

1386-60

11-30-2010

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

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

Nik Ramswick
Universal Cooperatives, Inc.
1300 Corporate Center Curve
Eagan, Minnesota 55121

NOV 30 2010

Dear Ms. Ramswick:

SUBJECT: Label Amendment
2,4-D Lo-V Ester Weed Killer
EPA Registration No. 1386-60
Your Submission Dated July 28, 2010

The label amendment referred to above, submitted in accordance with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable with the following comments:

1. Remove "Recommended" from table header on page 8 and whenever else it appears in the label referring to use rates.
2. Remove "General" on page 10 as it makes following text unenforceable.

A stamped copy is enclosed for your records. Please submit one (1) copy of your final printed labeling before you release the product for shipment. This amended labeling supersedes all previously accepted ones.

Sincerely yours,

Kathryn V. Montague
Product Manager (23)
Herbicide Branch
Registration Division (7505P)

Enclosure

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= SUBMISSION OF REVISED LABEL IN
RESPONSE TO EPA LETTER DATED
SEPTEMBER 15, 2008.

ACCEPTED
with COMMENTS
In EPA Letter Dated:
NOV 30 2010
Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended, for the pesticide
registered under EPA Reg. No.

1386-60

2,4-D LO-V ESTER

WEED KILLER

KEEP OUT OF REACH OF CHILDREN
CAUTION

REFER TO INSIDE OF LABEL BOOKLET FOR ADDITIONAL PRECAUTIONARY STATEMENTS, WORKER PROTECTION STATEMENTS, DIRECTIONS FOR USE, AND STORAGE AND DISPOSAL INSTRUCTIONS.

ACTIVE INGREDIENT:

2-Ethylhexyl ester of	
2,4-dichlorophenoxyacetic acid*	65.1%
INERT INGREDIENTS**	34.9%
Total	100.0%

*isomer Specific Acid Equivalent (43.20% or 3.76 lbs./gal.) by
AOAC Method No. 6.D01-5.

**Contains Petroleum Distillate.

EPA Reg. No. 1386-60
EPA Est. No. 1386-OH-1



Net Contents:
2 1/2 Gallons

Universal Cooperatives, Inc.
1300 Corporate Center Curve
Eagan, MN 55121

FIRST AID	
IF SWALLOWED:	<ul style="list-style-type: none"> • Immediately call a poison control center or doctor. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give any liquid to the person. • Do not give anything by mouth to an unconscious person.
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
IF IN EYES:	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
IF INHALED:	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. • Call a poison control center or doctor for further treatment advice.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
NOTE TO PHYSICIAN: May pose an aspiration/pneumonia hazard. Contains petroleum distillate.	
HOT LINE NUMBER	
For 24 Hour Medical Emergency Assistance (Human or Animal) call 1-800-308-1241 or for Chemical Emergency Assistance (Spill, Leak, Fire or Accident) call CHEMTREC at 1-800-424-9300.	

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION**

CAUTION: Harmful if swallowed. Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with eyes, skin, or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are made of barrier laminate, nitrile rubber, neoprene rubber or viton. If you want more options, follow the instructions for category E on an EPA chemical-resistance category selection chart.

All mixers, loaders, applicators, and other handlers must wear:

- Long-sleeved shirt and long pants,
- Shoes and socks
- **Chemical-resistant gloves (except for pilots)**
- **Chemical-resistant apron when mixing or loading, cleaning up spills or equipment, or otherwise exposed to the concentrate.**

See engineering controls for additional requirements.

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. After each day of use, clothing or PPE must not be reused until it has been cleaned.

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.

Pilots must use an enclosed cockpit that meets the requirements listed in the WPS for agricultural pesticides [40 CFR 170.240(d)(6)].

USER SAFETY RECOMMENDATIONS

- Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. If pesticide gets on skin, wash immediately with soap and water.
- Users should 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

This pesticide may be toxic to fish and aquatic invertebrates. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated area. Do not contaminate water when disposing of equipment wash waters or rinsate.

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Application around a cistern or well may result in contamination of drinking water or groundwater.

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. Drift or runoff may adversely affect aquatic invertebrates and nontarget plants. Do not contaminate water intended for irrigation or domestic purposes. Do not apply when weather conditions favor drift from target areas.

Use of this product in certain portions of California, Oregon and Washington is subject to the January 22, 2004 Order for injunctive relief in Washington Toxics Coalition et al. v. EPA, C01-0132C, (W.D. WA). For further information, please refer to EPA Web Site: <http://www.epa.gov/espp>.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame.

DIRECTIONS FOR USE

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

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

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.

AGRICULTURAL USE REQUIREMENTS

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

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

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

- Coveralls
- Chemical-resistant gloves made of any water-proof material
- Shoes plus socks
- Protective eyewear

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Do not enter or allow people (or pets) to enter the treated area until sprays have dried.

DO NOT APPLY THIS PRODUCT THROUGH ANY TYPE OF IRRIGATION SYSTEM.

