

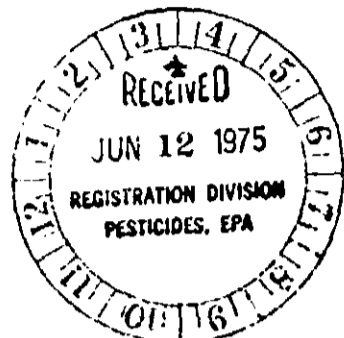
FRONT PANEL - ACTUAL SIZE

26

**SEE FOLDER IN BOTTOM FLAP FOR USE INSTRUCTIONS**

July 7, 1975

352-247  
24.3



BEST DOCUMENT AVAILABLE

# KARMEX<sup>®</sup>

DIURON WEED KILLER

## WETTABLE POWDER

### ACTIVE INGREDIENT:

Diuron [3-(3,4-dichlorophenyl)-1,1-dimethylurea] ..... 80%

### INERT INGREDIENTS

..... 20%

EPA Est. 352-TX-1

EPA Reg. No. 352-247-AA

Keep out of reach of children.

### CAUTION! MAY IRRITATE EYES, NOSE, THROAT, AND SKIN.

Avoid breathing dust or spray mist.

Avoid contact with skin, eyes, and clothing.

**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 "Karmex" 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). Do not contaminate water by cleaning of equipment or disposal of wastes.

Do not re-use bag. Bury when empty.

## NET 4 LBS.

**E. I. du Pont de Nemours & Co. (Inc.)**  
Blochemicals Department, Wilmington, Delaware

207

26A

### SELECTIVE USE IN CROPS

#### ● FIELD CROPS

**Alfalfa:** United States  
**Artichoke:** California  
**Asparagus:** United States  
**Barley, Winter:** Western Oregon and Western Washington  
**Bermudagrass Pastures (Newly Sprigged):** United States  
**Birdsfoot Trefoil (Lotus):** Western Oregon  
**Corn (Field):**  
*Postemergence*—United States  
*Preemergence*—Arkansas, Louisiana, Mississippi and Tennessee

**Cotton:**  
*Preplant*—Arizona and California  
*Preemergence*—United States, except Arizona and California  
*Postemergence*—United States  
**Grass Seed Crops (Perennial):** Colorado, Kansas, New Mexico, Oklahoma and Oregon  
**Oats:** Idaho, Oregon and Washington  
**Peppermint:** Pacific Northwest  
**Sorghum (Grain):** Southwestern States  
**Sugarcane:** Florida, Hawaii, Puerto Rico and Louisiana  
**Wheat, Winter:** Idaho, Oregon, Washington and certain other areas

#### ● FRUIT AND NUT CROPS

**Apples:** United States  
**Bananas:** United States  
**Blueberries, Caneberries and Gooseberries:** Indiana, Michigan and Ohio—Blueberries and Raspberries; Massachusetts and New Jersey—Blueberries; California—Raspberries, Blackberries, Boysenberries, Dewberries, and Loganberries; Western Oregon and Washington—Blueberries, Caneberries and Gooseberries  
**Citrus:** Arizona (except Yuma area)

and California (except Imperial and Coachella Valleys)—Oranges, Lemons and Grapefruit; Florida—Oranges, Grapefruit, Tangelos and Tangerines; Texas—Oranges and Grapefruit

**Grapes:** United States  
**Macadamia Nuts:** Hawaii  
**Olives:** California  
**Papayas:** United States  
**Peaches:** United States  
**Pears:** United States  
**Pecans:** United States  
**Pineapple:** Hawaii  
**Walnuts (English):** California

#### ● ORNAMENTAL CROPS

**Gladiolus:** East of Rocky Mountains  
**Ornamental Bulb Crops (Bulbous Iris, Narcissus, Tulips):** Western Washington

**Plumous Fern:** Florida  
**Tree Plantings:** Colorado, Montana, Nebraska, North Dakota, South Dakota and Wyoming

### NON-CROP WEED CONTROL

UTILITY, HIGHWAY, PIPELINE, RAILROAD RIGHT OF WAYS  
 INDUSTRIAL PLANT SITES—STORAGE AREAS—LUMBERYARDS  
 FARM BUILDINGS—IRRIGATION AND DRAINAGE DITCHES

**NOTICE TO BUYER**—Seller warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for purposes stated on such label only when used in accordance with directions under normal use conditions. This warranty does not extend to use of this product contrary to label use directions, or under abnormal use conditions, or under conditions not reasonably foreseeable to seller; buyer assumes all risk of any such use. Seller makes no other warranties, express or implied. Purchase of this material does not confer any rights under patents of countries outside of the United States.

