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

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

APR 20 2012

Alice Walker, Ph.D.
Winfield Solutions, LLC
P.O. Box 64589, St. Paul, MN 55164

Subject: Label Notification; Per PR-Notice 98-10
2,4-D LV4
EPA Reg. No. 1381-102
Date Submitted: April 4, 2012
Proposed Alternate Brand Name: Shredder LV4

Dear Ms. Walker:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 dated April 4, 2012 for the product referenced above. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10. The label submitted with the application has been stamped "Notification" and will be placed in our records.

If you have any questions regarding this letter, please contact Jasmine Branch at (703) 347-0351 or branch.jasmine@epa.gov.

Sincerely,

MICHAEL WARE #

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

For



NOTIFICATION

APR 20 2012

Shredder™ LV4**ACTIVE INGREDIENT:**

2-ethylhexyl ester of 2,4-dichlorophenoxyacetic acid* 66.2%

OTHER INGREDIENTS:** 33.8%

Total 100.0%

*Isomer Specific by AOAC Method No. 6.275 (13th edition) 1980 * 2,4-Dichlorophenoxyacetic acid equivalent 44.0%.

**Contains petroleum distillates.

Contains 3.8 lbs. of 2,4-Dichlorophenoxyacetic acid per gallon.

KEEP OUT OF REACH OF CHILDREN**CAUTION****PRECAUTIONARY STATEMENTS****HAZARDS TO HUMANS AND DOMESTIC ANIMALS****CAUTION**

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

FIRST AID

IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Do not give ANY liquid to the person. Do not induce vomiting unless told to by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

IF IN EYES: Hold eyelids 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. Call a poison control center or doctor for treatment advice.

IF ON SKIN: 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 INHALED: 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.

NOTE TO PHYSICIAN: Contains petroleum distillate – vomiting may cause aspiration hazard.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. For additional information in case of medical emergency call toll free 1-877-424-7452.

Personal Protective Equipment:

Some materials that are chemical-resistant to this product are neoprene, nitrile rubber, barrier laminate, 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, flaggers, and other handlers must wear:

- Long-sleeved shirt and long pants.
- Chemical-resistant gloves when applying with any handheld nozzle or equipment, mixing or loading, cleaning up spills or equipment, or otherwise exposed to the concentrate.
- Chemical-resistant apron when mixing or loading, cleaning up spills or equipment, or otherwise exposes to the concentrate.
- Shoes plus socks.

See engineering controls for additional requirements.

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

EPA Reg. No. 1381-102

EPA Est. No. 70333-1A-1

Distributed by:

Winfield Solutions, LLC

P.O. Box 64589, St. Paul, MN 55164-0089

NET CONTENTS 2-1/2 GALLONS

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Engineering controls statement:

(STATEMENT TO BE ADDED WHEN CONTAINER SIZE IS 5 GALLONS OR MORE)

Do not pour product from this container. A mechanical system (pump and probe or spigot) must be used in transferring the contents of this container. If the contents of a non-refillable pesticide container are emptied, the probe must be rinsed before removal. If the mechanical system is used in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], 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 Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (6)]. When handlers use closed systems, enclosed cabs, or aircraft, in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

Users should:

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

ENVIRONMENTAL HAZARDS

This product 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 mean high water mark. Drift and runoff may be hazardous to aquatic invertebrates in water adjacent to treated areas. Drift or runoff may adversely affect non-target plants. Do not contaminate water when disposing of equipment washwaters 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 and 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.

Use care to avoid spray contact or drift to susceptible plants such as beans and other legumes, cotton, flowers, grapes, ornamentals, vegetables, and other plants. Do not permit spray mist containing this product to drift onto them, since even very small quantities of the spray, which may not be visible, can cause severe injury during both growing and dormant periods.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide 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 of this box apply only 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 this 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 waterproof material.
- Shoes plus socks.

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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.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store in a secure area, in original container only. Do not store near feed or foodstuffs.