2,4-D Lo-V Ester Weed Killer will kill or control the following as well as many other noxious plants susceptible to 2,4-D:

Alders	Buttercup	Halogeton	Mexicanweed	Sneezeweed
*Alfalfa	Canada Thistle	Hawkweed	Milk vetch	Southern Wild Rose
American Lotus	Carpetweed	Healall	Morningglory,	Sowthistle
Arrowheads	Catnip	Hemp	Annual	Spanishneedles
Artichoke	Chamise	Henbit	Mustard	St. Johnswort
Aster	Cherokee rose	*Hoary Cress	Parrot feather	Star thistle
Austrian Fieldcress	Chickweed	Honeysuckle	Pennycress,	Stinging Nettle
Beggarticks	Chicory	**Horseweed or	Field	*Stinkweed
Bidem	Cinquefoil	Marestail	Pennywort	Sumac
*Bindweed (Hedge,	*Clover, Red	Indian mallow	*Peppergrass	Sunflower
Field, European)	Coastal Redstem	Indigo	Pigweed	Sweetclover
Bitter	Sage	Ironweed	Plantain	Tansymustard
Wintercress	Cocklebur, Common	Jewelweed	Poison Ivy	Tansyragwort
Bittercress,	Coffeebean	Jimsonweed	Pokeweed	Tanweed
Smallflowered	Creeping Jenny	Klamath weed	Povertyweed	Tarweed
Bitterweed	Curly Indigo	Knotweed	Puncturevine	Thistles
Blackeyed Susan	Dandelion	*Kochia	Purslane	Toadflax
Blessed Thistle	*Dock	Ladysthumb	Rabbit brush	Tumbleweed
Blue Lettuce	Elderberry	Lambsquarters,	Ragweed	Velvetleaf
Blueweed, Texas	Eveningprimrose,	Common	Rape, Wild	Vervain
Boxelder	Cutleaf	Loco, Big Bend	Redstem Sage	Vetch, Hairy
Broomweed	Florida Pusley	Locoweed	*Russian Thistle	Virginia Creeper
Buckbrush	Frenchweed	Lupine	Sagebrush	Wild Buckwheat
Buckhorn	Galinsoga	Mallow, Venice	Salsify	Wild Carrot
Bull Thistle	Goatsbeard	Manzanita	Sand Shinnery,	*Wild Garlic
Bullnettle	*Goldenrod	Marijuana	Oak	Wild Lettuce
Burdock	Goosefoot	Many-Flowered	Shepherdspurse	*Wild Onion
Bur Ragweed	*Ground Ivy	Aster	Sicklepod	Wild Radish
Burhead	Gumweed	Marshelder	*Smartweed	Willow

*These species may require repeat applications and/or use of the higher rate recommended on this product label even under ideal conditions for application.

**May be applied only when growing on dry land.

2,4-D Lo-V Ester Weed Killer should be used as a water diluted spray, or may be applied in liquid nitrogen fertilizer (see below), for selective control of susceptible weeds growing in small grain crops, corn, grass seed crops and ornamental turf and for non-selective control of certain weeds not in growing crops, such as roadsides and fence rows.

Do not use in or near a greenhouse. Crops contacted by 2,4-D Lo-V Ester Weed Killer sprays or spray drift may be killed or suffer significant stand loss with extensive quality and yield reduction.

Apply when the weeds are young and in a succulent, rapidly growing condition, since best results are obtained when soil moisture and temperature conditions are favorable for rapid growth of weed plants. Sprays applied when weeds have stopped growing rapidly, or when they are affected by a lack of moisture in the soil, are often not effective against many kinds of weeds. Spray perennial weeds after they are completely emerged, but before the bloom stage. Kill of weeds may not be evident for 2 to 3 weeks after spraying. Retreatment of areas infested with perennial weeds may be necessary.

Considerable caution must be exercised in using 2,4-D sprays to avoid injury to crops and desirable plants. Do not apply directly to vegetables, grapes, fruit trees, ornamentals, cotton, soybeans, tomatoes or other desirable plants which are sensitive to 2,4-D and do not permit spray mist to drift onto them since even minute quantities may cause severe injury during the growing or dormant periods. Excessive amounts of this product in the soil may temporarily inhibit seed germination and all plant growth. Coarse sprays are less likely to drift. At high air or ground surface temperatures, vapor from this product may injure susceptible plants in the immediate vicinity. Do not use on creeping grasses, such as bent. Most legumes, including white clover, are usually damaged and, under some conditions, killed.

Aerial application should be used only when there is no danger of drift to susceptible crops. Many states have regulations concerning aerial application of 2,4-D formulations. Do not apply with hollow cone type insecticide or other nozzles that produce

fine spray droplets. Drift from aerial or ground application may be reduced by: (1) applying as near to the target as possible in order to obtain coverage; (2) by increasing the volume of spray mix per acre; (3) by decreasing the pounds of pressure at the nozzle tips; (4) by using nozzles which produce a coarse spray pattern; (5) by not applying when wind is blowing toward susceptible valuable plants. Consult local regulatory authorities before making applications.

