



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

OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES

FEB 12 2007

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

Dear Ms. Ramswick:

Subject: Label Amendment  
2,4-D Amine Weed Killer  
EPA Registration Number 1386-43  
Application Submission dated July 21, 2006

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act as amended is acceptable provided that the following revisions are made:

1. Under the Storage and Container Reuse and Disposal section, the first bullet must read "**Pesticide Storage**".
2. The last sentence in the Warranty and Limitation of Damages statement must read "To the extent consistent with applicable law, Seller's liability or default, breach or failure under this label shall be limited to the amount of the purchase price."

One copy of the label stamped "Accepted with Comments" is enclosed for your records. Please submit one copy of the final printed supplemental label before the product is released for shipment. If you have any questions, please contact Tracy White by phone at (703) 308-0042 or via email at [white.tracy@epa.gov](mailto:white.tracy@epa.gov).

Sincerely,

A handwritten signature in cursive script that reads "Joanne I. Miller".

Joanne I. Miller  
Product Manager (23)  
Herbicide Branch  
Registration Division (7505P)

Enclosure

2811

ACCEPTED  
with COMMENTS  
In EPA Letter Dated:  
FEB 12 2007

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

1386-43

# 2,4-D AMINE

## Weed Killer

**KEEP OUT OF REACH OF CHILDREN  
DANGER – PELIGRO**

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

**REFER TO INSIDE OF LABEL BOOKLET FOR ADDITIONAL  
PRECAUTIONARY STATEMENTS AND DIRECTIONS FOR USE**

**ACTIVE INGREDIENT:**

Dimethylamine salt of 2,4-dichlorophenoxyacetic acid <sup>1</sup> .....	47.2 <sup>0</sup>
<b>INERT INGREDIENTS</b> .....	52.8 <sup>0</sup>
Total .....	100.0 <sup>0</sup>

<sup>1</sup>Equivalent to 39.2% 2,4-dichlorophenoxyacetic acid.  
Contains 3.8 pounds 2,4-D Acid equivalent per gallon.  
<sup>2</sup>Isomer Specific by AOAC Method No. 6.D01-5.



### Net Contents: 2 1/2 Gallons

EPA Reg. No. 1386-43  
EPA Est. No. 1386-OH-1



Universal Cooperatives, Inc.

Eagan, MN 55121

### PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS DANGER

Corrosive. Causes irreversible eye damage. Harmful if absorbed through skin. Harmful if swallowed or inhaled. Do not get in eyes, on skin, or on clothing. Avoid breathing spray mist.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

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

#### Applicators and Other Handlers Must Wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride
- Shoes plus socks
- Protective eyewear
- Chemical-resistant apron when cleaning equipment, mixing, or loading

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 Statement:** 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.

<b>USER SAFETY RECOMMENDATIONS</b>	
<b>Users should:</b>	
<ul style="list-style-type: none"> <li>• Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.</li> <li>• Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.</li> <li>• 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.</li> </ul>	

<b>FIRST AID</b>	
<b>If In Eyes:</b>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If Swallowed:</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have a person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>If On Skin or Clothing:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If Inhaled:</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For Medical Emergency information call 1-800-308-1241.	

### ENVIRONMENTAL HAZARDS

#### AQUATIC USES

This product is toxic to aquatic invertebrates. Drift or runoff may adversely affect aquatic invertebrates and nontarget plants. Do not apply directly to water except as specified on this label. Do not contaminate water when disposing of equipment washwaters.

#### NON-AQUATIC USES

This product is toxic to aquatic invertebrates. Drift or runoff may adversely affect aquatic invertebrates and nontarget plants. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. Do not contaminate water intended for irrigation or domestic purposes [(except as specifically recommended on this label) especially in areas where grapes, cotton, tomatoes, or other susceptible plants are grown. Do not treat irrigation ditches in areas where water will be used to overhead (sprinkler) irrigate susceptible crops especially grapes, tomatoes, tobacco, and cotton.]. Do not apply when weather conditions favor drift from target area.

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 mix-

ing 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.

### 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 48 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 or soil is:

- Coveralls
- Chemical-resistant gloves made of any waterproof 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 treated areas without protective clothing until sprays have dried.