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

CONTAINER DISPOSAL: Use label language appropriate for container size and type.

Nonrefillable containers. Do not reuse or refill this container. Clean container promptly after emptying.

Nonrefillable container equal to or less than 5 gallons. 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 $\frac{1}{4}$ 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.

Nonrefillable container greater than 5 gallons. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container $\frac{1}{4}$ 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. 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.

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 mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing 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.

**FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure or accident, call
CHEMTREC 1-800-424-9300.**

WEED LIST

Shredder LV4 will control these plants and other 2,4-D susceptible species:

ANNUAL AND BIENNIAL WEEDS

Annual fanweed (field pennycress), annual yellow sweet clover, * beggarticks, bull thistle, burdock, carpetweed, chickweed, cocklebur, coffeeweed, common mullein, common evening primrose, cornflower, croton, galinsoga, goatsbeard, hemp, henbit, horseweed (marestail), jewelweed, jimsonweed, * knotweed, * kochia, lambsquarters, mallow (Venice, dwarf, little), marshelder, morning glory (common, ivy, wooly), musk thistle, mustards (except blue), pennycress, pepperweed (field), ** pigweeds, poorjoe (wooly plantain), * prickly lettuce, puncturevine, purslane, ragweed (common and giant), rough fleabane, Russian thistle, salsify, shepardspurse, stinkweed, * smartweeds (annual), sowthistle (annual or spiny), sunflower, tansymustard, tumbleweed, velvetleaf, vetches, water primrose, * wild carrot, wild lettuce, wild parsnips, wild radish, wild sweet potato.

PERENNIAL WEEDS

* Alfalfa, * bindweeds (hedge, field and European), blue lettuce, * broom snakeweed, buckhorn plantain, buttercup, * Canada thistle, catnip, chamise, chicory, climbing milkweed, curly indigo, dandelion, * docks, * dogbanes, * goldenrod, * ground ivy, * hawkweed (orange), * hoary cress, * Jerusalem artichoke, locoweed, * many-flowered aster, milkvetch, * nettles, nutgrass, plantains, poison ivy, pokeweed, sheep sorrel, sicklepod, sneezeweed (bitter), sowthistle (perennial), * tansy ragwort, * vervains, * wild garlic, wild onion, witchweed, wormwood, yellow rocket, yellow starthistle.

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*** BRUSH**

Boxelder, buckbrush, coyotebrush, elderberry, manzanita, rabbitbrush, sagebrush (coastal, big, sand), sand shinnery oak, sumac, willow.

* These species may require repeat treatments and/or the specified higher rate. ** Control of pigweeds in the Texas and Oklahoma High Plains may be difficult. Do not exceed maximum application rates specified.

USE DIRECTIONS

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

Unless noted otherwise under individual **DIRECTIONS** section, for aerial application, apply the specified amount in a minimum of 2 gallons of water per acre. For ground application, apply the specified amount in a minimum of 3 gallons of water per acre. Use more water for both methods when adverse growing conditions are present. **DO NOT** apply with high spray pressures, hollow cone or other nozzle types that produce small spray droplets which may drift. Avoid spray drift by making applications when conditions such as wind, air stability and temperature inversions are not a factor. The use of a suitable drift control agent at the proper rate will aid in the reduction of spray drift. Apply when weather is warm and plants are rapidly growing. Cold weather or dry conditions may cause poor results. **DO NOT** apply if rain is expected within an hour. Consult your local agronomist or Extension specialist for specific use and crop tolerance situations. When stored at temperatures below freezing, it may be necessary to warm contents to 45° F. and mix thoroughly before using.

SPRAY DRIFT MANAGEMENT

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

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.

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 non-target species, non-target crops) within 250 feet downwind. If applying a Medium spray, leave one swath unsprayed at the downwind edge of the treated field.

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

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Additional requirements for aerial applications:

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.