PREPARATION OF SPRAY AND APPLICATION: Recommended quantities of 2,4-D Lo-V Ester Weed Killer should be added to water in the spray tank at time of application. Agitate or stir to assure a good mixture and continue some agitation during application. The quantity of spray solution to make up will depend upon the equipment to be used. When using a low volume sprayer, the proper dosage should be applied in at least 15 gallons of water per acre, although as little as 5 to 10 gallons per acre have been used successfully in certain instances. When using a high pressure sprayer, apply in 150 to 200 gallons of water per acre. For aerial application, apply in 2 to 5 gallons of water per acre. Always use the proper amount of this 2,4-D weed killer per unit of area regardless of the quantity of water. Do not use the spray equipment for other purposes unless thoroughly cleaned.

USE IN LIQUID NITROGEN FERTILIZER: 2,4-D Lo-V Ester Weed Killer may be combined with some liquid nitrogen fertilizers. However, the compatibility of 2,4 D Lo-V Ester with the fertilizer must be tested before combining in the spray tank.

JAR TEST
Amount of 2,4-D Lo-V Ester
to add to one pint of Liquid Nitrogen Fertilizer

2,4-D Lo-V Ester Rate/Acre	Level Teaspoons of 2,4-D Lo-V Ester	
	Volume of 25 Gals./Acre	Volume of 100 Gals./Acre
1/2 Pint	1/4 Teaspoon	1/16 Teaspoon
1 Pint	1/2 Teaspoon	1/8 Teaspoon
2 Pints	1 Teaspoon	1/4 Teaspoon
4 Pints	2 Teaspoons	1/2 Teaspoon

The amount of herbicide to be tested, as indicated in the above table, is based on either 25 gallons or 100 gallons of finished spray per acre. When using lower or higher spray volumes make appropriate changes in the ingredients of the compatibility test.

In a quart jar add the appropriate amount of 2,4-D Lo-V Ester as determined from the above chart, to one pint of liquid nitrogen fertilizer. Cover the jar and shake it well. Observe the mixture after 5 minutes and again after 30 minutes.

If the mixture does not ball up or form flakes, sludge, gels, oily films or layers or other precipitates, then the tested combination is compatible. If precipitates form but the mixture can be resuspended with agitation, the combination may be used, provided good agitation is maintained throughout the mixing and application operations.

If incompatibility occurs, the use of a suitable compatibility agent may solve the problem. Rerun the above compatibility test, but add 1/4 teaspoon of a compatibility agent prior to adding the 2,4-D Lo-V Ester. (The 1/4 teaspoon is equivalent to 2 pints per 100 gallons of liquid nitrogen fertilizer.) If the mixture is still incompatible, DO NOT USE.

SPRAY DRIFT MANAGEMENT

A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, relative humidity) and method of application (e.g., ground, aerial, airburst) can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

Droplet Size *

When applying sprays that contain 2,4-D as the sole active ingredient, or when applying sprays that contain 2,4-D mixed with active ingredients that require a coarse or coarser spray, apply only as a coarse or coarser spray (ASAE standard 572) or a volume mean diameter of 385 microns or greater for spinning atomizer nozzles.

When applying sprays that contain 2,4-D mixed with other active ingredients that require a medium or more fine spray, apply only as a medium or coarser spray (ASAE standard 572) or a volume mean diameter of 300 microns or greater for spinning atomizer nozzles.

Wind Speed:

Do not apply at wind speeds greater than 15 mph. Only apply this product if the wind direction favors on-target deposition and there are not sensitive areas (including, but not limited to, residential areas, bodies of water, known habitat for nontarget species, nontarget crops) within 250 feet downwind. If applying a medium spray, leave one swath unsprayed at the downwind edge of the treated field.

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Temperature Inversions

If applying at wind speeds less than 3 mph, the applicator must determine if: a) conditions of temperature inversion exist; or b) stable atmospheric conditions exist at or below nozzle height. Do not make applications into areas of temperature inversions or stable atmospheric conditions.

Susceptible Plants

Do not apply under circumstances where spray drift may occur to food, forage, or other plantings that might be damaged or crops thereof rendered unfit for sale, use or consumption. Susceptible crops include, but are not limited to, cotton, okra, flowers, grapes (in growing stage), fruit trees (foliage), soybeans (vegetative stage), ornamentals, sunflowers, tomatoes, beans, and other vegetables; or tobacco. Small amounts of spray drift that might not be visible may injure susceptible broadleaf plants.

Other State and Local Requirements

Applicators must follow all state and local pesticide drift requirements regarding application of 2,4-D herbicides. Where states have more stringent regulations, they must be observed.

Equipment

All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers or surrogates.

2,4-D esters may volatilize during conditions of low humidity and high temperatures. Do not apply during conditions of low humidity and high temperatures.

For aerial application:

The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.

Release spray at the lowest height consistent with efficacy and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety. This requirement does not apply to forestry or rights-of-way applications.

When applications are made with a crosswind, the swath will be displaced downwind. The applicator must compensate for this by adjusting the path of the aircraft upwind.

