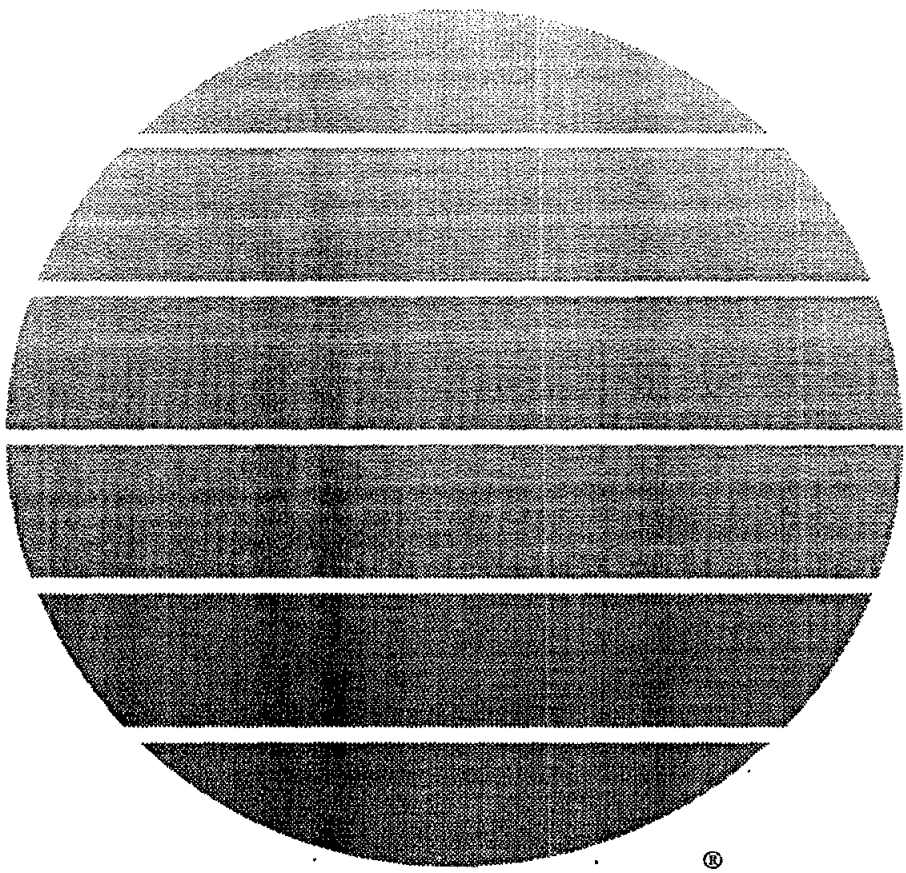
DUPONT®

Karmex® DF

herbicide



".....A Growing Partnership With Nature"

2 7 15

INDEX

	PAGE
PRECAUTIONARY STATEMENTS	1
GENERAL INFORMATION	2
DIRECTIONS FOR USE	2
SELECTIVE USE IN CROPS	3
PREEMERGENCE USE	3
POSTEMERGENCE USE	3
EQUIPMENT	3
SPRAY VOLUMES AND PRESSURES	3
SPRAY PREPARATION	3
USE RATES	3
SOIL LIMITATIONS	4
REPLANTING	4
FIELD CROPS	4
ALFALFA	4
ARTICHOKE	4
ASPARAGUS	4
BARLEY, Winter	4
BIRDSFOOT TREFOIL (Lotus)	5
CORN, Field	5
COTTON	5
GRASS SEED CROPS	6
OATS	7
PEPPERMINT	7
RED CLOVER	7
SORGHUM, Grain	7
SUGAR CANE	7
WHEAT, Winter	7
FRUIT AND NUT CROPS	8
APPLES	8
BANANAS AND PLANTAINS	8
BLUEBERRIES, CANEBERRIES AND GOOSEBERRIES	9
CITRUS	9
GRAPES	9
MACADAMIA NUT	10
OLIVES	10
PAPAYAS	10
PEACHES	10
PEARS	10
PECANS	10
PINEAPPLE	10
WALNUTS, English	10
NON-CROP WEED CONTROL	10
GENERAL WEED CONTROL	11
TREE PLANTINGS	11
RESISTANCE	11
SPRAY DRIFT MANAGEMENT	12
STORAGE AND DISPOSAL	12
NOTICE OF WARRANTY	12

