



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JAN 27 1994

Larry E. Hammond
DOWELANCO
Quad III, 9002 Purdue Road
Indianapolis, IN 46268

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

**Subject: Label Amendment Submission of 07/08/93 in Response to PR Notice 93-7
EPA Reg. No. 62719-9
WEED KILLWER 4D**

Dear Registrant:

The labeling cited above and submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is accepted subject to the comments reflected on the enclosed sheet. A copy of your proposed labeling stamped "ACCEPTED WITH COMMENTS" is enclosed.

WHAT THIS ACCEPTANCE MEANS:

Based on your certification, the Agency has accepted the labeling changes that are necessary to comply with the Worker Protection Standard (WPS) labeling requirements of 40 CFR part 156, subpart K, described in PR Notices 93-7 and 93-11. Any other labeling changes submitted in connection with this amendment application but not directly related to compliance with the WPS have not been reviewed or accepted by the Agency. If you wish to make such changes, you must submit a separate amendment application proposing them. If your product is currently suspended, the acceptance of this labeling amendment does not affect the suspension in any way.

WHAT YOU NEED TO DO NEXT:

By the next label printing make all the specified changes to your labeling. Send to EPA one (1) copy of the final printed labeling:

- BEFORE selling or distributing any product bearing the final printed labeling
- AND
- WITHIN one year from date of this acceptance.



Recycled/Recyclable
Printed with SoyCandla Ink on paper that
contains at least 80% recycled fiber

Page 2

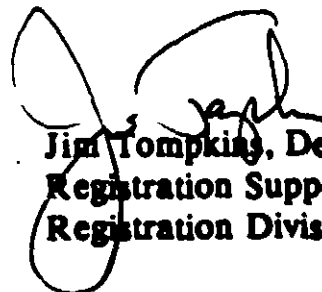
Submit the final printed labeling via the U.S. Postal Service to:

Document Processing Desk (FIN-LABEL)
Office of Pesticide Programs (7505C)
U.S. Environmental Protection Agency
401 M Street, SW
Washington, D.C. 20460-0001

Hand or courier deliveries of final printed labeling may be made to:

Document Processing Desk (FIN-LABEL)
Office of Pesticide Programs
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

Sincerely,



Jim Tompkins, Deputy Chief
Registration Support Branch
Registration Division (7505W)

Attachment

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Registration Division

Larry E. Hammond
DOWELANCO
QUAD IV 9002 PURDUE RD
INDIANAPOLIS IN 46268

Subject: Label Amendment Submission of 07/08/93
to Comply with WPS Labeling Requirements
EPA Reg Nr. 62719-9
WEED KILLER 4D

The following specific comments pertain to your
WPS labeling submission concerning the product
cited above:

EPA has determined that a "closed" mechanical transfer
system is not required for 2,4,-D products. In the personal
protective equipment section of your amended labeling, you
may revise the statement to read as follows:

CONTAINERS GREATER THAN 1 GALLON BUT LESS THAN 5 GALLONS:
"Mixers and loaders who do not use a mechanical system
(probe and pump) to transfer the contents of this container
must wear coveralls or a chemical-resistant apron in
addition to the other required PPE."

EPA has determined that a "closed" mechanical transfer
system is not required for 2,4-D products. In the personal
protective equipment section of your amended labeling, you
may revise the statement to read as follows:

CONTAINERS 5 GALLONS OR MORE: "A mechanical system (probe
and pump) must be used for transferring the contents of this
container. If the contents of a non-refillable pesticide
container are emptied, the probe must be rinsed before
removal. If the mechanical system is used in a manner that
meets the requirements listed in the Worker Protection
Standard (WPS) for agricultural pesticides [40 CFR 170.240
(d) (4)], the handler PPE requirements may be reduced or
modified as specified in the WPS."

Add the following sentence to the paragraph on laundering
PPE: "After each day of use, clothing or PPE must not be
reused until it has been cleaned." Please refer to the
special 2,4-D guidance issued by EPA on September 13, 1993
(page 4) for placement of the sentence.

DOWELANCO

EPA Reg. Number: 62719-9

WEED KILLER 4D

Application date: 07/08/93

Original Submission

Please conform with the special 2,4-D guidance issued by EPA on September 13, 1993 for adding WPS statements.

The statements in the User Safety Recommendations box must be limited to those listed on pages 4-5 in the special 2,4-D guidance issued by EPA on September 13, 1994.

The statement on your proposed label that references the Agricultural Use Requirements box in your proposed supplemental labeling contains incorrect language. Use the exact text and placement of the referral statement as shown on page 43 in Supplement Three to PR Notice 93-7.

July 2, 1993

Labeling amended to meet the requirements of the Worker Protection Standard (WPS) and 2,4-D Exposure Reductions Program.