For ground boom application:

Do not apply with a nozzle height greater than 4 feet above the crop canopy.

TANK MIXING SEQUENCE

If the 2,4-D Lo-V Ester/fertilizer mixture is compatible without the use of a compatibility agent, fill the spray tank with half the amount of fertilizer to be used. Add the 2,4-D Lo-V Ester, with agitation, and complete filling the tank with the fertilizer. Apply immediately and continue agitation in the spray tank during application.

If a compatibility agent must be used, add it to the spray tank prior to adding the 2,4-D Lo-V Ester.

Follow applicable recommendations and field application rates on the fertilizer and compatibility agent labeling, as well as the 2,4-D Lo-V Ester labeling.

PLANTING IN TREATED AREAS

Labeled Crops: Within 29 days following an application of this product, plant only those crops named as use sites on this or other registered 2,4-D labels. Follow more specific limitations, if any, provided in the directions for individual crops. Labeled crops may be at risk for crop injury or loss when planted soon after application, especially in the first 14 days. Degradation factors described below should be considered in weighing this risk.

Other Crops: All other crops may be planted 30 or more days following an application without concern for illegal residues in the planted crop. However, under certain conditions, there may be a risk of injury to susceptible crops. Degradation factors described below should be considered in weighing this risk. Under normal conditions, any crop may be planted without risk of injury if at least 90 days of soil temperatures above freezing have elapsed since application.

Degradation Factors: When planting into treated areas, the risk of crop injury is less if lower rates of product were applied and conditions following application have included warm, moist soil conditions that favor rapid degradation of 2,4-D. Risk is greater if higher rates of product were applied and soil temperatures have been cold and/or soils have been excessively wet or dry in the days following application. Consult your local Agricultural Extension Service for information about susceptible crops and typical soil conditions in your area.

CROPS

CEREAL GRAINS (Wheat, Barley, Rye, Oats): See table for recommended use rates.

The preharvest interval (PHI) is 14 days.

Preharvest: Limited to one preharvest application per crop cycle. Maximum of 0.5 lb. ae (1 pint of this product) per acre per application. Limited to 7.5 lbs. ae (3.7 pints of this product) per acre per crop cycle.

Postemergence: Limited to one postemergence application per crop cycle. Maximum of 2.5 lbs. ae (2.6 pints of this product) per acre per application.

Spray when weeds are small after grains are well tillered (usually 4 to 8 inches tall), but before the boot stage. Do not apply during the seedling stage, late jointing stage or after heading begins. To control large weeds that will interfere with harvest or to suppress perennial weeds, preharvest treatment can be applied when the grain is in the dough stage.

The preharvest interval (PHI) is 14 days.

Spring Planted Oats: Use 1/2 pint per acre in sufficient water to give good coverage. Apply after the fully tillered stage, except during the boot to dough stage.

Fall Planted Oats: Apply 1/4 to 1/2 pint per acre after full tillering but before the early boot stage. Some difficult weeds may require higher rates (3/4 to 1 pint per acre) for maximum control, but crop injury may result. Do not spray during or immediately following cold weather.

NOTE: Do not use on grain interplanted with legumes. Do not forage or graze treated grain fields within 14 days after treatment. Do not feed treated straw to livestock.

Postemergence: Limited to one postemergence application per crop cycle. Maximum of 2.5 lbs. ae (2.6 pints of this product) per acre per application.

CORN

See table for recommended use rates.

Do not use treated crop as fodder for 7 days following application.

The preharvest interval (PHI) is 7 days.

The maximum application rate is 3 lbs. ae (6.4 pints of this product) per acre per crop cycle.

Preplant or preemergence:

Limited to one preplant or preemergence application per crop cycle. Maximum of 1.0 lb. ae (2.1 pints of this product) per acre per application.

Postemergence:

Limited to one postemergence application per crop cycle. Maximum of 0.5 lb. ae (1 pint of this product) per acre per application.

Preharvest:

Limited to one preharvest application per crop cycle. Maximum of 0.15 lb. ae (0.3 pint of this product) per acre per application.

Preplant (Field Corn): This product may be applied prior to planting field corn to provide foliar burn-down control of susceptible annual and perennial broadleaf weeds and certain broadleaf cover crops such as those listed on this label. To control emerged broadleaf weed seedlings or existing cover crops prior to planting corn, apply 1 to 2 pints per acre 7 to 14 days before planting. Do not use on light, sandy soil, or where moisture is inadequate for normal weed growth.

Preemergence: Apply to soil after planting but before corn emerges. Do not use on very light, sandy soils or where soil moisture is inadequate for normal weed growth. Use lower rate of application on loam soils and higher rate on clay soils. Use high rate on soil high in organic matter. Plant corn as deep as practical.

Postemergence: Best results are usually obtained when weeds are small and corn is 4 to 18 inches tall. When corn is over 8 inches tall, use drop nozzles to keep spray off corn foliage as much as possible. Do not apply from tasseling to dough stage. If corn is growing rapidly and temperature and soil moisture content is high, use 1/2 pint per acre rate to reduce the possibility of crop damage. Delay cultivation for 8 to 10 days after application to reduce possibility of stalk breakage from temporary brittleness caused by 2,4-D. Hybrid corn should be sprayed only if the cross or line is known to be tolerant to 2,4-D at the recommended dosage, or after experience has shown the particular crosses or lines being grown to be tolerant to 2,4-D treatment.

