

SEE FOLDER IN BOTTOM FLAP FOR USE INSTRUCTIONS



NOT RECOMMENDED
In Accordance with FR Notice 22-2,
Based on Draft Labeling Dated 11/1/60

KARMEX[®]

HERBICIDE

WETTABLE POWDER

ACTIVE INGREDIENT:

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

INERT INGREDIENTS 20%

EPA Reg. No. 352-247

**KEEP OUT OF REACH OF CHILDREN.
PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS**

CAUTION! MAY IRRITATE EYES, NOSE, THROAT AND SKIN.
Avoid breathing dust or spray mist. Avoid contact with skin, eyes, and clothing.
Wash thoroughly with soap and water after handling.
Do not apply this product in such a manner as to directly or through drift expose workers, or other persons. The area being treated must be vacated by unprotected persons.

STATEMENT OF PRACTICAL TREATMENT

If on skin: Wash with plenty of soap and water; get medical attention if irritation persists.
If in eyes: Flush with plenty of water; get medical attention if irritation persists.

ENVIRONMENTAL HAZARDS

Do not apply directly to water. Do not contaminate water by cleaning of equipment or disposal of wastes. Cover or incorporate spills.

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.

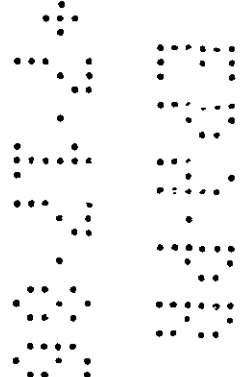
Thoroughly clean all traces of "Karmex" from application equipment immediately after use. Flush tank, pump, hoses, and boom with several changes of water after removing nozzle tips and screens (clean these parts separately).

NET 4 LBS.

E. I. du Pont de Nemours & Co. (Inc.)

Agricultural Chemicals Dept., Wilmington, Del.

SPECIMEN LABEL
ACTUAL SIZE



NOTICE OF WARRANTY

Du Pont warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for the purposes stated on such label only when used in accordance with the directions under normal use conditions. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Du Pont. In no case shall Du Pont be liable for consequential, special or indirect damages resulting from the use or handling of this product. All such risks shall be assumed by the buyer. DU PONT MAKES NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

SELECTIVE USE IN CROPS

Do not use on any crop in Kern County, California, except for non-cropland and citrus weed control.

● FIELD CROPS

<p>Alfalfa: United States</p> <p>Artichoke: California</p> <p>Asparagus: United States</p> <p>Barley, Winter: Western Oregon and Western Washington</p> <p>Bermudagrass Pastures (Newly Sprigged): United States</p> <p>Birdsfoot Trefoil (Lotus): Western Oregon</p> <p>Corn (Field): Postemergence—United States Preemergence—Arkansas, Louisiana, Mississippi and Tennessee</p> <p>Cotton: Preplant—Arizona and California</p>	<p>Preemergence—United States, except Arizona, California, and certain other areas</p> <p>Postemergence—United States</p> <p>Grass Seed Crops (Perennial): Colorado, Kansas, New Mexico, Oklahoma and Oregon</p> <p>Oats: Idaho, Oregon and Washington</p> <p>Peppermint: Pacific Northwest</p> <p>Red Clover: Western Oregon</p> <p>Sorghum (Grain): Southwestern States</p> <p>Sugarcane: Florida, Hawaii, Puerto Rico and Louisiana</p> <p>Wheat, Winter: Idaho, Oregon, Washington and certain other areas</p>
---	---

● FRUIT AND NUT CROPS

<p>Apples: United States</p> <p>Bananas and Plantains: United States</p> <p>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; Georgia—Blueberries</p>	<p>Citrus: Arizona (except Yuma area) and California (except Imperial and Coachella Valleys), Florida, Texas and Puerto Rico</p> <p>Grapes: United States</p> <p>Macadamia Nuts: Hawaii</p> <p>Olives: California</p> <p>Papayas: United States</p> <p>Peaches: United States</p> <p>Pears: United States</p> <p>Pecans: United States</p> <p>Pineapple: Hawaii and Florida</p> <p>Walnuts (English): California</p>
---	--

● ORNAMENTAL CROPS

<p>Ornamental Bulb Crops (Bulbous Iris, Narcissus): Western Washington</p>	<p>Plumous Fern: Florida</p> <p>Tree Plantings: Colorado, Montana, Nebraska, North Dakota, South Dakota and Wyoming</p>
---	---

NON-CROP WEED CONTROL

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

STORAGE AND DISPOSAL

STORAGE: Store product in original container only, away from other pesticides, fertilizer, food, or feed.

DISPOSAL: Do not contaminate water, food, or feed by storage or disposal. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.



KARMEX
HERBICIDE

WETTABLE POWDER

© 1986 E. I. DU PONT DE NEMOURS & CO. (INC.)
AGRICULTURAL PRODUCTS DEPT. WILM., DE
AG 1182 8046 4/22/86 Made in U.S.A.
Printed in U.S.A.

Product Labeling

DIRECTIONS FOR USE

BEST AVAILABLE COPY

ACTIVE INGREDIENT:
Diuron [3-(3,4-dichlorophenyl)-1,1-dimethylurea] 20%
INERT INGREDIENTS 20%
EPA Reg. No. 352-247

KEEP OUT OF REACH OF CHILDREN
PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS

CAUTION! MAY IRRITATE EYES, NOSE, THROAT AND SKIN.
Avoid breathing dust or spray mist. Avoid contact with skin, eyes and clothing. Wash thoroughly with soap and water after handling.
Do not apply this product in such a manner as to directly or through drift expose workers or other persons. The area being treated must be vacated by unprotected persons.

STATEMENT OF PRACTICAL TREATMENT
If on skin: Wash with plenty of soap and water; get medical attention if irritation persists.
If in eyes: Flush with plenty of water; get medical attention if irritation persists.
For medical emergencies involving this product, call toll free 1-800-441-3637.

ENVIRONMENTAL HAZARDS
Do not apply directly to water. Do not contaminate water by cleaning of equipment or disposal of wastes. Cover or incorporate spills.

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).

GENERAL INFORMATION

Du Pont "Karmex" Herbicide is a wettable powder to be mixed in water and applied as a spray for selective control of weeds in certain crops and for nonselective weed control on non-cropland areas. It is non-corrosive to equipment, nonflammable and nonvolatile.

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

REPLANTING: Unless otherwise directed, do not replant last application as injury to subsequent crops may result.

● FIELD CROPS (See Soil Limitations)

A good seedbed must be prepared before preemergence application is made to ground which is cloddy or compacted to the depth specified. Unless otherwise directed, surface of the application of "Karmex" and before emergence of the crop may result. However, if moisture is insufficient to activate (preferred) should be made after emergence of crops with mechanical means.