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

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

- |  |   |   |  |
|--|---|---|--|
| <ul style="list-style-type: none"> <li>* Alfalfa</li> <li>Arrowhead</li> <li>Artichoke</li> <li>* Beggarticks</li> <li>* Bindweed (Hedge, Field &amp; European)</li> <li>Bitter Wintercress</li> <li>Bittercress, Smallflowered</li> <li>Boxelder</li> <li>Buckhorn</li> <li>Bull Thistle</li> <li>Bullnettle</li> <li>Burkush</li> <li>Burdock</li> <li>Bur Ragweed</li> <li>Buttercup</li> <li>* Canada Thistle</li> <li>Catnip</li> <li>Chickweed</li> <li>Chicory</li> <li>* Clover, Red</li> <li>Cocklebur, Common</li> <li>Coffeebean</li> </ul> | <ul style="list-style-type: none"> <li>Coffeeweed</li> <li>Common Mullein</li> <li>Creeping Jenny</li> <li>Curly Indigo</li> <li>Dandelion</li> <li>* Dock</li> <li>* Dogbane</li> <li>Duckweed</li> <li>Elderberry</li> <li>Evening Primrose, Cutleaf</li> <li>* Goldenrod</li> <li>* Ground Ivy</li> <li>Hemp</li> <li>Henbit</li> <li>* Hoary Cress</li> <li>Honeysuckle</li> <li>Horseweed or Marestail</li> <li>Indigo</li> <li>* Ironweed</li> <li>Jimsonweed</li> <li>* Knotweed</li> <li>Lambsquarters, Common</li> </ul> | <ul style="list-style-type: none"> <li>Locoweed</li> <li>* Mallow</li> <li>Marshelder</li> <li>Mexicanweed</li> <li>Morningglory, Annual</li> <li>* Muskthistle</li> <li>Mustard</li> <li>Parrotfeather</li> <li>Pennycress, Field</li> <li>Pennywort</li> <li>* Peppergrass</li> <li>Pepperweed (except perennial)</li> <li>Pigweed</li> <li>Plantain</li> <li>Poison Ivy</li> <li>Pokeweed</li> <li>Povertyweed</li> <li>Prickly Lettuce</li> <li>Puncturevine</li> <li>Purslane</li> <li>Ragweed</li> <li>Rush</li> <li>* Russian Thistle</li> </ul> | <ul style="list-style-type: none"> <li>Sagebrush</li> <li>Sheep Sorrel</li> <li>Shepherds purse</li> <li>* Smartweed</li> <li>Sow thistle</li> <li>Stinkweed</li> <li>Sumac</li> <li>Sunflower</li> <li>Velvetleaf</li> <li>* Vervains</li> <li>Pennywort</li> <li>Vetch, Hairy</li> <li>Virginia Creeper</li> <li>Water hyacinth</li> <li>Water milfoil</li> <li>Water Lilly</li> <li>Water primrose</li> <li>Wild Carrot</li> <li>* Wild Garlic</li> <li>Wild Lettuce</li> <li>* Wild Onion</li> <li>Wild Parsnips</li> <li>Wild Radish</li> <li>Willow</li> <li>Witch weed</li> </ul> |
|--|---|---|--|

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

This product should be used as a water diluted spray, or may be mixed with liquid nitrogen fertilizer (see below), for selective control of susceptible weeds growing in small grain crops, corn, sorghum, lawns 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.

Apply when the weeds are young and are 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. Spray 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, flowers, grapes, fruit trees, ornamentals, cotton 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. Coarse sprays are less likely to drift. Do not use on creeping grasses, such as bent. Most legumes, including white clover, are usually damaged and, under some conditions, killed. Crops contacted by 2,4-D Amine Weed Killer sprays or spray drift may be killed or suffer significant stand loss with extensive quality and yield reduction. Excessive amount of 2,4-D dichlorophenoxy-acetic acid in the soil may temporarily inhibit seed germination or plant growth.

Aerial, ground rig, and hand sprayer 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. Consult local regulatory authorities before making such applications.

Users should note that herbicide treatment of public water requires a permit from appropriate state agencies in most states. Your State Conservation Department or Game and Fish Commission will aid you in securing a permit for your state.