(Editors Note: Deleted text indicated by strike-through and added text underlined)

(Container Label)

(logo) DowElanco

Weed Killer 4D

For the Control of Many Broadleaf Weeds, Herbaceous Perennials and Woody Plants Susceptible to 2,4-D in Grass Pastures, Certain Crops and Non-Crop Areas

Active Ingredients:

2,4-Dichlorophenoxyacetic Acid, 2-Ethylhexyl Ester† 65.9%

Inert Ingredients 34.1%

Acid Equivalents:

2,4-dichlorophenoxyacetic acid† -- 43.7% -- 3.8 lb/gal

†Isomer Specific by AOAC Method No. 978.05 (15th Ed.)

Precautionary Statements

Hazards to Humans and Domestic Animals

Keep Out of Reach of Children

CAUTION

PRECAUCION:

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.

Harmful If Swallowed Or Absorbed Through Skin • Prolonged Or Frequently Repeated Skin Contact May Cause Allergic Skin Reactions In Some Individuals

Avoid breathing vapors or mists. Avoid contact with skin, eyes, or clothing. When mixing, loading or applying this product, or repacking or cleaning equipment used with this product, wear eye protection (face shield or safety glasses), chemical resistant gloves, long-sleeved shirt, long pants, socks and shoes. It is recommended that safety glasses include front, brow and temple protection. For aerial applicators in an enclosed cockpit and applicators applying this product from a tractor that has a completely enclosed cab, eye protection is not required.

Wash hands, face and arms with soap and water as soon as possible after mixing, loading or applying this product. Wash hands, face arms with soap and water before eating, smoking or drinking. Wash hands and arms before using the toilet.

After work, remove all clothing and shower using soap and water. Do not reuse clothing worn during previous days mixing, loading or application of this product. Clothing must be kept and washed separately from other household laundry. Remove saturated clothing as soon as possible and shower.

(Editor's note: The above personal hygiene statements were incorporated into User Safety Recommendations)

BEST AVAILABLE COPY

Note: For containers of over 1 gallon, but less than 5 gallons: Persons engaged in pouring this product must also wear coveralls or chemical-resistant apron.

For containers of 5 gallons or more: A mechanical transfer system (probe and pump) must be used for transferring the contents of the container. If the contents of a non-refillable pesticide container are emptied, the probe must be rinsed before removal.

(Editors note: The two statements immediately above have been incorporated into the "PPE" and "Engineering Controls" sections.)

Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category E on an EPA chemical resistance category selections chart.

Applicators and other handlers, including persons repairing or cleaning equipment, must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as Barrier Laminate, Nitrile Rubber, Neoprene Rubber, or Viton
- Shoes plus socks
- Protective eyewear such as face shield or safety glasses (brow and temple protection recommended). Eye protection is not required for ground or aerial applicators in completely enclosed cabs or cockpits.

- Note: For containers of over 1 gallon, but less than 5 gallons: Persons engaged in pouring this product must also wear coveralls or chemical-resistant apron.

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.

Engineering Controls Statements

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protections 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.

For containers of 5 gallons or more: A mechanical transfer system (probe and pump) must be used for transferring the contents of the container. If the contents of a non-refillable pesticide container are emptied, the probe must be rinsed before removal.

User Safety Recommendations

Users should:

- Wash hands, face and arms with soap and water as soon as possible after mixing, loading or applying this product and before eating, smoking or drinking. Wash hands and arms before 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. After work, remove all clothing, shower using soap and water and change into clean clothing. Launder clothing worn during mixing, loading, application or cleaning and repairing equipment before reuse.

First Aid

If in eyes: Immediately flush eyes with plenty of water. Get medical attention if irritation persists.

If on skin: Immediately flush skin with plenty of water. Get medical attention if irritation persists.

If swallowed: DO NOT induce vomiting. Call a physician. Do not induce vomiting or give anything by mouth to an unconscious person.

Note to Physician: May cause chemical pneumonitis if aspirated. If lavage is performed, suggest endotracheal and/or esophagoscopy control.

Physical or Chemical Hazards

Do not cut or weld container.

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Environmental Hazards

This product is toxic to aquatic invertebrates. Drift or runoff may adversely affect aquatic invertebrates and non-target plants. 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 washwaters.

Mixing and Loading: Most cases of groundwater contamination involving phenoxy herbicides such as 2,4-D have been associated with mixing/loading and disposal sites. Caution should be exercised when handling 2,4-D pesticides at such sites to prevent contamination of groundwater supplies. Use of closed systems for mixing or transferring this pesticide will reduce the probability of spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent groundwater contamination.

Refer to label booklet for additional precautionary information including Personal Protective Equipment (PPE), and Directions for Use including Agricultural Use Requirements and Storage and Disposal.

Notice: Read the entire label. Use only according to label directions. Before buying or using this product, read "Warranty Disclaimer" and "Limitation of Remedies" inside label booklet.

In case of an emergency endangering health or the environment involving this product, call collect 517-636-4400.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

EPA Reg. No. 62719-9

EPA Est. 464-MI-1

*Trademark of DowElanco

DowElanco • Indianapolis, IN 46268, U.S.A.

