



PM 23 50534-1

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

MAR 26 1997

Mr. Jon M. Gehring
ISK Biosciences Corporation
5966 Heisley Road
P.O. Box 8000
Mentor, OH 44061-8000

Dear Mr. Gehring:

SUBJECT: Label Amendment
Dacthal W-75
EPA Registration No. 50534-1
Your Application Dated December 31, 1996

The labeling referred to above, submitted in accordance with registraiton under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended is acceptable, provided that the following revision is made:

Move the statement, "WARNING: Manufactured with Carbon Tetrachloride ..." from the front panel of the container and insert labels and place it below the Warranty statement of each label.

A stamped copy is enclosed for your records. Please submit one (1) final printed copy for the above mentioned label with required revision before releasing the product for shipment.

Sincerely yours,

Joanne I. Miller
Product Manager (23)
Fungicide-Herbicide Branch
Registration Division (7505C)

Enclosure

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

CONCURRENCES

Table with 8 columns and 3 rows. Row 1: SYMBOL > 7505C. Row 2: SURNAME > MCOOKE. Row 3: DATE > Mar 26, 1997.

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Net Contents:

(Container Label)

# ISK BIOSCIENCES™

## Dacthal® W-75

Agricultural Herbicide (75% Wettable Powder)

Active Ingredient:	By Wt.
DCPA (dimethyl tetrachloroterephthalate) .....	75.0%
Inert Ingredients: .....	25.0%
Total: .....	100.0%

Keep Out of Reach of Children

### CAUTION

**WARNING:** Manufactured with Carbon Tetrachloride, a substance which harms public health and environment by destroying ozone in the upper atmosphere.

See side panel for additional precautionary statements

**ACCEPTED  
with COMMENTS  
In EPA Letter Dated  
MAR 26 1997**

**ISK Biosciences Corporation**  
5966 Heisley Road  
P.O. Box 8000  
Mentor, Ohio 44061-8000

**Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.  
50534-1**

See enclosed folder for directions for use.

DACTHAL is a registered trademark of ISK Biosciences Corporation.

EPA Reg. No. 50534-1

EPA Est. No. 39578-TX-1

3230-4021-1011-9405

### Precautionary Statements

#### Hazards to Humans and Domestic Animals

#### CAUTION

Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

#### Statement of Practical Treatment:

**If in Eyes:** Flush with plenty of water. Call a physician if irritation persists.

**If Swallowed:** Do not induce vomiting. If vomiting occurs spontaneously, keep airway clear. Never give anything by mouth to an unconscious person. Seek medical attention.

**If on Skin:** Wash thoroughly with soap and water.

#### Personal Protective Equipment (PPE):

Applicators and other handlers must wear:

DACTHAL W-75

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

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

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

**User Safety Recommendations:**

Users should:

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

**Environmental Hazards**

DO NOT apply directly to water, 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 wastewater.

**Directions for Use**

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

**AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to supplemental labeling under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

**Storage and Disposal**

DO NOT contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

**Storage:** Store in a dry place.

**Pesticide Disposal:** Wastes resulting from the use of this product may be disposed of at an approved waste disposal facility. DO NOT contaminate water when disposing of equipment washwaters.

**Container Disposal:** Completely empty bag into application equipment and 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.

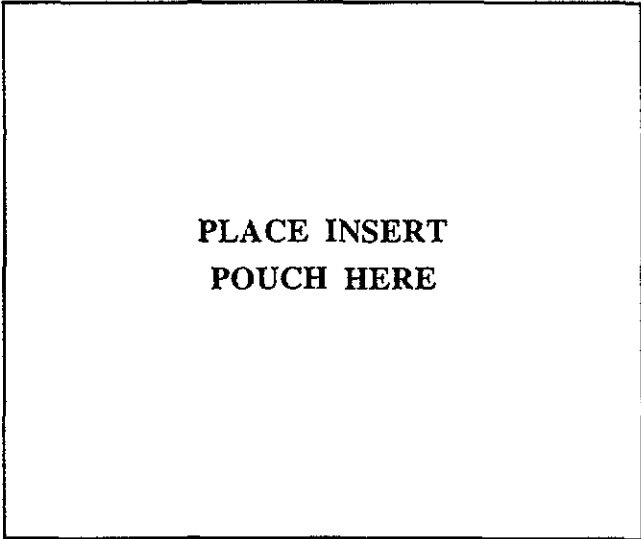
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**Warranty and Limitation of Damages**

Seller warrants to those persons lawfully acquiring title to this product that at the time of the first sale of this product by seller that this product conformed to its chemical description and was reasonably fit for the purposes stated on the label when used in accordance with Seller's directions under normal conditions of use and Buyers and users of this product assume the risk of any use contrary to such directions. SELLER MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY, INCLUDING ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR OF MERCHANTABILITY, AND NO AGENT OF SELLER IS AUTHORIZED TO DO SO. In no event shall Seller's liability for any breach of warranty exceed the purchase price of the material as to which a claim is made.