**PREPARATION OF SPRAY AND APPLICATION:** Recommended quantities of this product 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 2,4-D Amine Weed Killer per unit area regardless of the quantity of water.

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; and (5) by not applying when wind is blowing toward susceptible crops or valuable plants.

**SMALL QUANTITIES:** For mixing and applying small quantities, use the following approximate equivalents:

Dosage Per Acre	Amount Per 1,000 Sq. Ft.	Dosage Per Acre	Amount Per 1,000 Sq. Ft.
1/2 Pint	1 1/8 Teaspoon	2 1/2 Pints	5 1/2 Teaspoons
1 Pint	2 1/4 Teaspoons	4 Pints	3 Tablespoons
2 Pints	4 1/2 Teaspoons	6 Pints	4 1/2 Tablespoons

The dosage rates applied with low-volume power sprayers in 15 gallons of water per acre may usually be applied by means of hand or knapsack sprayers in 3 to 4 gallons of water per 1,000 square feet.

**CLEANING SPRAY EQUIPMENT:** It is almost impossible to remove residues of 2,4-D from sprayers and spray equipment, particularly from non-metallic parts (wood, rubber, fibre), and it is advisable NOT to use the same equipment for applying other materials to plants or crops. Do not use the same spray equipment for other purposes unless thoroughly cleaned.

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

**JAR TEST**

**Amount of 2,4-D Amine to add to one pint of Liquid Nitrogen Fertilizer**

2,4-D Amine Rate/Acre	Level Teaspoons of 2,4-D Amine	
	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 Amine, 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 Amine. (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.

**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.

### TANK MIXING SEQUENCE

If the 2,4-D Amine/fertilizer mixture is compatible without the use of a compatibility agent: Fill the spray tank with half the amount of fertilizer to be used. Make a pre-mix of 1 part of 2,4-D Amine and 4 parts water. Add the pre-mix to the spray tank 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 Amine/water pre-mix.

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

**SMALL GRAIN CROPS (Wheat, Barley, Millet, Rye, and Oats):** See table for recommended use rates.

Spray when weeds are small after grains are well tilled (usually 4 to 8 inches tall), but before the boot stage. Do not apply before the tiller stage nor from early boot through milk stage. 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. Best results will be obtained when soil moisture is adequate for plant growth and weeds are growing well.

**Spring Planted Oats:** Apply in sufficient water to give good coverage. Apply after the fully tilled stage, except during the boot to dough stage.

**Fall Planted Oats:** Apply after full tillering but before early boot stage. Some difficult weeds may require higher rates of 1 to 1 1/2 pints 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 field within 2 weeks after treatment with 2,4-D. Do not feed treated straw to livestock.

### CORN (Field and Sweet)

See table for recommended use rates.

**Preplant:** This product may be applied prior to planting 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 soil moisture is inadequate for normal weed growth. Use high rate for control of less susceptible weeds or cover crops such as alfalfa.

**Preemergence:** Apply to soil anytime after planting but before corn emerges. Do not use on very light, sandy soil.

**Emergence:** Apply just as corn plants are breaking ground.

**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 due to 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 cross 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 of 2,4-D Amine 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 to livestock for 7 days following application.

### HOPS

Annual broadleaf weeds: 1 pint.

Make directed applications to the row middles. Make up to 3 applications at 30-day intervals with the last application before harvest.

**Restrictions and Limitations for Hops:** Limited to 3 applications per crop cycle. Maximum of 1 pint product per acre (0.5 lbs. acid equivalent/A) per crop cycle. Minimum of 30 days between applications. Observe the preharvest interval (PHI) of 28 days.

**SORGHUM (MILK):** See table for recommended use rates.

Apply when sorghum is 6 to 15 inches high with secondary roots well established. Use drop nozzles when crop is over 8 inches high. Do not treat during the boot, flowering or dough stage. Temporary crop injury can be expected under conditions of high soil moisture and high air temperatures. If it is necessary to apply 2,4-D Amine under these conditions, use no more than 2/3 pint per acre. 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.

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

2,4-D Amine 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 Amine 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.

