

66222-219

06/10/2011

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

OFFICE OF
CHEMICAL SAFETY AND
POLLUTION PREVENTION

Anne Stout
Makhteshim Agan of North America, Inc.
4515 Falls of Neuse Road, Suite 300
Raleigh, NC 27609

JUN 10 2011

Subject: Notification per PR Notice 98-10 (alternate brand name)
MANA 2,4-D Ester 4
EPA Reg. No. 66222-219
Application Dated May 16, 2011

Dear Ms. Stout:

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

The alternate brand name "Defy LV-4" has been added to our records for this product.

If you have any questions, please contact Mindy Ondish at (703)605-0723 or at ondish.mindy@epa.gov.

Sincerely,

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



United States
Environmental Protection Agency
 Washington, DC 20460

Registration
 Amendment
 Other

OPP Identifier Number

Application for Pesticide - Section I

1. Company/Product Number 66222-219	2. EPA Product Manager Kathryn Montague	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) MANA 2,4-D Ester 4	PM# 23	
5. Name and Address of Applicant (Include ZIP Code) Makhteshim Agan of North America Inc. 4515 Falls of Neuse Road, Suite 300 Raleigh, NC 27609 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ <div style="text-align: right; font-weight: bold; font-size: 1.2em;">NOTIFICATION</div> Product Name _____ <div style="text-align: right; font-weight: bold; font-size: 1.2em;">JUN 10 2011</div>	

Section - II

<input type="checkbox"/> Amendment - Explain below. <input type="checkbox"/> Resubmission in response to Agency letter dated _____ <input checked="" type="checkbox"/> Notification - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated _____ <input type="checkbox"/> "Me Too" Application. <input type="checkbox"/> Other - Explain below.
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Explanation: Use additional page(s) if necessary. (For section I and Section II.)

NOTIFICATION OF ALTERNATE BRAND NAME: Defy LV-4
 This notification is consistent with the provisions of PR Notice 98-10 and 98-9 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula for this product. I understand that it is a violation of 18 USC Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 98-9 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under Sections 12 and 14 of FIFRA.

Section - III

1. Material This Product Will Be Packaged In:					
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	2. Type of Container <input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt	No. per container
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> _____	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled			<input type="checkbox"/> Other _____		

Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Anne Stout	Title Registration Specialist	Telephone No. (Include Area Code) 901-861-4400
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)
2. Signature 	3. Title Registration Specialist	
4. Typed Name Anne Stout	5. Date <div style="text-align: center; font-size: 1.2em;">5-16-11</div>	



May 16, 2011

Document Processing Desk (NOTIF)
Office of Pesticide Programs (7504C)
USEPA
Ariel Rios Building
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Re: ✓ MANA 2,4-D Ester 4, EPA Reg. No. 66222-219
MANA 2,4-D Ester 6, EPA Reg. No. 66222-220
MANA 2,4-D Amine 4, EPA Reg. No. 66222-221
Notification of Alternate Brand Names

To Whom It May Concern:

Makhteshim Agan of North America, Inc. notifies the Agency of its intention to market the referenced products under the alternate brand names listed below.

<i>Primary Brand Name and EPA Reg. No.:</i>	<i>Alternate Brand Names and EPA Reg. No.:</i>
✓ MANA 2,4-D Ester 4, EPA Reg. No. 66222-219	Defy™ LV-4 , EPA Reg. No. 66222-219
MANA 2,4-D Ester 6, EPA Reg. No. 66222-220	Defy™ LV-6 , EPA Reg. No. 66222-220
MANA 2,4-D Amine 4, EPA Reg. No. 66222-221	Defy™ Amine 4 , EPA Reg. No. 66222-221

In support of this request, the following documents are attached:

- Application for Pesticide Registration (EPA Form 8570-1) for each alternate brand name
- One copy of final printed labeling for each alternate brand name

This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula for this product. I understand that it is a violation of 18 USC Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under Sections 12 and 14 of FIFRA.

Should you have questions about this submission, please contact me at 901-861-4400.

Sincerely,

Anne Stout

Anne Stout
Registration Specialist

Enclosures

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NOTIFICATION

JUN 10 2011

Defy LV-4

For selective control of many broadleaf weeds in certain crops including, cereal grains (wheat, barley, millet, oats, and rye), corn (field corn, popcorn, and sweet corn), fallow land and crop stubble, sorghum (grain and forage sorghum), and soybeans (preplant burndown application only), forests, rangeland and established grass pastures including Conservation Reserve Program (CRP) acres, non-cropland, grasses grown for seed or sod, and ornamental turf.

ACTIVE INGREDIENT:	% BY WT.
2,4-Dichlorophenoxyacetic acid, 2-Ethylhexyl Ester*	68.0%
OTHER INGREDIENTS:	<u>32.0%</u>
	TOTAL 100.0%

*Acid Equivalents: 2,4-dichlorophenoxyacetic acid: 45% - 3.8 lb/gal
This product contains petroleum distillates.

KEEP OUT OF REACH OF CHILDREN CAUTION

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

EPA Reg. No. 66222-219

EPA Establishment No. 37429-GA-001

Manufactured for:

Makhteshim Agan of North America, Inc.
4515 Falls of Neuse Rd., Suite 300
Raleigh, NC 27609

NET CONTENTS: 2.5 Gallons

FIRST AID	
IF SWALLOWED:	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
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 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.
<p>Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact PROSAR at 1-877-250-9291 for emergency medical treatment information.</p> <p>NOTE TO PHYSICIAN: Contains petroleum distillate. Vomiting may cause aspiration pneumonia.</p>	

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Harmful if swallowed or absorbed through skin. Prolonged or frequently repeated skin contact may cause allergic skin reactions in some individuals. Avoid breathing vapors or mists. Avoid contact with skin, eyes, or clothing.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

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

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

- Long-sleeved shirt and long pants
- Shoes and socks
- Chemical-resistant gloves when applying with any handheld nozzle or equipment; mixing, 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 exposed to the concentrate

See **ENGINEERING CONTROLS** for additional requirements.