Buyers and users of this product are responsible for all loss or damage from use or handling of this product which results from conditions beyond the control of Seller, including, but not limited to, incompatibility with other products unless otherwise expressly provided in the Directions for Use of this product, weather conditions, cultural practices, moisture conditions or other environmental conditions outside of the ranges that are generally recognized as being conducive to good agricultural practice.

**See Enclosed Folder for  
Directions for Use**



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(Insert Label)

**ISK BIOSCIENCES™**

**Dacthal® W-75**

**Agricultural Herbicide (75% Wettable Powder)**

**Active Ingredient:**

DCPA (dimethyl tetrachloroterephthalate)

**By Wt.**

75.0%

**Inert Ingredients:**

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**Total:**

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See additional precautionary statements

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EPA Reg. No. 50534-1

EPA Est. No. 39578-TX-1

3230-4021-8004-9405

**Precautionary Statements**

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**Personal Protective Equipment (PPE):**

Applicators and other handlers must wear:

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

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

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**Environmental Hazards**

DO NOT apply directly to water, 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 wastewater.

**Dacthal W-75 Herbicide**

A selective preemergence herbicide for control of annual grasses and certain broadleaved weeds in vegetable crops and ornamental turf.

**Read entire label carefully and use only as directed.**

**General Information**

DACTHAL W-75 is a 75 percent wettable powder formulation for use in preemergence application for control of crabgrass and other annual grasses and certain broadleaved weeds on mineral soils in vegetables, strawberries, agronomic crops, ornamentals and turf.

**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.

**DO NOT APPLY IN SUFFOLK COUNTY, LONG ISLAND, NEW YORK.**

**Groundwater Advisory:** Tetrachloroterephthalic acid, a breakdown product of DACTHAL, is known to leach through soil as a result of agricultural and turf uses and has been found in groundwater which may be used for drinking water. Users are advised not to apply DACTHAL to

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sand and loamy sand soils where the water table (groundwater) is close to the surface and where these soils are very permeable, i.e. well drained. Your local agricultural agencies can provide further information on the type of soil in your area and the location of groundwater used for drinking water.

DO NOT apply when wind speed favors drift beyond the area intended for treatment.

#### 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. For commercial vegetable production, the REI is 24 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
- Shoes plus socks

**Preparation and Application of the Spray:** DACTHAL W-75 should be thoroughly mixed in the spray tank with water to provide for broadcast application of at least 20 gallons of water per acre, depending on equipment and local practices. Adequate agitation should be maintained during filling and spraying to keep material in uniform suspension. Use nozzles suitable for applying wettable powders so that the spray can be uniformly distributed over the properly prepared soil surface. Any screen or strainer in spray equipment should be no finer than 50 mesh to prevent clogging. It is essential that the sprayer be properly calibrated before making applications. Standard low pressure (30-50 psi) boom-type sprayers are recommended.

**Aircraft Application:** It is recommended that DACTHAL W-75 be applied in a minimum of 10 gallons of spray per acre. Aircraft should be equipped with pumps with sufficient capacity to deliver at least 10 gallons per acre. Placement of nozzles should provide a uniform spray pattern. DACTHAL W-75 should be premixed in a nurse tank or mixing tank equipped with mechanical or by-pass agitation. Mixture can then be pumped into the aircraft. Screens on mixing tanks should be no finer than 50 mesh. Adequate agitation should be maintained in the mixing tank as well as the aircraft throughout the spraying operation. Regulations governing aerial application of herbicides are in effect in many states. Consult local regulatory agencies concerning requirements before making applications. Avoid spray drift to adjacent fields; particular care should be exercised when adjacent fields contain edible crops or those that will be fed or grazed by livestock. Spray only on still days.

A minimum of one-third to one-half inch of water, either as rain or irrigation, is necessary to activate DACTHAL W-75 and thereby obtain preemergence control of weeds specified. Normally, water must be applied within 3 to 5 days of application if sufficient rainfall does not occur. However, when surface soil is dry but subsurface soil contains enough moisture to germinate weeds, water should be applied immediately. If furrow irrigation is used, the top of the bed must be thoroughly wet. If rainfall during this period does not occur and irrigation cannot be made, shallow incorporation, when recommended, will aid in weed control.

