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# DIURON 4L

HERBICIDE

For control of Many Annual and Perennial Grasses and Herbaceous Weeds

**ACTIVE INGREDIENT**

Diuron (3-(3,4-Dichlorophenyl)-1,1-dimethylurea) .....	40.0%
INERT INGREDIENTS .....	60.0%
TOTAL	100.0%

\*Contains 4.0 lbs. of Diuron per gallon

**ACCEPTED**  
~~with COMMENTS~~  
**In EPA Letter Dated**  
**SEP 14 1995**

**STOP - READ LABEL BEFORE USING.**

**KEEP OUT OF REACH OF CHILDREN**

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

## CAUTION

9779-329

### STATEMENT OF PRACTICAL TREATMENT

- IF SWALLOWED:** Call a physician or Poison Control center. Drink 1 to 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 INHALED:** Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.
- IF IN EYES:** Immediately flush eyes with plenty of water for at least 15 minutes and get medical attention.
- IF ON SKIN:** Wash skin with soap and plenty of water. If irritation develops, send for a physician.

### PRECAUTIONARY STATEMENTS

#### CAUTION

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Causes eye and skin irritation. Harmful if swallowed. Harmful if inhaled. Avoid inhalation of dust and contamination of food and feed.

#### Personal Protective Equipment

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

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 wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

See inside booklet for additional PRECAUTIONARY STATEMENTS.

EPA Reg. No. 9779-329

EPA Est No. 42750 MO 1

Manufactured For  
RIVERSIDE/TERRA CORP.  
P.O. Box 6000, Sioux City, Iowa 51102 6000  
Riverside Serves Agriculture Agriculture Serves Everyone

NET CONTENTS  
GALLONS

9/G06/5

10/11

#### ENVIRONMENTAL HAZARDS

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 by cleaning of equipment or disposal of wastes. Do not apply when weather conditions favor drift from areas treated.

**IMPORTANT** - Injury to or loss of desirable trees or other plants may result from failure to observe the following:

Do not apply (except as recommended for crop use), or drain or flush equipment on or near desirable trees or other plants, or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots. Do not use on home plantings of trees, shrubs, or herbaceous plants, nor on lawns, walks, driveways, tennis courts, or similar areas. Prevent drift of dry powder or spray to desirable plants. Do not contaminate any body of water. Keep from contact with fertilizers, insecticides, fungicides, and seeds.

Thoroughly clean all traces of Diuron 4L from application equipment immediately after use. Flush tank, pump, hoses, and boom with several changes of water after removing nozzle tips and screens (clean these parts separately).

#### STORAGE AND DISPOSAL

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

**STORAGE INSTRUCTIONS:** Storage should be under lock and key and secure from access by unauthorized persons and children. Storage should be in a cool, dry area away from any heat or ignition source. Avoid storage at high temperatures. Do not stack over 2 pallets high. Move containers by handles or cases. Do not move containers from one area to another unless they are securely sealed. Keep container tightly sealed when not in use. Keep away from any puncture source. Avoid storage near water supplies, food, feed and fertilizer to avoid contamination. Store in original containers only. If the contents are leaking or material is spilled follow these steps: 1. Collect and place in suitable containers for disposal. 2. Wash area with water and soap to remove remaining herbicide. 3. Follow washing with clean water rinse. 4. Do not allow run off to enter sewer or contaminate water supplies. 5. Dispose of waste as indicated below:

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

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

#### DIRECTIONS FOR USE

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

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

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.

#### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and 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. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: coveralls, protective eyewear, water-proof gloves, and shoes plus socks.

#### NON AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard 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.

Keep unprotected persons and pets out of treated areas until sprays have dried.

## GENERAL INFORMATION

Diuron 4L is to be mixed with water and applied as a spray for selective control of weeds in certain crops and for nonselective weed control on noncropland areas. It is noncorrosive to equipment, nonflammable and nonvolatile.

Diuron 4L may be applied to soil prior to emergence of weeds to control susceptible weed seedlings for an extended period of time; the degree of control and duration of effect will vary with the amount of chemical applied, soil texture, rainfall and other conditions. Soils high in clay or organic matter require higher dosages than soil low in clay or organic matter to obtain equivalent herbicide performance. Moisture is required to activate the chemical; best results occur if rainfall (or sprinkler irrigation) occurs within 2 weeks of application.

Diuron 4L applied preemergence, before emergence of crop and weeds, is an effective procedure because susceptible weeds are controlled in an early, vulnerable seedling state before they compete with the crop. With favorable moisture conditions, Diuron 4L continues to control weeds for some time as the crop becomes better able to compete. Should weed seedlings begin to break through the preemergence treatment in significant numbers, secondary weed control procedures should be implemented; these include cultivation and postemergence herbicide application.

Diuron 4L may also be used to control emerged weeds. Results vary with rate applied and environmental conditions; best results are obtained on succulent weeds growing under conditions of high humidity and temperatures of 70°F or higher. Addition of a surfactant such as a non-ionic surfactant to the spray (where recommended) increases contact effects of Diuron 4L.

On the following crops: artichoke, corn (field), cotton, sorghum (grain), sugarcane, and established plantings of apples, bananas, plantains, blueberries, caneberries, gooseberries, citrus, grapes, macadamia nuts, olives, papayas, peaches, pears, pecans, walnuts and certain tree plantings, Diuron 4L may be used as a directed postemergence application, where spray nozzles are adjusted so that weeds are sprayed but the crop is not.

Under specified conditions (see Directions for Use), Diuron 4L without surfactant may be applied over the top of alfalfa (established, dormant or semidormant), asparagus (established), birdsfoot trefoil (established, dormant), grass seed crops (established), oats, red clover (established, dormant), sugarcane, wheat, pineapple and plumosus fern (established, mowed).

Weed species vary in susceptibility to Diuron 4L and they may be more difficult to control when under stress. Combinations or tank mixes of Diuron 4L with other herbicides (as registered) increase the number of weed species controlled; consult labels of the companion product for this and other information. Whenever tank mixing Diuron 4L with other products, observe all precautions, limitations and directions on labels of products used in combination with Diuron 4L.

Since the effect of Diuron 4L varies with soils, uniformity of application, and environmental conditions, it is suggested that growers limit their first use to small areas. Observe all cautions and limitations on labeling of all products used in mixtures.

## 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 system(s). 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 nonuniform distribution of treated water.

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

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

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

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

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

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

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

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

#### SPRINKLER CHEMIGATION:

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

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

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

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

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

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

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

#### PRECAUTIONS

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

Diuron 4L should be used only in accordance with recommendations on this label, or in separate published recommendations available through local dealers, local agricultural specialists and state or university extension publications.

Riverside/Terra Corp. will not be responsible for losses or damages resulting from use of this product in any manner not specifically recommended by label text. User assumes all risk associated with such non-recommended use.

Do not use in Kern County, California except for noncropland and citrus weed control.