Preharvest: 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.

SORGHUM (MILO): See table for recommended use rates.

Apply when sorghum is 4 to 12 inches high with secondary roots well established. When crop is over 10 inches tall, use drop nozzles to keep spray off foliage as much as possible. Do not apply from flowering to dough stage. Do not use with oil. Temporary crop injury may occur under conditions of high soil moisture and high air temperature. Hybrids should be sprayed only if the cross or line is known to be tolerant to 2,4-D at the recommended dosage or after experience has shown the particular crosses or lines being grown to be tolerant to 2,4-D treatment. The preharvest interval (PHI) is 30 days. Do not permit meat or dairy animals to consume treated crop as fodder or forage for 30 days following application. Limited to 1 application per crop cycle. Maximum of 0.5 lb. ae. (1 pint of this product) per acre per application.

RECOMMENDED RATES OF 2,4-D LO-V ESTER WEED KILLER

Crop (See Detailed Instructions Above)	Dosage Per Acre**	
	Normal Rates (Usually Safe To Crop)	Higher Rates For Special Situations* (More Likely To Injure Crop)
CEREAL GRAINS: (Wheat, Barley, Rye):		
Annual Weeds	1/2 to 1 Pint	1 to 2 Pints
Perennial Weeds	1 Pint	1 1/4 to 2 Pints
Preharvest	1 1/2 Pint	
OATS:		
Spring	1/2 Pint	
Fall	1/4 to 3/4 Pint	3/4 to 1 1/4 Pints
Preharvest	1 1/2 Pint	
CORN:		
Preplant (Field Corn)	1 to 2 Pints	
Preemergence	1 to 2 Pints	
Postemergence	1/2 Pint	1/2 to 3/4 Pint
Preharvest	1 to 2 Pints	
SORGHUM (Milo):		
Postemergence	1/2 Pint	1/2 to 3/4 Pint

*The higher rates as recommended above may be necessary to control difficult weed problems such as under dry conditions in the Western states. They should not be used, however, unless possible crop injury is acceptable. Consult State Agricultural Experiment Station or Extension Service Weed Specialists for recommendations or suggestions to fit local conditions.

**If band treatment is used, base the dosage rate on the actual area sprayed.

**FOR USE IN CROP RESIDUE MANAGEMENT SYSTEMS IN SOYBEANS
(Preplant Application Only)**

2,4-D Lo-V Ester Weed Killer may be used for postemergence control of many susceptible annual and perennial broadleaf weeds. This product may be applied prior to planting soybeans to provide foliar burn-down control of susceptible annual and perennial broadleaf weeds and certain broadleaf cover crops such as those listed on this label. Make only preplant applications to emerged weeds prior to planting soybeans grown in reduced tillage production systems. Apply only according to instructions given below.

Do not use any tillage operations between herbicide application and planting of soybeans.

Mixing Instructions: Compatible crop oil concentrates, agricultural surfactants and fluid fertilizers approved for use on growing crops may be added to spray mixture to increase the herbicidal effectiveness of 2,4-D Lo-V Ester Weed Killer on certain weeds. Read and follow all directions and precautions on this label and on the label of each product added to the spray mixture.

Application Procedures: Apply using air or ground equipment in a spray volume sufficient to provide uniform coverage of weeds. Use 2 or more gallons of total spray volume per acre for aerial application and 10 or more gallons per acre for ground equipment. The maximum rate per crop cycle is 1.0 lb. ae. (2.1 pint of this product) per acre.

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APPLICATION TIMING AND USE RATES

PRODUCT	BROADCAST APPLICATION RATE	WHEN TO APPLY (Days Prior To Planting Soybeans)
2,4-D Lo-V Ester	1 Pint/Acre 2 Pints/Acre	Not Less Than 7 Days Not Less Than 30 Days

For best weed control results, application should be made when weeds are small, actively growing and free of stress caused by temperature extremes, moisture stress, diseases, or insect damage. The control of individual weed species may be variable. Consult your local county agent or State Agricultural Extension Specialist or Crop Consultant for advice.

Use Precautions and Restrictions:

- Important Notice: Unacceptable injury to soybeans planted in treated fields may occur. Whether or not soybean injury occurs and the extent of such injury will depend on weather (temperature and rainfall) from herbicide application until soybean emergence and agronomic factors such as the amount of weed vegetation and previous crop residue present at the time of application. Injury is more likely under cool rainy conditions and where there is less weed vegetation and crop residue present.
- Do not use on sandy soils with less than 1.0% organic matter.
- Do not make more than one application per season regardless of the application rate used.
- Do not apply when weather conditions such as atmospheric temperature inversion or when wind direction favors drift from the treated area to susceptible plants.
- Do not allow livestock grazing or harvest hay, forage or fodder from treated fields. Livestock should be restricted from feeding/grazing of treated cover crops.
- In treated fields, plant soybean seed as deep as practical, but not less than 1.0 inch deep. Adjust the planter, if necessary, to ensure that planted seed is adequately covered.
- Do not apply 2,4-D Lo-V Ester Weed Killer as described unless you are prepared to accept the results of soybean injury, including possible stand loss and/or yield reduction.
- During the growing season following application, do not replant treated fields with crops other than those labeled for use with 2,4-D Lo-V Ester Weed Killer.