● **ALFALFA:** Treat only stands established for 1 year or more grass mixtures; do not apply to alfalfa under stress from depth specified. Unless otherwise directed, surface of the application of "Karmex" and before emergence of the crop may result. However, if moisture is insufficient to activate (preferred) should be made after emergence of crops with mechanical means.

Idaho, Oregon, Washington: Use 1 1/2 to 3 lbs. per acre. Apply in fall after alfalfa becomes dormant but no later than snow covered or frozen ground.

California (Dormant and Semi-Dormant Varieties): Use 1 1/2 to 4 lbs. per acre. Apply in fall or winter after alfalfa growth begins in the spring. Crop injury may result if applied before weeds have emerged or before weeds are present. For best results, apply before weeds have emerged or before weeds are present. For best results, apply before weeds have emerged or before weeds are present. For best results, apply before weeds have emerged or before weeds are present.

Arizona, Nevada: Use 1 1/2 to 3 lbs. per acre. Apply in fall or January.

Eastern Colorado, Kansas: For control of tansymustard, apply in the fall or winter; use 2 lbs. per acre if weeds are present, apply 2 to 3 lbs. per acre in February.

Other Areas Where Alfalfa Becomes Winter Dormant: Use 1 1/2 to 3 lbs. per acre. Apply in March or early April in the Appalachian Mountains.

● **ARTICHOKE**—California: Apply 2 to 4 lbs. per acre in the fall or winter. Apply before weeds germinate or to emerging seedlings at the base of artichoke plants, keeping contact with the soil.

● **ASPARAGUS:** Apply as a band or broadcast treatment in the growing season (except as noted below), nor to newly set plants as severe injury may result. Preemergence weed control (greater than 5%).

Established Plantings: On light sandy soils and other soils low in clay or organic matter, use 2 to 4 lbs. per acre. On soils high in clay or organic matter, use 2 to 4 lbs. per acre. Application should be made before weeds become established and no later than the early cutting period (except in special cultural practices, application may be delayed until immediate pre-harvest). Application may be made immediately following completion of applications are used in one season, do not exceed 4 lbs. per acre (irrigated crop), apply a single treatment of 4 lbs. per acre in early spring, incorporation of the chemical in the soil by rain to activate the herbicide.

Newly Planted Crowns—California (San Joaquin Delta): On soils high in clay or organic matter, use the lower rate on soils containing less than 2% organic matter. See treatment. Do not treat crowns planted to a depth of 2" or more.

● **BARLEY, WINTER (Drill-Planted)**—Western Oregon and Washington: Use 1 1/2 to 2 lbs. per acre as soon as possible after planting. Treat areas to any crop within 1 year after last application.

● **BERMUDAGRASS PASTURES (Newly Sprigged)**—Apply 1 1/2 to 2 lbs. per acre. Alternatively, for control of bermudagrass or weeds. Alternatively, for control of bermudagrass or weeds. Alternatively, for control of bermudagrass or weeds. Alternatively, for control of bermudagrass or weeds.

Plant sprigs (stones) 2" deep in a well-prepared seedbed to a depth of 2" deep as soon as possible after planting.

quired to activate the chemical; best results occur if rainfall (or sprinkler irrigation) occurs within 2 weeks of application.

"Karmex" 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, "Karmex" 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.

"Karmex" may also be used to control emerged weeds. Results vary with rate applied and environmental conditions; best results are obtained on susceptible weeds growing under conditions of high humidity and temperatures of 70°F or higher. Addition of a surfactant such as DuPont Surfactant WK to the spray (where recommended) increases contact effects of "Karmex."

"Karmex" may be used as a directed postemergence application, where spray nozzels are adjusted so that weeds are sprayed but the crop is not, on the following crops: artichoke, corn (field), cotton, sorghum (grain), sugarcane, and established plantings of apples, bananas, plantains, blueberries, caneberrries, roseberries, citrus, grapes, macadamia nuts, olives, papayas, peaches, pears, pecans, walnuts and ornamental tree plantings.

Under specified conditions (see Directions for Use), "Karmex" 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 "Karmex" and they may be more difficult to control when under stress. Combinations of "Karmex" with other herbicides (as registered) increase the number of weed species controlled; consult labels of the companion product for this and other information.

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.

NOTICE OF WARRANTY

Du Pont 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 the directions under normal use conditions. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Du Pont. In no case shall Du Pont be liable for consequential, special or indirect damages resulting from the use or handling of this product. All such risks shall be assumed by the Buyer. DU PONT MAKES NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling. Du Pont "Karmex" Herbicide should be used only in accordance with recommendations on this label, or in separate published Du Pont recommendations available through local dealers.

Du Pont will not be responsible for losses or damages resulting from use of this product in any manner not specifically recommended by Du Pont. User assumes all risk associated with such non-recommended use.

Farm workers performing hand labor operations should not enter treated cropland areas without protective clothing until sprays have dried. Because certain states may require more restrictive reentry intervals for various crops treated with this product, consult your State Department of Agriculture for further information.

Written or oral warnings must be given to farm workers performing hand operations who are expected to be in a treated cropland area or in a cropland area about to be treated with this product. When oral warnings are given, warnings shall be given in a language customarily understood by workers. Oral warnings must be given if there is reason to believe that written warnings cannot be understood by workers. Warnings must include the following information: "CAUTION. Area treated with "Karmex" on (date of application). Do not enter without appropriate protective clothing until sprays have dried. In case of contact, wash skin with plenty of soap and water; flush eyes with plenty of water. Get medical attention if irritation to skin or eyes persist."

Do not use in Kern County, California, except for non-cropland and citrus weed control.

SELECTIVE USE IN CROPS

PREEMERGENCE USE (Germinating Weeds): "Karmex", at recommended rates, controls annual weeds such as:

Broadleaves			Grasses		
¼ to 1 Lb./Acre	1½ to 2 Lbs./Acre	2 to 6 Lbs./Acre	¼ to 1 Lb./Acre	1½ to 2 Lbs./Acre	2 to 6 Lbs./Acre
ambquaters	Annual groundcherry	Agrostium	Barnyardgrass	Annual bluegrass	Annual bluegrass

● **BIRDSFOOT TREFOIL (Lotus)—Western Oregon:** Treat only stands established for at least 2 years. 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 1 to 1½ 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:** 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. Injury may occur if "Karmex" is used in conjunction with soil-applied organic phosphate pesticides. Do not allow livestock to graze treated cotton.

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, preirrigated, and final seedbeds 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 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:

"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.	2½ to 1 lb.
Sandy clay loam, clay loam, silty clay loam, sandy clay, clay	1½ pts.	1 to 1½ 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 captan-PCNB mixture.

*Reg. trademark of Elanco Products Co.