PREEMERGENCE USE (Germinating Weeds): Diuron 4L, recommended rates, controls annual weeds such as

Broadleaves		
1 to 1.5 pts/Acre	2 to 3 pts/Acre	3 to 9 pts/Acre
Lambsquarters Pigweed Purslane Ragweed	Annual groundcherry Annual morningglory Chickweed Corn spurry Dogfennel Fiddleneck (amsinckia) Gromwell Knawel Pennycress Shepherdspurse Tansymustard Wild buckwheat Wild lettuce Wild mustard	Ageratum Annual smartweed Annual sowthistle Corn speedwell Dayflower Flora's paintbrush Hawksbeard Horseweed Kochia Marigold Mexican clover Pineappleweed Pokeweed Rabbit tobacco Spanishneedles Velvetleaf (buttonweed) Wild radish

Grasses		
1 to 1.5 pts/Acre	2 to 3 pts/Acre	3 to 9 pts/Acre
Barnyardgrass (watergrass) Crabgrass	Annual bluegrass Annual sweet vernalgrass Foxtail Rattail fescue Red sprangletop Velvetgrass	Annual lovegrass Annual ryegrass Kyllinga Orchardgrass Peppergrass Ricegrass Sandbur Seedling johnsongrass

Partial control of the following weeds usually occurs at rates stated:

Broadleaves		Grasses	
1.5 pts/Acre	6 pts/Acre	6 pts/Acre	12 to 15 pts/Acre
Annual morningglory Cocklebur Prickly sida (teaweed) Sesbania Sicklepod	Horsenettle	Quackgrass	Guineagrass Maidencane Pangolagrass

POSTEMERGENCE USE (Emerging Seeding Weeds): Diuron 4L at recommended rates, controls annual weeds such as annual morningglory, barnyardgrass (watergrass), crabgrass, crowfoot, goosegrass, pigweed and purslane. Addition of a non-ionic surfactant such as Activate Plus to the spray (where recommended) increases contact effects of Diuron 4L. Best results are obtained on succulent weeds growing under conditions of high humidity and temperatures of 70 degrees F or higher.

EQUIPMENT SPRAY VOLUMES AND PRESSURES: Use a boom power sprayer properly calibrated to a constant speed and rate of delivery. Openings in screens should be equal to or larger than 50 mesh. Continuous agitation in the spray tank is required to keep the material in suspension. Agitate by mechanical or hydraulic means; if bypass or return line is used, it should terminate at bottom of tank to minimize foaming. Avoid overlapping, and shut off spray booms while starting, turning, slowing or stopping, or injury to the crop may result.

For preemergence application, use 25 to 40 gal/A and spray pressure of 30 to 40 psi. For postemergence application, use sufficient volume (min. 25 gal/A) for thorough coverage of weed foliage, use spray pressure of 20 to 25 psi to keep spray drift to a minimum.

Aerial: For alfalfa, asparagus, barley (winter), cotton (preplant or preemergence only), grass seed crops, pineapple, sugarcane and wheat (winter), application may be made by aircraft (5 to 10 gal/A); avoid overlapping of spray swath and avoid application under conditions where excessive drift may occur. Where land is bedded, make application parallel to rows.

SPRAY PREPARATION: Mix proper amount of Diuron 4L into necessary volume of water; where use of a non-ionic surfactant such as Activate Plus is recommended, dilute with 10 parts of water and add as last ingredient to nearly full tank.

**USE RATES:** All dosages of Diuron 4L are expressed as broadcast rates; for band treatment, use proportionately less. For example, use 1/3 of the broadcast rate when treating a 14" band where row spacing is 42". Where a range of dosages is given, use the lower rate on coarse textured soils (low in clay or organic matter) and the higher rate on fine textured soils (high in clay or organic matter), for postemergence application, use the lower rate on smaller weeds and the higher rate on larger weeds.

**SOIL LIMITATIONS:** Crop injury may result from failure to observe the following:

Unless otherwise directed, do not use on sand, loamy sand, gravelly soils or exposed subsoils, nor on pecans where organic matter is less than 0.5%, nor on alfalfa, apples, artichoke, barley (winter), bermudagrass pasture, citrus, cotton, grapes, oats, olives, papayas, peaches, pears, plumosus fern, sorghum, sugarcane, walnuts and wheat (winter) where organic matter is less than 1%, nor on blueberries, birdsfoot trefoil, caneberrries, gooseberries, macadamia nuts and peppermint where organic matter is less than 2%.

Preemergence weed control will be reduced on high organic matter soils (greater than 5%, such as peat or muck).

**REPLANTING:** Unless otherwise directed, do not replant treated areas to any crop within 2 years after last application as injury to subsequent crops may result.

#### FIELD CROPS (See Soil Limitations)

A good seedbed must be prepared before preemergence use of Diuron 4L, as crop injury may result if application is made to ground which is cloddy or compacted resulting in improperly planted seed. Plant seed to depth specified. Unless otherwise directed, surface of the soil should not be cultivated or disturbed after application of Diuron 4L and before emergence of the crop as weed control may be reduced and crop injury may result. However, if moisture is insufficient to activate the herbicide, a shallow cultivation (rotary hoe preferred) should be made after emergence of crops while weeds are small enough to be controlled by mechanical means.

**ALFALFA:** Treat only stands established for 1 year or more. Do not apply to seedling alfalfa nor to alfalfa/grass mixtures; do not apply to alfalfa under stress from disease, insect damage, shallow root penetration (such as on shallow hard pans), alkali spots; nor to flooded fields as crop injury may result. Do not spray on snow-covered or frozen ground.

Idaho, Oregon, Washington: Use 2.25 to 4.5 pts. per acre; for control of volunteer alfalfa, use 6 pts. per acre. Apply in fall after alfalfa becomes dormant but no later than mid-December.

California (Dormant and Semi-Dormant Varieties): Use 2.25 to 4.5 pts. per acre; for control of volunteer alfalfa, use 6 pts. per acre. Apply in fall or winter after alfalfa becomes dormant or semi-dormant, but before growth begins in the spring. Crop injury may result if application is made to actively growing alfalfa. For best results, apply before weeds have emerged or become established (2" in height or diameter). Control of established weeds is improved by applying Diuron 4L with a suitable contact herbicide registered for such use. Sufficient rainfall for soil activation of Diuron 4L is unlikely in California after February 1. Treated areas may be replanted to any crop after one year from last application if rate does not exceed 3 pts. per acre.

Arizona, Nevada: Use 2.25 to 4.5 pts. per acre; apply in fall after alfalfa becomes dormant but no later than January.

Eastern Colorado, Kansas: For control of tansymustard, apply 1.5 pts. per acre shortly after emergence of mustard in the fall or winter, use 3 pts. per acre if weeds are 2" to 4" in height. Alternatively if other annual weeds are present, apply 3 to 4.5 pts. per acre in February or March.

Other Areas Where Alfalfa Becomes Winter Dormant: Use 2.25 to 4.5 pts. per acre (2.25 to 3 pts. per acre East of Appalachian Mountains). Apply in March or early April, but before spring growth begins.

**ARTICHOKE - California:** Apply 3 to 6 pts. per acre in late fall or early winter after the last cultivation. Apply before weeds germinate or to emerging seedlings. Direct spray to cover the area between the rows and at the base of artichoke plants, keeping contact with crop plants at a minimum.