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**Soil Preparation:** Prior to making application, the soil should be cultivated to provide a weed-free and uniform surface since DACTHAL herbicide is effective only when applied before weed seed germination occurs. Unless incorporated, DACTHAL should be applied within two to three days following cultivation, to prevent subsurface germinating weeds from becoming established. When cultivating between rows, use shields on cultivator to prevent untreated soil from covering treated bands. Cultural practices, such as forming crop beds, should be completed prior to DACTHAL W-75 application in order to avoid exposing untreated soil in the bottom of the furrow and concentrating the sprayed soil within the bed.

**Soil Incorporation:** (DO NOT incorporate deeper than 2 inches.) Shallow soil incorporation, when recommended, (see specific crop recommendation) often gives more consistent results. Depending on crop and time of application, several incorporation methods may be used.

**Preplant Incorporation:** This type of incorporation often provides better weed control on irrigated land, and also on non-irrigated land when dry weather is anticipated following planting. When recommended, DACTHAL can be sprayed on the soil surface and then incorporated into the soil using a disc harrow or related tillage equipment. To insure complete incorporation, double disc in two directions. For incorporating banded treatments, hooded power driven rotary tillers or ground tillers are essential.

**Delayed Preemergent Incorporation:** For crops where preplant incorporation can be used (see recommendation). Incorporation at this time should be used when adequate rainfall or irrigation is not available within 3 to 5 days after planting. Lightly incorporate (to 1 inch deep) with drag harrow, rotary hoe or other suitable tillage equipment.

**Layby Incorporation:** (Just prior to stage when plant growth would prevent further cultivation). Cultivate soil to remove established weeds. Apply DACTHAL over top of foliage and lightly incorporate with suitable equipment.

**Off-Site Movement Under California Growing Conditions:** Current research indicates a propensity for off-site movement of certain soil applied pesticides in California's unique growing conditions. Pesticides, such as Dacthal, may be moved off-site through a process called co-distillation. This phenomenon has been shown to occur where bare soil is treated (crops not present) and the soil surface is very hot. The pesticides, though not highly volatile, appear to be carried from the soil surface with water molecules during rapid evaporation that occurs immediately after irrigation. Banding applications of preemergence herbicides, such as DCPA, significantly reduces the potential for off-site movement by reducing the amount of product used to treat a given crop area.

**Rates of Application and Weeds Controlled:** DACTHAL W-75 is recommended at rates of 6-14 lbs./A depending on soil type and weeds to be controlled. The following table outlines general recommendation for the use of DACTHAL W-75 on various soil types. The maximum rate for each soil type should be used when moderately susceptible weeds are present. Specific recommendations for each crop should be consulted. DACTHAL W-75 should not be applied to certain crops under conditions of cool, wet weather when plants are not actively growing. Refer to specific label recommendations for seeded melons, tomatoes, peppers, onion and eggplants for further details.



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Soil Type	Organic Matter %	Broadcast Rate of DACTHAL W-75/A
Light-sand or sandy loam	0-3	6-8 pounds
Medium-silt loam	0-3	8-10 pounds
Heavy-clay loam	0-3	10-14 pounds
Heavy-silt loam	3-5	12-14 pounds

### Weed Control Spectrum

DACTHAL is a preemergence herbicide which provides effective control of annual grasses and certain broadleaved weeds. The following weeds are grouped according to their susceptibility to DACTHAL:

#### Susceptible Weeds

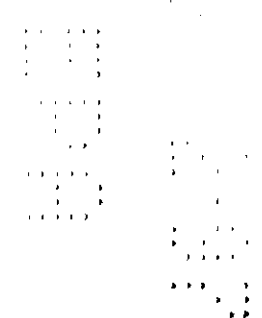
Controlled at Lowest Recommended Rates for Each Soil Type

carpetweed	lovegrass
chickweed, common	nettle, burning
crabgrass, large	pansy, field
crabgrass, smooth	purslane
foxtail, green	pusley, Florida
foxtail, yellow	witchgrass
lambsquarters, common	

#### Moderately Susceptible Weeds

Highest Recommended Rates for Each Soil Type Required for Effective Control

barnyardgrass	groundcherry
bluegrass, annual	johnsongrass (from seed)
cheeseweed (Malva parviflora)	knotweed, prostrate
copperleaf, rhombic	nightshade, black
copperleaf, Virginia (three-seeded mercury)	panicum, brown top
dodder	pigweed, redroot
deadnettle, purple	sandbur
deadnettle, spotted	spurge, nodding
goosegrass	spurge, prostrate
	spurge, spotted



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### Difficult to Control Weeds

Commercially acceptable control of the following weeds may not always be obtained but weed populations will be suppressed when applied at the maximum labeled rate, thus resulting in less competition with the emerging and growing crop.