#### APPLICATION TIMING AND USE RATES

PRODUCT	BROADCAST APPLICATION RATE	WHEN TO APPLY (Days Prior to Planting Soybeans)
2,4-D Amine	1 Pint/Acre	Not Less Than 15 Days
	2 Pints/Acre	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 Amine 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 Amine Weed Killer.

**RICE (except California):** See table for recommended use rates.

Apply in the late tillering stage of rice development, at the time of first joint development (first to second green ring), usually 6 to 9 weeks after emergence. Do not apply after panicle initiation, after rice internodes exceed 1/2 inch, at early seedling, early panicle, boot, flowering, or early heading growth stages. Some rice varieties under certain conditions can be injured by 2,4-D. Therefore, before spraying consult local Extension Service or University specialists for appropriate rates and timing of 2,4-D sprays.

#### WILD RICE (For Use in Minnesota Only)

Common waterplantain: 1/2 pint.

Broadcast in 4 to 10 gallons total spray volume. Apply after waterplantain has emerged from the water and when wild rice is in the 1 to 2 aerial leaf to early tillering stage. Do not spray after wild rice has reached the boot stage.

**Restrictions and Limitations for Wild Rice:** For use only on wild rice grown in commercial paddies. Do not apply to wild rice growing in lakes, rivers or streams. Water that is drained out of wild rice paddies is not to be used to irrigate other crops. In order to protect federally listed endangered or threatened species, the Minnesota Department of Agriculture has a program to prenotify landowners where pesticide applications may affect federally listed endangered or threatened species. Limited to 1 application per crop cycle. Do not apply more than 1/2 pint/acre of 2,4-D Amine Weed Killer (0.25 lbs. acid equivalent/A) per use season. Observe the preharvest interval (PHI) of 60 days.

**SUGARCANE:** See table for recommended use rates.

Apply as a pre or postemergence spray according to state recommendations. Apply as a preemergence application before canes appear or as a post-emergence application in spring after cane emerges and through lay-by.

**RECOMMENDED RATES OF 2,4-D AMINE WEED KILLER**

Crop (See Detailed Instructions on Previous Page)	Normal Rates (Usually Safe To Crop)	Higher Rates For Special Situations* (More Likely To Injure Crop)
<b>SMALL GRAINS:</b>		
Spring Postemergence wheat, barley, rye, millet	2/3 to 1 1/3 Pints	2 to 3 Pints
oats	1/2 to 1 Pint	1 1/2 to 2 Pints
Preharvest (dough stage) wheat, barley, oats	1 to 2 Pints	2 to 3 Pints
Emergency Weed Control In Wheat Perennial Broadleaf Weeds	3 Pints	Apply when weeds are approaching bud stage, after the grain dough stage. Do not spray during the boot to dough stage. The 3 pints per acre application can produce injury to wheat. Balance the severity of your weed problem against the possibility of crop damage. Where perennial weeds are scattered, spot treatment is suggested to minimize the extent of crop injury.
<b>CORN (FIELD AND SWEET):</b>		
Preplant	1 to 2 Pints	
Preemergence	2 to 4 Pints	
Emergence	1 Pint	1 1/2 Pints
Postemergence up to 8 inches tall	1/2 to 1 Pint	
8 inches to tasseling (use only directed spray)	1 Pint	1 1/2 to 2 1/2 Pints
Preharvest	1 to 2 Pints	
<b>SORGHUM:</b>		
Postemergence 6 to 8 inches tall	2/3 to 1 Pint	
8 to 15 inches tall (use only directed spray)	1 Pint	1 1/2 to 2 Pints
<b>RICE</b>	1 to 2 1/2 Pints	2 to 3 Pints
<b>SUGARCANE</b>	2 to 4 Pints	

\*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.

**LAWN AND ORNAMENTAL TURF:** Use 1 to 3 pints of 2,4-D Amine Weed Killer in enough water to give good coverage to one acre on established stands of perennial grasses. Do not use on 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 lawns 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 such as bindweed and Canada thistle may require repeated applications. The maximum number of broadcast applications per treatment site is 2 per year.

**Resistant Weeds in Lawns and Ornamental Turf (Spot Treatment):** To control certain broadleaf weeds, such as jimsonweed, prickly lettuce, mallow, purslane, shepherdspurse, smartweed, henbit, buttercup, wild carrot, docks, pokeweed, common mullein and sheep sorrel usually require a considerably higher dosage rate. These resistant weeds usually may be controlled in localized areas or spots by applying 1 to 1 1/4 tablespoons per gallon of water when the plants are young and growing vigorously.