3 7 15

DUPONT

Karmex® DF

herbicide

Dispersible Granules

Active Ingredient	*By Weight*
Diuron [3-(3,4-dichlorophenyl)-1,1-dimethylurea]	80%
Inert Ingredients	20%
TOTAL	100%

EPA Reg. No. 352-508

KEEP OUT OF REACH OF CHILDREN

WARNING AVISO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand this label, find someone to explain it to you in detail.)

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.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

WARNING ! CAUSES EYE IRRITATION. MAY IRRITATE NOSE, THROAT, AND SKIN.

Avoid breathing dust or spray mist. Avoid contact with skin, eyes, and clothing.

PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers must wear:

Long-sleeved shirt and long pants.
Waterproof gloves.
Protective eyewear.
Shoes plus socks.

Discard clothing or other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

USERS SHOULD: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

ENVIRONMENTAL HAZARDS

For terrestrial uses, do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. 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 spray to desirable plants. Do not contaminate any body of water. Do not mix/load, or use near wells including abandoned wells, drainage wells, and sink holes. Avoid storage of pesticides near well sites. Keep from contact with fertilizers, insecticides, fungicides and seeds. Calibrate sprayers only with clean water away from the well site. Do not apply this product through any type of irrigation system.

Thoroughly clean all traces of "Karmex" DF 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).

4 7 15

GENERAL INFORMATION

Du Pont "Karmex" DF Herbicide is a dispersible granule to be mixed in water and applied as a spray for selective control of weeds in certain crops and for weed control on non-cropland areas. It is non-corrosive to equipment, non-flammable and non-volatile.

"Karmex" DF 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, for equivalent herbicide performance. Moisture is required to activate the herbicide; best results occur if rainfall (or sprinkler irrigation) occurs within 2 weeks of application.

"Karmex" DF applied before emergence of crop and weeds, is an effective procedure because susceptible weeds are controlled in an early, vulnerable seedling stage before they compete with the crop. With favorable moisture conditions, "Karmex" DF 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" DF 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 degrees F or higher. Addition of a surfactant to the spray (where recommended) increases contact effects of "Karmex" DF.

"Karmex" DF may be used as a directed postemergence application. Contact of crop foliage and/or fruit with spray or mist must be avoided on the following crops: artichoke, corn (field), cotton, sorghum (grain), sugar cane 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" DF 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), sugar cane, wheat, and pineapple.

Weed species vary in susceptibility to "Karmex" DF and they may be more difficult to control when under stress. Combinations of "Karmex" DF with other herbicides (as registered) increase the number of weed species controlled; consult labels of the companion product for this and other information. Observe all cautions on labeling of all products used in mixtures.

Since the effect of "Karmex" DF varies with soils, uniformity of application, and environmental conditions, it is suggested that growers limit their first use to small areas.

DIRECTIONS FOR USE

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment(PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

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

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

Coveralls.
Waterproof gloves.
Protective eyewear.
Shoes plus socks.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Non-crop weed control is not within the scope of the Worker Protection Standard.

Du Pont "Karmex" DF Herbicide should be used only in accordance with recommendations on this label, or in separate published Du Pont recommendations.

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.

5 9 15

SELECTIVE USE IN CROPS

PREEMERGENCE USE (Germinating Weeds)

"Karmex" DF, at recommended rates, controls annual weeds such as:

Broadleaves Controlled

3/4 to 1 Lb/Acre	1 1/2 to 2 Lbs/Acre	2 to 6 Lbs/Acre
Lambsquarters	Chickweed	Ageratum
Pigweed	Corn spurry	Corn speedwell
Purslane	Dogfennel	Dayflower
Ragweed	Fiddleneck (amsinckia)	Flora's paintbrush
	Gromwell	Hawksbeard
	Groundcherry, annual	Horseweed
	Knawel	Kochia
	Morningglory, annual	Marigold
	Pennycress	Mexican clover
	Shepherd's-purse	Pineappleweed
	Tansymustard	Pokeweed
	Wild buckwheat	Rabbit tobacco
	Wild lettuce	Smartweed, annual
	Wild mustard	Sowthistle, annual
		Spanishneedles
		Velvetleaf (buttonweed)
		Wild radish