**SEE FOLDER IN BOTTOM FLAP FOR USE INSTRUCTIONS**

BEST DOCUMENT AVAILABLE

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**TELVAR® MONUROM**

**EPA REG. NO.**

**CROPS:** "Telvar" is no longer  
use only for non-crop weed control.

**NON-CROP WEED CONTROL**  
directions on product label.

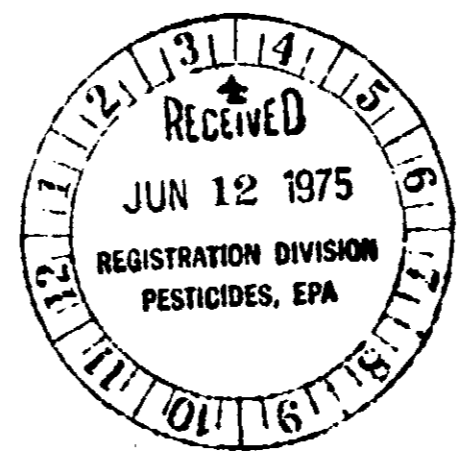
**B-21094 2-73**

FRONT PANEL - ACTUAL SIZE

**SEE FOLDER IN BOTTOM FLAP FOR USE INSTRUCTIONS**

*July 7, 1975*

*352-247*



# KARMEX<sup>®</sup>

DIURON WEED KILLER

## WETTABLE POWDER

### ACTIVE INGREDIENT:

Diuron [3-(3,4-dichlorophenyl)-1,1-dimethylurea] .....80%

### INERT INGREDIENTS .....

20%

EPA Est. 352-TX-1

EPA Reg. No. 352-247-AA

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Thoroughly clean all traces of "Karmex" 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). Do not contaminate water by cleaning of equipment or disposal of wastes.

Do not re-use bag. Bury when empty.

## NET 4 LBS.

**E. I. du Pont de Nemours & Co. (Inc.)**  
Blochemicals Department, Wilmington, Delaware

## SELECTIVE USE IN CROPS

### ● FIELD CROPS

**Alfalfa:** United States  
**Artichoke:** California  
**Asparagus:** United States  
**Barley, Winter:** Western Oregon and Western Washington  
**Bermudagrass Pastures (Newly Sprigged):** United States  
**Birdsfoot Trefoil (Lotus):** Western Oregon  
**Corn (Field):**  
Postemergence—United States  
Preemergence—Arkansas, Louisiana, Mississippi and Tennessee

**Cotton:**  
Preplant—Arizona and California  
Preemergence—United States, except Arizona and California  
Postemergence—United States  
**Grass Seed Crops (Perennial):** Colorado, Kansas, New Mexico, Oklahoma and Oregon  
**Oats:** Idaho, Oregon and Washington  
**Peppermint:** Pacific Northwest  
**Sorghum (Grain):** Southwestern States  
**Sugarcane:** Florida, Hawaii, Puerto Rico and Louisiana  
**Wheat, Winter:** Idaho, Oregon, Washington and certain other areas

### ● FRUIT AND NUT CROPS

**Apples:** United States  
**Bananas:** United States  
**Blueberries, Caneberries and Gooseberries:** Indiana, Michigan and Ohio—Blueberries and Raspberries; Massachusetts and New Jersey—Blueberries; California—Raspberries, Blackberries, Boysenberries, Dewberries, and Loganberries; Western Oregon and Western Washington—Blueberries, Caneberries and Gooseberries  
**Citrus:** Arizona (except Yuma area)

and California (except Imperial and Coachella Valleys)—Oranges, Lemons and Grapefruit; Florida—Oranges, Grapefruit, Tangelos and Tangerines; Texas—Oranges and Grapefruit  
**Grapes:** United States  
**Macadamia Nuts:** Hawaii  
**Olives:** California  
**Papayas:** United States  
**Peaches:** United States  
**Pears:** United States  
**Pecans:** United States  
**Pineapple:** Hawaii  
**Walnuts (English):** California