Note: For containers of over 1 gallon but less than 5 gallons: Mixers and loaders who do not use a mechanical system (such as probe and pump or spigot) to transfer the contents of this container must wear coveralls or chemical-resistant apron in addition to other required PPE.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, 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

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

When handlers use 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. If pesticide gets on skin, wash immediately with soap and water.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon

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 areas. 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.

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

PHYSICAL OR CHEMICAL HAZARDS

Combustible. 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. Read all directions for use

Carefully before applying.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and 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 waterproof material
- Shoes plus socks
- Protective eyewear

NONAGRICULTURAL 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.

Use Requirements for Rangeland, Pasture and Non-cropland Areas

No Worker Protection Standard worker entry restrictions or worker notification requirements apply when this product is applied to rangeland, pasture or non-cropland areas.

Use Requirements for Turf

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

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.EP, C01-0132C, (W.D.WA). For further information, please refer to <http://www.epa.gov/espp/litstatus/wtc/qs-as.htm>.

PRODUCT INFORMATION

Defy LV-4 herbicide is intended for selective control of many broadleaf weeds in certain crops, including cereal grains (wheat, barley, millet, oats, and rye), corn (field corn, popcorn, and sweet corn), fallow land and crop stubble, sorghum (grain and forage sorghum), and soybeans (preplant burndown application only), forests, rangeland, and established grass pastures including Conservation Reserve Program (CRP) acres, non-cropland, grasses grown for seed or sod, and ornamental turf.

Apply Defy LV-4 as a water or oil-water spray during warm weather when weeds or woody plants are actively growing. Application under drought conditions will often give poor results. Use low spray pressure to minimize drift. Generally, the lower dosages recommended on this label will be satisfactory for young, succulent growth of susceptible weed species. For less susceptible species and under conditions where control is more difficult, use higher specified rates. Deep-rooted perennial weeds such as Canada thistle and field bindweed and many woody plants usually require repeated applications for satisfactory control. Consult your State Agricultural Experiment stations or Extension Service Weed Specialists for specifications from this label that best fit local conditions.

USE PRECAUTIONS AND RESTRICTIONS

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

Excessive amounts of 2,4-D in the soil may temporarily inhibit seed germination and plant growth.

AVOIDING INJURY TO NON-TARGET PLANTS

Spray drift produced during application is the responsibility of the applicator and care should be taken to minimize off-target movement of spray during application. A drift control agent suitable for agricultural use may be used with this product to aid in reducing spray drift. If used, follow all use directions and precautions on the product label.

Do not apply where drift may be a problem due to proximity to susceptible crops or other desirable broadleaf plants. Do not apply Defy LV-4 directly to or otherwise permit contact with cotton, flowers, fruit trees, grapes, ornamentals, vegetables, or other desirable plants that are susceptible to 2,4-D herbicides. Do not permit spray mist containing 2,4-D to contact susceptible plants since even very small quantities of the spray, which may not be visible, can cause severe injury during either active growth and dormant periods. Do not use in greenhouses.

Ground Equipment: With ground equipment, spray drift can be lessened by keeping the spray boom as low as possible; by applying 10 gallons or more of spray per acre; by using no more than 20 pounds spraying pressure and large droplet producing nozzle tips; by spraying when wind velocity is low; and by stopping all spraying when wind exceeds 10 miles per hour. Do not apply with hollow cone-type insecticide or other nozzles that produce a fine-droplet spray.

Avoid Movement of Treated Soil: Avoid conditions under which soil from treated areas may be moved or blown to areas containing susceptible plants. Wind-blown dust containing 2,4-D may produce visible symptoms when deposited on susceptible plants; however, serious plant injury is unlikely. To minimize potential movement of 2,4-D on wind-blown dust, avoid treatment of powdery dry or light sandy soils until soil is settled by rainfall or irrigation or irrigate soon after application.

Do not store or handle other agricultural chemicals with the same containers used for Defy LV-4. Do not apply other agricultural chemicals or pesticides with equipment used to apply Defy LV-4 unless equipment has been thoroughly cleaned to remove all traces of 2,4-D.

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, airblast) 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 no 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.

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.

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.

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.

MIXING INSTRUCTIONS

1. Fill the spray tank about 1/2 full with water; then add the required amount of Defy LV-4 with agitation, and finally the rest of the water.

Note: Defy LV-4 in water forms an emulsion that tends to separate unless the mixture is kept agitated.

2. If oil is added, first mix the Defy LV-4 and the oil and then add this mixture to the water.

However, with adequate agitation, the oil can be added after Defy LV-4 is mixed with water.

3. If straight oil is used, a solution is formed and separation does not occur. Do not allow any water to get into the oil-herbicide mixture to avoid formation of an invert emulsion.

Note: Adding oil, wetting agent, or other surfactant to the spray mixture may increase effectiveness on weeds, but also may reduce selectivity in crops resulting in crop damage.

Tank Mixing Precautions:

- Read carefully and follow all applicable use directions, precautions, and limitations on the respective product labels.
- Do not exceed specified application rates. Do not tank mix with another pesticide product that contains the same active ingredient as this product unless the label of either tank mix partner specifies the maximum dosages that may be used.

Tank Mix Compatibility Testing: A jar test is recommended prior to tank mixing to ensure compatibility of this product and other pesticides. Use a clear glass quart jar with lid and mix the tank mix ingredients in their relative proportions. Invert the jar containing the mixture several times and observe the mixture for approximately 1/2 hour. If the mixture balls-up, forms flakes, sludges, gels, oily films or layers, or other precipitates, it is not compatible and the tank mix combination should not be used.

Mixing with Liquid Nitrogen Fertilizer

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

Fill the tank about 1/2 full with the liquid fertilizer, then add the required amount of Defy LV-4 with agitation. Maintain agitation and complete filling the tank with liquid fertilizer. Apply immediately and continue agitation in spray tank during application. **Do not store the spray mixture.** Application during very cold weather (near freezing) is not advisable.