Preemergence—U.S., except Arizona, California, and areas west of Interstate 35 or 35W in Texas and Oklahoma: Use "Karmex" alone or apply as a separate operation following preplant treatment with "Treflan". Apply "Karmex" 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 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 seedbed 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.

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	1½
Silty clay, clay	2

**Do not use on soils with less than 1% organic matter as crop injury may result.

"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 pt.	2½ to 1 lb.
Sandy clay loam, clay loam, silty clay loam, sandy clay, clay	1½ pts.	1 to 1½ lbs.

BEST AVAILABLE COPY

protective clothing until sprays have dried. Because certain states may require more restrictive reentry intervals for various crops treated with this product, consult your State Department of Agriculture for further information.

Written or oral warnings must be given to farm workers performing hand operations who are expected to be in a treated cropland area or in a cropland area about to be treated with this product. When oral warnings are given, warnings shall be given in a language customarily understood by workers. Oral warnings must be given if there is reason to believe that written warnings cannot be understood by workers. Warnings must include the following information: "CAUTION. Area treated with "Karmex" on (date of application). Do not enter without appropriate protective clothing until sprays have dried. In case of contact, wash skin with plenty of soap and water, flush eyes with plenty of water. Get medical attention if irritation to skin or eyes pers. st."

Do not use in Kern County, California, except for non-cropland and citrus weed control

SELECTIVE USE IN CROPS

REEMERGENCE USE (Germinating Weeds): "Karmex", at recommended rates, controls annual weeds such as:

Broadleaves			Grasses		
to 1 Lb./Acre	1 1/2 to 2 Lbs./Acre	2 to 6 Lbs./Acre	1/2 to 1 Lb./Acre	1 1/2 to 2 Lbs./Acre	2 to 6 Lbs./Acre
mbsquarters	Annual groundcherry	Ageratum	Barnyardgrass	Annual bluegrass	Annual lovegrass
weed	Annual morningglory	Annual smartweed	(watergrass)	Annual sweet	Annual ryegrass
slane	Chickweed	Annual sowthistle	Crabgrass	vernalgrass	Kyllinga
weed	Corn spurry	Corn speedwell		Foxtail	Orchardgrass
	Dogfennel	Dayflower		Rattail fescue	Peppergrass
	Fiddleneck	Floa's paintbrush		Red sprangleop	Ricegrass
	(amsinckia)	Hawksbeard		Velvetgrass	Sandbur
	Gromwell	Horseweed			Seedling Johnson-grass
	Knawel	Kochia			
	Pennycress	Marigold			
	Shepherdspurse	Mexican clover			
	Tansy-mustard	Pineappleweed			
	Wild buckwheat	Pokeweed			
	Wild lettuce	Rabbit tobacco			
	Wild mustard	Spanishneedles			
		Velvetleaf			
		(buttonweed)			
		Wild radish			

BEST AVAILABLE COPY

tial control of the following weeds usually occurs at rates stated

Broadleaves		Grasses	
b./Acre	4 Lbs./Acre	4 Lbs./Acre	8 to 10 Lbs./Acre
ual morningglory	Horseneettle	Quackgrass	Guineagrass
klebur			Maidencane
ckly sida (teaweed)			Pangolagrass
bania			
klepod			

POSTEMERGENCE USE (Emerged Seedling Weeds): "Karmex" at recommended rates, controls annual weeds such as annual morningglory, barnyardgrass (watergrass), crabgrass, crowfoot, goosegrass, weed 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 midday and temperatures of 70°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 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 reemergence application, use sufficient volume (min. 25 gals. per acre) for thorough coverage of weed target; use spray pressure of 20 to 25 psi to keep spray drift to a minimum.

APPLICATOR: For alfalfa, asparagus, barley (winter), cotton (preplant or preemergence only), grass seed crops, ryeapple, 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 seed is bedded, make application parallel to rows.

MIXTURE PREPARATION: Mix proper amount of "Karmex" into necessary volume of water; where use of Surfactant WK is recommended, dilute with 10 parts of water and add as last ingredient to nearly full tank.

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

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

**Do not use on soils with less than 1% organic matter as crop injury may result

"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.	2 1/2 lb.
Sandy loam, loam, silt loam, silt	1 pt.	1 lb.
Sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, clay	1 1/2 pts.	1 1/4 to 2 lbs.

**Do not use on soils with less than 1% organic matter as crop injury may result

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 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

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.

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 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:

"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 sorghum; (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)

Wild radish

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

Broadleaves		Grasses	
1 Lbs./Acre	4 Lbs./Acre	4 Lbs./Acre	8 to 10 Lbs./Acre
Annual morningglory	Horsenettle	Quackgrass	Guineagrass
Cocklebur			Maidencane
Prickly sida (teaweed)			Pangolagrass
Sesbania			
Sicklepod			

POSTEMERGENCE USE (Emerging 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 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 postemergence 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 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.

.....

(Up to 4" tall)

(Up to 10" tall)

Annual grasses	1/2
Pigweed	1/4

For control of seedling perennial grasses such as johnsongrass and partial control of nutsedge or wild 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.

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 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 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 repeat later if needed.

Replanting: If initial seeding fails to produce a stand, cotton may be replanted in soil treated preplant 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 resist move soil into the original drill area. Plant seed at least 1" deep. Do not retreat field with a second prep 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 sorgho 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 crop may result.

For subsequent crops in fields where "Treflan" is used, follow instructions on "Treflan" label.

Continued on reverse

BEST AVAILABLE COPY

Continued from front side

- **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.

Western Oregon: On alta fescue, Astoria bentgrass, Highland bentgrass, Kentucky bluegrass (Merion bluegrass) and orchardgrass, apply 2 to 4 lbs. per acre between October 1 and November 15. In fields where ash residues have accumulated from burning straw, use 3 to 4 lbs. per acre; spread unburned chaff or straw with a harrow or chopper before application. If perennial velvetgrass (*Holcus lanatus*) is a problem, use 4 lbs. 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 2 lbs. per acre

Oregon: For use in newly planted bentgrass, Cheeping fescue, Kentucky bluegrass, perennial ryegrass, orchardgrass and tall fescue. During planting operation, spray Aqua Nu-Char† or Gro Safe†† 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 "Karmex" as a single broadcast spray at rate of 2 1/2 to 3 lbs. 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.

† Reg. trademark of Westaco Corp.
 †† Reg. trademark of ICI United States Inc.