**ASPARAGUS:** Apply as a band or broadcast treatment. Do not apply to young plants during the first growing season (except as noted below), nor to newly seeded asparagus, nor on plants with exposed roots as severe injury may result. Preemergence weed control will be reduced on high organic matter soils (greater than 5%).

**Established Plantings:** On light sandy soils and other soils low in clay or organic matter, apply 1.5 to 3 pts. per acre. On soils high in clay or organic matter, use 3 to 6 pts. per acre. Two applications may be used; the first application should be made before weeds become established but no earlier than 4 weeks before spear emergence and no later than the early cutting period (if weeds are controlled into the cutting period by cultural practices, application may be delayed until immediately after the last cultivation); a second application may be made immediately following completion of harvest provided rainfall is expected. When two applications are used in one season, do not exceed 4.5 pts. per acre per application. In Washington (irrigated crop), apply a single treatment of 5 pts. per acre. If treatment is delayed until late winter or early spring, incorporation of the chemical in the top 1" to 2" of soil may substitute for lack of rain to activate the herbicide.

**Newly Planted Crowns - California (San Joaquin Delta):** Make a single application of 3 to 6 pts. per acre on soils high in clay or organic matter; use the lower rate on clay loams and the higher rate on peat soils. Do not use on soils containing less than 2% organic matter. Soils must be settled by rainfall or irrigation prior to treatment. Do not treat crowns planted to a depth of less than 2".

**BARLEY, WINTER (Drill - Planted) Western Oregon and Western Washington:** Make a single application of 2.25 to 3 pts. per acre as soon as possible after planting but before emergence of barley. Do not replant treated areas to any crop within 1 year after last application as injury to subsequent crops may result.

**BERMUDAGRASS PASTURES (Newly Sprigged Only):** Apply 1.5 to 4.5 pts. after planting and before emergence of bermudagrass or weeds. Alternatively, for control of emerged annual weeds up to 4" in height apply .75 to 1.5 pts. per acre; add 1 pt. of a non-ionic surfactant per 25 gals. of spray. If bermudagrass has emerged at time of treatment, temporary burn of exposed plant parts may occur.

Plant sprigs (stolons) 2" deep in a well-prepared seedbed; do not treat areas where sprigs are planted less than 2" deep as crop injury may result.

Do not graze or feed foliage from treated areas to livestock within 70 days after application.

**BIRDSFOOT TREFOIL (Lotus) - Western Oregon:** Treat only stands established for at least 1 year; do not apply to seedling trefoil as injury may result. Make a single application of 3 pts. per acre when trefoil is dormant (October 15 to December 15). Do not replant treated areas to any crop within 1 year after last application as injury to subsequent crops may result.

**CORN (FIELD): Postemergence -** Make a single application of 1 pt. per acre in combination with nonpressure nitrogen solution. If nitrogen solution is not used, apply 1.5 pts. per acre; add 1 pt. of a non-ionic surfactant per 25 gals. of spray. Apply as a directed spray when corn is at least 20" high and weeds are no taller than 3". **DO NOT APPLY OVER TOP OF CORN.** Do not replant to any crop within 1 year except that cotton, corn and grain sorghum may be planted the spring following treatment.

**Preemergence - Arkansas, Louisiana, Mississippi and Tennessee:** Make a single application of 1 to 1.5 pts. per acre as a broadcast or band treatment after planting but before corn emerges. Plant corn at least 1.5" deep. Do not replant treated areas to crops other than corn or cotton within 4 months following band treatment and 6 months following broadcast treatment as crop injury may result.

**COTTON:** During a single crop season, do not exceed the following amounts of Diuron 4L per acre as injury to subsequent crops may result: 1.5 pts. on loamy sand; 2 pts. on sandy loam; 3 pts. on clay loam; 4 pts. on clay. Injury may occur if Diuron 4L is used in conjunction with soil-applied organic phosphate pesticides. Do not allow livestock to graze treated cotton.

**Preplant - Arizona and California:** Use Diuron 4L alone, or apply as a separate operation following preplant broadcast treatment with Trifluralin EC (incorporated according to directions on Trifluralin EC label). Apply Diuron 4L as a broadcast spray after beds are formed, preirrigated and final seedbeds prepared. Prior to planting, drag-off the tops of the beds and plant in moist soil not treated with Diuron 4L. Treated soil is returned to the bed after planting when irrigation furrows are reformed after cotton has emerged. If more than two furrowing-out operations are made prior to lay-by, or deep furrows are made early, weed control may be reduced in furrow bottoms. Use at the following rates:

Diuron 4L Alone: 1.5 to 3.75 pts. per acre.

Diuron 4L Following Trifluralin EC:

Soil Texture	Product per Acre - Preplant	
	Trifluralin 4EC	Diuron 4L
Sandy loam, loam, silt loam, silt	1 pt.	1 to 1.5 pts
Sandy clay loam, clay loam, silty clay loam, sandy clay, clay	1.5 pts.	1.5 to 1.87 pts.

Note: Seedling disease may weaken plants and increase the possibility of injury from the use of Trifluralin EC followed by Diuron 4L. These treatments should be used only in conjunction with a standard fungicide seed treatment plus a good supplemental soil fungicide program such as Captan - PCNB mixture.

**Preemergence - U.S., except Arizona and California:** Use Diuron 4L alone or apply as a separate operation following preplant treatment with Trifluralin EC. Apply Diuron 4L after planting but before cotton emerges. Do not treat cotton in deep furrows as crop injury may result; use only where cotton is planted on flat or raised seedbeds.

Shallow incorporation (no deeper than 1-4") with a rotary hoe or similar equipment following planting usually improves results especially during dry weather. A wide press wheel should be used on the planter to provide a level seedbed for subsequent early season postemergence treatments. If moisture is insufficient to activate Diuron 4L or if soil becomes crusted before crop emerges, a shallow rotary hoeing (no deeper than 1-4") should be made before established.

Diuron 4L Alone: Make a single application as a broadcast or band spray, using the following broadcast rates; for band treatment, use proportionately less.

Soil Texture**	Diuron 4L Per Acre
Loamy Sand	1 pt.
Sandy loam, loam, silt loam, silt	1 1/2 pt.
Sandy clay loam, clay loam, silty clay loam, sandy clay	1 qt.
Silty clay, clay	1 1/2 qt.

\*\*Do not use on sand or on soils with less than 1% organic matter as crop injury may result. For heavy clay soils (high in organic matter) use other weed killers. Do not treat cotton in deep furrows as crop injury may result. In Texas and Oklahoma west of I-35 and New Mexico do not apply to loamy sands or sandy loam soil (particularly where they have been deep plowed to change texture).

Diuron 4L following Trifluralin EC Preplant: Apply Trifluralin 4EC prior to planting as a broadcast or band treatment; incorporate according to directions on Trifluralin 4EC label. As a separate operation, apply Diuron 4L as a band treatment (14" to 20" wide) after planting but before cotton emerges. Use at the following broadcast rates; for band treatment, use proportionately less. See "Note" under preplant above.