buckwheat, wild	panicum, fall
canarygrass, littleseed	panicum, Texas
dock, curly (from seed)	polypogon, rabbitfoot
foxtail, giant	rocket, London
goosefoot, nettleleaf	shepherdspurse
henbit	sowthistle, annual
knotweed, silversheath	vaseygrass
ladysthumb	witchweed

### Weeds Not Controlled with Dacthal

galinsoga	nutsedge
jimsonweed	ragweed, common
johnsongrass (from rhizomes)	smartweed
mustards	velvetleaf

**Replanting:** Replanting crops other than those included on this label in DACTHAL treated soil within 8 months of application may result in crop injury. If replanting is required because of an early crop failure, the planting of onions, seeded cucurbits, potatoes, tomatoes, eggplants or peppers at this time may result in crop injury. However, all crops on this label may be planted following harvest of a DACTHAL treated crop.

**Ornamental Turf:** Application at the rate of 14 lbs. of DACTHAL W-75 in 40 to 100 gallons of water per acre (1 lb./3 to 7 gals./3000 sq. ft.) gives excellent control of crabgrass and other weeds as listed on this label. In California, Dacthal W-75 applications to turf should be watered within 4 hours with 0.1 to 0.2 inches of water by irrigation. One application applied in early spring before weed seed germination usually provides seasonal control. Crabgrass seed germination usually coincides with the time when Forsythia blossoms start to fall. In areas which commonly experience stands of late-germinating crabgrass and other annual weedy grasses, a second application at half the regular rate can be safely made two months after the first application. In order to control annual bluegrass (**Poa annua**) and other erratic or late-germinating grasses and weeds in northern states, a late summer or early fall application before weed seed germination of 20 pounds of DACTHAL W-75 in 40 to 100 gallons of water per acre (lb./1 to 2 gals./1000 sq. ft.) should supplement the early spring application. Earlier applications are required in southern United States. Consult agricultural experiment station or extension service weed specialist for date **Poa annua** seed germinates in your area and make application at least two weeks prior to this date.

Early spring application of DACTHAL may be made to new turfgrass seedlings after the grasses have exhibited a uniform greening of the newly sprouted grass, preferably when 1 to 2 inches in height. Such DACTHAL applications give control of crabgrass without injury to newly-emerged grass. Fall sowing of permanent grasses can follow early spring application of DACTHAL.

Where some spring seeding is necessary, there should be a delay of approximately 60 days after the application of most preemergence herbicides, including DACTHAL. This delay increases the survival of desirable grasses.

DACTHAL is not recommended for use on putting-greens.

DACTHAL is not recommended for use on bentgrasses mowed at putting-green height. For control of creeping speedwell (Veronica filiformis), apply 16 pounds of DACTHAL W-75 in 40 to 100 gallons of water per acre as a postemergence spray when creeping speedwell is growing vigorously. Spring or early fall applications are usually suitable, provided temperatures are between 65° and 90°F, and there is ample soil moisture. Thorough coverage is essential. Delayed control of creeping speedwell is to be expected and will be manifested first by a gradual loss of color and vigor.

For Use				
on Turf	To Control	When to Apply	Rate of Dacthal W-75	Remarks
Established turf.	Crabgrass	Early spring, before crabgrass and other spring annual weed seeds germinate.	14 lb./Acre or 1 lb./3 to 7 gals./3000 sq. ft.	Apply when Forsythia blossoms. A second application at half the recommended rate may be made 2 months after the first application if necessary.
	Annual bluegrass ( <u>Poa annua</u> )	Late summer or early fall in Northern states before weed seed germination. Consult agricultural experiment station or extension weed specialist for date <u>Poa annua</u> germinates in your area and make application at least two weeks prior to this date.	20 lb./Acre or lb./1 to 2 gals./1000 sq. ft.	Should be used following an early spring application for crabgrass control.
	Creeping speedwell ( <u>Veronica filiformis</u> )	As a postemergence spray in spring or early fall when creeping speedwell is growing vigorously, there is ample soil moisture and temperature is between 70° and 90°F.	16 lbs./Acre or 1/3 lb./1 to 2 gals./ 1000 sq. ft.	Apply spray to obtain thorough coverage of foliage. Delayed control of creeping speedwell, approximately 30 days, is to be expected and will be noticed first by a gradual loss of color and vigor.