Partial control

1 Lb/Acre	4 Lbs/Acre
Cocklebur	Horsenettle
Morningglory, annual	
Prickly sida (teaweed)	
Sesbania	
Sicklepod	

Grasses Controlled

3/4 to 1 Lb/Acre	1 1/2 to 2 Lb/Acre	2 to 6 Lb/Acre
Barnyardgrass (watergrass)	Bluegrass, annual	Lovegrass, annual
Crabgrass	Foxtail	Ryegrass, annual
	Rattail fescue	Kyllinga
	Red sprangletop	Orchardgrass
	Velvetgrass	Peppergrass
	Vernalgrass, sweet, annual	Ricegrass
		Sandbur
		Johnsongrass, seedling

Partial control

4 Lb/Acre	8 to 10 Lb/Acre
Quackgrass	Guineagrass
	Maidencane
	Pangolagrass

POSTEMERGENCE USE

"Karmex" DF at recommended rates, controls seedling annual weeds such as morningglory, barnyardgrass (watergrass), crabgrass, crowfoot, goosegrass, pigweed and purslane. Addition of a surfactant to the spray (where recommended) increases contact effects of "Karmex" DF. Best results are obtained on succulent weeds growing under conditions of high humidity and temperatures of 70 degrees F or higher.

EQUIPMENT

Use a boom power sprayer properly calibrated to a constant speed and rate of delivery. Openings in screens should be 50 mesh or larger. 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. Avoid overlapping, and shut off spray booms while starting, turning, slowing or stopping, or injury to the crop may result.

SPRAY VOLUME AND PRESSURES

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, sugar cane and wheat (winter), application may be made by aircraft at 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" DF into necessary volume of water; where use of surfactant is recommended, dilute with 10 parts of water and add as last ingredient to nearly full tank.

USE RATES

All dosages of "Karmex" DF are expressed as broadcast rates; for band treatment, use proportionately less. For example, use 1/3 of the broadcast rate when treating a 14" band where row spacing is 42". Where a range of dosages is given, use the lower rate on coarse textured soils low in clay or organic matter and the higher rate on the 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.

6 9 15

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), cotton, grapes, oats, olives, papayas, peaches, pears, sorghum, sugar cane, walnuts and wheat (winter) where organic matter is less than 1%; nor on blueberries, birdsfoot trefoil, caneberries, gooseberries, macadamia nuts and peppermint where organic matter is less than 2%.

Preemergence weed control will be reduced on high organic matter soils 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 may result.

FIELD CROPS

A good seedbed must be prepared before preemergence use of "Karmex" DF, 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, the surface of the soil should not be cultivated or disturbed after application of "Karmex" DF 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. See "Soil Limitations" for crops listed below.

ALFALFA

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

Idaho, Oregon, Washington: Use 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" DF with a suitable contact herbicide registered for such use. Sufficient rainfall for soil activation of "Karmex" DF 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 soils with greater than 5% organic matter.

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.

California (San Joaquin Delta)

Newly Planted Crowns: 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

Western Oregon and Western Washington: For drill planted only, make a single application of 1 1/2 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.

7 9 15

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 may result.

CORN, Field

Postemergence - Make a single application of 3/4 lb per acre in combination with non-pressure nitrogen solution. If nitrogen solution is not used, apply 1 lb per acre with surfactant. 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.

Arkansas, Louisiana, Mississippi and Tennessee:

Preemergence - Make a single application of 2/3 to 1 lb per acre as a broadcast or band treatment after planting but before corn emerges. Plant corn at least 1 1/2" 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 injury may result.

COTTON

During a single crop season, do not exceed the following amounts of "Karmex" DF per acre as injury to subsequent crops may result: 1 lb on loamy sand; 1 1/2 lbs on sandy loam; 2 lbs on clay loam; 2 3/4 lbs on clay. Injury may occur if "Karmex" DF is used in conjunction with soil-applied organic phosphate pesticides. Do not allow livestock to graze treated cotton plants.