Soil Texture**	Product Per Acre	
	Preplant Trifluralin EC	Preemergence Diuron 4L
Loamy sand	1/2 pt.	1 pt.
Sandy loam, loam, silt loam, silt	1 pt.	1 1/2 pt.
Sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, clay	1 1/2 pt.	1 - 1 1/2 qt.

\*\*Do not use on sand or on soils with less than 1% organic matter as crop injury may result. For heavy clay soils (high in organic matter) use other weed killers. Do not treat cotton in deep furrows as crop injury may result. In Texas and Oklahoma west of I-35 and New Mexico do not apply to loamy sand and sandy loam soil (particularly where they have been deep plowed to change texture).

Postemergence: Apply only as a directed spray to cover weed foliage; adjust nozzles to minimize contact of cotton leaves with spray or drift, or crop injury may result. DO NOT SPRAY OVER TOP OF COTTON.

Early Season - Apply when cotton is at least 6" tall and when weeds are actively growing and do not exceed 2" in height. Apply as a band treatment at following rates; for each 25 gals. of spray, add 1 pt. of a non-ionic surfactant. Two applications may be made if needed.

Weed Problem (Up to 2" tall)	Pts. Diuron 4L per Acre (Broadcast Basis)
Annual grasses	.75 pt.
Pigweed	.375 pt.

For control of seedling perennial grasses such as johnsongrass and partial control of nutsedge or when weed growth is under drought stress or as high as 4" add 1.5 to 2.5 pts. of DSMA to above spray mixture. If DSMA is used, do not apply after first bloom.

Late Season (Lay By) - 1.5 to 2.25 pts. per acre (1.5 to 3 pts. in Arizona and California) when cotton is at least 12" tall (at least 20" tall for Pima S-2). For control of germinating weed seedlings, apply to soil beneath cotton plants and between rows immediately after last cultivation. In irrigated cotton, best weed control is obtained if the field is irrigated within 3 to 4 days after application; thoroughly wet the surface of the ground over the row to carry the herbicide into the root zone of germinating weeds. Alternately, for control of emerged annual weeds (up to 4" in height) at lay-by time, make a single application in combination with a non-ionic surfactant (1 pt. per 25 gal. spray), or use .75 to 1 pt. Diuron 4L (plus surfactant) per acre and repeat later if needed.

Replanting: If initial seeding fails to produce a stand, cotton may be replanted in soil treated preplant or preemergence with Diuron 4L, alone or following Trifluralin EC. Wherever possible, avoid disturbing original bed. If necessary, to work soil before replanting, use shallow cultivation such as disking, do not resist nor move soil into the original drill area. Plant seed at least 1" deep. Do not retreat field with a second preplant or preemergence application during the same crop year as injury to the crop may result.



Subsequent crops:

Diuron 4L - Type of Application	Crops That May Follow Treated Cotton
Band preemergence or postemergence	Any crop 4 months after last application.
Band preemergence plus postemergence -or- Broadcast preemergence (and preplant) -or- Broadcast preemergence plus band postemergence	Cotton, soybeans, corn or grain sorghums (not sorghos or forage sorghums nor grass sorghums) the next spring. Do not replant treated areas to any other crop within one year after last application as injury to subsequent crops may result.
Broadcast postemergence (lay-by)	Cotton, corn, grain sorghums (not sorghos or forage sorghums nor grass sorghums) the next spring. Do not replant treated areas to any other crop within one year after last application as injury to subsequent crops may result.

For subsequent crops in fields where Trifluralin EC is used, follow instructions of Trifluralin EC label.

**GRASS SEED CROPS** (perennial): Except as noted, apply only to established plantings at least 1 year old.

Colorado, Kansas, New Mexico and Oklahoma: On sand bluestem, side oats grama and switchgrass, apply 3 to 4.5 pts. per acre during the dormant period shortly before weed seedlings emerge. Do not apply after crop begins growth in the spring as crop injury may result. In fields where ash residues have accumulated from burning straw, use 4.5 pts. per acre; spread unburned chaff or straw with a harrow or chopper before application.

Western Oregon: On alta fescue, Astoria bentgrass, Highland bentgrass, Kentucky bluegrass (Merion bluegrass) and orchardgrass, apply 3 to 6 pts. per acre between October 1 and November 15. In fields where ash residues have accumulated from burning straw, use 4.5 to 6 pts. per acre; spread unburned chaff or straw with a harrow or chopper before application. If perennial velvetgrass (*Holcus lanatus*) is a problem, use 6 pts. per acre. For best results, apply as soon as possible after fall rains start. Established weeds (beyond 2 to 4 leaf stage) should be removed prior to treatment.

Well established vigorous stands of spring-planted alta fescue, Kentucky bluegrass and orchardgrass may be treated the following fall provided the crop is planted before April 1 and treatment is not applied before October 15; use 3 pts. per acre.

Oregon, Idaho & Washington: For use in newly planted bentgrass, Chewings fescue, Kentucky bluegrass, perennial ryegrass, orchardgrass and tall fescue. During planting operation, spray Aqua Nu-Char\* or other suitable brands of activated charcoal as a 1" band on soil surface at rate of 300 lbs. per acre (broadcast basis; equivalent to 15 lbs. per acre of crop where row spacing is 20"). Mount nozzles to apply directly over seed rows to prevent crop injury. Follow with Diuron 4L as a single broadcast spray at rate of 3.75 to 4.5 pts. per acre; apply as soon as possible after planting but before crops or weeds emerge and before rains or sprinkler irrigation. Fall or spring plantings may be treated; best results usually occur with early fall plantings. Treatment will not control downy brome or wild oats.

Eastern Washington, Oregon and Idaho: Established Perennial Bluegrass grown for seed. Broadcast 13-32 fluid ounces of Diuron 4L per acre in enough diluent to get even distribution for suppression. Apply in spring before rapid growth begins of the Bluegrass and when the windgrass is still small (1 - 4 leaf). Do not use on coarse (sandy) textured soils.

\*Reg. trademark Of Westvaco Corp.

**OATS** (Drill-Planted): Do not replant treated areas to any crop within one year after last application as injury to subsequent crops may result.

Spring Oats - Idaho, Eastern Oregon, Eastern Washington: Use in areas where average annual rainfall exceeds 16". Make a single application of 1.5 to 2 pts. per acre after planting, either before or after oats emerge but within 6 weeks of planting. Best results are usually obtained when application is made 3 to 4 weeks after planting. Apply before weeds are 3" to 4" tall.

Winter Oats and Mixtures with Peas or Vetch - Western Oregon and Western Washington: Make a single application of 2.25 to 3 pts. per acre as soon as possible after planting but before emergence of the crop.

**PEPPERMINT** - Pacific Northwest - Apply 3.75 pts. per acre just after the last cultivation in the spring prior to emergence of peppermint. Do not apply to newly planted (less than 1 year) nor to emerged peppermint as injury may result.

**RED CLOVER** - Western Oregon: Make a single application of 3 pts. per acre on established red clover stands (at least 9 months). Apply Diuron 4L when red clover is dormant (October 15 to December 15). Do not apply to seedling red clover, and do not replant treated area to any crop within one year after last application.