Herbicide

Net Contents __ gal

(Label Booklet)

(logo) DowElanco

Weed Killer 4D

For the Control of Many Broadleaf Weeds, Herbaceous Perennials and Woody Plants Susceptible to 2,4-D in Grass Pastures, Certain Crops and Non-Crop Areas

Active Ingredients:

2,4-Dichlorophenoxyacetic Acid, 2-Ethylhexyl Ester† 65.9%
Inert Ingredients 34.1%

Acid Equivalents:

2,4-dichlorophenoxyacetic acid† -- 43.7% -- 3.8 lb/gal
†Isomer Specific by AOAC Method No. 978.05 (15th Ed.)

Keep Out of Reach of Children

CAUTION

PRECAUCION:

Refer to inside of label booklet for precautionary information and Directions for Use including STORAGE AND DISPOSAL.

Notice: Read the entire label. Use only according to label directions. Before buying or using this product, read "Warranty Disclaimer" and "Limitation of Remedies" inside label booklet.

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EPA Est. 464-MI-1

*Trademark of DowElanco
DowElanco • Indianapolis, IN 46268, U.S.A.

Herbicide

Precautionary Statements

**Hazards to Humans and Domestic Animals
Keep Out of Reach of Children**

CAUTION

PRECAUCION:

~~Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.~~

Harmful If Swallowed Or Absorbed Through Skin • Prolonged Or Frequently Repeated Skin Contact May Cause Allergic Skin Reactions In Some Individuals

~~Avoid breathing vapors or mists. Avoid contact with skin, eyes, or clothing. When mixing, loading or applying this product, or repairing or cleaning equipment used with this product, wear eye protection (face shield or safety glasses), chemical resistant gloves, long-sleeved shirt, long pants, socks and shoes. It is recommended that safety glasses include front, brow and temple protection. For aerial applicators in an enclosed cockpit and applicators applying this product from a tractor that has a completely enclosed cab, eye protection is not required.~~

~~Wash hands, face and arms with soap and water as soon as possible after mixing, loading or applying this product. Wash hands, face and arms with soap and water before eating, smoking or drinking. Wash hands and arms before using the toilet.~~

~~After work, remove all clothing and shower using soap and water. Do not reuse clothing worn during previous days mixing, loading or application of this product. Clothing must be kept and washed separately from other household laundry. Remove saturated clothing as soon as possible and shower.~~

~~(Editor's note: The above personal hygiene statements were incorporated into User Safety Recommendations)~~

~~Note: For containers of over 1 gallon, but less than 5 gallons: Persons engaged in pouring this product must also wear coveralls or chemical resistant apron.~~

~~For containers of 5 gallons or more: A mechanical transfer system (probe and pump) must be used for transferring the contents of the container. If the contents of a non-refillable pesticide container are emptied, the probe must be rinsed before removal.~~

~~(Editors note: The two statements immediately above have been incorporated into the "PPE" and "Engineering Controls" sections.)~~

Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category E on an EPA chemical resistance category selections chart.

Applicators and other handlers, including persons repairing or cleaning equipment, must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as Barrier Laminate, Nitrile Rubber, Neoprene Rubber, or Viton
- Shoes plus socks
- Protective eyewear such as face shield or safety glasses (brow and temple protection recommended). Eye protection is not required for ground or aerial applicators in completely enclosed cabs or cockpits.

• Note: For containers of over 1 gallon, but less than 5 gallons: Persons engaged in pouring this product must also wear coveralls or chemical-resistant apron.

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.

BEST AVAILABLE COPY

Engineering Controls Statements

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.

For containers of 5 gallons or more: A mechanical transfer system (probe and pump) must be used for transferring the contents of the container. If the contents of a non-refillable pesticide container are emptied, the probe must be closed before removal.

User Safety Recommendations

Users should:

- Wash hands, face and arms with soap and water as soon as possible after mixing, loading or applying this product and before eating, smoking or drinking. Wash hands and arms before 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. After work, remove all clothing, shower using soap and water and change into clean clothing. Launder clothing worn during mixing, loading, application or cleaning and repairing equipment before reuse.

First Aid

If in eyes: Immediately flush eyes with plenty of water. Get medical attention if irritation persists.

If on skin: Immediately flush skin with plenty of water. Get medical attention if irritation persists.

If swallowed: DO NOT induce vomiting. Call a physician. Do not induce vomiting or give anything by mouth to an unconscious person.

Note to Physician: May cause chemical pneumonitis if aspirated. If lavage is performed, suggest endotracheal and/or esophagosopic control.

Physical or Chemical Hazards

Do not cut or weld container.

Environmental Hazards

This product is toxic to aquatic invertebrates. Drift or runoff may adversely affect aquatic invertebrates and non-target plants. 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 washwaters.

Mixing and Loading: Most cases of groundwater contamination involving phenoxy herbicides such as 2,4-D have been associated with mixing/loading and disposal sites. Caution should be exercised when handling 2,4-D pesticides at such sites to prevent contamination of groundwater supplies. Use of closed systems for mixing or transferring this pesticide will reduce the probability of spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent groundwater contamination.

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Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all Directions for Use carefully before applying.