- **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 to 1 1/2 lbs. 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 1 1/2 to 2 lbs. per acre as soon as possible after planting but before emergence of the crop

- **PEPPERMINT—Pacific Northwest:** Apply 3 lbs. 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 two pounds per acre on established red clover stands (at least 9 months). Apply "Karmex" 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 1/4 to 1/2 lb. per acre, add 1 pt. Surfactant WK 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 rate on broad-leaved 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 1/2 lb. 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 "Karmex" 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 2 to 4 lbs. 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 2 lbs. per acre as needed by directed spray inter row. Alternatively, for panicle control, make up to 3 applications of 1/2 to 1 lb. per acre as a directed spray after cane has emerged but before panicle exceeds 2" in height, add 1 qt. Surfactant WK 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

be timed to activate the herbicide. Established perennial weeds require other special control procedure; 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 4 lb. acre shortly after grove has been laid-up in final form (nontillage program) in late fall or early Alternately, apply 2 lbs. per acre in October or November and repeat at the same rate in March or Subsequent annual applications of 2 to 3 lbs. per acre will usually give adequate weed control.

Florida and Puerto Rico: Make a single application of 4 to 8 lbs. per acre, or apply 3 to 4 lbs. per acre followed by the same rate 4 to 6 months later. On bearing citrus, apply any time when seasonal rain is expected; on nonbearing trees, apply when winter banks are pulled down

For control of guineagrass, loosestrife, maidencane, paragrass, primrose willow and seamyrtle in adjacent to citrus groves, use 1 lb. per 1000 sq ft (40 lbs. per acre) in sufficient water (min. 4 gals. per sq ft.) to provide thorough and uniform coverage. Apply in the spring before weed growth starts; removal of vegetation. Repeat treatment on a spot basis to control hard to kill species such as guine In bedded groves, do not treat water furrows between the beds as injury to the trees may result.

Texas: Apply 2 to 4 lbs. per acre for annual weeds; use 4 to 6 lbs. per acre for control of johnst 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. On soils low in clay or organic matter (1 to 2%), severe plant injury may result if heavy rainfall (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 2 to 3 lbs. per acre on soils high in clay or organic matter, apply 3 to 6 lbs. 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 lbs. per acre; subsequent annual applications of 2 lbs. 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 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 12 lbs. per acre. Bar should not exceed 30". Do not apply more than once every 4 years. Use only on heavy soils such as silt loams, clay loams. Do not use in areas where grape roots are shallow or exposed because of high rock, poor drainage, or erosion as injury to grapes may result

- **MACADAMIA NUTS—Hawaii:** Use only under trees established in the orchard for at least 1 year. Apply 2 to 6 lbs. per acre immediately after harvest, preferably before weeds emerge, if weeds have emerged, add 1 pt. Surfactant WK per 25 gals. of spray. Retreat as needed but do not exceed 10 lbs. per acre per year.

- **OLIVES—California:** Use only under trees established in the grove for at least 1 year. Apply 2 lbs. per acre after grove has been laid-up in final form in late October or November, repeat at same rate in March. Remove weed growth prior to treatment.

- **PAPAYAS:** Use only under trees established in the orchard for at least 1 year. Apply 2 1/2 to 5 lbs. per acre, preferably before weeds emerge; if weeds have emerged, add 1 pt. Surfactant WK per 25 gals. of spray.

- **PEACHES—**Use "Karmex" alone, or apply as a tank mixture with "Sinbar"

"Karmex" Alone—Use only under trees established in the orchard for at least 3 years. Apply 2 to 5 lbs. 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

"Karmex" + "Sinbar"—Use only under trees established in the orchard for at least 2 years. Apply in the spring or after harvest in the fall before weeds emerge or during early seedling stage of weed growth

Soil Texture	Lbs. Product Per Acre	
	1 to 2% Organic Matter "Karmex" + "Sinbar"	More Than 2% Organic Matter "Karmex" + "Sinbar"
Sandy loam	1 + 1	1 1/2 + 1 1/2
Loam, silt loam, silt	1 1/2 + 1 1/2	2 + 2
Clay loam, clay	2 + 2	2 + 2

Where crop is grown under furrow irrigation or under raised berm flood irrigation (trees 4" to 6" tall), apply only as a band treatment. Do not treat trees planted in the bottom of irrigation

Do not apply more than 6 lbs. total per acre between planting (or ratooning) and harvest. **Hawaii and Puerto Rico:** Apply 4 to 8 lbs. 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 2 to 4 lbs. per acre may be made as a broadcast spray over emerged cane or by directed spray inter-row.

If weeds are emerged, add a surfactant (such as Surfactant WK, "Osamul" 95 or "Sterox" SK) to the spray at the rate of 1 to 2 qts. per 100 gals. and apply as a directed spray. **DO NOT SPRAY OVER TOP OF CANE.**

Do not apply more than 3 treatments nor more than 10 lbs. (Puerto Rico) or 12 lbs. (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 fallowed ground. Make a single application of 3 to 3½ lbs. 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 weeds 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 "Karmex" 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 or loamy 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 climatic 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; do not use with surfactants, or nitrogen solution. 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 to 1½ lbs. 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 ½ to 1 lb. "Karmex" plus ¼ 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 16 Inches: After wheat is planted in the fall, make a single application of 1 to 1½ lbs. per acre when sufficient moisture is available to germinate wheat seed. Apply before soil freezes and before weeds are 2" tall. Application later than March 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 discing 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 1½ to 2 lbs. 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 "Karmex" 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 to 2 lbs. 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 1½-2 lbs. per acre on clay, clay loam, and silty clay loam soils.

Northeast: Use 1 to 1½ lbs. per acre.

• FRUIT AND NUT CROPS

(See Soil Limitations)

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

APPLES: Use "Karmex" alone, or apply as a tank mixture with DuPont "Sinbar" Herbicide.

"Karmex" 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 4 lbs. per acre in the spring (March through May). In the Far West, treatment may be made in winter (December through February), or apply 2 lbs. per acre as a postharvest treatment followed by 2 lbs. in the spring.

"Karmex" + "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 early seedling stage of weed growth.

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 2 to 3 lbs. per acre in the spring. Repeat application in the fall but do not exceed 5 lbs. per acre per year. Add DuPont Surfactant WK (at 1 pint) to 25 gals. spray mixture to improve control of small, emerged weeds.

Where crop is grown under furrow irrigation or under raised-bank flood irrigation (trees 4" to 6" ab waterline), apply only as a band treatment. Do not treat trees planted in the bottom of irrigation furrow 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 full dwarf root stocks. Apply 4 lbs. per acre in the spring (March through May). In the Far West, treatment may be made in winter (December through February), or apply 2 lbs. per acre as a postharvest treatment followed by 2 lbs. in the spring.

• **PECANS:** Use "Karmex" 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	Lbs. Product Per Acre		
	"Karmex" Alone*	-OR-	Tank Mixture "Karmex" + "Sinbar"***
Sandy loam	2		1½ + 1½
Loam, silt loam, silt	3		1¾ + 1¾
Clay loam, clay	4		2 + 2

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

**Use on trees established in the grove for at least 1 yr. 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, lacking in vigor or on trees planted in irrigation furrows as injury to the trees may result.