Treatment will control annual weeds such as bluegrass, chickweed, hawksbeard, rattail fescue, rye grass, and velvet grass.

**SORGHUM (GRAIN)** Southwestern States: Apply .3 to .75 pts. per acre; add 1 pt. of a non-ionic surfactant per 25 gals. of spray. Apply as a directed postemergence broadcast or band spray after sorghum is 15" tall to control weeds 2" to 4" in height. **DO NOT SPRAY OVER TOP OF SORGHUM.** Use the lower rates on broadleaved weeds up to 2" tall; use the higher rate on grasses up to 2" and broadleaved weeds up to 4" tall. When the lower rate is used, a second application may be made if needed provided the amount applied in one crop year does not exceed .75 pts. per acre. Treatment of weeds under drought stress is usually ineffective.

Do not replant treated areas to crops other than cotton or corn within 4 months following band treatment and 6 months following broadcast treatment as crop injury may result.

**SUGARCANE:** To prevent possible crop injury on new cane varieties, tolerance to Diuron 4L should be determined prior to adoption as field practice. Do not treat sugarcane growing on thinly covered subsoils or rocky areas as crop injury may result. Temporary chlorosis of the crop may result from application over emerged cane; to minimize chlorosis, use directed postemergence sprays.

**Florida Preemergence** - For high organic soils, apply 3 to 6 pts. per acre as a broadcast or band spray prior to weed emergence after planting or after harvesting plant crop (for ratoon crop).

**Postemergence** - Make 1 or 2 applications of 3 pts. per acre as needed by directed spray inter-row. Alternatively, for panicum control, make up to 3 applications of .75 to 1.5 pts. per acre as a directed spray after cane has emerged but before panicum exceeds 2" in height; add 1 qt. of a non-ionic surfactant per 100 gals. of spray. Adjust nozzles to spray beneath cane plants and between rows to cover weed foliage and to minimize contact of cane leaves with spray or drift. Do not apply more than 4.5 qts. total per acre between planting (or ratooning) and harvest.

**Hawaii and Puerto Rico:** Apply 3 to 6 qts. per acre as a broadcast spray prior to weed emergence after planting or after harvesting plant crop (for ratoon crop). A second and third application of 1.5 to 3 qts. per acre may be made as a broadcast spray over emerged cane or by directed spray inter-row.

If weeds are emerged, add a non-ionic surfactant to the spray at the rate of 1 to 2 qts. per 100 gals. and apply as directed spray. **DO NOT SPRAY OVER TOP OF CANE.**

Do not apply more than 3 treatments nor more than 7.5 qts. (Puerto Rico) or 9 qts. (Hawaii) total per acre between planting (or ratooning) and harvest. Treated areas may be planted to sugarcane or pineapple one year after last application.

**Louisiana:** Use on plant cane seeded on fallowing ground. Make a single application of 4.5 to 5.6 pts. per acre at either of the following times: Fall Treatment (August through October) - treat a 2 ft. band over the row after planting of cane, but before weeds or cane emerge. Spring Treatment (January through April) - if shaving and off-barring are practiced, treat a 2 ft. band over the row before weed or cane emerge.

**WHEAT, WINTER (Drill-Planted):** Crop injury may result where severe winter stress, disease or insect damage follows application; winter-sensitive varieties such as McDermid and Hyslop may be less tolerant of Diuron 4L than winter-hardy varieties such as Gaines and Nugaines. Crop injury may also result from failure to observe the following: Do not use on sand soils, nor on gravelly or sandy loams low in organic matter (less than 1%), nor on thinly covered or exposed subsoil areas (clay knobs); do not treat wheat planted less than 1" deep; do not treat wheat where winter climate conditions have caused "heaving" of plants; do not treat wheat plants lacking in vigor due to poor emergence, insect damage, disease, high alkalinity or other causes; do not apply after wheat has reached the "boot" stage of maturity. Check with your county agent or state extension specialist before using Diuron 4L in combination with surfactants or nitrogen solutions. Do not replant treated areas to any other crop within 1 year after last treatment (except as noted) as injury to subsequent crops may result.

**Idaho, Oregon and Washington - East of Cascade Range: Areas Where Average Annual Rainfall Exceeds 16 inches:** Make a single application of 1.5 to 2.25 pts. per acre.

**Fall Treatment:** For early fall-planted wheat (seeded before September 10), apply 3 to 6 weeks after planting but before weeds are 3" to 4" tall. Treatment after October 1 has generally given best results. Application should not be made after soil freezes in the fall. Wheat planted in late October should not be treated until the following spring.

**Spring Treatment:** Apply as soon as wheat starts to grow in the spring. Treatment made prior to April 10 will usually give good results provided weed growth is less than 4" tall. Application later than May 1 may give poor results.

Alternatively, make a single application of .75 to 1.5 pts. Diuron 4L plus 1/4 lb. bromoxynil per acre as a tank mixture, either in the fall after wheat has emerged but before soil freezes or in the spring as soon as soil thaws; apply before weeds are 2" tall or across.

**Areas Where Average Annual Rainfall is 10 to 15 inches:** After wheat is planted in the fall, make a single application of 1.5 to 2.25 pts. per acre where sufficient moisture is available to germinate wheat seed. Apply before soil freezes and before weeds are 2" tall. Application later than May 1 may give poor results.

**NOTE:** If fall-planted wheat fails to grow due to winter kill or adverse growing conditions after fall treatment only fields treated before November 1 may be replanted to spring wheat. Spring wheat should not be planted before April 1, and only after deep disking and plowing to a depth of 4" to 6" prior to planting. Do not retreat field with a second application during the same crop year as injury to the crop may result.

Oregon and Washington West of Cascade Range: Make a single application of 2.25 to 3 pts. per acre as soon as possible after planting; if wheat and weeds have emerged, apply before weeds are 3" to 4" tall. Alternatively, apply a tank mixture of Diuron 4L plus bromoxynil as detailed above for "East of Cascade Range".

Other Areas: Make a single application in the spring as soon as wheat (fall-planted) starts to grow and before weeds are 2" tall. Application later than May 1 may give poor results.

Central Plains and Midwest: Use 1.5 to 3 pts. per acre.

Kansas, Oklahoma and Texas: Do not use on sand or sandy loam soils. Use 1 lb. per acre on silt and silt loam soils and 2.25 to 3 pts. per acre on clay, clay loam, and silty clay loam soils.

Northeast: Use 1.5 to 2.25 pts per acre.

**FRUIT AND NUT CROPS**  
(See Soil Limitations)

Unless otherwise directed, make a single application per year as directed spray, avoiding contact of foliage and fruit with spray or drift. Do not graze livestock in treated orchards or groves.

APPLES: Use Diuron 4L alone, or apply as a tank mixture with Sinbar<sup>®</sup>, Surflan<sup>®</sup> or Devrinol<sup>®</sup>.

Diuron 4L Alone - Use only under trees established in the orchard for at least 1 year; do not treat varieties grafted on full-dwarf root stocks. Apply 6 pts. per acre in the spring (March through May). In the Far West, treatment may be made in winter (December through February), or apply 3 pts. per acre as a post harvest treatment followed by 3 pts. in the spring.