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 exemptions 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
- Chemical-resistant gloves such as Barrier Laminate, Nitrile Rubber, Neoprene Rubber or Viton
- Shoes plus socks
- Protective eyewear

STORAGE AND DISPOSAL

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

Storage: Keep container tightly closed when not in use. This product can be stored in an unheated building.

Pesticide Disposal: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container Disposal (Metal): Do not reuse container. Triple rinse (or equivalent). Puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Container Disposal (Plastic): Do not reuse container. Triple rinse (or equivalent). Puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

General: Consult federal, state, or local disposal authorities for approved alternate procedures. Be sure that use of this product conforms to all application regulations.

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General Information

Weed Killer 4D herbicide is intended for the control of many broadleaf weeds, herbaceous perennials and woody plants susceptible to 2,4-d in grass pastures, certain crops and non-crop areas.

Apply Weed Killer 4D as water or oil spray during warm weather when weeds or brush are actively growing. Application under drought conditions often will give poor results. Use low spray pressure to minimize drift. On cropland and along roadsides, do not exceed 20 psi pressure. Apply enough spray volume to provide uniform coverage of weeds and brush, usually 5 to 20 gallons per acre by ground equipment and 3 to 5 gallons by aircraft. Higher gallonage may be used if desired to improve spray coverage. Generally, the lower dosages recommended on this label will be satisfactory for young, succulent growth of sensitive weed species. For less sensitive species and under conditions where control is more difficult, the higher dosages will be needed. For crop uses, do not mix with oil or other adjuvants unless specifically recommended on this label. Deep-rooted perennial weeds such as Canada thistle and field bindweed and many woody plants usually require repeated applications for maximum control. Do not apply Weed Killer 4D where spray drift may contact nearby susceptible crops or other desirable plants or may contaminate water for irrigation or domestic use. Read and follow all Use Precautions given on this label.

Note: If there are uncertainties concerning special local use situations or specific crop variety tolerances to 2,4-D, consult your State Agricultural Experiment Station or local Extension Service weed specialists for advice.

General Use Precautions

Chemigation: Do not apply this product through any type of irrigation system.

Avoid Contact With 2,4-D Susceptible Crops And Other Desirable Broadleaf Plants: Do not apply directly to or otherwise permit even minute amounts to contact cotton, grapes, tobacco, fruit trees, vegetables, flowers, ornamentals or other desirable plants susceptible to 2,4-D. Do not use in or near a greenhouse.

DO NOT APPLY IN THE VICINITY OF COTTON, GRAPES, TOBACCO, TOMATOES OR OTHER DESIRABLE 2,4-D SUSCEPTIBLE CROPS OR PLANTS. DO NOT SPRAY WHEN WIND IS BLOWING TOWARDS SUSCEPTIBLE CROPS OR ORNAMENTAL PLANTS.

Avoid Spray Drift: Applications should be made only when there is no hazard from spray drift since very small quantities of the spray, which may not be visible, may severely injure susceptible crops during both growing and dormant periods. Use coarse sprays to minimize drift since, under adverse weather conditions, fine spray droplets may drift a mile or more. A spray thickening agent such as NALCO-TROL, may be used with this product to aid in reducing spray drift. If used, follow all use recommendations and precautions on the product label.

Ground Equipment: With ground equipment, spray drift can be lessened by keeping the spray boom as low as possible; by applying 20 gallons or more of spray per acre; by using no more than 20 pounds spraying pressure at large droplet producing nozzle tips; by spraying when wind velocity is low; and by stopping all spraying when wind exceeds 6 to 7 miles per hour. Do not apply with hollow cone-type insecticide or other nozzles that produce a fine-droplet spray.

Determine Air Movement And Directions Before Foliar Application: Use a smoke generator or other means at or near the application site for the detection of air movement, air stability or temperature inversions. Such a condition exists when there is little or no wind and air temperature is lower near the ground than at higher levels. Use appropriate drift control measures or avoid application when smoke is moving toward nearby desirable susceptible plants or sensitive areas.

Aerial Application: With aircraft, drift can be lessened by applying a coarse spray; by using no more than 20 pounds spray pressure at the nozzles; by using straight stream nozzles directed straight back; by using a spray boom no longer than 3/4 the wing or rotor span of the aircraft; and by spraying only when wind velocity is less than 6 mph.

Excessive amounts of this herbicide in the soil may temporarily inhibit seed germination or plant growth. Violent wind storms may move soil particles. If 2,4-D is on soil particles and they are blown onto the

susceptible plants, visible symptoms may appear. Serious injury is unlikely. The hazard of movement of 2,4-D on dust is reduced if treated fields are irrigated or if rain occurs shortly after application.

At high temperatures, vapors from this product may injure susceptible plants growing nearby.

To avoid injury to desirable plants, do not handle or apply other agricultural chemicals with the same equipment used for Weed Killer 4D unless appropriately cleaned first. Local conditions may affect the use of herbicides. Consult your State Agricultural Experiment Station or Extension Service weed specialists for cleaning methods which are in compliance with local regulations and for advice in selecting treatments from this label to best fit local conditions. Be sure that use of this product conforms to all applicable regulations.