Preplant

Arizona and California: Use "Karmex" DF alone, or apply as a separate operation following preplant broadcast treatment with Treflan' (incorporated according to directions on "Treflan" label). Apply "Karmex" DF 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" DF. 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" DF Alone

Apply 1 to 2 1/2 lbs per acre.

"Karmex" DF Following "Treflan" (preplant)

Apply as follows:

	Rate Per Acre	
	"Treflan"	*"Karmex" DF*
Soil Texture	*Preplant*	*Preemergence*
Sandy loam, loam, silt loam, silt	1 pt	2/3 to 1 lb
Sandy clay loam, clay loam, silty clay loam, sandy clay, clay	1 1/2 pts	1 to 1 1/4 lbs

Seedling disease may weaken plants and increase the possibility of injury from the use of "Treflan" followed by "Karmex" DF. These treatments should be used only in conjunction with a standard fungicide seed treatment plus a good supplemental soil fungicide program such as captan-PCNB mixture.

Preemergence

United States, except Arizona, California:
Use "Karmex" DF alone or apply as a separate operation following preplant treatment with "Treflan". Apply "Karmex" DF after planting but before cotton emerges. Shallow incorporation (no deeper than 1/4") with a rotary hoe or similar equipment following planting usually improves results especially during dry weather. A wide press wheel should be used on the planter to provide a level seedbed for subsequent early season postemergence treatments. If moisture is insufficient to activate "Karmex" DF or if soil becomes crusted before crop emerges, a shallow rotary hoeing (no deeper than 1/4") should be made before weeds become established.

Note: Do not use on sand or loamy sand soils.
Use only where cotton is planted on flat or raised seedbeds.

"Karmex" DF 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 Per Acre*
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.

8 7 15

"Karmex" DF 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" DF 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 Table above.

	Rate Per Acre	
	"Treflan"	*"Karmex" DF*
*Soil Texture**	*Preplant*	*Preemergence*
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 - 2 lbs

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

Postemergence Applications

United States

Apply only as a directed spray to cover weed foliage; adjust nozzles to minimize contact of cotton leaves with spray or drift or injury may result.

DO NOT SPRAY OVER TOP OF COTTON PLANTS.

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.Two applications may be made if needed.

	lbs "Karmex" DF Per Acre Plus Surfactant	
Weeds Up to 2" Tall	*Broadcast*	*Band(1/3 area)*
Annual grasses	1/2	1/6
Pigweed	1/4	1/12

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 methylarsonate (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, or use 1/2 to 3/4 lb "Karmex" DF per acre plus surfactant and repeat if needed.

Replanting Cotton

If initial seeding fails to produce a stand, cotton may be replanted in soil treated preemergence with "Karmex" DF, alone or following "Treflan"(preplant). Wherever possible, avoid disturbing original bed. If necessary to rework soil before replanting, use shallow cultivation such as discing. Do not relist 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 may result.

Replanting to Subsequent Crops

For:

Band preemergence or postemergence-

Any crop 4 months after last application.

Band preemergence plus postemergence -or-

Broadcast preemergence/preplant* -or-

Broadcast preemergence plus band postemergence-

Cotton, soybeans, corn or grain sorghums (not sorgos 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 may result.

Broadcast postemergence (lay-by)-

Cotton, corn, grain sorghums (not sorgos 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 may result.

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

GRASS SEED CROPS

Perennial 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.

9 7 15

New Plantings

Oregon and Washington: For use in newly planted bentgrass, chewing fescue, Kentucky bluegrass, perennial ryegrass, orchardgrass and tall fescue, spray Aqua Nu-Char[2] or Gro-Safe[3] or other brands of activated charcoal during planting as a 1" band on soil surface at 15 lbs per acre of crop where row spacing is 20"(300 lbs per acre broadcast basis). Mount nozzles to apply directly over seed rows to prevent crop injury. Follow with "Karmex" DF as a single broadcast spray at a rate of 2 1/2 to 3 lbs per acre. Apply as soon as possible after planting but before crop 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.