LAWN AND ORNAMENTAL TURF: Use 1 to 3 pints of 2,4-D Lo-V Ester Weed Killer in enough water to give good coverage to one acre on established stands of perennial grasses. Do not apply to creeping grasses such as Bent except for spot spraying. Newly seeded turf should not be treated until after the second mowing and the lower dosage rate should be used. 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, therefore, do not treat areas where the legumes are desired. Deep-rooted perennial weeds may require repeated treatments in the same season or in subsequent years. The maximum number of broadcast applications per treatment site is 2 per year.

GRASS SEED CROPS: Apply 1 to 4 pints of 2,4-D Lo-V Ester Weed Killer in the Spring or Fall to control broadleaf weeds in grass being grown for seed. Do not apply from early boot to milk stage. Spray seedling grass only after the five-leaf stage, using 3/4 to 1 pint per acre to control small seedling weeds. After the grass is well established, higher rates of up to 4 pints can be used to control hard to kill annual or perennial weeds. For best results, apply when soil moisture is adequate for good growth. Do not use on Bent unless injury can be tolerated. Do not graze dairy animals within 7 days of application. The preharvest interval (PHI) is 7 days (cut forage for hay).

Postemergence: Limited to 2 applications per year. Maximum of 2.0 lbs. ae (4.2 pints of this product) per acre per application. Minimum of 30 days between applications. If grass is to be cut for hay, Agricultural Use Requirements for the Worker Protection Standard are applicable. For program lands, such as Conservation Reserve Program, consult program rules to determine whether grass or hay may be used. The more restrictive requirements of the program rules or this label must be followed.

FALLOW LAND (crop stubble on idle land, or postharvest to crops, or between crops): On established perennial species such as Canada thistle and Field bindweed, apply up to 2 quarts per acre of 2,4-D Lo-V Ester Weed Killer. For annual broadleaf weeds, apply 1 to 2 quarts per acre. Plant only labeled crops within 29 days following application. Limited to 2 applications per year. Maximum of 2.0 lbs. ae (4.2 pints of this product) per acre per application. Minimum of 30 days between applications.

PASTURE AND RANGELAND: NOTE: Do not graze dairy animals on treated areas within 7 days after application. Do not cut forage for hay within 7 days of application. Do not graze meat animals on treated areas within 3 days of slaughter. Do not use on bent grass, alfalfa, clover, or other legumes or on newly seeded pastures. Do not apply after heading begins or when grass is in the boot to milk stage where grass seed production is desired.

Postemergence: For susceptible annual and biennial broadleaf weeds: Use 1.0 lbs. ae (2.1 pints of this product) per acre per application. For moderately susceptible biennial and perennial broadleaf weeds: Use 1.0 to 2.0 lbs. ae (2.1 to 4.2 pints of this product) per acre per application. For difficult to control weeds and woody plants: Use 2.0 lbs. ae (4.2 pints of this product) per acre per application. Spot treatment: Use 2.0 lbs. ae (4.2 pints of this product) per acre. Maximum of two applications per year. Maximum of 4.0 lbs. ae (8.5 pints of this product) per acre per year. Minimum of 30 days between applications. If grass is to be cut for hay, Agricultural Use Requirements for the Worker Protection Standard are applicable.

If grass is to be cut for hay, Agricultural Use Requirements for the Worker Protection Standard are applicable. For program lands, such as Conservation Reserve Program, consult program rules to determine whether grass or hay may be used. The more restrictive requirements of the program rules or this label must be followed.

Bitterweed, Broomweed, Croton, Docks, Kochia, Marsheider, Mutshinites, and Other Broadleaf Weeds: Use 2.0 pints of 2,4-D Lo-V Ester Weed Killer per acre in the amount of water needed for uniform application. If the weeds are young and growing actively, 2 pints per acre will provide control of some species. Deep rooted perennial weeds may require repeated treatments in the same year or in subsequent years.

Wild Garlic and Wild Onion: Apply 4 pints per acre, making three applications (fall-spring-fall or spring-fall-spring) starting in late fall or early spring.

Weed Control in Newly Sprigged Coastal Bermudagrass: Apply 2 to 4 pints per acre preemergence and/or post-emergence.

Sand Shinnery Oak and Sand Sagebrush: On the oak, use 2 pints 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 2 pints in 3 gallons of oil per acre and apply by aircraft when foliage is fully expanded and the brush is actively growing.