Additional requirements for ground boom application:

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

MIXING INSTRUCTIONS

WATER BASED SPRAY -- Fill the equipment half full of water, agitate while adding this product, then add the rest of water.

WATER AND SOYBEAN OIL OR PETROLEUM OIL-BASED SPRAY-- First mix this product with the oil, then add to water. If vigorous agitation is possible, the oil can be added last. **DO NOT ADD OIL FIRST!**

SOYBEAN OIL OR PETROLEUM OIL-BASED SPRAY: Add this product to straight oil to form a solution. Do not allow water to get into this mixture, if it does, an invert emulsion will form.

NITROGEN FERTILIZER: Weed and feed applications for corn, small grains, grasses grown for seed or grass pastures according to label use rates. Add half the fertilizer to the tank, then add specified label amount of Shredder LV4 per acre. Agitate constantly and vigorously and finish filling the spray tank with fertilizer. Apply as soon as possible, agitating constantly. Do not hold spray mixture overnight. If incompatibility is a problem, the use of **COMPLETE COMPATIBILITY**[®] agent at the specified label rate may correct the problem. Fertilize according to the recommendations of your supplier or your Extension specialist. Herbicide foliage contact burning may occur as a result of fertilizer use. Lower use rates and concentrations will reduce this problem.

Adjuvants for Preemergence and Preplant Applications: A non-ionic surfactant such as **PREFERENCE**[®] or a crop oil concentrate may be added to the spray solution when this product is applied preemergence or preplant to increase control of large or difficult to control weeds. Crop oil concentrates must contain at least 17% emulsifier, and should be used at 1% volume/volume (1 gallon per 100 gallons of spray solution). Non-ionic surfactants should be used at a 0.25% volume/volume (1 quart per 100 gallons of spray solution).

When an adjuvant is to be used with this product, Winfield Solutions, LLC recommends the use of a Chemical Producers and Distributors Association certified adjuvant.

Wash spray equipment thoroughly with **PROTANK**[®] cleaner after using this product. When cleaning equipment, do not pour washwater on the ground: spray or drain over a large area away from wells or other water sources. Apply the specified amount of 2,4-D per acre regardless of the amount of diluent used.

CORN – all corn including FIELD, SWEET AND POP

WEEDS	AMOUNT OF SHREDDER LV4 PER ACRE	DIRECTIONS
Preplant - Annual and biennial broadleaf seedlings Perennial weed seedlings and existing cover crops	1 pint 1 to 2.1 pints*	Planting of corn must be delayed a minimum of 7 days after application at rates up to 1 pint per acre, and a minimum of 14 days at rates from 1 to 2 pints per acre. Planting sooner after application than specified on this label may result in unacceptable crop injury.
* Do not perform tillage for at least 7 days after application. Do not use on sandy soils or unacceptable crop injury may result.		
Preemergence and reduced tillage. Broadleaf weeds and annual grasses	2.1 pints*	Apply after corn is planted but before emergence for control of emerged broadleaf weeds. The seed furrow must be completely closed at application or severe crop injury may result.
* Do not use on sandy soils or unacceptable crop injury may result.		
Postemergence - Annual broadleaf weeds	1/2 pint	Apply when corn is less than 8 inches tall, but to avoid crop injury do not apply just after leaves have unfolded. If corn is over 8 inches tall, use drop nozzles to keep spray off of corn foliage as much as possible. See additional restrictions below.

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Perennial broadleaf weeds	3/4 to 1 pint**	Apply when weeds are in bud to bloom stage. If corn is over 8 inches tall, use up nozzles to keep spray off corn foliage as much as possible. Sweet Corn: To minimize potential for crop injury, use only lowest rate in rate range.
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**** DO NOT** apply from 2 weeks before tasseling to dough stage. **DO NOT** apply to open whorls. To avoid injury, do not use with atrazine, oil or other adjuvants. Application during high moisture and temperature conditions may cause injury or brittleness.