• **PINEAPPLE—Hawaii and Florida:** Apply 4 to 8 lbs. per acre as a broadcast spray just before immediately after planting but prior to weed emergence. Use 4 lbs. 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 the rate of 2 lbs. per acre at intervals of not less than 2 months. Additional application to plant crop may be made as needed to interspace only using 2 lbs. per acre. Do not apply more than 3 broadcast sprays (maximum 12 lbs. per acre) prior to differentiation. More than 16 lbs. total per acre per plant crop. 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 3 to 5 lbs. per acre after the orchard has been laid up in final fall (nontillage program) in late fall or early winter, retreat annually with 2 to 3 lbs. per acre. Alternatively, apply 2 lbs. per acre in October or November and repeat at same rate in March or April.

BEST AVAILABLE COPY

• ORNAMENTAL CROPS

(See Soil Limitations)

• **ORNAMENTAL BULB CROPS (Bulbous Iris, Narcissus)—Western Washington:** Make a single application of 4 lbs. per acre. Apply after planting but no later than 4 weeks prior to bulb emergence (15 to 20 days 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 3 lbs. per acre within 3 to 5 days. Do not cultivate or disturb soil after application as crop injury may result. Treat established stands at least 1 year old.

• **TREE PLANTINGS—Colorado, Montana, Nebraska, North Dakota, South Dakota, Wyoming:** Use under established plantings (1 year or older) of American elm, caragana, cottonwood, Douglas fir, green ash, honeysuckle, Ponderosa pine, redcedar, Russian olive and Siberian elm. Use 2½ to 5 lbs. per acre as a band 4 ft. wide in the tree row (2 ft. on each side of row). For example, 1 oz. "Karmex" (4 tablespoonfuls) treats 135 ft. of tree row (2 ft. on each side of row) at the rate of 5 lbs. per acre. Apply 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.

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 to 2 lbs. 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 1½-2 lbs. per acre on clay, clay loam, and silty clay loam soils.

Northeast: Use 1 to 1½ lbs. per acre.

● FRUIT AND NUT CROPS

(See Soil Limitations)

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

APPLES: Use "Karmex" alone, or apply as a tank mixture with DuPont "Sinbar" Herbicide "Karmex" 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 2 lbs. per acre in the spring (March through May). In the Far West, treatment may be made in winter (December through February), or apply 2 lbs. per acre as a postharvest treatment followed by 2 lbs. in the spring.

"Karmex" + "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 early seedling stage of weed growth.

Soil Texture	Lbs. Product Per Acre			
	1 to 2% Organic Matter "Karmex" + "Sinbar"		More Than 2% Organic Matter "Karmex" + "Sinbar"	
Sandy loam	1	+ 1	1½	+ 1½
Loam, silt loam, silt	1½	+ 1½	2	+ 2
Clay loam, clay	2	+ 2	2	+ 2

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, or 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 2 to 3 lbs. per acre in the spring. Repeat application in the fall but do not use more than 4 lbs. per acre per year. Add DuPont Surfactant WK 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 1½ to 3 lbs. 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, bird seed grass and guineagrass, apply 3 to 6 lbs. per acre plus 1 pt. Surfactant WK (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, mix 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 12 lbs. 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 1½ to 2 lbs. per acre in the spring and repeat treatment after harvest in the fall. Add DuPont Surfactant WK at 1 pint per 25 gals. spray mixture to improve control of small, emerged weeds.

Indiana, Michigan and Ohio—Blueberries: Apply 2 to 4 lbs. per acre in late spring; alternatively, apply 2 lbs. per acre in the fall and repeat at same rate in the spring. **Raspberries:** Apply 3 lbs. per acre in the spring.

Massachusetts—Blueberries: Apply 2 lbs. per acre in late spring.

New Jersey—Blueberries: For control of winter annuals, apply 2 lbs. per acre in October, November or December, or a single application of 2½ lbs. per acre may be applied in early to mid spring.

California—Raspberries, Blackberries, Boysenberries, Dewberries and Loganberries: For control of winter annuals, apply 2 lbs. per acre in October or November; repeat at same rate in late spring to control summer annuals. A single application of 3 lbs. 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.

(no-tillage program) in late fall or early winter; retreat annually with 2 to 3 lbs. per acre. Alternatively, apply 2 lbs. 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 4 lbs. 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 3 lbs. 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 PLANTING—Colorado, Montana, Nebraska, North Dakota, South Dakota, Wyoming:** Use only on established plantings (1 year or older) of American elm, caragana, cottonwood, Douglas fir, green ash, honeysuckle, Ponderosa pine, redcedar, Russian olive and Siberian elm. Use 2½ to 5 lbs. per acre, apply as a band 4 ft. wide in the tree row (2 ft. on each side of row). For example, 1 oz. "Karmex" (4 level tablespoonfuls) treats 135 ft. of tree row (2 ft. on each side of row) at the rate of 5 lbs. per acre. Apply 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

"Karmex" 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 vary with the amount of chemical applied, soil texture, rainfall and other conditions.

"Karmex" may be used as a preemergence treatment at any time 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 actively on established weeds may be obtained by the addition of Du Pont Surfactant WK 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°F.

Except for small areas, use a fixed boom power sprayer properly calibrated to insure a constant rate of application. Mix proper amount of "Karmex" into volume of water necessary to obtain uniform coverage. Surfactant WK 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 pass or return line is used, it should terminate at bottom of tank to minimize foaming. Openings in screen 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 5 to 20 lbs. per acre to control most annual weeds. 20 to 60 lbs. 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. "Karmex" may not provide satisfactory control of deep-rooted perennial weeds.

For weed control on small areas, use one-half cupful of "Karmex" per 100 sq. ft. for a dosage of approximately 50 lbs. per acre.

Irrigation and Drainage Ditches: Apply 5 to 20 lbs. per acre to control most annual weeds, use 20 to 60 lbs. 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 "Karmex" with irrigation water (to avoid possible crop injury), it is essential that the herbicide be firm in the soil by moisture. Apply before expected seasonal rainfall (if possible when soil in the ditch is 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 in which roots of trees or other desirable plants may extend as injury may result.

STORAGE AND DISPOSAL

STORAGE: Store product in original container only, away from other pesticides, fertilizer, food, or feed.

DISPOSAL: Do not contaminate water, food, or feed by storage or disposal. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not discharge into any waterway. For disposal of empty containers, see label instructions.