Weeds Controlled

Weed Killer 4D is recommended for control of numerous broadleaf weeds and certain 2,4-D susceptible woody plants without injury to most established grasses. Species controlled include the following, plus many others:

beggarticks	jimsonweed	salsify
bitterweed	ladysthumb	sand shinnery oak
blueweed, Texas	lambquarter	shepherdspurse
broomweed	loco, bigbend	sicklepod
buckbrush	mallow, venice	smartweed (annual)
buckwheat, wild	manzanita	sneezeweed, bitter
burdock	marshelder	sowthistle, annual
burhead	milkvetch	spanishneedles
carpetweed	morningglory, annual	sumac
catnip	nettles	sunflower
chamise	onion, wild	sweetclover
chicory	pennycress (fanweed)	thistle, bull
cocklebur	pepperweed, field	thistle, musk
coffee weed	pigweed†	thistle, Russian
cornflower	plantains	tumbleweed
coyotebrush	poorjoe	velvetleaf
croton	rabbitbrush	vervains
dandelion	radish, wild	vetch
docks	ragweed	water plantain
dogfennel	ragwort, tansy	wild mustard
elderberry	rape, wild	willow
galinsoga	redstem	witchweed
garlic, wild	sage, coastal	wormwood
goatsbeard	sagebrush, big	yellow rocket
hemp, wild	sagebrush, sand	yellow starthistle
jewelweed		

†The control of "hybrid" pigweeds appears to be less satisfactory from 2,4-D products than formerly experienced on "non-hybrid" varieties. Since 2,4-D herbicides are not as effective on the "hybrid" pigweeds, it is necessary to apply higher rates of 2,4-D for control, especially later in the growing season. Higher rates injure some crops, so less than satisfactory pigweed control may be experienced by the highest tolerated crop dosages.

Therefore, DowElanco no longer includes pigweed among the species covered by the performance guarantee statements on the labels for Weed Killer 4D. At this time, this disclaimer applies only to the High Plains of Texas and western Oklahoma, including the Panhandles. All other guarantees on these product labels are unchanged by this disclaimer.

To Prepare the Spray

- (1) Fill the spray tank about half full with water, then add the required amount of Weed Killer 4D with agitation, and finally the rest of the water.

Note: Weed Killer 4D in water forms an emulsion which tends to separate unless the mixture is kept agitated.

- (2) If oil is added, first mix the Weed Killer 4D and the oil and then add this mixture to the water. However, with adequate agitation, the oil can be added after Weed Killer 4D is mixed with water.
- (3) If straight oil is used, a solution is formed and separation does not occur. Do not allow any water to get into the oil-herbicide mixture to avoid formation of an invert emulsion.

Use In Liquid Nitrogen Fertilizer

This product may be combined with liquid nitrogen fertilizer suitable for foliar application to accomplish broadleaf weed control and fertilization of corn, small grains or pastures in a single operation. Use Weed Killer 4D in accordance with recommendations for these crops provided in this label. Use liquid fertilizer at rates recommended by the supplier or Extension Service Specialist. Test for mixing compatibility by mixing spray ingredients in correct proportions in a clear glass jar before mixing in spray tank. A compatibility aid such as Unite or Compex may be needed in some situations. Compatibility is best with liquid fertilizer solutions containing only nitrogen. Mixing with N-P-K solutions may not be satisfactory, even with the addition of a compatibility aid. Pre-mixing Weed Killer 4D with 1 to 4 parts water may help in situations when mixing difficulty occurs.

Fill the tank about half full with the liquid fertilizer, then add the required amount of Weed Killer 4D with agitation. Maintain agitation and complete filling the tank with liquid fertilizer. Apply immediately and continue agitation in spray tank during application. Do not store the spray mixture. Application during very cold weather (near freezing) is not advisable.

Approved Uses

Crop and Forestry Uses

Agricultural Use Requirements for Crops and Forestry

For the following crop and forestry uses, follow PPE and Reentry instructions in the "Agricultural Use Requirements" section of this label.

Weed Control in Small Grains Not Underseeded With A Legume

Note: Do not permit dairy animals or meat animals being finished for slaughter to forage or graze treated grain fields within 2 weeks after treatment.

Spring and Winter Wheat, Barley, and Rye

Apply 1/2 to 1 pint per acre. Spray when grain is in full tiller stage (usually 4 to 8 inches tall) but before the boot stage and boot to dough stage. For improved control of difficult weeds including wild garlic and wild onion or under dry or cool conditions, apply up to 2 pints per acre. Wild garlic and wild onion may not be killed but dockage should be reduced. Do not use higher rates unless possible crop injury will be acceptable. Consult State Agricultural Experiment Station or Extension Service Weed Specialists for recommendations or suggestions to fit local conditions.

Spring Seeded Oats

Apply 1/2 pint per acre at the full tiller stage but before the early boot stage. Oats are less tolerant to 2,4-D than wheat or barley and are more likely to suffer some injury.