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For Use on Turf	To Control	When to Apply	Rate of Dacthal W-75	Remarks
	Spotted spurge or Prostrate spurge ( <u>Euphorbia maculata</u> , <u>E. supina</u> )	Mid-April or before seed germination of annual weeds. Repeat applications in 6 to 8 weeks.	14 to 16 lbs./Acre or 5 to 6 ounces/1 to 2 gals./ 1000 sq. ft.	Apply first application before germination of annual weed seeds, such as crabgrass. Repeat application at the same rate 6 to 8 weeks later. In addition to control of spotted spurge or prostrate spurge, crabgrass control is also obtained.
Newly seeded turf	Crabgrass	After new turfgrass seedlings have exhibited a greening of the newly-sprouted grass (about 1 to 2 inches high).	14 lbs./Acre or 1 lb./3 to 7 gals./ 3000 sq. ft.	Allows crabgrass control without injury to the new turf.

**CAUTION:** After Dacthal treatment, wait approximately 60 days before any new seeding is undertaken. DO NOT use on Dichondra. See recommendations on bentgrass before using on this species.

**Nursery Stock:** Dacthal W-75 can be applied to a wide range of nursery stock at the rate of 14 to 16 pounds in 50 to 100 gallons of water per acre of area treated (1 pound in 3 - 7 gallons of water/3000 sq. ft.)

Applications should be made to soil recently cultivated to a uniform texture. These can be made immediately following lining-out of stock. With established plantings, application should be made following proper cultivation to remove existing weeds. Where possible, this should be done early in the spring. Late summer application may prove beneficial for control of fall germinating weeds, if made following cultivation. Weed control up to three months or more may be expected following proper application.

Dacthal W-75 is specifically recommended for weed control with the following:

- |                    |                  |                    |
|--------------------|------------------|--------------------|
| Abelia             | Dahlia           | Larkspur, candle   |
| Ageratum           | Delphinium       | Lavendercotton     |
| Alyssum            | Deutzia          | Lilac              |
| Andromeda, Jap.    | Dogwood          | Lily               |
| Arborvitae         | Elaeagnus        | Locust             |
| Ash                | Elm              | Lupine             |
| Aster              | Euonymus         | Magnolia           |
| Azalea             | Evening primrose | Maple              |
| Babysbreath        | Feverfew         | Marguerite, golden |
| Barberry           | Fir              | Marigold           |
| Bellflower         | Forget-me-not    | Mockorange         |
| Birch              | Forsythia        | Morningglory       |
| Bleedingheart      | Four-O'Clock     | Moss, rose         |
| Bloodleaf          | Foxglove         | Mother-of-Thyme    |
| Boxwood            | Gaillardia       | Mountain Laurel    |
| Bugloss            | Geranium         | Mourning Bride     |
| Camellia           | Gladiolus        | Nasturtium         |
| Candytufts         | Golddust         | Oak                |
| Chestnut           | Goldentuft       | Orpine             |
| Chrysanthemum      | Gum              | Pachistima         |
| Cinquefoil         | Hawthorn         | Pachysandra        |
| Coleus             | Heath, Pink      | Peony              |
| Columbine          | Holly            | Petunia            |
| Coneflower, purple | Hydrangea        | Pine               |
| Coreopsis          | Honeysuckle      | Pittosporum        |
| Coralbells         | Iris             | Podocarpus         |
| Cosmos             | Ivy, Baltic      | Poker plant        |
| Cotoneaster        | Ivy, Boston      | Poplar             |
| Cottonwood         | Ivy, English     | Privet             |
| Crabapple          | Ivy, Wilson      | Privet, variegated |
| Cuphea             | Juniper          | Redbud             |
| Cypress            | Lantana          | Rhododendron       |
| Rose               | Strawflower      | Violet, African    |
| Russian olive      | Sundrops         | Walnut             |
| Sage, scarlet      | Sunflower        | Weigela            |
| Snapdragon         | Sweat pea        | Willow             |
| Spiderwort, Va.    | Sycamore         | Wormwood           |
| Spirea             | Tree peony       | Yarrow, fernleaf   |
| Spruce             | Tulip tree       | Yew                |
| Stonecrop          | Viburnum         | Zinnia             |

Do not use on the following plants:

- |             |                  |               |
|-------------|------------------|---------------|
| Bugleweed   | Germander        | Phlox         |
| Button pink | Mesembryanthemum | Sweet William |
| Carnation   | Pansy            | Telanthera    |
| Geum        |                  |               |

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**Amount of Dacthal W-75 to Use in Treating Small Areas**

Area to be Treated*	Recommended rate Dacthal W-75 lb/A	Amount of Dacthal W-75 to Apply	Struck-off (level) Tablespoons
1000 sq. ft. (From 1 to 2 gallons of water should be used to spray 1000 sq. ft.)	14 (heavy soil)	5 oz.	22
	12	4 oz.	19
	10 (medium soil)	3 oz.	16
	8	3 oz.	13
	6 (sandy soil)	2 oz.	10
250 sq. ft. (From 1/4 to gallon of water should be used to spray 250 sq. ft.)	14 (heavy soil)	1 1/4 oz.	5 1/2
	12	1 oz.	4 1/2
	10 (medium soil)	3/4-1 oz.	4
	8	3/4 oz.	3
	6 (sandy soil)	1/2 oz.	2 1/2

**Note:** In treating small areas it is important to use care in measuring out required quantity for area to be treated, properly mixing it in water and keeping it adequately agitated during application.