DO NOT cultivate for a week to 10 days after treatment or stalk breakage may occur.

Late season weed control – Preharvest (Field corn and popcorn only)	1 to 2 pints *	Apply after silks are completely brown (denting stage) to reduce weeds that interfere with harvest and to decrease weed seed production. Do not apply to sweet corn.
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* Use lower rate for small annual and biennial weeds. Use the higher rate for perennial and larger hard-to-kill annual and biennial weeds.

RESTRICTIONS AND LIMITATIONS FOR FIELD CORN AND POPCORN:

- Do not use treated crop as fodder for 7 days following application.
- The preharvest interval (PHI) is 7 days.
- Maximum of 5.2 pts. (2.42 lbs. ae) per acre per crop cycle.
- Preplant or preemergence:
Limited to one preplant or preemergence application per crop cycle.
Maximum of 2.1 pts. (1 lb. ae) per acre per application.
- Postemergence:
Limited to one postemergence application per crop cycle.
Maximum of 1 pt. (1/2 lb. ae) per acre per application.
- Preharvest:
Limited to one preharvest application per crop cycle.
Do not exceed 2 pts. per acre per application for preharvest use.

RESTRICTIONS AND LIMITATIONS FOR SWEET CORN:

- Do not use treated crop as fodder for 7 days following application.
- The preharvest interval (PHI) is 45 days.
- Minimum of 21 days between applications.
- Maximum of 3.15 pts. (1 1/2 lbs. ae) per acre per crop cycle.
- Preplant or preemergence:
Limited to one preplant or preemergence application per crop cycle.
Maximum of 2.1 pts. (1 lb. ae) per acre per application.
- Postemergence:
Limited to one postemergence application per crop cycle.
Maximum of 1 pt. (1/2 lb. ae) per acre per application.

SOYBEANS

WEEDS	AMOUNT OF SHREDDER LV4 PER ACRE	DIRECTIONS
Preplant – Emerged broadleaf weeds	1 to 2.1 pints	After applying, plant soybean seed as deep as practical or at least 1-1/2 to 2 inches deep. Seed furrow must be completely closed or severe crop injury will result.

USE RESTRICTIONS AND LIMITATIONS FOR SOYBEANS: Do not perform tillage for at least 7 days after application. Do not use on sandy soils or unacceptable crop injury may result. Do not replant treated fields in the same growing season with crops that are not labeled for 2,4-D preplant use.

- The maximum rate per crop cycle is 2.1 pints (1 lbs. ae) per acre.
- Preplant:
Limited to 2 preplant applications per crop cycle.
Maximum of 1 pint (1/2 lb. ae) per acre per preplant application.
Apply not less than 7 days prior to planting soybeans.

OR

- Preplant:
Limited to 1 application per crop cycle.
Maximum of 2.1 pints (1 lb. ae) per preplant application.
Apply not less than **15** days prior to planting soybeans.

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PRECAUTIONS FOR PLANTING SOYBEANS: If product is applied at the higher limit of listed rates, and if soil temperatures have been cold and/or soils have been excessively wet or dry in the days following application, risk of crop injury is increased.

GRAIN SORGHUM

WEEDS	AMOUNT OF SHREDDER LV4 PER ACRE	DIRECTIONS
Annual broadleaf weeds	1/2 pint	Apply to plants that are 5 to 15 inches tall. DO NOT treat plants less than 5 inches tall or from boot to early dough stage. Use drop nozzles when crop is 8 inches or taller.
Perennial broadleaf weeds	2/3 to 1 pint	The higher rate may be needed for some weeds, but chances of crop injury may increase. DO NOT use oil. Some varieties and hybrids are 2,4-D sensitive. Crop injury may also be increased by high moisture and temperature conditions. Check with your seed company and Extension Service for advice.