OATS

Do not replant treated areas to any crop within one year after last application as injury may result.

Drill-planted 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.

Drill-planted 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 crop emergence.

PEPPERMINT

Pacific Northwest: Apply 3 lbs per acre after the last cultivation in the spring prior to emergence of peppermint. Do not apply to plantings less than 1 year nor to emerged peppermint as injury may result.

RED CLOVER

Western Oregon: Make a single application of 2 lbs per acre on established red clover stands at least 9 months old. Apply "Karmex" DF when red clover is dormant from October 15 to December 15. Do not apply to seedling red clover. 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 velvetgrass.

SORGHUM, Grain

Southwestern States: Apply 1/4 to 1/2 lb per acre plus surfactant. Apply as a directed postemergence spray after sorghum is 15" tall to control weeds 2" to 4". DO NOT SPRAY OVER TOP OF SORGHUM. Use the lower rate on broadleaf weeds up to 2" tall. Use the higher rate on grasses up to 2" and broadleaf weeds up to 4" tall. When the lower rate is used, a second application may be made if needed. Do 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 injury may result.

SUGAR CANE

To prevent crop injury on new cane varieties, test tolerance to "Karmex" DF prior to adoption as field practice. Do not treat cane growing on thinly covered subsoils or rocky areas as injury may result. Temporary chlorosis 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 1/2 to 1 lb per acre plus surfactant as a directed spray after cane has emerged but before panicum exceeds 2" in height. 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 have emerged, add a surfactant 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 per acre in Puerto Rico or 12 lbs per acre in Hawaii between planting (or ratooning) and harvest. Treated areas may be planted to sugar cane or pineapple one year after last application.

Louisiana: Use on plant cane seeded on fallowed ground. Make a single application of 3 to 3 3/4 lbs per acre at either of the following times. August through October--Treat a 2 ft. band over the row after planting of cane, but before weeds or cane emerge. 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

Crop injury may result where severe winter stress, disease or insect damage follows application. Winter-sensitive varieties may be less tolerant to "Karmex" DF than winter-hardy varieties. Crop injury may result from failure to observe the following: Do not use on sand or loamy sand soils, nor on gravelly or sandy loams with less than 1% organic matter, 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. Unless specified otherwise, 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 may result.

10 9 15

Idaho, Oregon and Washington--East of Cascade Range: Where average annual rainfall exceeds 16 inches, make a single application of 1 to 1 1/2 lbs per acre. 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. For spring treatment, apply as soon as wheat starts to grow. 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 1/2 to 1 lb "Karmex" DF plus 1/4 lb bromoxynil per acre as a tank mix, 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.

Where average annual rainfall is 10 to 16 inches following fall planting, make a single application of 1 to 1 1/2 lbs per acre when 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.

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 make a second application during the same crop year as injury may result.

Oregon and Washington--West of Cascade Range: Make a single application of 1 1/2 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 mix of "Karmex" DF plus bromoxynil as detailed above for "East of Cascade Range".

Other Areas of Oregon and Washington: 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 1 1/2 to 2 lbs per acre on clay, clay loam, and silty clay loam soils.

Northeast: Use 1 to 1 1/2 lbs per acre.

FRUIT AND NUT CROPS

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

APPLES

United States

"Karmex" DF 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 from March through May. In the Far West, apply 4 lbs per acre to small weeds less than 2" in height or diameter under dormant trees. Alternatively, treatments to small weeds may be applied at 2 lbs per acre postharvest followed by 2 lbs per acre prior to budbreak.

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 surfactant to improve control of small, emerged weeds.

"Karmex" DF + Sinbar® Herbicide--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.

	"Karmex" DF + "Sinbar" Lbs Per Acre	
Soil Texture	1 to 2% Organic Matter	More Than 2% Organic Matter
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" 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 may result. Where complete weed control to harvest is desired, additional weed control measures may be required during the growing season.