Sprayer Clean-Out

To avoid injury to desirable plants, equipment used to apply this product should be thoroughly cleaned before reuse or applying other chemicals.

1. Rinse and flush application equipment thoroughly after use at least three times with water. Dispose of all rinse water by application to treatment area or apply to non-cropland area away from water supplies.
2. During the second rinse, add 1 qt of household ammonia for every 25 gallons of water. Circulate the solution through the entire system so that all internal surfaces are contacted (15-20 min). Let the solution stand for several hours, preferably overnight.
3. Flush the solution out of the spray tank through the boom.
4. Rinse the system twice with clean water, recirculating and draining each time.
5. Remove nozzles and screens and clean separately.
6. If equipment is to be used to apply another pesticide or agricultural chemical to a 2,4-D susceptible crop, additional steps may be required to remove all traces of 2,4-D, including cleaning of disassembled parts and replacement of hoses or other fittings that may contain absorbed 2,4-D.

Application Instructions

Spray Volume: Apply with calibrated air or ground equipment using sufficient spray volume to provide adequate coverage of target weeds or as otherwise directed in specific use directions. For broadcast application, apply the specified rate of this product in a spray volume of 2 or more gallons per acre by air and 10 or more gallons per acre for ground equipment. Use low-pressure sprays to minimize drift. Where states have regulations that specify minimum spray volumes, they should be observed. In general, spray volume should be increased as crop canopy, height, and weed density increase in order to obtain adequate spray coverage. **Do not apply less than 2 gallons total spray volume per acre.**

Application Rates: Generally, lower rates in specified rate ranges will be satisfactory for more sensitive weeds species, when weeds are small, and when environmental conditions are favorable for rapid growth. Use higher rates in the specified rate range for less sensitive species and under less favorable growing conditions. For crop uses, do not mix with oil or other adjuvants unless specifically recommended on this label. Deep-rooted perennial weeds such as Canada thistle and field bindweed and many woody plants usually require repeated applications for effective control.

Spot Treatments

To prevent misapplication, spot treatments should be applied with a calibrated boom or with hand sprayers using a fixed spray volume per 1000 sq ft as indicated below.

Hand-Held Sprayers: Hand-held sprayers may be used for spot applications of Defy LV-4 in labeled crops. Care should be taken to apply the spray uniformly and at a rate equivalent to a broadcast application. Application rates in the table are based on a treatment area of 1000 sq ft. Mix the amount of Defy LV-4 (fl oz or ml) corresponding to the desired broadcast rate in one (1) or more gallons of spray. To calculate the amount of Defy LV-4 required for larger areas, multiply the table value (fl oz or ml) by the number of thousands of sq ft of area to be treated. An area of 1000 sq ft is approximately 10.5 X 10.5 yards (strides) in size. To calculate the amount of Defy LV-4 required for a broadcast rate higher than those listed, use a multiple of the table value, for example, if a spot treatment requires the equivalent of an 8 pt per acre, use 2X the amount per gallon of spray required for the 4 pt/acre rate.

Rate Conversion Table for Spot Treatment:

Label Broadcast Rate (pt/acre)							
1/2	2/3	3/4	1	2	3	4	8
Equivalent Amount of Defy LV-4 per 1000 sq ft							
1/5 fl oz * (5.5 ml)	1/4 fl oz (7.3 ml)	1/3 fl oz (8.3 ml)	3/8 fl oz (11 ml)	3/4 fl oz (22 ml)	1 fl oz (33 ml)	1 1/2 fl oz (44 ml)	3 fl oz (88 ml)

* Conversion factors: 1 pt = 16 fl oz; 1fl oz = 29.6 (30) ml

Band Application: Defy LV-4 may be applied as a band treatment. Use the formulas below to determine the appropriate rate and volume per treated acre.

Band width in inches

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Broadcast rate} = \text{Band rate per acre}$$

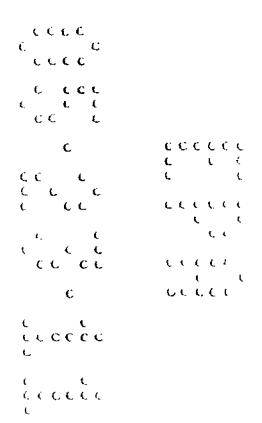
Band width in inches

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Broadcast volume} = \text{Band volume per treated acre}$$

WEEDS CONTROLLED

Annual or Biennial Weeds

- | | |
|--|---|
| beggarticks ¹ | mousetail ² |
| bittercress, smallflowered ² | mustards (except blue mustard) |
| bitterweed | parsnip, wild |
| broomweed, common ¹ | pennycress (fanweed) |
| burdock, common | pepperweeds (Lepidium spp.) ^{1, 2} |
| buttercup, smallflowered ^{1, 2} | pigweeds (Amaranthus spp.) ¹ |
| carpetweed | poorjoe |
| cinquefoil, common ² | primrose, common |
| cinquefoil, rough ² | purslane, common ² |
| cocklebur, common | pusley, Florida |
| coffeeweed | radish, wild |
| copperleaf, Virginia ² | ragweed, common |
| croton, Texas | ragweed, giant |
| croton, woolly | rape, wild |
| flixweed | rocket, yellow |
| galinsoga | salsify, common ¹ |
| geranium, Carolina ² | salsify, western ¹ |
| hemp, wild | shepherdspurse |
| horseweed (maretail) ² | sicklepod |
| jewelweed | smartweed (annual species) ^{1, 2} |
| jimsonweed | sneezeweed, bitter |
| knotweed ² | sowthistle, annual |
| kochia | sowthistle, spiny |
| lambquarters, common | spanishneedles |
| lettuce, prickly ^{1, 2} | sunflower |
| lettuce, wild lupines | sweetclover |
| mallow, little ¹ | tansymustard |
| mallow, Venice ¹ | thistle, bull |
| marshelder | thistle, musk ¹ |
| morningglory, annual | thistle, Russian (tumbleweed) ¹ |
| morningglory, ivy | velvetleaf |
| morningglory, woolly | vetches |