Big Sagebrush and Rabbitfish: Use 4 pints per acre in 2 to 3 gallons of oil or in 3 to 5 gallons of oil-water emulsion spray. Brush should be leafed out and growing actively when treated. Retreatment may be needed.

Chamise, Manzanita, Buckbrush, Coastal Sage, Coyotero, and Certain Other Chaparral Species: Use 4 pints 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.

SPOT TREATMENT IN NON-CROP AREAS: To control broadleaf weeds in small areas with a hand sprayer, use 1/4 pint (4 fluid ounces) of 2,4-D Lo-V Ester Weed Killer in 3 gallons of water and spray to thoroughly wet all foliage.

Postemergence (annual and perennial weeds): Limited to 2 applications per year. Maximum of 2.0 lbs. ae (4.2 pints of this product) per acre per application. Minimum of 30 days between applications.

Postemergence (woody plants): Limited to 1 application per year. Maximum of 4.0 lbs. ae (8.5 pints of this product) per acre per year.

Applications to non-cropland areas are not applicable to treatment of commercial timber or other plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes.

General Weed Control (Airfields, Roadsides, Vacant Lots, Fence Rows, Industrial Sites, and Similar Areas): Use 1 to 2 quarts per acre. Usually 2 quarts per acre will give adequate control. Do not use on herbaceous ground covers or creeping grass such as Bent. Legumes will usually be damaged or killed. Deep-rooted perennials may require repeat applications. Do not use on freshly seeded turf until grass is well established. Delay reseeding for 30 days or until 2,4-D has disappeared from soil. The maximum number of broadcast applications per treatment site is 2 per year.

Postemergence (annual and perennial weeds): Limited to 2 applications per year. Maximum of 2.0 lbs. ae (4.2 pints of this product) per acre per application. Minimum of 30 days between applications.

Postemergence (woody plants): Limited to 1 application per year. Maximum of 4.0 lbs. ae (8.5 pints of this product) per acre per year.

Applications to non-cropland areas are not applicable to treatment of commercial timber or other plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes.

Control of Southern Wild Rose: Broadcast Application (Roadsides and Fencerows) – Use up to 4 pints of product per acre. Apply in spray volume of 5 or more gallons of water per acre by aircraft or 10 or more gallons of water per acre by ground equipment. Spot Treatment – Apply when foliage is well developed. Thorough coverage is required. Use 1 gallon of this product plus 4 to 8 fluid ounces of an agricultural surfactant per 100 gallons of water per acre. Do not exceed 4 pints of this product per acre per application.

Grasses in Conservation Reserve Program Areas: To control annual broadleaf weeds, apply when weeds are actively growing. Use 1/2 to 1 pint per acre when weeds are small; use higher rates on older weeds. Excessive injury may result if applied to young grasses with fewer than 6 leaves or prior to grasses being well established. To control biennial and perennial broadleaf weeds in established grasses, apply at a rate of 2 to 4 pints per acre. Apply to actively growing weeds. Treat when biennial weeds are in the seedling to rosette stage and before flower stalks become apparent. Treat perennial weeds in the bud to bloom stage.

Note: It is suggested that at least 2 gallons of water per acre by air and 5 gallons of water per acre by ground be used. Do not harvest or graze treated Conservation Reserve Program areas. Do not apply to grasses in the boot to dough stage if grass seed production is desired.

Woody Plant Control: To control woody plants susceptible to 2,4-D such as Alder, Buckbrush, Elderberry, Sumac, and Willow on non-crop areas, use 2 quarts in 100 gallons of water. Wet all parts of the plants thoroughly, including stem and foliage to the point of runoff. Higher volumes of up to 400 gallons per acre are necessary where the brush is very dense, and over 6 to 8 feet high. Applications are more effective when made on actively growing plants. Treatment should not be made during time of severe drought or in early Fall when leaves lose their green color. Hard to control species may require retreatment next season.

Postemergence (annual and perennial weeds): Limited to 2 applications per year. Maximum of 2 pints of this product per acre per application. Minimum of 30 days between applications.

Postemergence (woody plants): Limited to 1 application per year. Maximum of 8.5 pints of this product per acre per year.

Applications to non-cropland areas are not applicable to treatment of commercial timber or other plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes.

USES IN FOREST MANAGEMENT

Conifer Release: For control of alder, apply 1 1/2 to 2 quarts of product per acre in 8 to 25 gallons of water, and apply as a foliage spray between mid-May and mid-June.

For control of madrone, manzanita, oak, tanoak, and similar species to release hemlock, spruce, and firs, apply 2 quarts of product per acre in 8 to 25 gallons of water, just prior to or during bugbears of Douglas fir.

After northern conifers, jack pine, red pine, black spruce, and white spruce cease growth and "harden off" in late summer, a spray of 1 1/2 to 2 quarts in 8 to 25 gallons of water per acre may be applied by air 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. Consult your regional or extension forester or state herbicide specialist for recommendations to fit local conditions.

For control of hazel brush and similar species in the Lake States area, apply 2 quarts of product per acre in 8 to 25 gallons of water, when new shoot growth of Hazel is complete.