BANANAS AND PLANTAINS

New Plantings: To control annual weeds, apply 1 1/2 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, birdseed grass and guineagrass, apply 3 to 6 lbs per acre plus surfactant. 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 surfactant from the spray. Repeat treatment as needed. Apply at 6-week intervals or longer for a maximum of 12 lbs per acre (broadcast) in 12-months.

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

11 7 15

BLUEBERRIES, CANEBERRIES AND GOOSEBERRIES

Use only in fields that have been established for 1 year or more. Do not apply to berries interplanted with fruit trees. Do not apply to plants where roots are exposed as injury may result. Apply as a band treatment at the base of canes or bushes. For spring application, apply before germination of annual weeds.

Georgia--Blueberries: Apply 1 1/2 to 2 lbs per acre in the spring and repeat treatment after harvest in the fall. Add surfactant 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 in the spring. **Raspberries:** Apply 3 lbs per acre in the spring.

Maine and Massachusetts--Blueberries: Apply 2 lbs per acre in late spring.

Maryland and New Jersey--Blueberries: For control of winter annuals, apply 2 lbs per acre from October - December, or make a single application of 2 1/2 lbs per acre 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 annuals. A single application of 3 lbs per acre in January or February will control annuals in some areas, but the separate fall and spring schedule is preferred.

Western Oregon and Western Washington--Blueberries, Caneberries and Gooseberries: Use California recommendations.

CITRUS

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.

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: Use only as a band application. Do not use "Trunk to Trunk".

East Coast/Flatwoods Areas - (low permeable soils)

Do not use more than 8 lb "Karmex" DF per treated acre in any one application.

Do not apply more than 12 lb "Karmex" DF per treated acre per year. This amount corresponds to 9.6 lb of diruon, the active ingredient in "Karmex" DF.

The maximum allowable use rate for diuron is 9.6 lb per treated acre per year inclusive of all diuron formulations used within one year.

Ridge Areas - Except Highland Co. (highly permeable soils)

Do not use more than 4 lb "Karmex" DF per treated acre in any one application.

Do not apply more than 8 lb "Karmex" DF per treated acre per year. This amount corresponds to 6.4 lb of diruon, the active ingredient in "Karmex" DF.

The maximum allowable use rate for diuron is 6.4 lb per treated acre per year inclusive of all diuron formulations used within one year.

Ridge Areas - Highland Co.(highly permeable soils)

Do not use more than 4 lb "Karmex" DF per treated acre in any one application.

Do not apply more than 6 lb "Karmex" DF per treated acre per year. This amount corresponds to 4.8 lb of diruon, the active ingredient in "Karmex" DF.

The maximum allowable use rate for diuron is 4.8 lb per treated acre per year inclusive of all diuron formulations used within one year.

Do not use at less than 60 day intervals.

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.

Texas: Apply 2 to 4 lbs per acre for annual weeds. Use 4 to 6 lbs per acre for control of johnsongrass seedlings. Spring treatments give best results. Well established weeds should be eliminated by cultivation prior to treatment.

GRAPES

Apply only as a band treatment to established vineyards at least 3 years old. 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 of annual weeds.

West of the Rocky Mountains: For best results, apply during the winter months when weeds are less than 2" in height or diameter. Rainfall or overhead sprinkler irrigation sufficient to wet the soil to a depth of 2" is necessary to activate the herbicide. Abnormally heavy rainfall following application just before spring growth may move the herbicide into the root zone of grapes which could result in injury. 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 1 1/2" in diameter as injury may result.

New York and Pennsylvania: 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, and clay loams. Do not use in areas where grape roots are shallow or exposed because of high bedrock, poor drainage, or erosion as injury may result.

12 7 15

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 surfactant. 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 2 1/2 to 5 lbs per acre, preferably before weeds emerge. If weeds have emerged, add surfactant.

PEACHES

United States

"Karmex" DF 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. Do not apply within 3 months of harvest. In the Far West, do not apply within 8 months of harvest.

Georgia--On trees established for 2 years or more, 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 surfactant 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 may result. Where weed control to harvest is desired, additional measures may be required.

"Karmex" DF + "Sinbar"- United States - See combination recommendation for Apples.