Fall Seeded Oats (Southern) Grown for Grain

Apply 3/4 to 1 1/4 pints per acre after full tillering but before the early boot stage. Some difficult weeds may require higher rates for maximum control but crop injury may result. Do not spray during or immediately following cold weather.

Preharvest Treatment

Apply 1 to 2 pints per acre when grains are in the hard dough stage to control large weeds that may interfere with harvest. Best results will be obtained when soil moisture is sufficient to cause succulent weed growth.

Note: Do not feed treated straw to livestock.

Control of Wild Garlic and Wild Onion in Stubble Grain Fields

Following harvest of small grains, soybeans, corn or grain sorghum, wild garlic and wild onion often produce new fall growth. This new growth may be treated with Weed Killer 4D at a rate of 2 to 3 quarts per acre. This treatment practice is useful as part of an overall control program.

Do not forage for 7 days after application.

Weed Control in Corn

(Use one of the following programs)

Preemergence: Apply 1 to 2 quarts per acre to soil anytime after planting but before corn emerges. Only emerged broadleaf weeds are likely to be controlled. Do not apply more than 1 quart per acre unless the increased risk of crop injury can be tolerated. Do not use on light sandy soil.

Emergence: Apply 1 pint per acre just as corn plants are breaking ground.

Postemergence: After emergence of corn use 1/2 pint per acre. Application of 3/4 to 1 pint per acre may be needed for maximum

control of some weeds but such rates are more likely to injure the corn. If corn is over 8 inches tall, use drop nozzles to keep the spray off the corn foliage as much as possible. Do not apply from the tasseling to dough stage. Do not use with oil, atrazine or other adjuvants. Crop injury is more likely to occur if corn is growing rapidly under high temperature and high soil moisture conditions. To reduce breakage of stalks from temporary brittleness caused by 2,4-D, delay cultivation for 8 to 10 days after treatment. Do not forage or feed corn fodder for 7 days following application.

Note: Hybrids vary in response to 2,4-D and some are easily injured. Spray only varieties known to be tolerant to 2,4-D. Contact seed company or your Agricultural Experiment Station or Extension Service weed specialists for this information.

Preharvest Corn Treatment

After the hard dough or denting stage, apply 1 to 2 pints per acre by air or ground equipment to suppress perennial weeds, decrease weed seed production, and control tall weeds such as bindweed, cocklebur, dogbane, jimsonweed, ragweed, sunflower, velvetleaf and vines that interfere with harvesting. Do not forage or feed corn fodder for 7 days following application.

Weed Control in Sorghum (Milo)

Apply 1/2 pint per acre when sorghum is 5 to 15 inches tall. A higher rate of 3/4 to 1 pint per acre may be needed to control some weeds but the chance for crop injury is likewise increased. Do not use with oil. Do not treat before the sorghum is 5 inches tall nor during the boot, flowering or early dough stages. If sorghum is taller than 8 inches, use drop nozzles to keep the spray off the foliage as much as possible. Temporary crop injury may occur under conditions of high soil moisture and high air temperatures. Varieties vary in tolerance to 2,4-D and some hybrids are quite sensitive. Spray only varieties known to be tolerant to 2,4-D. Contact seed company or your Agricultural Experiment Station or Extension Service weed specialists for this information.

Weed Control In Sugarcane

Preemergence: Apply 2 pints per acre before cane emerges to actively growing broadleaf weeds.

Postemergence: Apply 2 to 4 pints per acre after cane emerges through layby. Use the higher rate for perennial weeds and hard to control species.

Weed Control In Fallow Land And Crop Stubble

Apply 1 to 2 pints per acre for control of annual and biennial broadleaf weeds. Use the higher rate on older drought stressed plants or hard to kill species. Apply 2 to 6 pints per acre for control of perennial broadleaf weeds. Spray weeds in the bud to bloom stage or in good vegetative growth. Do not plant treated fallow land for three months or until chemical has disappeared from soil.

Control Of Woody Weeds In Low-Brush Blueberry Fields In Maine

How To Use: Mount a drum 8 to 10 feet long or some other suitable length, and 1 1/2 to 2 feet in diameter on an axle such as an old hay rake frame. Cover the drum with water-absorbent yet tough cloth which will resist rapid wear and tear. Draw the cloth-covered drum across the blueberry field and at the same time spray evenly onto the full length of the top of the cloth-covered drum a spray mixture made by diluting 1 quart of Weed Killer 4D in 50 gallons of water per acre. Have the drum mounted so that as it revolves on its axis, it is high enough to miss most of the low brush blueberry stems, yet low enough to forcibly brush the spray-saturated cloth-covered drum against the higher woody weeds, principally sweet fern, wild cherry and poplar. Keep the cloth wet enough to provide top coverage of the weeds, yet not so wet as to allow runoff of the liquid which could cause injury to the blueberry plants.

When To Use: Apply during June and July when weed tops have emerged sufficiently above the blueberry stems to allow treatment of the weeds and not the blueberry plants. Apply only during the year before the first burn. To use this method of weed control, two-year burns should be extended to three years.