THIS HIGH DOSAGE RATE CANNOT BE USED WITHOUT CAUSING SEVERE INJURY, AND CONSEQUENTLY, ITS USE MUST BE EXCLUSIVELY FOR SPOT TREATMENT WHERE SUCH INJURY CAN BE TOLERATED.

Repeated treatments, if new weed growth occurs, may be necessary to maintain control.

**GRASS SEED CROPS:** Use 1 to 4 pints per acre in 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.

NOTE: Do not use on bent grass unless grass injury can be tolerated. Do not graze dairy animals nor cut forage for hay within 7 days after application.



**Weed Control in Sod Farms (except California):** Use 1 to 3 quarts per acre in the amount of water needed for uniform application. Treat when weeds are young and growing well. Usually 2 quarts per acre will provide adequate weed control. Do not use on dichondra or other herbaceous ground covers. Do not use on creeping grasses such as bent except for spot treating nor on freshly seeded turf until grass is well established. Reseeding 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. Deep-rooted perennial weeds such as bindweed and Canada thistle may require repeated applications.

**Grasses in Conservation Reserve Program Areas:** To control or suppress 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 or suppress biennial and perennial broadleaf weeds in established grasses, apply at a rate of 1 to 2 quarts 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:** Suggest at least 2 gallons of water per acre by air and 5 gallons of water per acre by ground. 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.

**CROP STUBBLE AND FALLOW LAND:** Use 1 to 2 quarts per acre on annual broadleaf weeds and up to 2 quarts per acre on established perennial species, such as Canada thistle and field bindweed. Apply to weeds actively growing. Do not plant any crop for 3 months after treatment or until 2,4-D has disappeared from the soil.

**Wild Garlic in Grain Stubble:** To prevent new growth of garlic following harvest, apply 2 to 3 quarts of product per acre to stubble. Do not forage for 14 days following application. Do not plant any crop for 3 months after treatment or until 2,4-D Amine Weed Killer has disappeared from soil.

**PASTURES AND RANGELANDS:** To control many broadleaf weeds in pastures, meadows, and rangelands, use 2 to 4 pints per acre of 2,4-D Amine Weed Killer in sufficient water to provide for uniform application. Treat when weeds are growing actively. 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. Most legumes are usually injured or killed at the rates recommended. Do not graze dairy animals on treated areas within 7 days of application. Do not harvest grass for hay within 30 days of application. Do not graze meat animals on treated areas within 3 days of slaughter.

**CONTROL OF SOUTHERN WILD ROSE:** On rangelands, roadsides, and fence rows, use 2 quarts plus 4 to 8 fluid ounces of an agricultural surfactant per 100 gallons of water and spray thoroughly as soon as foliage is well developed. Two or more treatments may be required. On rangeland, apply a maximum of 2 quarts per acre per application. Do not graze dairy animals on treated area within 7 days after application.

**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 Amine Weed Killer in 3 gallons of water and spray to thoroughly wet all foliage.

**GENERAL WEED CONTROL (Airfields, roadsides, vacant lots, drainage ditchbanks, fence rows, industrial sites, and similar areas):** Use 1 to 2 quarts per acre. Usually 2 quarts per acre will give adequate control. Treat when weeds are young and actively growing. 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 reseeded for 3 months or until 2,4-D has disappeared from soil. The maximum number of broadcast applications per treatment site is 2 per year.

**RIGHTS-OF-WAY:** Apply up to 2 quarts of product per acre for the control of annual and perennial broadleaf weeds and susceptible woody species. For less susceptible perennial broadleaf weeds and difficult to control woody species, use a combination of 4 quarts of product plus 1 to 4 quarts of Garlon™ 3A herbicide per acre. For ground application, apply up to 4 quarts of product in 20 to 400 gallons of water, depending on the height of the weeds and brush. Dilute 4 quarts of product in the higher volumes of up to 400 gallons per acre for dense brush 6 feet tall or higher. For aerial application, use 10 to 30 gallons per acre total spray volume.