### ● ORNAMENTAL CROPS

**Gladiolus:** East of Rocky Mountains  
**Ornamental Bulb Crops (Bulbous Iris, Narcissus, Tulips):** Western Washington  
**Plumous Fern:** Florida  
**Tree Plantings:** Colorado, Montana, Nebraska, North Dakota, South Dakota and Wyoming

## NON-CROP WEED CONTROL

UTILITY, HIGHWAY, PIPELINE, RAILROAD RIGHT OF WAYS  
INDUSTRIAL PLANT SITES—STORAGE AREAS—LUMBERYARDS  
FARM BUILDINGS—IRRIGATION AND DRAINAGE DITCHES

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**SEE FOLDER IN BOTTOM FLAP FOR USE INSTRUCTIONS**

E-03046



**KARMEX**

WETTABLE POWDER

**Product Labeling**

**DIRECTIONS FOR USE**

E. I. DU PONT DE NEMOURS & CO. (INC.)  
BIOCHEMICALS DEPT., WILMINGTON, DEL.  
B 20160 3-75 Made in U.S.A. Printed in U.S.A.

352-247

**ACTIVE INGREDIENT:**

Diuron [3-(3,4-dichlorophenyl)-1,1-dimethylurea] ..... **80%**

**INERT INGREDIENTS** ..... **20%**

EPA Reg. No. 352-247-AA

Keep out of reach of children.

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Thoroughly clean all traces of "Karmex" 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). Do not contaminate water by cleaning of equipment or disposal of wastes. Do not re-use container. When empty, bury bag; crush and bury drum.

**GENERAL INFORMATION**

Du Pont "Karmex" Diuron Weed Killer is a wettable powder to be mixed in water and applied as a spray for selective control of weeds in certain crops and for non-selective weed control on non-cropland areas. It is non-corrosive to equipment, non-flammable and non-volatile.

"Karmex" 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 irrigation) occurs within 2 weeks of application.

"Karmex" 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 Du Pont Surfactant WK to the spray (where recommended) increases contact effects of "Karmex".

Since the effect of "Karmex" 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.

**DIRECTIONS**

"Karmex" Diuron Weed Killer should be used only in accordance with recommendations on this label, or in separate published Du Pont recommendations available through local dealers.

**SELECTIVE USE IN CROPS**

**PREEMERGENCE USE (Germinating Weeds):** "Karmex", at rates of ¾ to 1 lb. per acre, controls annual weeds such as barnyardgrass (watergrass), crabgrass, lambsquarters, pigweed, purslane and ragweed; at rates of 1½ to 2 lbs. per acre, it controls weeds such as Amisnckia (fiddleneck), annual bluegrass, annual groundcherry, annual morningglory, annual sweet vernalgrass, chickweed, corn spurry, dogfennel, foxtail, gromwell, knawel, pennycress, rattail fescue, red sprangletop, shepherdspurse, tansy-mustard, velvetgrass, wild buckwheat, wild lettuce and wild mustard. Rates of 2 to 6 lbs. per acre control weeds such as ageratum, annual lovegrass, annual ryegrass, annual smartweed, annual sowthistle, button-weed, corn speedwell, dayflower, Flora's paintbrush, hawksbeard, horseweed, kochia, kyllinga, marigold, Mexican clover, orchardgrass, peppergrass, pineappleweed, pokeweed, rabbit tobacco, ricegrass, sandbur, seedling Johnsongrass, Spanishneedles, and wild radish.

Partial control of the following weed usually occurs at rates stated: 1 lb. per acre, annual morningglory, cocklebur, prickly sida (teaweed), sesbania and sicklepod; 4 lbs. per acre, quackgrass and horsenettle; 8 to 10 lbs. per acre, guineagrass, maidencane and pangolagrass.