Perennial Weeds

- | | |
|--|---|
| alfalfa ^{1 2} | evening primrose, cutleaf ² |
| artichoke, Jerusalem ¹ | garlic, wild ¹ |
| aster, many-flower ¹ | goldenrod |
| Austrian fieldcress ¹ | hawkweed, orange ¹ |
| bindweed (hedge, field, and European) ^{1,2} | healal |
| blue lettuce | ironweed, western ² |
| blueweed, Texas | ivy, ground ¹ |
| broomweed | loco, bigbend |
| bullnettle ^{1,2} | nettles (including stinging) ¹ |
| carrot, wild ¹ | onion, wild ¹ |
| catnip | pennywort |
| chicory | plantains |
| clover, red ^{1,2} | ragwort, tansy ¹ |
| coffeeweed | sowthistle, perennial |
| crass, hoary ¹ | thistle, Canada ^{1 2} |
| dandelion ¹ | vervains ¹ |
| docks ¹ | wormwood |
| dogbanes ¹ | |

¹ These weeds are only partially controlled and may require repeat applications and/or use of higher recommended rates of this product even under ideal conditions of application.

² This product may not be used to control this weed species in the state of California.

CROP USES

Agricultural Use Requirements for Crops: For the following crop uses, follow PPE and Reentry instructions in the **AGRICULTURAL USE REQUIREMENTS** section of this label.

CONTROL OF WOODY WEEDS IN LOW-BUSH BLUEBERRY FIELDS IN MAINE

Crop/Application Timing	Defy LV-4 (rate)	Specific Use Directions
Postemergence	2 qt/100 gal	<p>Make directed wipe or spot applications during June and July when weed tops have emerged sufficiently above the blueberry stems to allow treatment of the weeds without contacting blueberry plants.</p> <p>Use Precautions: Do not allow spray solution to contact blueberry plants. Do not harvest-rake field during the herbicide treatment year or until a two-year interval thereafter. Apply only during the year before the first burn. To use this method of weed control, two-year burns should be extended to three years.</p> <p>Postemergence: Limited to one postemergence application per year. Do not exceed a maximum of 0.0375 lb ae/gallon (0.08 pint of formulated product) per application.</p>
Postharvest	1 qt/10 gal of oil	<p>Make directed applications to cut stems of invading woody plants growing in the row or row middles in summer or fall after harvest. Do not allow spray solution to contact blueberry stems.</p> <p>Postharvest: Limited to one postharvest application per year. Do not exceed a maximum of 1.0 lb ae/gallon spray solution (2.1 pints of formulated product) per application. For spot or directed wipe treatment only. Apply only in non-bearing years.</p>

CEREAL GRAINS (WHEAT, BARLEY, MILLET, OATS, RYE)

(Not Underseeded with Legumes)

Crop/Application Timing	Defy LV-4 (pt/acre)	Specific Use Directions
Wheat, Barley, Millet, Rye Annual and biennial broadleaf weeds Perennial broadleaf weeds	1/2 to 2 ¹ 1 to 2 ¹	Apply after crop is fully tillered, but before boot stage of growth (usually 4 to 8 inches tall) and weeds are small. Do not apply before tillering or from early boot through the milk stage of growth.
Oats (Spring Seeded) (Fall Seeded Southern)	1/2 3/4 to 1 1/4 ¹	Apply after crop is fully tillered, but before boot stage of growth (usually 4 to 8 inches tall) and weeds are small. Do not apply before tillering or from early boot through the milk stage of growth. Do not apply during or immediately following cold weather.
Preharvest application (all cereals)	1	Apply using air or ground equipment to control weeds that could interfere with harvest, or to suppress perennial weeds. Apply when grain is in dough stage. Do not apply from early boot through the milk stage of growth.

¹ Use the lower rate in the rate range if small annual or biennial weeds are the major problem. Use the higher rate if perennial weeds or annual or biennial weeds are present which are considered to be hard-to-kill as determined by local experience. Higher rates increase the risk of crop injury and should be used only where weed control justifies such risk. Do not apply Defy LV-4 at the crop seedling stage of growth. Consult state agricultural experiment station or extension service weed specialists for recommendations or suggestions to fit local conditions.

Restrictions:

- **Grazing and Haying Restrictions:** Do not permit dairy animals or meat animals being finished for slaughter to forage or graze treated grain fields within 14 days after treatment. Do not harvest for hay or harvest grain within 14 days after application.
- Do not apply more than 3.6 pt/acre (1.75 lbs. ae/acre) of Defy LV-4 per crop cycle.
- **Postemergence:** Limited to one postemergence application per crop cycle. Maximum of 2.6 pt/acre (1.25 lbs ae/acre) per application.
- **Preharvest:** Limited to one preharvest application per crop cycle. Maximum of 1.0 pt/acre (0.5 lbs ae/acre) per application.

CORN (FIELD CORN, POPCORN, AND SWEET CORN)

Application Timing/ Stage of Growth	Defy LV-4 (pt/acre)	Specific Use Directions
Preplant (Burndown) Preemergence (Field corn, popcorn, and sweet corn)	1 to 2	General: For best results, growth conditions should be favorable for active weed growth. Use high rate in rate range for less susceptible weeds, cover crops such as alfalfa, weeds in advanced stages of development, or under less favorable growth conditions. Preplant: Apply 7 to 14 days before planting corn to control emerged broadleaf weed seedlings or existing cover crops. Preemergence: Apply any time after planting, but before corn emerges to control broadleaf weed seedlings or existing cover crops. Do not use on light sandy soils.
Postemergence (Field corn, popcorn, and sweet corn) Annual broadleaf weeds		Apply when weeds are small and corn is less than 8 inches tall (to top of canopy). If corn is more than 8 inches tall, use drop nozzles to keep spray off foliage. Treat perennial weeds when they are in bud to bloom

Crop up to 8 inches tall	1/2 to 1	stage. Do not tank mix with atrazine, oil or other adjuvants.
Crop 8 inches tall to tasseling (directed spray only)	1	Do not apply from tasseling to hard dough stage. Note: Corn treated with 2, 4-D may become temporarily brittle.
Perennial broadleaf weeds	1	Sweet Corn: To minimize potential for crop injury, use only lowest rate in rate range.
Preharvest (Field corn or popcorn only)	up to 3	Apply after corn is in hard dough (or denting) stage. Do not apply to sweet corn.