**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 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.

**TREE INJECTION:** For control of unwanted hardwoods such as elm, oak, hickory, and sweetgum in forest and other non-crop areas, apply undiluted by

injecting 1 ml through the bark, using one injection per inch of trunk diameter measured at breast height (4 1/2 feet). For harder to control species (ash, maple, dogwood), use 2 ml undiluted per injection. All injections should be as near the root collar as possible and should be evenly spaced around the trunk. Injections may be made at any time of the year but are most effective during the growing season. Maples should not be treated during the spring sap rise.

**STONE FRUIT AND NUT ORCHARDS (except in California):** To control annual broadleaf weeds on the orchard floor, apply 3 pints per acre using coarse sprays and low pressure in sufficient volume of water to obtain thorough wetting of weeds. Treat when weeds are small and actively growing. Do not use on light, sandy soil. NOTE: Do not apply (1) to bare ground as injury may result; (2) to newly established or young orchards. Trees must be at least 1 year old, in vigorous condition; (3) during bloom; (4) more than twice a year; (5) immediately before irrigation and withhold irrigation for 2 days before and 3 days after treatment. Also, do not allow spray to drift onto or contact foliage, fruit, stems, trunks of trees or exposed roots as injury may result. Do not graze or feed cover crops from treated orchards. Preharvest Intervals: Do not harvest stone fruit within 40 days of application nor nuts within 60 days of application.

**AQUATIC APPLICATIONS:**

**Weeds and Brush on Irrigation Canal Ditchbanks:** Seventeen Western States: Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, New Mexico, Nevada, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, Wyoming.

For control of annual and perennial broadleaf weeds, apply 1 to 2 quarts per acre in approximately 20 to 100 gallons per acre of total spray. Treat when weeds are young and actively growing before the bud or early bloom stage. For harder to control weeds, a repeat spray may be needed after 3 to 4 weeks for maximum results, using the same rates. The maximum number of broadcast applications per treatment site is 2 per year. For woody brush and patches of perennial broadleaf weeds, mix one gallon in 150 gallons of water. Wet foliage thoroughly, using approximately 1 gallon of spray solution per square rod.

**Spraying Instructions:** Low pressure (10 to 40 psi) power spray equipment should be used and mounted on a truck, tractor, or boat. Apply while traveling upstream to avoid accidental concentration of chemical into water. Spray when the air is calm, 5 mph or less. Do not use on small canals (less than 10 CFS) where water will be used for drinking purposes.

Boom spraying onto water surface must be held to a minimum and no cross-stream spraying to opposite banks should be permitted. When spraying shoreline weeds, allow no more than 2-foot overspray onto water with an average of less than one-foot overspray to prevent introduction of greater than negligible amounts of chemical into water.

Do not allow dairy animals to graze on treated areas for at least 7 days after spraying. Water within treated banks should not be fished.

**For Aquatic Weeds in Lakes, Ponds, Reservoirs, Bayous, Canals, Streams, Drainage Ditches, and Marshes:** Use 2 1/2 to 4 pints of product in 50 to 100 gallons of water per acre. Spray to wet foliage thoroughly. Application should be made when leaves are fully developed above waterline and plants are actively growing. Your State Conservation Department or Game and Fish Commission will assist you in determining the best time and rate for application under local conditions.

**DO NOT APPLY** to more than 1/3 to 1/2 of a lake or pond in any one month because excessive decaying vegetation may deplete oxygen content of water and kill fish.

Do not contaminate water used for irrigation or domestic purposes.

Perennial and other hard to control weeds may require a repeat application to give adequate control.

**POTABLE WATER:** Delay the use of treated water for domestic purposes for a period of three weeks or until such time as an approved assay shows that the water contains no more than 0.1 ppm 2,4-D Amine Weed Killer.

**WATER HYACINTH (*Eichornia crassipe*):** 2,4-D Amine Weed Killer will control water hyacinth with surface and air applications. Use 2 to 4 quarts (4 lbs. acid equivalent per gallon) per acre. Spray the weed mass only. Use 4 quarts when plants are matured or when the weed mass is dense. Apply when water hyacinth plants are actively growing. Repeat as necessary to kill regrowth and hyacinth plants missed in the previous operation.