\* Other size areas to be treated can be calculated from the above table. For example: To treat 5000 sq. ft. at the 10 lbs./acre rate, use 80 tbsp. (5 x 16) in 5 to 10 gallons of water (5 x 1 to 2).

To treat 600 sq. ft. at the 12 lbs./acre rate, use 11.4 tbsp. (0.6 x 19) in 0.6 to 1.2 gallons of water (0.6 x 1 to 2).

Rates of application can be reduced by banding.

See Conversion Chart.

**Conversion Chart for DACTHAL W-75**

For a 12-inch band of spray, use this amount of DACTHAL W-75 per acre.

Row Width	If overall rate is:			
	6 lbs. per acre	8 lbs. per acre	10 lbs. per acre	12 lbs. per acre
24 inches	3 lbs.	4 lbs.	5 lbs.	6 lbs.
32 inches	2 1/2 lbs.	3 lbs.	3 3/4 lbs.	4 1/2 lbs.
36 inches	2 lbs.	2 2/3 lbs.	3 1/3 lbs.	4 lbs.
40 inches	1 3/4 lbs.	2 1/2 lbs.	3 lbs.	3 2/3 lbs.

**Special Precautions:** DO NOT feed treated foliage to livestock or graze treated areas. Applied according to directions and under conditions favorable to good plant growth, DACTHAL W-75 will not harm crops for which its use is recommended. However, conditions such as high salt concentration, seeding disease, cold weather, deep planting, excessive moisture or drought may injure or weaken crops normally tolerant to DACTHAL W-75, thereby increasing the possibility of herbicide damage. Under any of these conditions, one or more of the following may result: delayed crop development, reduced yields, or reduced quality.

**Recommendations**

**Any Application of Dacthal Should Be Made Prior to Weed Seed Germination**

Crops	When to Apply	Rate	Remarks
Broccoli, brussels sprouts, cauliflower, cabbage and all other <i>Brassica</i> (cole) leafy vegetables in this crop group.*	At seeding or transplanting	6-14 lbs. W-75 *	Apply uniformly to the soil as a spray. DACTHAL can be sprayed directly over transplants without injury. If weeds have emerged, soil should be clean cultivated or weeded prior to application. Can be preplant incorporated. <u>In California, applications must be banded and incorporated as described above.</u>
*Brassica leafy vegetables crop group includes broccoli, Chinese broccoli, broccoli raab (rapini), Brussels sprouts, cabbage, Chinese cabbage (bok choy, napa), Chinese mustard cabbage (gai choy), cauliflower, collards, kale, kohlrabi, mustard greens and rape greens.			
Field beans, snap beans, mungbeans, Southern peas (blackeyed)	At seeding	6-14 lbs. W-75 *	Apply uniformly to the soil as a spray at time of planting. DO NOT graze on treated areas or feed plant refuse, vines or threshings to livestock. Can be preplant incorporated. <u>In California, applications must be banded and incorporated as described above.</u>
Seeded melons (cantaloupe, honeydew, watermelons), cucumbers, squash (summer and winter)	When plants have 4-5 true leaves (See Remarks)	6-14 lbs. W-75 *	Apply only when plants have 4-5 true leaves, are well established, and growing conditions are favorable for good plant growth. (If applied earlier than recommended and/or growing conditions are unfavorable, crop injury may result.) If weeds have emerged, crop should be cultivated and weeded prior to the DACTHAL application. Incorporation not recommended. <u>In California, applications must be banded.</u>
Collards, kale, mustard greens, turnips (greens and roots)	At seeding	6-14 lbs. W-75 *	Apply uniformly to the soil as a spray at time of seeding. Can be preplant incorporated. <u>In California, applications must be banded and incorporated as described above.</u>

\*(See Rates of Application and Weeds Controlled)