Soil Texture	1 to 2% Organic matter "Karmex" + "Sinbar"		more than 2% Organic matter "Karmex" + "Sinbar"	
	1	+ 1	1½	+ 1½
Sandy loam	1	+ 1	1½	+ 1½
Loam, silt loam, silt	1½	+ 1½	2	+ 2
Clay loam, clay	2	+ 2	2	+ 2

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 2 to 3 lbs. per acre in the spring. Repeat application in the fall but do not use more than 4 lbs. per acre per year. Add DuPont Surfactant WK 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 1½ to 3 lbs. 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, bird seed grass and guineagrass, apply 3 to 6 lbs. per acre plus 1 pt. Surfactant WK (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 12 lbs. 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 1½ to 2 lbs. per acre in the spring and repeat treatment after harvest in the fall. Add DuPont Surfactant WK at 1 pint per 25 gals. spray mixture to improve control of small, emerged weeds.

Indiana, Michigan and Ohio—Blueberries: Apply 2 to 4 lbs. per acre in late spring; alternatively, apply 2 lbs. per acre in the fall and repeat at same rate in the spring. **Raspberries:** Apply 3 lbs. per acre in the spring.

Massachusetts—Blueberries: Apply 2 lbs. per acre in late spring.

New Jersey—Blueberries: For control of winter annuals, apply 2 lbs. per acre in October, November or December, or a single application of 2½ lbs. per acre may be applied in early to mid spring.

California—Raspberries, Blackberries, Boysenberries, Dewberries and Loganberries: For control of winter annuals, apply 2 lbs. per acre in October or November; repeat at same rate in late spring to control summer annuals. A single application of 3 lbs. 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.

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

"Karmex" 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.

"Karmex" may be used as a preemergence treatment at any time 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 Du Pont Surfactant WK 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 F.

Except for small areas, use a fixed boom power sprayer properly calibrated to insure a constant rate of application. Mix proper amount of "Karmex" into volume of water necessary to obtain uniform coverage, if Surfactant WK 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 5 to 20 lbs. per acre to control most annual weeds. Use 20 to 60 lbs. 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, "Karmex" may not provide satisfactory control of deep rooted perennial weeds.

For weed control on small areas, use one half cupful of "Karmex" per 100 sq. ft. for a dosage of approximately 50 lbs. per acre.

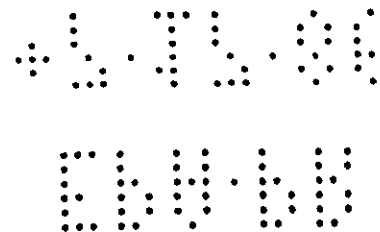
Irrigation and Drainage Ditches: Apply 5 to 20 lbs. per acre to control most annual weeds, use 20 to 60 lbs. per acre to control both annual and perennial weeds. Apply only when water is not in the ditch. For irrigation ditches, apply during the non crop season, and when ditch is not in use. To minimize movement of "Karmex" 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.

STORAGE AND DISPOSAL

STORAGE: Store product in original container only, away from other pesticides, fertilizer, food, or feed.

DISPOSAL: Do not contaminate water, food, or feed by storage or disposal. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.



BEST AVAILABLE COPY

HERBICIDE**WETTABLE POWDER**

©1986 E. I. DU PONT DE NEMOURS & CO. (INC.)
 AGRICULTURAL PRODUCTS DEPT., WILM., DE
 AG 242 0984/8016 2/11/85 Made in U.S.A.
 Printed in U.S.A.

ACTIVE INGREDIENT:

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

INERT INGREDIENTS 20%

EPA Reg. No. 352-247

**KEEP OUT OF REACH OF CHILDREN
 PRECAUTIONARY STATEMENTS
 HAZARDS TO HUMANS**

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

Avoid breathing dust or spray mist. Avoid contact with skin, eyes and clothing. Wash thoroughly with soap and water after handling.
 Do not apply this product in such a manner as to directly or through drift expose workers or other persons. The area being treated must be vacated by unprotected persons.

STATEMENT OF PRACTICAL TREATMENT

If on skin: Wash with plenty of soap and water; get medical attention if irritation persists.
 If in eyes: Flush with plenty of water; get medical attention if irritation persists.
 For medical emergencies involving this product, call toll free 1-800-441-3637.

ENVIRONMENTAL HAZARDS

Do not apply directly to water. Do not contaminate water by cleaning of equipment or disposal of wastes. Cover or incorporate spills.

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).

GENERAL INFORMATION

DuPont "Karmex" Herbicide is a wettable powder to be mixed in water and applied as a spray for selective control of weeds in certain crops and for nonselective weed control on non-cropland areas. It is non-corrosive to equipment, nonflammable and nonvolatile.

"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 sprinkler irrigation) occurs within 2 weeks of application.

"Karmex" 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 "Karmex" 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.

"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 DuPont Surfactant Wk to the spray (where recommended) increases contact effects of "Karmex".

"Karmex" may be used as a directed postemergence application, where spray nozzels are adjusted so that weeds are sprayed but the crop is not, 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.

Under specified conditions (see Directions for Use), "Karmex" 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 "Karmex" and they may be more difficult to control when under stress. Combinations of "Karmex" with other herbicides (as registered) increase the number of weed species controlled; consult labels of the companion product for this and other information.

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.

NOTICE OF WARRANTY

Du Pont 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 the directions under normal use conditions. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Du Pont. In no case shall Du Pont be liable for consequential, special or indirect damages resulting from the use or handling of this product. All such risks shall be assumed by the Buyer. DU PONT MAKES NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

DIRECTIONS FOR USE

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

Du Pont "Karmex" Herbicide should be used only in accordance with recommendations on this label, or in separate published DuPont recommendations available through local dealers

Du Pont will not be responsible for losses or damages resulting from use of this product in any manner not specifically recommended by Du Pont. User assumes all risk associated with such non-recommended use.

Farm workers performing hand labor operations should not enter treated cropland areas without protective clothing until sprays have dried. Because certain states may require more restrictive reentry intervals for various crops treated with this product, consult your State Department of Agriculture for further information.

Written or oral warnings must be given to farm workers performing hand operations who are expected to be in a treated cropland area or in a cropland area about to be treated with this product. When oral warnings are given, warnings shall be given in a language customarily understood by workers. Oral warnings must be given if there is reason to believe that written warnings cannot be understood by workers. Warnings must include the following information: "CAUTION. Area treated with "Karmex" on (date of application). Do not enter without appropriate protective clothing until sprays have dried. In case of contact, wash skin with plenty of soap and water; flush eyes with plenty of water. Get medical attention if irritation to skin or eyes persist."

*Approved
12/24/11*

Do not use in Kern County, California, except for non-cropland and citrus weed control.