Caution: Do not allow the spray being applied to the cloth-covered drum to be directed onto the blueberries. Do not harvest-rake field during the herbicide treatment year or until a two-year interval thereafter.

Forest Site Preparation

For control of susceptible broadleaf weeds and brush on sites to be planted in forests, use 1.5 to 4 quarts per acre of Weed Killer 4D in sufficient spray volume for good plant coverage, usually 6 to 25 gallons. Applications can be made by air or ground (hand gun, boom, or powered knapsack sprayer). Two to eight quarts of diesel oil per acre or a suitable surfactant or penetrant may be added to improve brush control.

Forest Conifer Release

For applications in late winter or spring to control susceptible deciduous brush species, such as alder, willow, poplars, cascara, cherry, service cherry and vine maple during early growth and before conifer budbreak, use Weed Killer 4D at rates up to 3 quarts per acre in diesel or stove oil by air or ground in sufficient spray volume for good plant coverage, usually 6 to 25 gallons. Do not use in plantations where pine or larch are among the desired species.

For treatment before conifer budbreak to control susceptible evergreen brush species, such as tanoak, mandrone, chinquapin, *ceanothus* spp. and manzanita or deciduous brush after leafout or broadleaf weeds, use Weed Killer 4D at rates up to 3 quarts per acre alone or with 0.5 to 2.0 gallons per acre of diesel or similar oil or suggested rates of suitable surfactants or penetrants. After conifer budbreak, Weed Killer 4D without oil, surfactant or penetrant can be used at rates up to 2 quarts per acre but may cause injury or suppression of the conifer growth. Use sufficient volume of spray for good coverage of brush, usually 6 to 25 gallons. Some species of pine may be seriously injured by treatment at these growth stages.

After conifer species such as white pine, ponderosa pine, jack pine, red pine, black spruce, white spruce, red spruce, and balsam fir cease growth and harden off and brush is still actively growing in late summer, 1.5 to 3.0 quarts of Weed Killer 4D per acre in enough water to obtain good plant coverage may be applied by air or ground to control certain competing hardwood species such as alder, aspen, birch, hazel, and willow. Since this treatment may cause occasional conifer injury, do not use if such injury cannot be tolerated.

Directed Sprays in Conifer Plantations (Including pine)

Apply Weed Killer 4D at any time brush or broadleaf weeds are susceptible by directing spray around the conifers to avoid contact of needles with injurious amounts of spray. Rates of Weed Killer 4D are not to exceed 4 quarts per acre in oil, oil-water, or water carrier at 10 to 100 gallons per acre.

Rangeland, Pasture and Non-crop Uses

Use Requirements for Rangeland, Pasture and Non-cropland Areas: No Worker Protection Standard worker entry restrictions or worker notification requirements apply when this product is applied to rangeland, pasture or non-cropland areas.

Weed And Brush Control In Rangeland, Conservation Reserve And Grass Pastures

Note: Do not use on bent grass, alfalfa, clover, or other legumes.

Do not use on newly seeded areas until grass is well established.

Do not use from early boot to milk stage where grass seed production is desired.

For Conservation Reserve Land, follow all applicable state and Federal regulations. Follow the most severe grazing restrictions imposed either by the pesticide label or by the USDA Acreage Conservation Reserve Program, whichever is longest.

Grazing Restrictions: Do not graze lactating dairy animals on treated areas within 7 days after application. Do not harvest grass cut for hay from treated areas for 30 days. Withdraw meat animals from treated forage at least 3 days before slaughter.

Control of Bitterweed, Broomweed, Croton, Docks, Kochia, Marshelder, Muskthistle and Other Broadleaf Weeds

Use 2 quarts of Weed Killer 4D per acre in the amount of water needed for uniform application. If the weeds are young and growing actively, 1 quart per acre will provide control of some species. Deep-rooted perennial weeds may require repeated treatments in the same year or in subsequent years.

Control of Wild Garlic and Wild Onion

Apply 2 to 3 quarts per acre, making three applications (fall-spring-fall or spring-fall-spring) starting in late fall or early spring.

Control of Weed Control in Newly Sprigged Coastal Bermudagrass

Apply 1 to 2 quarts per acre preemergence and/or postemergence.

Control of Sand Shinnery Oak and Sand Sagebrush

On the oak, use 1 quart in 5 gallons of oil or in 4 gallons of water plus 1 gallon of oil per acre. Apply by aircraft between May 15 and June 15. On the sagebrush, use 1 quart in 3 gallons of oil per acre and apply by aircraft when foliage is fully expanded and the brush is actively growing.

Control of Big Sagebrush and Rabbitbrush

Use 2 to 3 quarts per acre in 2 to 3 gallons of oil or in 3 to 5 gallons of oil-water emulsion spray. For rabbitbrush, the 3 quart rate is usually required. Brush should be leafed out and growing actively when treated. Retreatment may be needed.

Control of Chamise, Manzanita, Buckbrush, Coastal Sage, Coyotebrush and Certain Other Chaparral Species

Use 2 quarts per acre in 5 to 10 gallons of water. One gallon of fuel oil may be included in the spray mixture for added effectiveness. Make applications by aircraft or ground equipment to obtain uniform spray coverage. For effective control, the brush must be fully leafed out and growing actively when sprayed. Retreatment may be needed.