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Crops	When to Apply	Rate	Remarks
Garlic	At seeding or transplanting and/or at layby	6-14 lbs. W-75 *	Apply uniformly to the soil as a spray. DACTHAL can be sprayed directly over transplants without injury. If weeds emerge prior to layby (when garlic plants have 3 to 5 true leaves), the crop should be cultivated or weeded before application. Preplant incorporation is not recommended. DO NOT graze on treated areas or feed plant refuse to livestock. <u>In California, applications must be banded.</u>
Horseradish	At planting	6-14 lbs. W-75 *	Apply uniformly to the soil as a spray at time of seeding. Preplant incorporation not recommended. <u>In California, applications must be banded.</u>
Onions	At seeding or transplanting and/or at layby	See preemergence rate and weeds controlled. In sandy loam soils, however, maximum preemergence rate of 10 pounds W-75 per acre is recommended	Apply uniformly to the soil as a spray. DACTHAL can be sprayed directly over transplants without injury. A layby application can be made on onions either alone or in addition to a DACTHAL preemergence treatment up to 14 weeks after planting at rates up to 14 lb/A on any soil type. If weeds emerge prior to layby, the onions should be cultivated or weeded prior to application. Preplant incorporation not recommended. <b><u>Broadcast Applications Permitted in California for Onions In Certain Counties from August through December:</u></b> Due to the potential for off-site movement through co-distillation and deposition on unlabeled crops, Dacthal W-75 should be applied as a band application to onions in all counties, the the following exception. During the period from August through December 31, broadcast applications of Dacthal W-75 may be made in the following counties: Fresno, Tulare, Kern, San Bernardino, Los Angeles, Riverside, San Diego and Imperial. A minimum of 50 gallons of water per acre should be used for broadcast applications. During the period from January 1 through July 31, Dacthal W-75 applications should be applied as a banded application in all counties.

\*(See Rates of Application and Weeds Controlled)



Crops	When to Apply	Rate	Remarks
Potatoes (whole or cut pieces)	At planting, drag-off or layby	See Rates of Application and Weeds Controlled.	Apply uniformly to the soil as a spray at planting or following planting. If the tops of the beds are to be dragged off, DACTHAL should be applied after drag-off. Layby applications can be made up to 9 weeks after planting. If weeds have emerged before application, the crop should be weeded or cultivated prior to application. The initial sprinkler irrigation following DACTHAL should not exceed 1 inch. In the Pacific Northwest under dry conditions, DACTHAL should not be applied until just prior to the initial sprinkler irrigation. Under furrow irrigation in the Pacific Northwest, shallow incorporation (no greater than inch deep) while the sprouts are still well below the soil surface, may be desirable. Preplant incorporation not recommended. DACTHAL not recommended for use on potatoes in California.
Radish	At seeding or up to three-leaf stage	6 to 14 lbs. W-75 per acre	Apply uniformly to the soil as a spray in 20 to 30 gallons of water per acre. If weeds have emerged, soil should be clean cultivated or weeded prior to application to permit uniform coverage of soil. Preplant incorporation not recommended. DO NOT graze on treated areas or feed plant refuse to livestock. DO NOT harvest within 25 days of application.  Based upon available residue data, the use of DACTHAL for weed control in radishes is limited to the State of California. <u>In California, applications must be banded.</u>
Sweet potatoes and yams	At transplanting and layby	See Rates of Application and Weeds Controlled	Apply uniformly to the soil as a spray at transplanting. Dacthal can be sprayed directly over transplants without injury. Layby application can be made up to 6 weeks after transplanting. If weeds are present, the crop should be weeded or cultivated prior to DACTHAL application. Incorporation of layby applications not recommended. <u>In California, applications must be banded.</u>

Crops	When to Apply	Rate	Remarks
Tomatoes, eggplant and peppers	4-6 weeks after transplanting or on direct seeded plants at 4-6 inches in height (See Remarks)	See Rates of Application and Weeds Controlled	Application uniformly to the soil should be confined to a period of 4-6 weeks after transplanting. Plants should be well established and growing conditions favorable for good plant growth. DACTHAL can be sprayed directly over the transplants without injury. If weeds have emerged, the crop should be cultivated or weeded prior to making the DACTHAL application. DO NOT apply to seeded plants until plants are 4-6 inches in height, well established, and growing conditions are favorable for good plant growth. <u>In California, applications must be banded.</u>
Strawberries: New Plantings	At transplanting	12 pounds W-75 per acre.	Apply uniformly to the soil as a spray. For new beds apply 12 pounds at transplanting. Can be preplant incorporated. <u>In California, applications must be banded and incorporated as described above.</u>
Strawberries: Established Plantings	Fall and early Spring	8-12 pounds W-75 per acre.	Application of 8-12 pounds per acre may be applied to control late summer or early fall germinating weeds. Application to established plantings should be made in fall and early spring. DO NOT apply after first bloom through harvest. Applications may be made directly over the plants without injury. <u>In California, applications must be banded.</u>
Cotton	At seeding and layby	See Rates of Application and Weeds Controlled.	Apply uniformly to the soil at time of planting. Higher rates of 10-14 pounds are recommended for areas under irrigation. Layby application at 6-10 pounds can be made, but not after peak bloom or within 45 days of harvest. If weeds are present, the cotton should be weeded or cultivated prior to making layby application. Can be preplant incorporated. <u>In California, applications must be banded and incorporated as described above.</u>
Note: Rates can be reduced by banding.			Layby used in this table refers to the time just prior to the stage when crop plant size would prevent further cultivation.