Diuron 4L plus Surflan A.S. - Use only under trees established in the orchard for at least three (3) years; do not treat varieties grafted on full-dwarfed root stocks (i.e., M-9 root stocks). Apply either in the spring or after harvest in the fall before weeds emerge or during early seedling stage of weed growth. Addition of Gramoxone Extra<sup>®</sup> at 2 to 3 pints per acre plus Activate Plus or Prime Oil is necessary to kill emerged weeds.

Soil Texture	Amount of Product Per Acre	
	1% to 2% Organic Matter	More Than 2% Organic Matter
	Diuron 4L plus Surflan A.S.	Diuron 4L plus Surflan A.S.
Sandy loam	1.5 pints + 2 to 6 quarts	2.25 pints + 2 to 6 quarts
Loam, silt loam, silt	2.25 pints + 2 to 6 quarts	3 pints + 2 to 6 quarts
Clay loam, clay	3 pints + 2 to 6 quarts	3 pints + 2 to 6 quarts

Diuron 4L plus Devrinol 50DF - Use only under trees established in the orchard for at least three (3) years. Do not treat varieties grafted on full dwarfed root stocks (i.e., M-9 root stocks). Apply either in the spring or after harvest in the fall before weeds emerge or during early seedling stage of weed growth. Addition of Gramoxone Extra at 2 to 3 pints per acre plus Activate Plus or Prime Oil is necessary to kill emerged weeds.

Soil Texture	Amount of Product Per Acre	
	1% to 2% Organic Matter	More Than 2% Organic Matter
	Diuron 4L plus Devrinol 50DF	Diuron 4L plus Devrinol 50DF
Sandy loam	1.5 pints + 8 lbs.	2 pints + 8 lbs.
Loam, silt loam, silt	2 pints + 8 lbs.	2 pints + 8 lbs.
Clay loam, clay	2 pints + 8 lbs.	2 pints + 8 lbs.

Sinbar<sup>®</sup> is a trademark of DuPont; Surflan<sup>®</sup> is a trademark of DowElanco; Devrinol<sup>®</sup> and Gramoxone Extra<sup>®</sup> are trademarks of Zeneca

Diuron 4L plus Sinbar<sup>®</sup> - Use only under trees established in the orchard for at least 2 years. Apply either in the spring or after harvest in the fall before weeds emerge or during early seedling stage of weed growth.

Soil Texture	Amount of Product Per Acre	
	1 to 2% Organic Matter	More Than 2% Organic Matter
	Diuron 4L plus Sinbar*	Diuron 4L plus Sinbar*
Sandy loam	1.5 pts. + 1 lb.	2.25 pts. + 1-1.5lbs.
Loam, silt loam, silt	2.25 pts. + 1.5 lbs.	3 pts. + 2 lbs.
Clay loam, clay	3 pts. + 2 lbs.	3 pts. + 2 lbs.

\* This mixture is not registered for use in California.

Where crop is grown under furrow irrigation or under raised-berm flood irrigation (trees 4" to 6" above waterline), apply only as a band treatment. Do not treat trees planted in the bottom of irrigation furrows, nor trees grown under flat flood or basin irrigation, as injury to trees may result. Where complete weed control to harvest is desired, additional weed control measures may be required during the growing season.

Georgia - Apply 3 to 4.5 pts. per acre in the spring. Repeat application in the fall but do not use more than 6 pts. per acre per year. Add a non-ionic surfactant at 1 pint per 25 gals. spray mixture to improve control of small emerged weeds.

Bananas and Plantains - New Plantings: To control annual weeds. Apply 2.25 to 4.5 pts. per acre after planting but before weeds emerge. Do not apply to loose soil directly over the planting material.

Established Plantings: For control of annuals and for top-kill of perennials such as bermudagrass, birdseed grass and guineagrass, apply 4.5 to 9 pts. per acre plus 1 pint of a non-ionic surfactant (or suitable equivalent) per 25 gals. of spray, avoid contact of plants with spray or drift as injury may result. When tall dense weed growth is present, remove weed growth before application. If application is made to soil free of weeds, omit the surfactant from the spray. Repeat treatment as needed, but do not apply more often than 6-week intervals nor more than a total of 2.25 gals. per acre (broadcast basis) in a 12-month period.

NOTE: Do not replant treated areas to any crop within 2 years after last application as injury to subsequent crops may result, except that sugarcane or pineapple may be planted one year after last application.

BLUEBERRIES, CANEBERRIES AND GOOSEBERRIES: Use only in fields which have been established for at least 1 year. Do not apply to berries interplanted with fruit trees; do not apply to plants whose roots are exposed as injury may result. Apply as a band treatment at base of canes or bushes; for spring application, apply before germination and growth of annual weeds.

Georgia - Blueberries: Apply 2.25 to 3 pts. per acre in the spring and repeat treatment after harvest in the fall. Add a non-ionic surfactant at 1 pint per 25 gals. spray mixture to improve control of small, emerged weeds. Diuron 4L may be tank mixed at the above rates with 2 to 4 quarts per acre of Surflan or 2.2 to 4.4 pounds of Princep<sup>7</sup>, Caliber 90<sup>7</sup> or Simazine 90DF.

Princep<sup>7</sup> and Caliber<sup>7</sup> are trademarks of Ciba.

Indiana, Michigan and Ohio - Blueberries: Apply 3 to 6 pts. per acre in late spring; alternatively, apply 3 pts. per acre in the fall and repeat at same rate in the spring. Raspberries: Apply 4.5 pts. per acre in the spring.

Massachusetts - Blueberries: Apply 3 pts. per acre in late spring.

New Jersey - Blueberries: For control of winter annuals, apply 3 pts. per acre in October, November or December, or a single application of 3.75 pts. per acre may be applied in early to mid spring.

California - Raspberries, Blackberries, Boysenberries, Dewberries and Loganberries: For control of winter annuals, apply 3 pts. per acre in October or November; repeat at same rate in late spring to control summer annuals. A single application of 4.5 pts. per acre in January or February will control both winter and summer annuals in some areas, but the separate fall and spring schedule is preferred. Diuron 4L may be tank mixed at the above rates with 2 to 4 quarts per acre of Surflan A.S.

Western Oregon and Western Washington - Blueberries, Caneberries and Gooseberries: Use same schedule as recommended for California.

CITRUS: Use only under trees established in the grove for at least 1 year. Time application as indicated for specific areas, except application may be made any time of the year where sprinkler or flood irrigation can be timed to activate the herbicide. Established perennial weeds require other special control procedures. Do not apply under citrus trees that have been subjected to freezing within 6 months.

Arizona (except Yuma area) and California (except Imperial and Coachella Valleys): Apply 3 to 6 pts. per acre shortly after grove has been laid up in final form (nontillage program) in late fall or early winter. Alternatively, apply 3 pts. per acre in October or November and repeat at the same rate in March or April. Subsequent annual applications of 3 to 4.5 pts. per acre will usually give adequate weed control.