Woody Plant Control in Non-Crop Areas

To control species susceptible to 2,4-D in rights-of-way, fencerows, roadsides, and along drainage ditch banks, spray brush up to 5 to 8 feet tall after spring foliage is well developed, using 3 to 4 quarts of Weed Killer 4D in 100 gallons of water and wetting all parts of the brush including foliage, stems and bark. This may require up to 400 gallons of spray per acre for adequate coverage of solid stand of brush. Make application in such a way as to prevent drift of the spray off the area being treated. Spraying can be effective at any time up to 3 weeks before frost as long as the soil moisture is sufficient for active growth of the brush. Control will be less effective in midsummer during hot dry weather when soil moisture is deficient and plants are not actively growing. Oil or wetting agent may be added to the spray, if needed for increased effectiveness.

Weed Control in Non-Crop Areas Airfields, Roadsides, Vacant Lots, Drainage Ditch Banks

Apply 1 to 3 quarts of Weed Killer 4D per acre in the amount of water needed for uniform application. Usually 2 quarts per acre provides good weed control under average conditions. Treat when weeds are young and growing well. Do not use on dichondra or other broadleaf herbaceous ground covers. Do not use on creeping grasses such as bent and St. Augustine except for spot treating, nor on newly seeded turf until grass is well established. Reseeding of treated areas should be delayed following treatment. With spring application, reseed in the fall; with fall application, reseed in the spring. Legumes are usually damaged or killed so do not treat areas where legumes are desired. Deep-rooted perennial weeds may require repeated treatments in the same season or in subsequent years.

Tule (Bulrush) And Other Rushes

Mix 2 quarts of Weed Killer 4D and 1 gallon of diesel oil or kerosene, then add this mixture to 100 gallons of water. Spray to wet all foliage (400-800 gallons per acre). Addition of a wetting agent may be advisable. Apply in the spring during flower head emergence. Respray if needed when regrowth is 3 to 5 feet tall.

Spot Treatment

To control broadleaf weeds in small non-cropland areas with a hand sprayer, use 1/4 pint of Weed Killer 4D in 3 gallons of water and spray to thoroughly wet all weed foliage. Keep spray mixture agitated to prevent separation.

Turf Uses

Use Requirements for Turf Including Grass Seed Crops

Restricted Entry Interval: When used on grass seed crops, follow PPE and reentry instructions in the "Agricultural Use Requirements" section of this label. For use on other turf areas, do not allow people (other than applicator) or pets on treatment area during application. Do not enter into treated areas until sprays have dried.

Restrictions on Retreatment: Do not apply more than 2 broadcast applications per year per treatment site.

Weed Control In Grass Seed Crops

Use 1 to 1 1/2 pints per acre in the amount of water required for uniform application by air or ground equipment. Apply to established stands in spring from the tiller to early boot stage. Do not spray in boot stage. New spring seedings may be treated with the lower rate after the grasses have at least five leaves. Perennial weed regrowth may be treated in the fall.

Weed Control In Turf Areas Such As Lawn, Golf Courses, Cemeteries and Parks

Apply 1 to 2 quarts of Weed Killer 4D per acre in the amount of water needed for uniform application. Usually 2 quarts per acre provides good weed control under average conditions. Treat when weeds are young and growing well. Do not use on golf greens nor on dichondra or other broadleaf herbaceous ground covers. Do not use on creeping grasses such as bent and St. Augustine except for spot treating, nor on newly seeded turf until grass is well established. Reseeding of treated areas should be delayed following treatment. With spring application, reseed in the fall; with fall application, reseed in the spring. Legumes are usually damaged or killed so do not treat areas where legumes are desired. Deep-rooted perennial weeds may require repeated treatments in the same season or in subsequent years.

Warranty Disclaimer

DowElanco warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. DOWELANCO MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Plant injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application or other factors, all of which are beyond the control of DowElanco or the seller. All such risks shall be assumed by Buyer.

Limitation of Remedies

The exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at DowElanco's election, one of the following:

1. Refund of purchase price paid by buyer or user for product bought, or
2. Replacement of amount of product used.

DowElanco shall not be liable for losses or damages resulting from handling or use of this product unless DowElanco is promptly notified of such loss or damage in writing. In no case shall DowElanco be liable for consequential or incidental damages or losses.

The terms of the "Warranty Disclaimer" above and this "Limitation of Remedies" cannot be varied by any written or verbal statements or agreements. No employee or sales agent of DowElanco or the seller is authorized to vary or exceed the terms of the "Warranty Disclaimer" or this "Limitation of Remedies" in any manner.

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Revisions:

- 1) Added requirements of the Worker Protection Standard
- 2) Added requirements to comply with the 2,4-D Exposure Reduction Program.
- 3) Label formatted to be compatible with requirements of the 2,4-D Exposure Reduction Program and Worker Protection Standard.