**Surface Application:** Use power sprayers operated with a boom or spray gun mounted on a boat, tractor or truck. Thorough wetting of foliage is essential for maximum control. Use 100 to 400 gallons per acre of spray mixture. Special precautions such as the use of low pressure, large nozzles and thickening agents should be taken to avoid spray drift in areas of sensitive crops. For DIRECTA-SPRA™ operation use 2,4-D Amine Weed Killer with 1 pint of drift control agent in 50 to 100 gallons of water. For other applications, follow the drift control agent label for mixing directions.

**Air Application:** Use drift control spray equipment or thickening agents mixed into the spray solution. Apply 1 gallon per acre of 2,4-D Amine Weed Killer through standard boom systems with a minimum of 5 gallons of spray mix per acre. For MICROFOIL® drift control systems, apply 2,4-D Amine Weed Killer in 12 to 15 gallons spray mix per acre.

2,4-D Acid Equivalent	1/2 lb.	1 lb.	2 lbs.	3 lbs.	4 lbs.
2,4-D Amine Weed Killer	1 pt.	2 pts.	2 qts.	3 qts.	4 qts.

**WATER MILFOIL (*Myriophyllum spicatum*):** For Eurasian Water Milfoil in programs conducted by the Tennessee Valley Authority in dams and reservoirs of the TVA system. 2,4-D Amine Weed Killer will control water milfoil with surface, subsurface and air applications.

**How To Use:** To control water milfoil when less than 5 gallons of concentrate per acre is recommended, dilute the concentrate with water to apply a minimum of 5 gallons of spray mix per acre. Do not treat within 1/2 mile of potable water intakes. Shoreline areas should be treated by subsurface injection applied by boat to avoid aerial drift. Do not apply when weather conditions favor drift from target area. Do not contaminate water by cleaning of equipment washwaters.

**Open Water Areas:** To reduce contamination and prevent undue exposure of fish and other aquatic organisms, do not treat water areas that are not infested with aquatic weeds.

**Amounts To Use:** Apply 2 1/2 to 10 gallons of 2,4-D Amine Weed Killer per acre. The higher rate is used in areas of greater water exchange. These areas may require a repeat application.

**When To Apply:** For best results, apply in spring or early summer when milfoil starts to grow. This timing can be checked by sampling the lake bottom in areas heavily infested with weeds the year before.

**Subsurface Application:** Apply 2 1/2 to 10 gallons of 2,4-D Amine Weed Killer per acre as a concentrate directly into the water through boat mounted distribution systems.

**Surface Application:** Apply 2 1/2 to 10 gallons of 2,4-D Amine Weed Killer per acre in a minimum spray volume of 5 gallons mix per acre.

**Air Application:** Use drift control spray equipment or thickening agents mixed into the spray solution. Apply 2 1/2 to 10 gallons per acre of 2,4-D Amine Weed Killer through standard boom systems with a minimum of 5 gallons of spray mix per acre. For MICROFOIL® drift control spray systems apply 2,4-D Amine Weed Killer in 12 to 15 gallons spray mix per acre.

**STORAGE AND CONTAINER REUSE AND DISPOSAL**

**STORAGE:** Do not contaminate water, food or feed by storage or disposal. Do not store at temperatures below 40° F. Do not store near fertilizers, seeds, insecticides, or fungicides.

**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.

**TANK CLEANING:** Triple rinse (or equivalent) and wash with appropriate cleaners before reusing.

**REUSE:** This container may be offered for refilling with 2,4-D Amine Weed Killer if the tank seal has not been broken or removed.

**METAL DRUM DISPOSAL:** Triple rinse (or equivalent). Then offer for recycling or reconditioning or dispose of by procedures approved by state and local authorities.

**PLASTIC CONTAINER DISPOSAL:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**WARRANTY AND LIMITATION OF DAMAGES**

Seller warrants that this material conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use and Buyer assumes the risk of any use contrary to such directions. Seller makes no other express or implied warranty, including any other express or implied warranty of Fitness or of Merchantability, and no agent of Seller is authorized to do so except in writing with a specific reference to this warranty. In no event shall Seller's liability for any breach of warranty exceed the purchase price of the material as to which a claim is made.

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