**POSTEMERGENCE USE (Emerged Seedling Weeds):** "Karmex" at recommended rates, controls annual weeds such as annual morningglory, barnyardgrass (watergrass), crabgrass, crowfoot, goosegrass, pigweed and purslane. Addition of Surfactant WK to the spray (where recommended) increases contact effects of "Karmex". Best results are obtained on succulent weeds growing under conditions of high humidity and temperatures of 70°F or higher.

**Established Plantings:** In light sandy soils and other soils low in clay or organic matter, apply 1 to 2 lbs. per acre. On soils high in clay or organic matter, use 2 to 4 lbs. 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 3 lbs. per acre per application. In Washington (irrigated crop), apply only a single treatment of 4 lbs. per acre in late November or December.

**Newly Planted Crowns—California (San Joaquin Delta):** Make a single application of 2 to 4 lbs. 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. Soil 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 1½ to 2 lbs. 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):** Apply 1 to 3 lbs. after planting and before emergence of Bermudagrass or weeds. Alternatively, for control of emerged annual weeds up to 4" in height, apply ½ to 1 lb. per acre; add 1 pt. Surfactant WK 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 seed bed; 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 2 lbs. 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 ¾ lb. per acre in combination with non-pressure nitrogen solution. If nitrogen solution is not used, apply 1 lb. per acre; add 1 pt. Surfactant WK 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 ¾ to 1 lb. per acre as a broadcast or band treatment after planting but before corn emerges. Plant corn at least 1½" 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:** "Karmex", alone or as recommended combinations, may be applied as preplant, pre-emergence, early postemergence, and/or lay-by treatments. However, during a single crop season, do not exceed the following amounts of "Karmex" per acre as injury to subsequent crops may result: 1 lb. on loamy sand; 1½ lbs. on sandy loam; 2 lbs. on clay loam; 2¾ lbs. on clay.

**Preplant—Arizona and California:** Use "Karmex" alone, or apply as a separate operation following preplant broadcast treatment with "Treflan" (incorporated according to directions on "Treflan" label). Apply "Karmex" as a broadcast spray after beds are formed, pre-irrigated, and final seed beds prepared. Prior to planting, drag-off the tops of the beds and plant in moist soil not treated with "Karmex". Treated soil is returned to the bed after planting when irrigation furrows are re-formed 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:

"Karmex" Alone: 1 to 2½ lbs. per acre.

"Karmex" Following "Treflan":

| Soil Texture  | Product Per Acre—Preplant |              |
|---|---------------------------|--------------|
|   | "Treflan"                 | "Karmex"     |
| Sandy loam, loam, silt loam, silt                       | 1 pt.                     | ¾ to 1 lb.   |
| Sandy clay loam, clay loam, silty clay loam, sandy clay | 1½ pt.                    | 1 to 1¼ lbs. |

**Note:** Seedling disease may weaken plants and increase the possibility of injury from the use of "Treflan" followed by "Karmex". These treatments should be used only in conjunction with a standard fungicide seed treatment plus a good supplemental soil fungicide program such as Du Pont DEMOSAN® 65W Chloroneb Fungicide or captan-PCNB mixture.

\*Reg. trademark of Elanco Products Co. "Treflan" contains 4 lbs. trifluralin per gal.

**Preemergence—U.S., except Arizona and California:** Use "Karmex" alone, or apply as a separate operation following preplant treatment with "Treflan". Apply "Karmex" after planting but before cotton emerges. Shallow incorporation (no deeper than ¼") 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 seed bed for subsequent early season postemergence treatments. If moisture is insufficient to activate "Karmex" or if soil becomes crusted before crop emerges, a shallow rotary hoeing (no deeper than ¼") should be made before weeds become established.