RESTRICTIONS AND LIMITATIONS FOR GRAIN SORGHUM:

- 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.
- Postemergence:
Limited to 1 application per crop cycle.
Maximum of 1 pt. (1/2 lb. ae) per acre per application.

SMALL GRAINS (Not underseeded with legumes)

WEEDS	AMOUNT OF SHREDDER LV4 PER ACRE	DIRECTIONS
Postemergence - Spring wheat, barley, and rye - Annual and biennial weeds	1/2 to 2 pints *	Apply when grain is in full tiller stage (4 to 8 inches high) but before boot stage (Zadoks 2 ₅ to 4 ₀) when weeds are small and actively growing. Up to 2 pints per acre may be used to control difficult weed problems, but do not use unless some crop damage is acceptable.
Perennial broadleaf weeds	1 to 2 pints **	Apply only in the spring when crop is fully tillered, but before grain is in boot stage (before Zadoks 4 ₀). For improved control of difficult weeds, apply up to 2 pints per acre.

** DO NOT USE THE HIGHER RATE IF POSSIBLE CROP INJURY IS NOT ACCEPTABLE

Spring and winter wheat and barley Resistant weeds	Shredder LV4 may be used in combination with "Ally"™, "Harmony Extra"™, "Express"™, "Finesse"™, at their earlier application intervals to control resistant weeds such as kochia and Russian thistle. Follow application directions on each product label.	
Winter wheat and rye Annual weeds	1/2 to 1 pint **	Apply only in the spring when crop is fully tillered, but before grain is in boot stage (before Zadoks 4 ₀). For improved control of difficult weeds, apply up to 2 pints per acre.

** DO NOT USE THE HIGHER RATE IF POSSIBLE CROP INJURY IS NOT ACCEPTABLE

Wild garlic or onions	1/2 to 2 pints *	Apply 1-1/2 pints when grain is at full tiller and wild garlic and onion plants are small. Apply 2 pints after harvest to the crop stubble. For control of new fall growth of these plants, refer to fallow land use directions.
Spring-seeded oats	1/2 to 2/3 pint*	Apply at full tiller, but before early boot stage (Zadoks 2 ₅ to 4 ₀).
Fall seeded oats grown for grain (Southern)	2/3 to 1-1/2 pints*	Apply at full tiller, but before early boot stage (Zadoks 2 ₅ to 4 ₀).

* Difficult to control weeds may require higher rate, but some injury may occur since oats are less tolerant to 2,4-D than wheat or barley. **DO NOT** spray during or just after cold weather.

Preharvest - Cereal grains	1 pint	Apply when grain is in hard dough stage (Zadoks 8 ₇) to control weeds that will interfere with harvest. Apply when soil moisture is adequate for weed growth for best results.
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* Use the lower rate for small annual and biennial weeds. Use the higher rate for perennial weeds or hard-to-kill annual or biennial weeds. The higher rate should be used only where heavy weed infestation is a problem and increased risk of crop damage is acceptable.

RESTRICTIONS AND LIMITATIONS FOR SMALL GRAINS:

- The preharvest interval (PHI) is 14 days.
- Postemergence:
Limited to one postemergence application per crop cycle.
Maximum of 2 pts. (1 lb. ae) per acre per application.
- Preharvest:
Limited to one preharvest application per crop cycle.
Maximum of 1 pt. (1/2 lbs. ae) per acre per application.
- Limited to 3 pts. (1.425 lbs. ae) per acre per crop cycle.

FALLOW GROUND (crop stubble on idle land, or postharvest to crops, or between crops)

WEEDS	AMOUNT OF SHREDDER LV4 PER ACRE	DIRECTIONS
Annual broad-leaf weeds	1 to 2 pints	Use the lower rate for small actively growing weeds. Use the higher rate on larger or weather stressed weeds.
Biennial weeds	2 to 4.2 pints	Use the lower rate in the spring on biennial weeds such as the musk thistle during the rosette stage before stalks have formed. Use the higher rate after stalk formation or in the fall.
Perennial weeds	2 to 4.2 pints	Apply during the bud to bloom stage while weeds are actively growing. Do not till for 2 weeks after treatment or until the weeds start to die.
Wild onions and garlic	4.2 pints	Apply to regrowth in fall after harvest.