### **Application and Calibration Techniques for Sprinkler Irrigation**

Apply DACTHAL W-75 only through center pivot, motorized lateral move, solid set or portable (side roll, end tow or hand move) irrigation system(s). DO NOT apply this product through any other type of irrigation system.

Crop injury or lack of effectiveness can result from non-uniform distribution of treated water.

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

DO NOT apply this product through irrigation systems connected to a public water system. "Public water system" means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days per year.

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

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

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

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

Always inject DACTHAL W-75 into irrigation water after it discharges from the irrigation pump and after it passes through the check valve. Never inject pesticides into the intake line of the suction side of the pump.

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

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

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

DO NOT apply when wind speed favors drift beyond the area intended for treatment.

Spray mixture in the chemical supply tank must be agitated at all times, otherwise settling and uneven application may occur.

DACTHAL W-75 may be used through two basic types of sprinkler irrigation systems as outlined in Sections A and B below. Determine which type of system is in place, then refer to the appropriate directions provided for each type. The tank containing DACTHAL W-75 must be equipped with effective mechanical agitation to keep the wettable powder in suspension. Premixing DACTHAL W-75 as instructed under ground application will insure that a uniform suspension is obtained. The injection equipment which contains the DACTHAL W-75 suspension should be connected to the discharge side of the irrigation pump or other pressurized equipment attached to the irrigation line.

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### A. Center Pivot and Motorized Lateral Move Irrigation Equipment

For injection of pesticides, these continuously moving systems must use a positive displacement injection pump, of either diaphragm or piston type, constructed of materials that are compatible with pesticides and capable of injection at pressures approximately 2-3 times those encountered within the irrigation water line. Venturi applicator units cannot be used on these systems.

Fill chemical supply tank of injection equipment with water. Operate system for one complete revolution or run across the field, measuring time required, amount of water injected, and acreage covered. Thoroughly mix recommended amount of DACTHAL W-75 for acreage to be covered into same amount of water used during calibration and inject into system continuously for one revolution or run. Mixture in the chemical supply tank must be continuously agitated during the injection run. Shut off injection equipment after one revolution or run, but continue to operate irrigation system until DACTHAL W-75 has been cleared from last sprinkler head.

### B. Solid Set and Portable (Side Roll, End Tow or Hand Move) Irrigation Equipment

Determine acreage covered by sprinkler. Fill tank of injection equipment with water and adjust flow to use contents over a thirty to forty-five minute period. Mix desired amount of DACTHAL W-75 for acreage to be covered into quantity of water used during calibration and operate entire system at normal pressures recommended by the manufacturer of injection equipment used for amount of time established during calibration. DACTHAL W-75 can be injected at the beginning or end of the irrigation cycle or as a separate application. Stop injection equipment after treatment is completed and continue to operate irrigation system until DACTHAL W-75 has been cleared from last sprinkler head.

### Storage and Disposal

DO NOT contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

**Storage:** Store in a dry place.

**Pesticide Disposal:** Wastes resulting from the use of this product may be disposed of at an approved waste disposal facility. DO NOT contaminate water when disposing of equipment washwaters.

**Container Disposal:** Completely empty bag into application equipment and 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.

### Warranty and Limitation of Damages

Seller warrants to those persons lawfully acquiring title to this product that at the time of the first sale of this product by seller that this product conformed to its chemical description and was reasonably fit for the purposes stated on the label when used in accordance with Seller's directions under normal conditions of use and Buyers and users of this product assume the risk of any use contrary to such directions. SELLER MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY, INCLUDING ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR OF MERCHANTABILITY, AND NO AGENT OF SELLER IS AUTHORIZED TO DO SO. In no event shall Seller's liability for any breach of warranty exceed the purchase price of the material as to which a claim is made.

Buyers and users of this product are responsible for all loss or damage from use or handling of this product which results from conditions beyond the control of Seller, including, but not limited to, incompatibility with other products unless otherwise expressly provided in the Directions for Use of this product, weather conditions, cultural practices, moisture conditions or other environmental

conditions outside of the ranges that are generally recognized as being conducive to good agricultural practice.

(3/4/94 EPA Stamped Label; 2/15/95 Notification to delete pre-mixing; 12/96 Amend Use Directions to comply with Cal-EPA)

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