**"Karmex" Alone:** Make a single application as a broadcast or band spray, using the following broadcast rates; for band treatment, use proportionately less. Do not treat cotton in deep furrows as crop injury may result.

| Soil Texture  | Lbs. "Karmex" Per Acre |
|---|------------------------|
| Loamy sand  | 2½                     |
| Sandy loam, loam, silt loam, silt                       | 1                      |
| Sandy clay loam, clay loam, silty clay loam, sandy clay | 1¼                     |
| Silty clay, clay  | 2                      |

**"Karmex" Following "Treflan" Preplant:** Apply "Treflan" prior to planting as a broadcast or band treatment, incorporate according to directions on "Treflan" label. As a separate operation, apply "Karmex" 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.

Product Per Acre

**DIRECTIONS**

"Karmex" Diuron Weed Killer should be used only in accordance with recommendations on this label, or in separate published Du Pont recommendations available through local dealers.

**SELECTIVE USE IN CROPS**

**PREEMERGENCE USE (Germinating Weeds):** "Karmex", at rates of 3/4 to 1 lb. per acre, controls annual weeds such as barnyardgrass (watergrass), crabgrass, lambsquarters, pigweed, purslane and ragweed; at rates of 1 1/2 to 2 lbs. per acre, it controls weeds such as Amsinckia (fiddleneck), annual bluegrass, annual groundcherry, annual morningglory, annual sweet vernalgrass, chickweed, corn spurry, dogfennel, foxtail, gromwell, knawel, pennycress, rattail fescue, red sprangletop, shepherdspurse, tansymustard, velvetgrass, wild buckwheat, wild lettuce and wild mustard. Rates of 2 to 6 lbs. per acre control weeds such as ageratum, annual lovegrass, annual ryegrass, annual smartweed, annual sowthistle, buttonweed, corn speedwell, dayflower, Flora's paintbrush, hawksbeard, horseweed, Kochia, kyllinga, marigold, Mexican clover, orchardgrass, peppergrass, pineappleweed, pokeweed, rabbit tobacco, ricegrass, sandbur, seedling Johnsongrass, Spanishneedles, and wild radish.

Partial control of the following weeds usually occurs at rates stated: 1 lb. per acre, annual morningglory, cocklebur, prickly sida (teaweed), sesbania and sicklepod; 4 lbs. per acre, quackgrass and horsenettle; 8 to 10 lbs. per acre, guineagrass, maidencane and pangolagrass.

**POSTEMERGENCE USE (Emerged Seedling Weeds):** "Karmex" at recommended rates, controls annual weeds such as annual morningglory, barnyardgrass (watergrass), crabgrass, crowfoot, goosegrass, pigweed and purslane. Addition of Surfactant WK to the spray (where recommended) increases contact effects of "Karmex". Best results are obtained on succulent weeds growing under conditions of high humidity and temperatures of 70° F or higher.

**EQUIPMENT—SPRAY VOLUMES AND PRESSURES:** Use a tractor-mounted fixed-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 by-pass 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 gals. per acre and spray pressure of 30 to 40 psi. For post-emergence application, use sufficient volume (min. 25 gals. per acre) 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 gals. per acre); 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 "Karmex" into necessary volume of water; where use of Du Pont Surfactant WK is recommended, dilute with 10 parts of water and add as last ingredient to nearly full tank.

**USE RATES:** All dosages of "Karmex" are expressed as broadcast rates; for band treatment, use proportionately less. For example, use 1/2 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 lighter soils (low in clay or organic matter) and the higher rate on heavier 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 alfalfa, apples, artichoke, barley (winter), Bermudagrass pasture, citrus, cotton (preplant and layby), 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, caneberries, gladiolus, gooseberries, Macadamia nuts and peppermint where organic matter is less than 2%.

**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 "Karmex" 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 "Karmex" 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 established alfalfa with unusually shallow root penetration (such as shallow hard pans, in alkali spots) as crop injury may result.

**Idaho, Oregon, Washington:** Use 1 1/2 to 3 lbs. per acre; for control of volunteer alfalfa, use 4 lbs. per acre. Apply in fall after alfalfa becomes dormant but no later than mid-December.

**California (Dormant and Semi-Dormant Varieties):** Use 1 1/2 to 3 lbs. per acre; for control of volunteer alfalfa, use 4 lbs. per acre. Apply in fall after alfalfa becomes dormant (or semi-dormant for such varieties) but no later than January. Treated areas may be replanted to any crop after 1 year of last application if rate does not exceed 2 lbs. per acre.