RESTRICTIONS AND LIMITATIONS FOR FALLOW GROUND (crop stubble on idle land, or postharvest to crops, or between crops):

- Plant only labeled crops within 29 days following application.
- Limited to 2 applications per year.
- Maximum of 4.2 pts. (2 lbs. ae) per acre per application.
- Minimum of 30 days between applications.

PLANTING IN TREATED AREAS:

Labeled Crops: Within 29 days after an application of this product, plant only those crops listed on this or other registered 2,4-D labels. Follow more specific limitations, if any, provided in directions for specific crops. Labeled crops may be at risk of crop injury or loss if planted soon after application, especially during 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 after 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 breakdown 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 or information about susceptible crops and typical conditions in your area.

Precautions for Planting Cotton: Following application of Shredder LV4 and following a minimum of 1" rainfall or irrigation in a 24 hr. period, wait an interval of 30 days prior to planting cotton. Failure to observe these precautions may result in crop injury.

CONSERVATION RESERVE PROGRAM AREA PASTURES AND RANGELAND NOT IN AGRICULTURAL PRODUCTION

WEEDS	AMOUNT OF SHREDDER LV4 PER ACRE	DIRECTIONS
Annual broadleaf	3 pints	Do not apply after heads form or when grass is in boot to milk stage when a seed crop is desired. DO NOT use on alfalfa, clover, other legumes, or

and * perennial weeds		newly seeded pastures. For aerial application, apply the recommended amount in a minimum of 2 gallons of water per acre. For ground application, use a minimum of 10 gallons of water per acre.
** Buckbrush, coyotebrush, rabbitbrush, sagebrush, and other chaparral species.	4.2 pints	Apply in 5 to 10 gallons of water plus 1 gallon of oil or 1-2 quarts of a crop oil concentrate with at least 17 % emulsifiers per acre or a non-ionic surfactant at .25% v/v surfactant to water -- (1 quart per 100 gallons of water) per acre.
** Sand shinnery oak	4.2 pints	Apply 5 gallons of oil or 4 gallons of water plus 1 gallon of oil or 1-2 quarts of a crop oil concentrate with at least 17 % emulsifiers per acre or a non-ionic surfactant at .25% v/v surfactant to water -- (1 quart per 100 gallons of water) per acre.

* Deep-rooted perennial weeds may require the higher rate or repeated treatments. ** Woody plants and any regrowth may require repeat treatments.

RESTRICTIONS AND LIMITATIONS FOR CONSERVATION RESERVE AREA PASTURES AND RANGELAND NOT IN AGRICULTURAL PRODUCTION:

- The preharvest interval (PHI) is 7 days (cut forage for hay).
- Postemergence:
Limited to 2 applications per year.
Maximum of 4.2 pts (2 lbs. ae) 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.

PASTURES AND RANGELAND (established grass pastures, rangeland, and perennial grasslands not in agricultural production, excluding Conservation Reserve areas)

For susceptible annual and biennial broadleaf weeds: Do not apply more than 2.1 pts (1 lb. ae) per acre per application.

For moderately susceptible biennial and perennial broadleaf weeds and difficult to control weeds and woody plants: Do not apply more than 4.2 pts (2 lbs. ae) per acre per application.

For spot treatment: Do not apply more than 4.2 pts (2 lbs. ae) per acre.

RESTRICTIONS AND LIMITATIONS FOR PASTURES AND RANGELAND:

- Do not cut forage for hay within 7 days of application.
- Maximum of two applications per year.
- Do not apply more than 4 lbs. ae/acre per year.
- The minimum retreatment interval is 30 days.