Precautions:

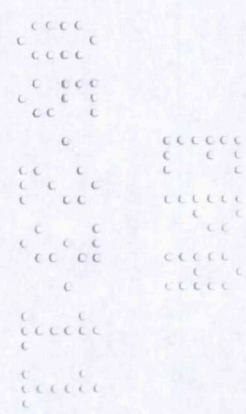
- Corn hybrids vary in tolerance to 2,4-D. Some are easily injured. Apply only to varieties known to be tolerant to 2,4-D. Consult the seed company or your Agricultural Experiment Station or extension Service Weed Specialist for this information.
- After postemergence application, delay cultivation for 8 to 10 days to allow corn to overcome any temporary brittleness.

Restrictions (Field Corn and Popcorn):

- **Preharvest interval:** Do not harvest for grain or fodder within 7 days after application.
- Do not apply more than 6.3 pt/acre (3.0 lbs ae/acre) of Defy LV-4 per crop cycle.
- **Preplant or preemergence:** Limited to one preplant or preemergence application per crop cycle. Maximum of 2.1 pt/acre (1.0 lb ae/acre) per application.
- **Postemergence:** Limited to one postemergence application per crop cycle. Maximum of 1.0 pt/acre (0.5 lb ae/acre) per application.
- **Preharvest:** Limited to one preharvest application per crop cycle. Maximum of 3.1 pt/acre (1.5 lbs ae/acre) per application.

Restrictions (Sweet Corn):

- **Preharvest interval:** Do not harvest within 45 days after application or permit meat or dairy animals to forage or graze treated area within 7 days after application.
- Do not make a postemergence application any less than 21 days after a prior application.
- Do not apply more than 3.1 pt/acre (1.5 lbs ae/acre) of Defy LV-4 per crop cycle.
- **Preplant or preemergence:** Limited to one preplant or preemergence application per crop cycle. Maximum of 2.1 pt/acre (1.0 lb ae/acre) per application.
- **Postemergence:** Limited to one postemergence application per crop cycle. Maximum of 1.0 pt/acre (0.5 lb ae/acre) per application.



FALLOWLAND AND CROP STUBBLE

Fallowland is idle land, postharvest to crops or between crops.

Type of Weeds	Defy LV-4 (pt/acre)	Specific Use Directions
Annual broadleaf weeds	1 to 2	Use lower rate in rate range when weeds are small (2 to 3 inches) and conditions are favorable for active growth and a higher rate when weeds are larger and/or growing conditions are less favorable.
Biennial broadleaf weeds	2 to 4	Apply when musk thistles or other biennial species are in the seedling to rosette stage and before development of flower stalks. Use lower rates in the spring during the rosette stage and the highest rate in the fall or when flower stalks have developed.
Perennial broadleaf weeds	2 to 4	Apply when perennial weeds are in bud or bloom stage and actively growing. Do not disturb treated areas for at least 2 weeks after application or until top growth is dead.
Wild garlic and onion in crop stubble	4	Apply to new regrowth of wild garlic or onion that occurs in the fall after harvest of other crops.

Precautions and Restrictions:

- **Grazing and Haying Restrictions:** In grazed areas, do not apply more than 4 pt/acre of Defy LV-4 per application. Do not harvest forage or hay from treated areas for 7 days after application. If treated area is grazed within 30 days of application, withdraw meat animals at least 3 days before slaughter.
- Do not re-apply within 30 days of a previous application.
- Do not apply more than 4.2 pt/acre (2.0 lbs ae/acre) of Defy LV-4 per application.
- Limited to two applications per year.

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.

SORGHUM (GRAIN SORGHUM (MILO) AND FORAGE SORGHUM)

Application Timing/ Stage of Growth	Defy LV-4 (pt/acre)	Specific Use Directions
Postemergence* Crop 6-8 inches tall Crop 8-15 inches tall (directed spray only)	1/2 to 1* 3/4 to 1	Apply when sorghum is 6 to 15 inches tall. If sorghum is more than 8 inches tall (top of canopy), use drop nozzles to keep spray off foliage. Do not use with oil or other adjuvants. Do not treat during 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 Defy LV-4 under these conditions, use no more than 2/3 pint per acre.

Precautions and Restrictions:

- Sorghum hybrids vary in tolerance to 2,4-D. Some are easily injured. Apply only to varieties known to be tolerant to 2,4-D. Consult the seed company or your agricultural experiment station or extension service weed specialist for this information.
- Do not permit meat or dairy animals to consume treated crop as fodder or forage for 30 days after application.
- The preharvest interval is 30 days.
- **Postemergence:** Limited to 1 application per crop cycle. Do not apply more than 1.0 pt/acre (0.5 lb ae/acre) of Defy LV-4 per crop cycle.

**SOYBEANS (PREPLANT BURNDOWN APPLICATION ONLY)
(Not for Use in California)**

Application Timing	Defy LV-4 (pt/acre)	Specific Use Directions
Preplant (Burndown)	3/4 to 1	Apply not less than 7 days before planting soybeans. See Use Precautions and Restrictions below.
	1 to 2	Apply not less than 15 days before planting soybeans. See Use Precautions and Restrictions below.