Broadcast application: Limited to 1 broadcast application per year. Maximum of 8.5 pints of this product per acre per broadcast application.

Basal spray, Cut Surface - Stumps, and Frill: Limit of one basal spray or cut surface application per year. Maximum of 8 pints of this product per 100 gallons of spray solution.

Tree Injections (Pine Release): To control hardwoods, such as Oaks, Hickory, Maple, Pecan, Elm, Sumac, Sweetgum and Hawthorn in forest and other noncrop areas, apply undiluted product in a concentrate tree injector calibrated to apply 1 ml per injection. Space injections 2 inches apart, edge to edge, completely around the tree and close to the base. The injector bit must penetrate the inner bark. On hard-to-kill species such as Hickory, Dogwood, Red maple, Blue beech and Ash, make injections 1 to 1 1/2 inches apart, edge to edge. Treatment may be made at any time of the year. For best results, injections should be made during growing season, May 15 - October 15. For dilute injections, mix 1 gallon of product in 19 gallons of water.

Injection: Limit to one injection application per year. Maximum of 2 ml of 4.0 lbs. ae (8.5 pints of this product) formulation per injection site.

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Dormant Application (other than Pine): For the control of susceptible deciduous brush species such as alder, cascara, cherry, poplar and service berry, apply up to 3 quarts of product per acre in sufficient diesel, fuel oil or kerosene for good coverage. Application may be made by ground or air and should be made before conifer bud break.

Broadcast application: Limited to 1 broadcast application per year. Maximum of 4:0:lbs#ae(8:5:pints.of.this:product):per acre per broadcast application.

Pine Only: Make application while pine buds are still dormant. Apply 2 quarts of product per acre in sufficient water for good coverage by air or ground equipment. Do not use this application unless some pine injury is acceptable. Use of diesel, kerosene, or other oil, or addition of surfactants to spray mix may cause unacceptable pine injury.

Broadcast application: Limited to 1 broadcast application per year. Maximum of 4:0:lbs#ae(8:5:pints.of.this:product):per acre per broadcast application.

Christmas Tree Plantations: For control of labeled broadleaf weeds in Douglas fir Christmas trees, use 1 to 2 pints of this product per acre. Apply over the top of Douglas fir by ground or aerial application, e.g., only when the trees are dormant, prior to bud break. Do not spray over the top of pine or true firs (*Abies* spp.). Directed sprays may be made to weeds in Christmas tree plantations of all conifer species, but the spray must not contact tree foliage as injury may occur. Do not apply to weakened, diseased, or stressed seedlings, since unacceptable injury may occur. This product may be mixed with Atrazine for Christmas tree application (see "Tank Mixes" section).

Broadcast application: Limited to 1 broadcast application per year. Maximum of 4:0:lbs#ae(8:5:pints.of.this:product):per acre per broadcast application.

Herbaceous Weed Control: To control over-wintering susceptible weeds such as false dandelion, knighthed, plantain, and tansy ragwort, apply 1 to 3 quarts of product per acre in sufficient water for good coverage. Make application at rates and timing indicated above if pines are present. For control of hazel brush and similar species in the Lake States area, apply 2 quarts of product per acre in 8 to 25 gallons of water, when new shoot growth of Hazel is complete.

Site Preparation:

(As Budbreak Spray) — For control of alder prior to planting seedlings, apply 2 quarts of product per acre in 8 to 25 gallons of water, after alder bugbears but before foliage is 1/4 full size.

(As Foliage Spray) — For control of alder prior to planting seedlings, apply 2 quarts of product per acre in 8 to 25 gallons of water, after most alder leaves are full size.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Always use original container to store pesticides in a secured warehouse or storage building. Containers should be opened in well-ventilated areas. Keep container tightly sealed when not in use. Do not stock cardboard cases more than two pallets high. Do not store near open containers of fertilizer, seed or other pesticides. Do not contaminate water, food or feed by storage or disposal.

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide spray mixtures or rinsate is a violation of Federal law and may contaminate groundwater. If container is damaged or if pesticide has leaked, contain all spillage. Absorb and clean up all spilled material with granules or sand. Place in a closed, labeled container for proper disposal. 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:

Nonrefillable containers 5 gallons or less: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Nonrefillable containers larger than 5 gallons: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure-rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refillable containers larger than 5 gallons: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

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IMPORTANT: READ BEFORE USE

Read the entire Directions For Use and Warranty and Limitation of Damages before using this product. If terms are not acceptable, return the unopened product container at once. By using this product, user or buyer accepts the following conditions and Warranty and Limitation of Damages.

WARRANTY AND LIMITATION OF DAMAGES

Universal Cooperatives, Inc. warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the complete Directions For Use label booklet ("Directions") when used in accordance with those Directions under the conditions described therein. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

Buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

To the extent consistent with applicable law, Buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this Company, including, but not limited to, incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, unusual weather, weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

Upon opening and using this product, buyer and all users are deemed to have accepted the terms of this Warranty and Limitation of Damages which may not be varied by any verbal or written agreement. If terms are not acceptable, return at once unopened.

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