Florida and Puerto Rico: Make a single application of 6 to 12 pts. per acre or apply 4.5 to 6 pts. per acre followed by the same rate 4 to 6 months later. On bearing citrus, apply any time when seasonal rains are expected; on nonbearing trees, apply when winter banks are pulled down.

For control of guineagrass, loosestrife, maidencane, paragrass, primrose willow and searneyrtle in ditches adjacent to citrus groves, use 1.5 pts. per 1000 sq. ft. (7.5 gals. per acre) in sufficient water (min. 4 gals. per 1000 sq. ft.) to provide thorough and uniform coverage. Apply in the spring before weed growth starts or after removal of vegetation. Repeat treatment on a spot basis to control hard-to-kill species such as guineagrass. In bedded groves, do not treat water furrows between the beds as injury to the trees may result.

Texas: Apply 3 to 6 pts. per acre for annual weeds; use 6 to 9 pts. per acre for control of johnsongrass seedlings. Best results accompany application in the spring; well established weeds should be eliminated by cultivation prior to treatment.

GRAPES: Apply only to established vineyards (at least 3 years old) as a band treatment to grape rows. On soils low in clay or organic matter (1 to 2%), severe plant injury may result if heavy rainfall or more than one inch of irrigation occurs soon after treatment. This risk must be assumed by the user.

East of the Rocky Mountains: On soils low in clay or organic matter (1 to 2%), apply 3 to 4.5 pts. per acre; on soils high in clay or organic matter apply 4.5 to 9 pts. per acre. Apply in the spring just prior to germination and growth of annual weeds.

West of the Rocky Mountains: Apply in November, December, or January. For initial treatment apply 4.5 to 6 pts. per acre; subsequent annual applications of 3 pts. per acre will usually give adequate weed control. Do not apply to vines with trunks less than 1-1/2" in diameter as injury may result.

New York and Pennsylvania - Perennial Grasses: Use only in established vineyards (at least 4 years old) for spot control of perennial grasses such as orchardgrass, quackgrass and ryegrass. Apply in the spring as a band treatment to ridged soil (2" to 4" high) under the trellis at the rate of 8 to 9 qts. per acre. Band width should not exceed 30". Do not apply more than once every 4 years. Use only on heavy soils such as loams, silt loams, clay loams. Do not use in areas where grape roots are shallow or exposed because of high bedrock, poor drainage, or erosion as injury to grapes may result. Diuron 4L may be tank mixed at the above rates with 2 to 4 quarts per acre of Surflan A.S. or 2.25 to 5.25 pounds per 200 gallons of water of Princep. Caliber 90 or Simazine 90DF for broad spectrum weed control.

MACADAMIA NUTS - Hawaii: Use only under trees established in the orchard for at least 1 year. Apply 3 to 9 pts. per acre immediately after harvest preferably before weeds emerge; if weeds have emerged, add 1 pint of a non-ionic surfactant per 25 gals. of spray. Retreat as needed but do not exceed 7.5 qts. per acre per year.

OLIVES - California: Use only under trees established in the grove for at least 1 year. Apply 3 pts. per acre after grove has been laid-up in final form in late October or November; repeat at same rate in March or April. Remove weed growth prior to treatment.

PAPAYAS: Use only under trees established in the orchard for at least 1 year. Apply 3.75 to 7.5 pts. per acre, preferably before weeds emerge; if weeds have emerged, add 1 pint a non-ionic per 25 gals. of spray.

PEACHES: Use Diuron 4L alone, or apply as a tank mixture with Sinbar\*.

Diuron 4L Alone - Use only under trees established in the orchard for at least 3 years. Apply 3 to 7.5 pts. per acre in the early spring before weeds emerge or during the early seedling stage of weed growth. Do not apply within 3 months of harvest; in the Far West, do not apply within 8 months of harvest.

Diuron 4L plus Sinbar\* - Use only under trees established in the orchard for at least 2 years. Apply either in the spring or after harvest in the fall before weeds emerge or during seedling stage of weed growth.

\*Reg. trademark of DuPont

Soil Texture	Amount of Product Per Acre	
	1 to 2% Organic Matter	More Than 2% Organic Matter
	Diuron 4L plus Sinbar*	Diuron 4L plus Sinbar*
Sandy loam	1.5 pts. + 1 lb.	2.25 pts. + 1.5 lbs.
Loam, silt loam, silt	2.25 pts. + 1.5 lbs.	3 pts. + 2 lbs.
Clay loam, clay	3 pts. + 2 lbs.	3 pts. + 2 lbs.

\* This mixture is not registered for use in California

Where crop is grown under furrow irrigation or under raised-bank flood irrigation (trees 4" to 5" above waterline), apply only as a band treatment. Do not treat trees planted in the bottom of irrigation furrows, nor trees grown under flat flood or basin irrigation, as injury to trees may result. Where complete weed control to harvest is desired, additional weed control measures may be required during the growing season.

Georgia - On trees established for at least 2 years, apply 3 to 4.5 pts. per acre in the spring. Repeat application in the fall but do not exceed 7.5 pts. per acre per year. Add a non ionic surfactant at 1 pint per 25 gals. spray mixture to improve control of small, emerged weeds.

Where crop is grown under furrow irrigation or under raised berm flood irrigation (trees 4" to 6" above waterline), apply only as a band treatment. Do not treat trees planted in the bottom of irrigation furrows nor trees grown under flat flood or basin irrigation, as injury to trees may result. Where complete weed control to harvest is desired, additional weed control measures may be required during the growing season.

PEARS: Use only under trees established in the orchard for at least 1 year; do not treat varieties grafted on full-dwarf root stocks. Apply 6 pts. per acre in the spring (March through May). In the Far West, treatment may be made in winter (December through February), or apply 3 pts. per acre as a post harvest treatment followed by 3 pts. in the spring.

Diuron 4L plus Surfian A.S. - Use only under trees established in the orchard for at least three (3) years; do not treat varieties grafted on full-dwarfed root stocks (i.e., M-9 root stocks). Apply either in the spring or after harvest in the fall before weeds emerge or during early seedling stage of weed growth. Addition of Gramoxone Extra<sup>®</sup> at 2 to 3 pints per acre plus Activate Plus or Prime Oil is necessary to kill emerged weeds.

Soil Texture	Amount of Product Per Acre	
	1% to 2% Organic Matter	More Than 2% Organic Matter
	Diuron 4L plus Surfian A.S.	Diuron 4L plus Surfian A.S.
Sandy loam	1.5 pints + 2 to 6 quarts	2.25 pints + 2 to 6 quarts
Loam, silt loam, silt	2.25 pints + 2 to 6 quarts	3 pints + 2 to 6 quarts
Clay loam, clay	3 pints + 2 to 6 quarts	3 pints + 2 to 6 quarts

Diuron 4L plus Devrinol 50DF - Use only under trees established in the orchard for at least three (3) years. Do not treat varieties grafted on full-dwarfed root stocks (i.e., M-9 root stocks). Apply either in the spring or after harvest in the fall before weeds emerge or during early seedling stage of weed growth. Addition of Gramoxone Extra at 2 to 3 pints per acre plus Activate Plus or Prime Oil is necessary to kill emerged weeds.