General Use Directions: Use Defy LV-4 to control emerged broadleaf weeds or existing cover crops. For best results, apply when weeds are small and actively growing. Use the higher rate in the respective rate range for larger weeds and when perennials are present. Compatible crop oil concentrates, agricultural surfactants and fluid fertilizers approved for use on growing crops may be added to spray mixtures to increase the herbicidal effectiveness 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.

Use Precautions, Restrictions and Limitations:

- **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 disturb treated soil through tillage between application and planting of soybeans.
- Do not use on sandy soils with less than 1.0% organic matter.
- 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 make more than one application per season regardless of the application rate used.
- 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.
- **Do not apply Defy LV-4 as a preplant application in soybeans 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 Defy LV-4.

- Do not apply more than 2.1 pt/acre (1.0 lb ae/acre) of Defy LV-4 per crop cycle.

FORESTRY, RANGELAND, ESTABLISHED PASTURE, AND NON-CROPLAND USES

Agricultural Use Requirements for Forests (Except Tree Injection Use): For use in forests, follow PPE and Reentry instructions in the "Agricultural Use Requirements" section of this label.

Agricultural Use Requirements for Rangeland, Pasture, Forest (Tree Injection Only) and Non-cropland Areas: When this product is applied to rangeland and established pastures not harvested for hay or seed; non-cropland areas, and when applied by tree injection method only in forest sites, follow reentry requirements given in the "Non-Agricultural Use Requirements" section of this label.

FORESTS

Forest site preparation, forest roadsides, brush control, established conifer release (including Christmas trees and reforestation areas)

Treatment Site Method of Application	Defy LV-4	Specific Use Directions
Annual Weeds Biennial and perennial broadleaf weeds and susceptible woody plants	2 to 4 pt/acre 4 to 8 pt/acre	Apply when weeds are small and growing actively before the bud stage. Apply when biennial and perennial species are in the seedling to rosette stage and before flower stalks appear. For difficult to control perennial broadleaf weeds and woody species, use up to 4 qt of Defy LV-4 plus 1 to 4 qt of Garlon 3A herbicide per acre. For conifer release, make application in early spring before budbreak of conifers when weeds are small and actively growing.
Spot Treatment to control broadleaf weeds	See Instructions for "Spot Treatment"	Note: To control broadleaf weeds in small areas with a hand sprayer, use an application rate equivalent to the broadcast rate recommended for this treatment site and spray to thoroughly wet all foliage. See rate conversion table and instructions for "Spot Treatment" and use of hand-held sprayers under "Application Instructions"
Conifer Release: Species such as white pine, ponderosa pine, jack pine, red pine, black spruce, white spruce, red spruce, and balsam fir	1 1/2 to 3 qt/acre	To control competing hardwood species such as alder, aspen, birch, hazel and willow, apply from mid to late summer when growth of conifer trees has hardened off and woody plants are still actively growing. Apply with ground or air equipment, using sufficient spray volume to ensure complete plant. Because this treatment may cause occasional conifer injury, do not apply if such injury cannot be tolerated.
Directed Spray: Conifer plantations including pine	4 qt/100gal	Apply when brush or weeds are actively growing by directing the spray so as to avoid contact with conifer foliage and injurious amounts of spray. Apply in oil, oil-water, or water carrier in a spray volume of 10 to 100 gallons per acre.
Basal Spray (May also be used in Rangeland, Pastures and Noncropland)	8qt/100 gal	Thoroughly wet the base and root collar of all stems until the spray begins to accumulate around the root collar at the ground line. Wetting stems also with the mixture may aid in control
Surface of Cut Stumps (May also be used in Rangeland, Pastures, and Noncropland)	or 2.6 fl oz/gal of water	Apply as soon as possible after cutting trees. Thoroughly wet the cambium layer of the cut surface being careful to wet the entire circumference.
Frill and Girdle (May also		Cut frills (overlapping V-shaped notches cut downward through the

<p>be used in Rangeland, Pastures, and Noncropland)</p>		<p>bark in a continuous ring around the base of the tree) using an axe or other suitable tool. Saturate the freshly cut frills with the 2,4-D mixture.</p>
<p>Tree Injection Application (May also be used in Rangeland, Pastures, and Noncropland)</p>	<p>(1 to 2 ml per injection site)</p>	<p>To control and prevent resprouting of unwanted hardwood trees such as elm, hickory, oak, and sweetgum in forests and other non-crop areas, apply by injecting at a rate of 1 ml of undiluted Defy LV-4 per inch of trunk diameter as measured at breast height (DBH), approximately 4 1/2 ft above the ground. Injection sites, however, should be as close to the root collar as possible and the injection bit must penetrate the inner bark. Applications may be made throughout the year, but for best results apply between May 15 and October 15. Maples should not be treated during the spring sap flow.</p> <p>For hard to control species such as ash, maple, and dogwood use 2 ml of undiluted Defy LV-4 per injection site or double the number of 1 ml injections.</p> <p>Note: No Worker Protection Standard worker entry restrictions or worker notification requirements apply when this product is directly injected into agricultural plants.</p>

Precautions and Restrictions:

- Do not allow sprays to contact conifer shoot growth (current year's new growth) or injury may occur.
- Do not apply to nursery seedbeds.
- For conifer release, do not use on plantations where larch is among the desired species.
- **Grazing and Haying Restrictions:** If grazing or haying is anticipated, do not apply more than 4 pt/acre of Defy LV-4 per application. Do not harvest forage or hay from treated areas for 7 days after application. If treated area is grazed within 30 days of application, withdraw meat animals at least 3 days before slaughter.
- For broadcast applications, do not apply more than 8.4 pt/acre (4.0 lbs ae/acre) of Defy LV-4 per 12-month period.
- **Basal Spray, Cut Surface-Stumps and Frill:** Limit of one basal spray or cut surface application per year. Maximum of 8.0 lbs ae per 100 gallons (16.8 pt/100 gallons) of spray solution.
- **Injection:** Limit to one injection application per year. Maximum of 2 mL of Defy LV-4 per injection site.