SELECTIVE USE IN CROPS

PREEMERGENCE USE (Germinating Weeds): "Karmex", at recommended rates, controls annual weeds such as:

Broadleaves			Grasses		
1/2 to 1 Lb./Acre	1 1/2 to 2 Lbs./Acre	2 to 6 Lbs./Acre	1/2 to 1 Lb./Acre	1 1/2 to 2 Lbs./Acre	2 to 6 Lbs./Acre
Lambquarters	Annual groundcherry	Ageratum	Barnyardgrass	Annual bluegrass	Annual lovegrass
Pigweed	Annual morningglory	Annual smartweed	(watergrass)	Annual sweet	Annual ryegrass
Purslane	Chickweed	Annual sunthistle	Crabgrass	vernalgrass	Kyllinga
Ragweed	Corn spurry	Corn speedwell		Foral	Orchardgrass
	Dogfennel	Dayflower		Artichoke	Pepperglass
	Fiddleneck	Flora's paintbrush		Red sprangletop	Ricegrass
	(suaeda)	Hawkbeard		Velvetgrass	Sandbar
	Gromwell	Horseweed			Seeding johnson
	Knawel	Kochia			grass
	Pennycress	Margold			
	Shepherdspurse	Mexican clover			
	Tansy-mustard	Pineappleweed			
	Wild buckwheat	Poleweed			
	Wild lettuce	Rabbit tobacco			
	Wild mustard	Spanishneedles			
		Velvetleaf			
		(buttonweed)			
		Wild radish			

Partial control of the following weeds usually occurs at rates stated

Broadleaves		Grasses	
1 Lb./Acre	4 Lbs./Acre	4 Lbs./Acre	8 to 16 Lb./Acre
Annual morningglory	Horse-nettle	Quackgrass	Guinea grass
Cocklebur			Maidencane
Prickly sida (beeweed)			Pangolagrass
Sesbania			
Sicklepod			

4/1

POSTEMERGENCE USE (Emerging 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 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 postemergence 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 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 1/2%; nor on alfalfa, apples, artichoke, barley (winter), bermuda grass 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 "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 alfalfa under stress from disease, insect damage, shallow root penetrator (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 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 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 "Karmex" with a suitable contact herbicide registered for such use. Sufficient rainfall for soil activation of "Karmex" 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 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. 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 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 a single treatment of 4 lbs. 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 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 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 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 ¼ 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 ½ 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:** 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; 2½ lbs. on clay. Injury may occur if "Karmex" is used in conjunction with soil applied organic phosphate pesticides. Do not allow livestock to graze treated cotton.

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, preirrigated, and final seedbeds 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 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:

"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.	½ to 1 lb.
Sandy clay loam, clay loam, silty clay loam, sandy clay, clay	1½ pts.	1 to 1½ 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 captan PCNB mixture.

*Reg. trademark of Elanco Products Co.

Preemergence—U.S., except Arizona, California, and areas west of Interstate 35 or 35W in Texas and Oklahoma: Use "Karmex" alone or apply as a separate operation following preplant treatment with "Treflan". Apply "Karmex" 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 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 seedbed 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.

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

**Do not use on soils with less than 1% organic matter as crop injury may result.

"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	1 lb
Sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, clay.....	1 1/2 pts	1 1/4 to 2 lbs

**Do not use on soils with less than 1% organic matter as crop injury may result.

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 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.

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 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:

"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.

Continued on reverse side

Continued from front side

- **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.

Western Oregon: On alta fescue, Astoria bentgrass, Highland bentgrass, Kentucky bluegrass (L. non blue grass) and orchardgrass, apply 2 to 4 lbs. per acre between October 1 and November 15. In fields where ash residues have accumulated from burning straw, use 3 to 4 lbs. per acre; spread unburned chaff or straw with a harrow or chopper before application. If perennial velvetgrass (*Holcus lanatus*) is a problem, use 4 lbs. 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 2 lbs. per acre.

Oregon: For use in newly planted bentgrass, Chewing fescue, Kentucky bluegrass, perennial ryegrass, orchardgrass and tall fescue. During planting operation, spray Aqua Nu-Char† or Gro Safe†† 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 "Karmex" as a single broadcast spray at rate of 2½ to 3 lbs. 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.

† Reg. trademark of Westvaco Corp

†† Reg. trademark of ICI United States Inc.

- **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 to 1½ lbs. 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 1½ to 2 lbs. per acre as soon as possible after planting but before emergence of the crop.

- **PEPPERMINT—Pacific Northwest:** Apply 3 lbs. 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 two pounds per acre on established red clover stands (at least 9 months). Apply "Karmex" 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, hawkbeard, rattail fescue, rye grass, and velvet grass.

- **SORGHUM (GRAIN)—Southwestern States:** Apply ¼ to ½ lb. per acre; add 1 pt. Surfactant WK 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 rate on broad leaved 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 ½ lb. 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 "Karmex" 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 2 to 4 lbs. 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 2 lbs. per acre as needed by directed spray inter-row. Alternatively, for panicum control, make up to 3 applications of ½ to 1 lb. per acre as a directed spray after cane has emerged but before panicum exceeds 2" in height, add 1 qt. Surfactant WK 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 6 lbs. total per acre between planting (or ratooning) and harvest.

Hawaii and Puerto Rico: Apply 4 to 8 lbs. 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 2 to 4 lbs. per acre may be made as a broadcast spray over emerged cane or by directed spray inter-row.

If weeds are emerged, add a surfactant (such as Surfactant WK, "Osamul" 95 or "Sterox" SK) to the spray at the rate of 1 to 2 qts. per 100 gals. and apply as a directed spray. DO NOT SPRAY OVER TOP OF CANE.

Do not apply more than 3 treatments nor more than 10 lbs. (Puerto Rico) or 12 lbs. (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 fallowed ground. Make a single application of 3 to 3½ lbs. per acre at emergence of the crop. **Fall Treatment (August through October)—**Treat a 2 ft. band over the row after the first 2 weeks of the fall. **Spring Treatment (April through August)—**If shaving and off-barring are practiced, treat a 2 ft. band over the row before weeds 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 "Karmex" 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 or loamy 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 climatic 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; do not use with surfactants, or nitrogen solution. 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 to 1½ lbs. 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 ½ to 1 lb. "Karmex" plus ¼ 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 16 Inches: After wheat is planted in the fall, make a single application of 1 to 1½ lbs. per acre when sufficient moisture is available to germinate wheat seed. Apply before soil freezes and before weeds are 2" tall. Application later than March 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 discing 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 1½ to 2 lbs. 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 "Karmex" 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 to 2 lbs. 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 1½-2 lbs. per acre on clay, clay loam, and silty clay loam soils.

Northeast: Use 1 to 1½ lbs. per acre.

● **FRUIT AND NUT CROPS**

(See Soil Limitations)

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

APPLES: Use "Karmex" alone, or apply as a tank mixture with DuPont "Sinbar" Herbicide.

"Karmex" 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 4 lbs. per acre in the spring (March through May). In the Far West, treatment may be made in winter (December through February), or apply 2 lbs. per acre as a postharvest treatment followed by 2 lbs. in the spring.

"Karmex" + "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 early seedling stage of weed growth.