NON-CROP AREAS - Fencerows, hedgerows, roadsides, ditches, rights-of-way, airfields, railroads, highway and utility rights-of-way, industrial sites, and other non-crop areas

WEEDS	AMOUNT OF SHREDDER LV4 PER ACRE	DIRECTIONS
Annual broadleaf weeds	2 to 4.2 pints	Apply when weeds are young and growing vigorously.
Perennial and biennial broadleaf weeds	2 to 3 pints	Spray perennial weeds when near the bud stage, but not flowering. Do not use on St. Augustine grass. Bentgrass, clover, legumes and dichondra may be injured. Do not apply to newly seeded areas until grass is well established. Deep-rooted perennials may require repeated treatments.
Tansy ragwort and musk thistle		Apply in rosette stage before bolting.

Wild onion and wild garlic		Treat in the early spring and fall when coming and actively growing.
Woody plants - Ground application	6 pints	Apply in 20 to 100 gallons of water. For increased effectiveness, add a crop oil concentrate with at least 17 % emulsifiers at 1-2 quarts per acre or a non-ionic surfactant at .25% v/v surfactant to water -- 1 quart per 100 gallons of water. Spray volumes of up to 500 gallons per acre may be needed for control if brush is dense.
Woody plants - Aerial application	4 to 6 pints	For solid stands of susceptible brush, apply in 3 to 12 gallons volume per acre. 2 to 4 quarts of fuel oil may be included in this mixture.
Spot treatment	4 ounces	Apply in 3 gallons of water, mixing thoroughly and spray to run-off. This high dosage rate may only be used where injury may be tolerated.

RESTRICTIONS AND LIMITATIONS FOR NON-CROP AREAS:

- Postemergence (annual and perennial weeds):
Limited to 2 applications per year.
Maximum of 4.2 pts. (2 lbs. ae) per acre per application.
- Minimum of 30 days between applications.
- Postemergence (woody plants):
Limited to 1 application per year.
Maximum of 6 pts. (2.85 lbs. ae) per acre per year.
- Application 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.

TURF, ORNAMENTAL (golf courses, parks, cemeteries, sports fields, turfgrass, and other lawn and grass areas)

WEEDS	AMOUNT OF SHREDDER LV4 PER ACRE	DIRECTIONS
Annual broadleaf weeds	2 pints 2 to 3.15 pints *	Do not apply to newly seeded areas until grass is well established. Where bentgrass predominates, make 2 applications of 1 pint per acre at 3-week intervals. Do not use on susceptible southern grasses such as St. Augustine, bentgrass and dichondra.
Biennial and perennial weeds		

* Deep-rooted perennials may require repeat applications. Clovers and legumes may be injured by this treatment.

RESTRICTIONS AND LIMITATIONS FOR TURF, ORNAMENTAL (golf courses, parks, cemeteries, sports fields, turfgrass, and other lawn and grass areas):

- Postemergence:
Limited to 2 applications per year.
Maximum of 3.15 pts. (1 1/2 lbs. ae) per acre per application.
The maximum seasonal rate is 6.3 pts. (3 lbs. ae) per acre, excluding spot treatments.

TURF GROWN FOR SEED OR SOD - (DO NOT USE IN CALIFORNIA)

WEEDS	AMOUNT OF SHREDDER LV4 PER ACRE	DIRECTIONS
Annual broadleaf weeds Perennial and biennial weeds	1 to 1-1/2 pints * 2 to 3 pints *	Apply to established stands before the seed head comes into the boot stage. Do not spray in boot stage of growth. For seedling grasses, apply in the spring after grass has tillered or has at least 5 leaves, but before boot stage.

* Use only the low rate on seedling grasses.

RESTRICTIONS AND LIMITATIONS FOR TURF GROWN FOR SEED OR SOD:

- Limited to 2 applications per year.
- Maximum of 3 pts. (1.42 lbs. ae) per acre per application.

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