RANGELAND, ESTABLISHED GRASS PASTURES (INCLUDING PERENNIAL GRASSLANDS NOT IN AGRICULTURAL PRODUCTION SUCH AS CONSERVATION RESERVE PROGRAM ACRES)

Target Weeds or Woody Plants	Defy LV-4 (pt/acre)	Specific Use Directions
<p>Annual broadleaf weeds</p> <p>Biennial and perennial broadleaf weeds</p>	<p>2</p> <p>2 to 4</p>	<p>For best results, apply when weeds are small and growing actively before the bud stage. Apply when musk thistles or other biennial species are in the seedling to rosette stage and before flower stalks appear. Refer to the "Weeds Controlled" section for a listing of susceptible weed species and weeds that may be only partially controlled and require repeat applications and/or use of higher recommended rates, even under ideal conditions of application.</p>
<p>Spot Treatment to control broadleaf weeds</p>	<p>See Instructions for "Spot Treatment"</p>	<p>Note: To control broadleaf weeds in small areas with a hand sprayer, use an application rate equivalent to the broadcast rates recommended for this treatment site and spray to thoroughly wet all foliage. See rate conversion table and instructions for "Spot Treatment" and use of hand-held sprayers under "Application Instructions".</p>
<p>Basal spray, cut surface, frill and girdle, and tree injection application methods</p>		<p>Refer to the "Forestry Uses" section for specific use instructions for these application methods.</p>
<p>Wild garlic and wild onion</p>	<p>4</p>	<p>Make three applications (fall-spring-fall or spring-fall-spring) starting in late fall or early spring.</p>

Broadleaf weed control in newly sprigged coastal bermudagrass	2 to 4	Applications may be made either preemergence or postemergence. Follow "Specific Use Directions" for Rangeland and Established Grass Pastures, above.
Sand shinnery oak Sand sagebrush	2	Sand shinnery oak: Apply by aircraft between May 15 and June 15. Sand sagebrush: Apply by ground or aircraft when foliage is fully expanded and plants are actively growing. Use a 1:4 oil-water emulsion as carrier and a spray volume of 3 to 5 gallons per acre.
Big sagebrush Rabbitbrush	4	Apply by ground or aircraft when foliage is fully expanded and plants are actively growing. Use a 1:4 oil-water emulsion as carrier and a spray volume of 3 to 5 gallons per acre. Retreatment may be needed.
Chamise, Manzanita, buckbrush, coastal sage, coyotebrush, and chaparral species	4	Apply by ground or aircraft when foliage is fully expanded and plants are actively growing. Use water or 1:4 oil-water emulsion as carrier and a spray volume of 5 to 10 gallons per acre. Retreatment may be needed.
Southern wild rose Broadcast application	Up to 4	Broadcast: Apply in a spray volume of 5 or more gallons per acre by aircraft or 10 or more gallons per acre by ground equipment.
Spot treatment	1 gal/100 gal of spray	Spot treatment: Apply when foliage is well developed. Thorough coverage is required. Use 1 gallon of Defy LV-4 plus 4 to 8 fluid ounces of an agricultural surfactant per 100 gallons of water. Two or more treatments may be required. Do not exceed 4 pt per acre per application.
CRP Acres	For program lands such as CRP, 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.	

Precautions and Restrictions:

- Do not use on bentgrass, alfalfa, clover, or other legumes.
- Do not use on newly seeded areas until grass is well established.
- Do not use from early boot to milk stage where grass seed production is desired.
- Do not apply within 30 days of a previous application.
- **Grazing and Haying Restrictions:** In grazed areas, do not apply more than 4 pt/acre of Defy LV-4 per application. Do not harvest forage or hay from treated areas for 7 days after application. If treated area is grazed within 30 days of application, withdraw meat animals at least 3 days before slaughter.
- Do not apply more than 8 pt/acre of Defy LV-4 per use season.
- **Postemergence:** Limited to two applications per year. Maximum of 4.2 pt/acre (2.0 lb ae/acre) per application. If grass is to be cut for hay, agricultural use requirements for the Worker Protection Standard are applicable.

NON-CROPLAND

Such as fencerows, hedgerows, roadsides, rights-of way, utility power lines, railroads and other non-crop areas

Treatment Site or Method of Application	Defy LV-4 (pt/acre)	Specific Use Directions
Annual broadleaf weeds	2 to 4	Apply when annual weeds are small and growing actively before the bud stage. Biennial and perennial weeds should be rosette to bud stage, but not flowering at the time of application. For difficult to control perennial broadleaf weeds and woody species, tank mix up to 4 quarts of Defy LV-4 plus 1 to 4 qt of Garlon 3A per acre. Oil or wetting agent may be added to the spray, if needed for increased effectiveness. For ground application (High volume): apply a total spray volume of 100 to 400 gallons per acre; (low
Biennial and perennial broadleaf weeds and susceptible woody plants	4 to 8	

		volume) apply a total spray volume of 10 to 100 gallons per acre. For helicopter: Apply a total spray volume of 5 to 30 gallons per acre.
Spot Treatment to control broadleaf weeds	See Instructions for "Spot Treatment"	Note: To control broadleaf weeds in small areas with a hand sprayer, use an application rate equivalent to the broadcast rates recommended for this treatment site and spray to thoroughly wet all foliage. See rate conversion table and instructions for "Spot Treatment" and use of hand-held sprayers under "Application Instructions".
Basal spray, cut surface, frill and girdle , and tree injection application methods		Refer to the "Forestry Uses" section for specific use instructions for these application methods.
Southern wild rose Broadcast application	up to 4	Broadcast: Apply in a spray volume of 5 or more gallons per acre by aircraft or 10 or more gallons per acre by ground equipment.
Spot treatment	1 gal/100 gal of spray	Apply when foliage is well developed. Thorough coverage is required. Use 4 qt of Defy LV-4 plus 4 to 8 fluid ounces of an agricultural surfactant per 100 gallons of water. Two or more treatments may be required.