Soil Texture	Lbs. Product Per Acre	
	1 to 2% Organic Matter "Karmex" + "Sinbar"	More Than 2% Organic Matter "Karmex" + "Sinbar"
Sandy loam	1 + 1	1½ + 1½
Loam, silt loam, silt	1½ + 1½	2 + 2
Clay loam, clay	2 + 2	2 + 2

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 2 to 3 lbs. per acre in the spring. Repeat application in the fall but do not use more than 4 lbs. per acre per year. Add DuPont Surfactant WK 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 1½ to 3 lbs. 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, bird seed grass and pinegrass, apply 3 to 6 lbs. per acre, plus 1 pt. Surfactant WK (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 weed growth, the surfactant from the spray, repeat treatment is not best, but do not apply more often than once per year. Do not replant treated areas to any other crop within 1 year 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 1½ to 2 lbs. per acre in the spring and repeat treatment after harvest in the fall. Add DuPont Surfactant WK at 1 pint per 25 gals. spray mixture to improve control of small, emerged weeds.

Indiana, Michigan and Ohio—Blueberries: Apply 2 to 4 lbs. per acre in late spring, alternatively, apply 2 lbs. per acre in the fall and repeat at same rate in the spring. **Raspberries:** Apply 3 lbs. per acre in the spring.

Massachusetts—Blueberries: Apply 2 lbs. per acre in late spring.

New Jersey—Blueberries: For control of winter annuals, apply 2 lbs. per acre in October, November or December, or a single application of 2½ lbs. per acre may be applied in early to mid spring.

California—Raspberries, Blackberries, Boysenberries, Dewberries and Loganberries: For control of winter annuals, apply 2 lbs. per acre in October or November; repeat at same rate in late spring to control summer annuals. A single application of 3 lbs. 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.

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 4 lbs. per acre shortly after grove has been laid-up in final form (nontillage program) in late fall or early winter. Alternatively, apply 2 lbs. per acre in October or November and repeat at the same rate in March or April. Subsequent annual applications of 2 to 3 lbs. per acre will usually give adequate weed control.

Florida and Puerto Rico: Make a single application of 4 to 8 lbs. per acre, or apply 3 to 4 lbs. 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 seamyrtle in ditches adjacent to citrus groves, use 1 lb. per 1000 sq. ft. (40 lbs. 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 2 to 4 lbs. per acre for annual weeds; use 4 to 6 lbs. 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 2 to 3 lbs. per acre; on soils high in clay or organic matter, apply 3 to 6 lbs. 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 3 to 4 lbs. per acre; subsequent annual applications of 2 lbs. per acre will usually give adequate weed control. Do not apply to vines with trunks less than 1½" 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 12 lbs. 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 bed rock, poor drainage, or erosion as injury to grapes may result.

- **MACADAMIA NUTS—Hawaii:** Use only under trees established in the orchard for at least 1 year. Apply 2 to 6 lbs. per acre immediately after harvest, preferably before weeds emerge; if weeds have emerged, add 1 pt. Surfactant WK per 25 gals. of spray. Retreat as needed but do not exceed 10 lbs. per acre per year.

- **OLIVES—California:** Use only under trees established in the grove for at least 1 year. Apply 2 lbs. 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 2½ to 5 lbs. per acre, preferably before weeds emerge, if weeds have emerged, add 1 pt. Surfactant WK per 25 gals. of spray.

- **PEACHES—**Use "Karmex" alone, or apply as a tank mixture with "Sinbar".

"Karmex" Alone—Use only under trees established in the orchard for at least 3 years. Apply 2 to 5 lbs. 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.

"Karmex" + "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 early seedling stage of weed growth.

Soil Texture	Lbs. Product Per Acre			
	1 to 2% Organic Matter "Karmex" + "Sinbar"		More Than 2% Organic Matter "Karmex" + "Sinbar"	
Sandy loam	1	+ 1	1½	+ 1½
Loam, silt loam, silt	1½	+ 1½	2	+ 2
Clay loam, clay	2	+ 2	2	+ 2

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—On trees established for at least 2 years, apply 2 to 3 lbs. per acre in the spring. Repeat application in the fall but do not exceed 5 lbs. per acre per year. Add DuPont Surfactant WK 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 4 lbs. per acre in the spring (March through May). In the far West, treatment may be made in winter (December through February), or apply 2 lbs. per acre as a postharvest treatment followed by 2 lbs. in the spring.
- **PECANS:** Use "Karmex" 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	Lbs. Product Per Acre		
	"Karmex" Alone*	-OR-	Tank Mixture "Karmex" + "Sinbar"***
Sandy loam	2	1½ + 1½
Loam, silt loam, silt	3	1¾ + 1¾
Clay loam, clay	4	2 + 2

*Use only on trees established in the grove for at least 3 yrs. and on soils with at least 4% organic matter.
 **Use on trees established in the grove for at least 1 yr. 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 4 to 8 lbs. per acre as a broadcast spray just before or immediately after planting but prior to weed emergence. Use 4 lbs. 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 the rate of 2 lbs. per acre at intervals of not less than 2 months. Additional applications to plant crop may be made as needed to interspace only using 2 lbs. per acre. Do not apply more than 3 broadcast sprays (maximum 12 lbs. per acre) prior to differentiation nor more than 16 lbs. total per acre per plant crop. 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 3 to 5 lbs. per acre after the orchard has been laid up in final form (nontillage program) in late fall or early winter, retreat annually with 2 to 3 lbs. per acre. Alternatively, apply 2 lbs. 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 4 lbs. 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 3 lbs. 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, redcedar, Russian olive and Siberian elm. Use 2½ to 5 lbs. per acre; apply as a band 4 ft. wide in the tree row (2 ft. on each side of row). For example, 1 oz. "Karmex" (4 level tablespoonfuls) treats 135 ft. of tree row (2 ft. on each side of row) at the rate of 5 lbs. 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

"Karmex" 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.

"Karmex" may be used as a preemergence treatment at any time 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 Du Pont Surfactant WK 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°F.

Except for small areas, use a fixed-boom power sprayer properly calibrated to insure a constant rate of application. Mix proper amount of "Karmex" into volume of water necessary to obtain uniform coverage, if Surfactant WK 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 5 to 20 lbs. per acre to control most annual weeds. Use 20 to 60 lbs. 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, "Karmex" may not provide satisfactory control of deep-rooted perennial weeds.

For weed control on small areas, use one-half cupful of "Karmex" per 100 sq. ft. for a dosage of approximately 50 lbs. per acre.

Irrigation and Drainage Ditches: Apply 5 to 20 lbs. per acre to control most annual weeds; use 20 to 60 lbs. 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 "Karmex" 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.

STORAGE AND DISPOSAL

STORAGE: Store product in original container only, away from other pesticides, fertilizer, food, or feed.

DISPOSAL: Do not contaminate water, food, or feed by storage or disposal. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.