Soil Textura	Amount of Product Per Acre	
	1% to 2% Organic Matter	More Than 2% Organic Matter
	Diuron 4L plus Devrinol 50DF	Diuron 4L plus Devrinol 50DF
Sandy loam	1.5 pints + 8 lbs.	2 pints + 8 lbs.
Loam, silt loam, silt	2 pints + 8 lbs.	2 pints + 8 lbs.
Clay loam, clay	2 pints + 8 lbs.	2 pints + 8 lbs.

PECANS: Use Diuron 4L alone or apply as a tank mixture with Sinbar\*. Make a single band or broadcast application as a directed spray using a minimum of 30 gals. of water per acre. Apply in the spring before weeds emerge or during the early seedling stage of growth.

Soil Texture	Tank Mixture	
	Diuron 4L Alone**	Diuron 4L plus Sinbar***
Sandy loam	3 pts.	2.25 pts + 1.5 lbs.
Loam, silt loam, silt	4.5 pts.	2.62 pts + 1.75 lbs.
Clay loam, clay	6 pts.	3.00 pts + 2.0 lbs.

\* This mixture is not registered for use in California.

\*\* Use only on trees established in the grove for at least 3 years and on soils with at least 1/2% organic matter.

\*\*\* Use on trees established in the grove for at least 1 year and on soils with at least 1% organic matter.

Note: Do not use on eroded areas where subsoil or roots are exposed, nor on trees that are diseased or lacking in vigor or on trees planted in irrigation furrows as injury to the trees may result.

PINEAPPLE - Hawaii and Florida: Apply 6 to 12 pts. per acre as a broadcast spray just before or immediately after planting but prior to weed emergence. Use 6 pts. per acre after harvesting plant crop (for ratoon crop). For plant crop only, a second and third broadcast or interspace application may be made prior to differentiation at a rate of 3 pts. per acre at intervals of not less than 2 months. Additional applications to plant crop may be made as needed to interspace only using 3 pts. per acre. Do not apply more than 3 broadcast sprays (maximum 2.25 gals. per acre) prior to differentiation nor more than 3 gals. total per acre per plant crop. Treated areas may be planted to pineapple or sugarcane 1 year after last application.

Puerto Rico Apply 5.6 to 9.4 pts. per acre as a broadcast spray just before or immediately after planting but prior to weed emergence. Treated areas may be planted to pineapple or sugarcane 1 year after last application.

WALNUTS (English) - California: Use only under trees established in the orchard for at least 1 year. As an initial treatment, apply 4.5 to 7.5 pts. per acre after the orchard has been laid-up in final form (nontillage program) in late fall or early winter; retreat annually with 3 to 4.5 pts. per acre. Alternatively, apply 3 pts. per acre in October or November and repeat at same rate in March or April.

#### ORNAMENTAL CROPS (See Soil Limitations)

ORNAMENTAL BULB CROPS (Bulbous Iris, Narcissus) - Western Washington: Make a single application of 6 pts. per acre. Apply after planting but no later than 4 weeks prior to bulb emergence (usually late September or October). Do not replant treated areas to any crop within 1 year after last application as injury to subsequent crops may result.

PLUMOSUS FERN - Florida: Hand weed and mow fern; then make a single application of 4.5 pts. per acre within 3 to 5 days. Do not cultivate or disturb soil after application as crop injury may result. Treat only established stands at least 1 year old.

TREE PLANTINGS - Colorado, Montana, Nebraska, North Dakota, South Dakota, Wyoming: Use only under established plantings (1 year or older) of American elm, caragana, cottonwood, Douglas fir, green ash, honeysuckle, Ponderosa pine, red cedar, Russian olive and Siberian elm. Use 3.75 to 7.5 pts. per acre; apply as a band 4 ft. wide in the tree row (2 ft. on each side of row). For example, 1/10 pt. Diuron 4L treats 135 feet of tree row (2 ft. on each side of row) at the rate of 7.5 pts. per acre. Apply as a directed spray in early spring before weeds emerge and before trees leaf out. Do not apply to foliage of trees, nor under trees growing in low areas as injury to the trees may result.

#### NON-CROP WEED CONTROL

Diuron 4L is an effective herbicide for the control of many annual and perennial grasses and herbaceous weeds on non-cropland areas where bare ground is desired. The degree of control and duration of effect will vary with the amount of chemical applied, soil texture, rainfall and other conditions.

Tank Mixes: Diuron 4L may be tank mixed with Arsenal<sup>®</sup> or Oust<sup>®</sup> in bare ground use areas. See the respective product labels for use rates and any additional precautions and restrictions.

Arsenal<sup>®</sup> is a Trademark of American Cyanamid Company.

Oust<sup>®</sup> is a Trademark of I. E. du Pont de Nemours and Company

Diuron 4L may be used as a preemergence treatment at anytime of the year except when ground is frozen, provided adequate moisture is supplied by rainfall or artificial means to activate the herbicide. Best results are obtained if application is made to the soil shortly before weed growth begins. If dense growth is present, remove tops and spray the ground.

Increased contact activity on established weeds may be obtained by the addition of a non-ionic surfactant at the rate of 2 qts. per 100 gals. of spray mixture. Apply as a drenching spray to actively growing weeds during warm weather when daily temperature will exceed 70 degrees F.

Except for small areas, use a fixed-boom power sprayer properly calibrated to insure a constant rate of application. Mix proper amount of Diuron 4L into volume of water necessary to obtain uniform coverage. If a non-ionic surfactant is used, dilute with 10 parts of water and add as last ingredient to nearly full tank. Material must be kept in suspension at all times. Agitate by mechanical or hydraulic means in the spray tank; if by-pass or return line is used, it should terminate at bottom of tank to minimize foaming. Openings in screens should be equal to or larger than 50 mesh.

General Weed Control: To control most weeds for an extended period of time on non-cropland such as utility, highway, pipeline and railroad right of ways, petroleum tank farms, lumberyards, storage areas, industrial plant sites, and around farm buildings - apply 1 to 3.75 gals. per acre to control most annual weeds. Use 4 to 11.25 gals. per acre for perennial weeds; additional treatment may be required where a longer period of control is desired or when hard-to-kill, deep-rooted perennial weeds such as johnsongrass are present in low rainfall areas, Diuron 4L may not provide satisfactory control of deep-rooted perennial weeds.

Irrigation and Drainage Ditches: Apply 1 to 3.75 gals. per acre to control most annual weeds, use 4 to 11.25 gals. per acre to control both annual and perennial weeds. Apply only when water is not in the ditch. For irrigation ditches, apply during the non-crop season, and when ditch is not in use. To minimize movement of Diuron 4L with irrigation water (to avoid possible crop injury), it is essential that the herbicide be fixed in the soil by moisture. Apply before expected seasonal rainfall (if possible when soil in the ditch is still moist). Following treatment, if rainfall has not totaled at least 4 inches, fill ditch with water and allow to stand for 72 hours; drain off and waste remaining water before using ditch. Do not treat any ditch into which roots of trees or other desirable plants may extend as injury may result.

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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