Precautions and Restrictions:

- Do not apply to newly seeded areas until grass is well established.
- Bentgrass, St. Augustine, clover, legumes and dichondra may be severely injured or killed by this treatment.
- Do not reapply to a treated area within 30 days of a previous application.
- **Grazing and Haying Restrictions:** If grazing or haying is anticipated, do not apply more than 4 pt/acre of Defy LV-4 per application. Do not harvest forage or hay from treated areas for 7 days after application. If treated area is grazed within 30 days of application, withdraw meat animals at least 3 days before slaughter.
- **Postemergence (annual and perennial weeds):** Limited to two applications per year. Maximum of 4.2 pt/acre (2.0 lb ae/acre) per application. Minimum of 30 days between applications.
- **Postemergence (woody plants):** Limited to one application per year. Maximum of 8.4 pt/acre (4.0 lb ae/acre) per year. Applications to noncropland 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 USES

GRASSES GROWN FOR SEED OR SOD

Agricultural Use Requirements: When used in grass grown for seed or sod farms, follow PPE and reentry instructions in the "Agricultural Use Requirements" section of this label.

Treatment Site (Application Timing)	Defy LV-4 (pt/acre)	Specific Use Directions
Grasses Grown for Seed (Postemergence Use) Seedling grass (five-leaf stage or later) Well-established grasses	3/4 to 1 1 to 4	Apply when weeds are small and actively growing. For best results, apply when soil moisture is adequate for active weed growth. Do not apply to newly seeded grasses until well established (five-leaf stage or later) and then use a maximum of 1 pt/acre. Cool season grasses are more tolerant to higher rates. Do not apply to grass in the early boot through milk stage if seed production is desired. When grass is well established, higher rates of up to 4 pints/acre may be applied for control of hard-to-kill annual or perennial weeds.
Sod Farms (Postemergence)	2 to 4	Deep-rooted perennials such as bindweed and Canada thistle may require repeat applications. Avoid mowing sod

farms for 1 to 2 days before or after application.
Delay irrigation until the day following application.

Precautions and Restrictions:

- Do not use on creeping grasses such as bentgrass except for spot treatment.
- Do not use on susceptible southern grasses such as St. Augustine grass.
- Do not use on dichondra or other herbaceous ground covers; legumes may be damaged or killed.
- **Reseeding:** Delay reseeding at least 30 days following application. Preferably, with spring application, reseed in the fall and with fall application, reseed in the spring.
- **Grazing and Haying Restrictions:** If grazing or haying is anticipated, do not apply more than 4 pt/acre of Defy LV-4 per application. Do not harvest grass for hay from treated areas for 7 days after application. If treated area is grazed within 30 days of application, withdraw meat animals at least 3 days before slaughter.
- Limited to two applications per year. Maximum of 4.2 pt/acre (2.0 lb ae/acre) per application. Minimum of 21 days between applications.

ORNAMENTAL TURF (EXCLUDING GRASSES GROWN FOR SEED OR SOD FARMS) (Includes lawns, golf courses, cemeteries and parks, airfields, roadsides and vacant lots)

Use Requirements for Ornamental Turf Areas: When this product is applied to ornamental turf areas, follow PPE and reentry instructions in the "Non-agricultural Use Requirements" section of this label.

Treatment Site (Application Timing)	Defy LV-4 (pt/acre)	Specific Use Directions
Ornamental Turf (Postemergence) Seedling grass (five -leaf stage or later)	3/4 to 1	Apply when weeds are small and actively growing. For best results, apply when soil moisture is adequate for active weed growth. Deep-rooted perennial weeds such as bindweed and Canada thistle may require repeat applications. Do not apply to newly seeded grasses until well established (five-leaf stage or later) and then use a maximum of 1 pt/acre. Cool season grasses are tolerant of higher rates.
Well-established grasses	2 to 4	
Biennial and perennial Broadleaf weeds	4	

Precautions, Restrictions:

- Do not use on creeping grasses such as bentgrass except for spot treatment.
- Do not use on susceptible southern grasses such as St. Augustine grass.
- Do not use on dichondra or other herbaceous ground covers; legumes may be damaged or killed.
- **Reseeding:** Delay reseeding at least 30 days following application. Preferably, with spring application, reseed in the fall and with fall application, reseed in the spring.
- Do not make more than 2 broadcast applications per treatment site per year (does not include spot treatments).
- **Postemergence:** Maximum of 3.1 pt/acre (1.5 lb ae/acre) per application. The maximum seasonal rate is 6.3 pts/acre (3.0 lbs ae/acre) excluding spot treatments.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Keep container tightly closed when not in use. If exposed to subfreezing temperatures, the product should be warmed to at least 40°F and mixed thoroughly before using.

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 HANDLING:

Nonrefillable Container (five gallons or less): Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container 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 ¼ 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 five gallons): Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ 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: Refillable container. Refill this container with Defy LV-4 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.

LIMITATION OF WARRANTY AND LIABILITY

Read the entire directions for use, conditions of warranties and limitations of liability 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, DISCLAIMER OF WARRANTIES and LIMITATIONS OF LIABILITY.**

CONDITIONS: The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Makhteshim Agan of North America, Inc. All such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: To the extent consistent with applicable law, Makhteshim Agan of North America, Inc. makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond the statements made on this label. No agent of Makhteshim Agan of North America, Inc. is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. To the extent consistent with applicable law, Makhteshim Agan of North America, Inc. disclaims any liability whatsoever for special, incidental or consequential damages resulting from the use or handling of this product.

LIMITATIONS OF LIABILITY: To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries or damages resulting from the use or handling of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid or at Makhteshim Agan of North America, Inc.'s election, the replacement of product.

File name: Defy LV-4 (EPA app 07-27-10)