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 from March through May. In the Far West, apply 4 lbs per acre to weeds less than 2" in height or diameter under dormant trees. Alternatively, apply to small weeds at 2 lbs per acre postharvest followed by 2 lbs per acre prior to budbreak.

PECANS

Use "Karmex" DF alone or apply as a tank mix 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.

	Lbs Per Acre		
Soil Texture	"Karmex" DF Alone*	or	Tank Mixture "Karmex" DF + "Sinbar" **
Sandy loam	2	or	1 1/2 + 1 1/2
Loam, silt loam, silt	3	or	1 3/4 + 1 3/4
Clay loam, clay	4	or	2 + 2

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

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. For ratoon crop use 4 lbs per acre after harvesting plant 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 sugar cane 1 year after last application.

Puerto Rico: Apply 3 3/4 to 6 1/4 lbs per acre as a broadcast spray before or immediately after planting but prior to weed emergence. Application controls weeds such as pigweed, crotalaria, morningglory, purslane, crabgrass, foxtail, goosegrass, fall panicum and sourgrass.

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 in March or April.

13 7 15

NON-CROP WEED CONTROL

"Karmex" DF is an effective herbicide for control of many weeds. The degree of control and duration of effect will vary with the amount of chemical applied, soil texture, rainfall and other conditions.

"Karmex" DF 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 using a non-ionic surfactant. Apply as a drenching spray to actively growing weeds during warm weather when daily temperature will exceed 70 degrees F.

Use a fixed-boom power sprayer properly calibrated to insure a constant rate of application. Mix proper amount of "Karmex" DF into volume of water necessary to obtain uniform coverage. If surfactant is used, dilute with 10 parts of water and add as last ingredient to nearly full tank. "Karmex" DF must be kept in suspension at all times. Agitate by mechanical or hydraulic means in the spray tank. If bypass or return line is used, it should terminate at bottom of tank to minimize foaming. Use 50 mesh or larger screens.

GENERAL WEED CONTROL

To control 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, around farm buildings, and similar areas--apply 5 to 15 lbs per acre to control annual weeds including:

Broadleaves

5 to15 Lbs/Acre

Ageratum	Knawel	Sesbania
Chickweed	Kochia	Shepherd's-purse
Cocklebur	Lambsquarters	Sicklepod
Corn speedwell	Marigold	Smartweed, annual
Corn spurry	Mexican clover	Sowthistle, annual
Dayflower	Morningglory, annual	Spanishneedles
Dogfennel	Pennycress	Tansymustard
Fiddleneck (amsinckia)	Pigweed	Velvetleaf (buttonweed)
Flora's paintbrush	Pineappleweed	Wild buckwheat
Gromwell	Pokeweed	Wild lettuce
Groundcherry, annual	Prickly lettuce	Wild mustard
Hawksbeard	Prickly sida (teaweed)	Wild radish
Horsenettle	Purslane	
Horseweed	Rabbit tobacco	
	Ragweed	

Grasses

5 to 8 Lbs/Acre

Barnyardgrass (watergrass)	Orchardgrass	Seedling johnsongrass
Bluegrass, annual	Peppergrass	Velvetgrass
Crabgrass	Quackgrass	Vernalgrass, sweet, annual
Foxtail	Rattail fescue	
Kyllinga	Red sprangletop	
Lovegrass, annual	Ricegrass	
	Ryegrass, annual	
	Sandbur	

8 to 15 Lbs/Acre

Guineagrass	Maidencane	Pangolagrass

Irrigation and Drainage Ditches: Apply 5 to 15 lbs per acre to control annual weeds as shown above. 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 avoid crop injury, it is essential to minimize movement of "Karmex" DF in irrigation water. The herbicide must 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.

TREE PLANTINGS

Colorado, Montana, Nebraska, North Dakota, South Dakota, Wyoming: Use only under plantings of American elm, caragana, cottonwood, Douglas fir, green ash, honeysuckle, Ponderosa pine, redcedar, Russian olive and Siberian elm, of 1 year or older. Use 2 1/2 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" DF 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 may result.