**Arizona, Nevada:** Use 1 1/2 to 3 lbs. per acre; apply in fall after alfalfa becomes dormant but no later than January.

**Eastern Colorado, Kansas:** For control of tansymustard, apply 1 lb. per acre shortly after emergence of mustard in the fall or winter; use 2 lbs. per acre if weeds are 2" to 4" in height. Alternatively, if other annual weeds are present, apply 2 to 3 lbs. per acre in February or March.

**Other Areas Where Alfalfa Becomes Winter Dormant:** Use 1 1/2 to 3 lbs. per acre (1 1/2 to 2 lbs. per acre East of Appalachian Mountains). Apply in March or early April, but before spring growth begins.

**ARTICHOKE—California:** Apply 2 to 4 lbs. 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.

\*Reg. trademark of Elanco Products Co. "Treflan" contains 4 lbs. trifluralin per gal.

**Preemergence—U.S., except Arizona and California:** Use "Karmex" alone, or apply as a separate operation following preplant treatment with "Treflan". Apply "Karmex" after planting but before cotton emerges. 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 seed bed for subsequent early season postemergence treatments. If moisture is insufficient to activate "Karmex" or if soil becomes crusted before crop emerges, a shallow rotary hoeing (no deeper than 1/4") should be made before weeds become established.

**"Karmex" Alone:** Make a single application as a broadcast or band spray, using the following broadcast rates; for band treatment, use proportionately less. Do not treat cotton in deep furrows as crop injury may result.

| Soil Texture   | Lbs. "Karmex" Per Acre |
|--|------------------------|
| Loamy sand.....  | 3/4                    |
| Sandy loam, loam, silt loam, silt.....                       | 1                      |
| Sandy clay loam, clay loam, silty clay loam, sandy clay..... | 1 1/4                  |
| Silty clay, clay.....  | 2                      |

**"Karmex" Following "Treflan" Preplant:** Apply "Treflan" prior to planting as a broadcast or band treatment; incorporate according to directions on "Treflan" label. As a separate operation, apply "Karmex" 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 "Treflan" | Preemergence "Karmex" |
| Loamy sand.....  | 1/2 pt.            | 1/2 lb.               |
| Sandy loam, loam, silt loam, silt.....   | 1 pt.              | 3/4 lb.               |
| Sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, clay..... | 1 1/2 pt.          | 1 lb.                 |

**Postemergence—U.S.:** 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 (at least 12" tall for Western irrigated cotton), 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. Surfactant WK. Two applications may be made if needed.

| Weed Problem (Up to 2" Tall) | Lbs. "Karmex" Per Acre (Broadcast Basis) |
|------------------------------|--|
| Annual grasses.....          | 1/2                                      |
| Pigweed.....                 | 1/4                                      |

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 2 to 3 1/2 lbs. disodium methylarsenate (DSMA; 63% anhydrous or equivalent) to above spray mixture. If DSMA is used, do not apply after first bloom and do not feed treated foliage to livestock.

**Late Season (Lay-By)—**Apply 1 to 1 1/2 lbs. per acre (1 to 2 lbs. 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. Alternatively, for control of emerged annual weeds (up to 4" in height) at lay-by time, make a single application in combination with Surfactant WK (1 pt. per 25 gals. spray), or use 1/2 to 3/4 lb. "Karmex" (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 "Karmex", alone or following "Treflan". Wherever possible, avoid disturbing original bed. If necessary to rework soil before replanting, use shallow cultivation such as discing; do not re-list nor move soil into the original drill area. Plant seed at least 1" deep. Do not re-treat field with a second preplant or preemergence application during the same crop year as injury to the crop may result.

**Subsequent Crops:**

| "Karmex"—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 "Treflan" is used, follow instructions on "Treflan" 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 2 to 3 lbs. 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 3 lbs. per acre; spread unburned chaff or straw with a harrow or chopper before application.

CONTINUED ON REVERSE SIDE

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