This product will also control these weeds soon after emergence. For control of Summer annual weeds listed in the "GENERAL INFORMATION" section of this label, apply this product in late Winter before the weeds emerge. Apply in a minimum of 15 gallons of water per acre.

Irrigate with ½ inch of water if rainfall does not occur within 10 days after pre-emergence treatment.

Where Annual bluegrass is the major weed, use 1 quart of this product per acre (22 ml or 0.75 fluid ounces per 1,000 square feet). Use 2 quarts per acre (22 to 44 ml or 0.75 to 1.5 fluid ounces per 1,000 square feet) for control of other weeds. However, do not exceed 1 quart per acre per treatment on newly sprigged Turfgrass or on hybrid Bermudagrass such as Tiflawn, Tifway and Ormond.

For control of Summer annuals which emerge after the initial application, apply an additional 1 quart per acre at least 30 days after the initial application, but not after June 1. However, do not make more than 2 applications per year.

USE PRECAUTIONS—On newly sprigged Turfgrass, hybrid Bermudagrass, non-dormant Bermudagrass or non-dormant Zoysiagrass, temporary slowing of growth and yellowing may occur following application.

To avoid turf injury: 1) Use only on Turfgrass reasonably free of infestations of insects, nematodes and diseases. 2) Do not use on golf greens. 3) Do not use North of NC (except may be used in the VA Coastal Plains) or on soils with a pH above 7.8. 4) Do not use on Muck or Alkaline soils. 5) Do not apply over the rooting area of trees or ornamentals not listed on this label. 6) Do not seed or overseed with desirable Turfgrass within 4 months before or 6 months after treatment. 7) Do not apply this product to newly seeded Grasses until they have over-wintered and have a well-developed rhizome system. 8) Do not exceed 2 quarts of product per acre within 12 months of seeding grasses.

Note: Do not graze or feed turf clippings to animals, or illegal residues may result.

STORAGE AND DISPOSAL

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

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

1. Contain spill, absorb with a material such as a sawdust, clay granules or dirt.
2. Collect and place in suitable containers for disposal.
3. Wash area with soap and water to remove remaining pesticide.
4. Follow washing with clean water rinse.
5. Do not allow runoff to enter sewer or contaminate water supplies.
6. Dispose of wastes as indicated below:

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Triple rinse (or equivalent). Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill or incineration, or, if allowed by State and Local authorities, by burning. If burned, stay out of smoke.

WARRANTY—CONDITION OF SALE

OUR RECOMMENDATIONS FOR USE of this product are based upon tests believed reliable. Follow directions carefully. Timing and method of application, weather and crop conditions, mixtures with other chemicals not specifically recommended and other influencing factors in the use of this product are beyond the control of the Seller. Buyer assumes all risks of use, storage and handling of this material not in strict accordance with directions given herewith.

In no case shall the Manufacturer or the Seller be liable for consequential, special or indirect damages resulting from the use or handling of this product when such use and/or handling is not in strict accordance with directions-given herewith. The foregoing is a condition of sale by the Seller and is accepted as such by the Buyer.