RESISTANCE

When herbicides with the same mode of action are used repeatedly over several years to control the same weed species in the same field, naturally-occurring resistant weed biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that field. These resistant weed biotypes may not be adequately controlled. Cultural practices such as tillage, preventing weed escapes from going to seed, and using herbicides with different modes of action within and between crop seasons can aid in delaying the proliferation and possible dominance of herbicide resistant weed biotypes.

14 9 15

SPRAY DRIFT MANAGEMENT

The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions.

AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.

IMPORTANCE OF DROPLET SIZE

The most effective way to reduce drift potential is to apply large droplets (>150 - 200 microns). The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. APPLYING LARGER DROPLETS REDUCES DRIFT POTENTIAL, BUT WILL NOT PREVENT DRIFT IF APPLICATIONS ARE MADE IMPROPERLY OR UNDER UNFAVORABLE ENVIRONMENTAL CONDITIONS! See **Wind, Temperature and Humidity**, and **Temperature Inversions** sections of this label.

Controlling Droplet Size - General Techniques

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.
- **Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles.

Controlling Droplet Size - Aircraft

- **Number of Nozzles** - Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.
- **Nozzle Orientation** - Orienting nozzles so that the spray is emitted backwards, parallel to the airstream will produce larger droplets than other orientations.
- **Nozzle Type** - Solid stream nozzles (such as disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types.
- **Boom Length** - The boom length should not exceed 3/4 of the wing or rotor length - longer booms increase drift potential.
- **Application Height** - Application more than 10 ft above the canopy increases the potential for spray drift.

BOOM HEIGHT

Setting the boom at the lowest labeled height (if specified) which provides uniform coverage reduces the exposure of droplets to evaporation and wind. For ground equipment, the boom should remain level with the crop and have minimal bounce.

WIND

Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. AVOID GUSTY OR WINDLESS CONDITIONS.

Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, set up equipment to produce larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are preventing drift and not interfering with uniform deposition of the product.

STORAGE AND DISPOSAL

STORAGE: Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food or feed in storage.

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

CONTAINER DISPOSAL: 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.

NOTICE TO BUYER - Purchase of this material does not confer any rights under patents of countries outside of the United States.

15 7 15

LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read This Limitation of Warranty and Liability Before Buying or Using This Product. If the Terms Are Not Acceptable, Return the Product at Once, Unopened, and the Purchase Price Will Be Refunded.

It is impossible to eliminate all risks associated with the use of this product. Such risks arise from weather conditions, soil factors, off target movement, unconventional farming techniques, presence of other materials, the manner of use or application, or other unknown factors, all of which are beyond the control of DuPont. These risks can cause: ineffectiveness of the product; crop injury, or; injury to non-target crops or plants.

DuPont does not agree to be an insurer of these risks. WHEN YOU BUY OR USE THIS PRODUCT, YOU AGREE TO ACCEPT THESE RISKS.

DuPont warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for the purpose stated in the Directions for Use, subject to the inherent risks described above, when used in accordance with the Directions for Use under normal conditions.

DUPONT MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR OF MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

IN NO EVENT SHALL DUPONT OR SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT. BUYER'S OR USER'S BARGAINED-FOR EXPECTATION IS CROP PROTECTION. THE EXCLUSIVE REMEDY OF THE USER OR BUYER AND THE EXCLUSIVE LIABILITY OF DUPONT OR SELLER, FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY OR CONTRACT, NEGLIGENCE, TORT OR STRICT LIABILITY), WHETHER FROM FAILURE TO PERFORM OR INJURY TO CROPS OR OTHER PLANTS, AND RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT, OR AT THE ELECTION OF DUPONT OR SELLER, THE REPLACEMENT OF THE PRODUCT.

DuPont or its Authorized Retailer must have prompt notice of any claim so that an immediate inspection of buyer's or user's growing crops can be made. Buyer and all users shall promptly notify DuPont or a DuPont Authorized Retailer of any claims, whether based on contract, negligence, strict liability, other tort or otherwise or be barred from any remedy.

This Limitation of Warranty and Liability may not be amended by any oral or written agreement.

1 Reg. trademark of Elanco Products Co.

2 Reg. trademark of Westvaco Corp.

3 Reg. trademark of Zeneca.

D-277 032096