

352-581

8/3/2011

1 of 32



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

OFFICE OF  
CHEMICAL SAFETY AND  
POLLUTION PREVENTION

Mr. Jack Cain  
DuPont Crop Protection  
PO Box 30  
Newark, DE 19714-0030

AUG - 3 2011

Subject: Notification Dated July 25, 2011  
DuPont Velpar DF Herbicide  
EPA Reg. nos. 352-581

Dear Mr. Cain:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 dated July 25, 2011 for the product 352-581. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action(s) requested fall within the scope of PRN 98-10. The label submitted with the application has (have) been stamped "Notification" and will be placed in our records.

If you have any questions, please call me directly at 703-305-1243.

Sincerely,


A handwritten signature in black ink, appearing to read "Kathryn V. Montague".

Kathryn V. Montague  
Product Manager 23  
Herbicide Branch  
Registration Division (7505P)  
Office of Pesticide Programs

20132

Please read instructions on reverse before completing form.

Form Approved, OMB No. 2070-0060. Approval expires 05-31-98

	United States <b>Environmental Protection Agency</b> Washington, DC 20460	<input type="checkbox"/> Registration <input type="checkbox"/> Amendment <input checked="" type="checkbox"/> Other	OPP Identifier Number  
	<b>Application for Pesticide - Section I</b>		

<b>1. Company/Product Number</b> DuPont / 352-581	<b>2. EPA Product Manager</b> Kathryn Montague	<b>3. Proposed Classification</b> <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
<b>4. Company/Product (Name)</b> DuPont /DuPont™ Velpar® DF herbicide	<b>PM#</b> 23	
<b>5. Name and Address of Applicant (Include ZIP Code)</b> DuPont Crop Protection 1007 Market Street Wilmington DE 19898      Attn: J. Cain, Stine -Haskell S300/421  <input type="checkbox"/> Check if this is a new address		<b>6. Expedited Review.</b> In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: <div style="text-align: center;"> <b>NOTIFICATION</b>  <b>AUG 03 2011</b> </div>

**Section - II**

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

**Explanation:** Use additional page(s) if necessary. (For section I and Section II.)

Enclosed, please find form 8570-1 and three copies of the revised labeling (SL - 1582-1 072111) for DuPont™ Velpar® DF herbicide (EPA Reg. No. 352-581), including one (1) highlighted copy. Submitted as a Notification per guidance of K. Montague, to correct inadvertent omission of text required per EPA label approval correspondence of December 23, 2010.

**Section - III**

**1. Material This Product Will Be Packaged In:**

<b>Child-Resistant Packaging</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>Unit Packaging</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>Water Soluble Packaging</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>2. Type of Container</b> <input type="checkbox"/> Metal <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Glass <input checked="" type="checkbox"/> Paper <input checked="" type="checkbox"/> Other (Specify) Fiber sak/drum
* 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**  
 Label     Container

**4. Size(s) Retail Container**  
 Multiple

**5. Location of Label Directions**  
 On Label  
 On Labeling accompanying product

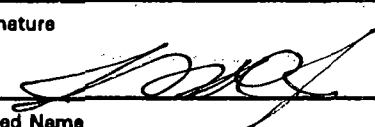
**6. Manner in Which Label is Affixed to Product**  
 glued to or printed on container

Lithograph  
 Paper glued  
 Stenciled     Other

**Section - IV**

**1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)**

<b>Name</b> J. H. (Jack) Cain	<b>Title</b> US Sr. Registration Manager	<b>Telephone No. (Include Area Code)</b> (302) 366-6417
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<p style="text-align: center;"><b>Certification</b></p> <p>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.</p>	<b>6. Date Application Received (Stamped)</b>  
<b>2. Signature</b> 	<b>3. Title</b> US Sr. Registration Manager
<b>4. Typed Name</b> J. H. (Jack) Cain	<b>5. Date</b> July 25, 2011

30832



DuPont Crop Protection  
Stine-Haskell Research Center  
P.O. Box 30  
Newark, DE 19714-0030

**ACTION: NOTIFICATION per PR Notice 98-10  
Label Revisions**

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 of this product. I understand that it is a violation of 18 U.S.C. 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.

**FEE CATEGORY: Not Applicable**

**REGISTRATION FEE: Not Applicable**

July 25, 2011

Attn: Ms Kathryn Montague (Team 23)  
Document Processing Desk (NOTIF)  
Office of Pesticide Programs (7504C)  
U.S. Environmental Protection Agency  
One Potomac Yard  
2777 South Crystal Drive  
Arlington, VA 22202

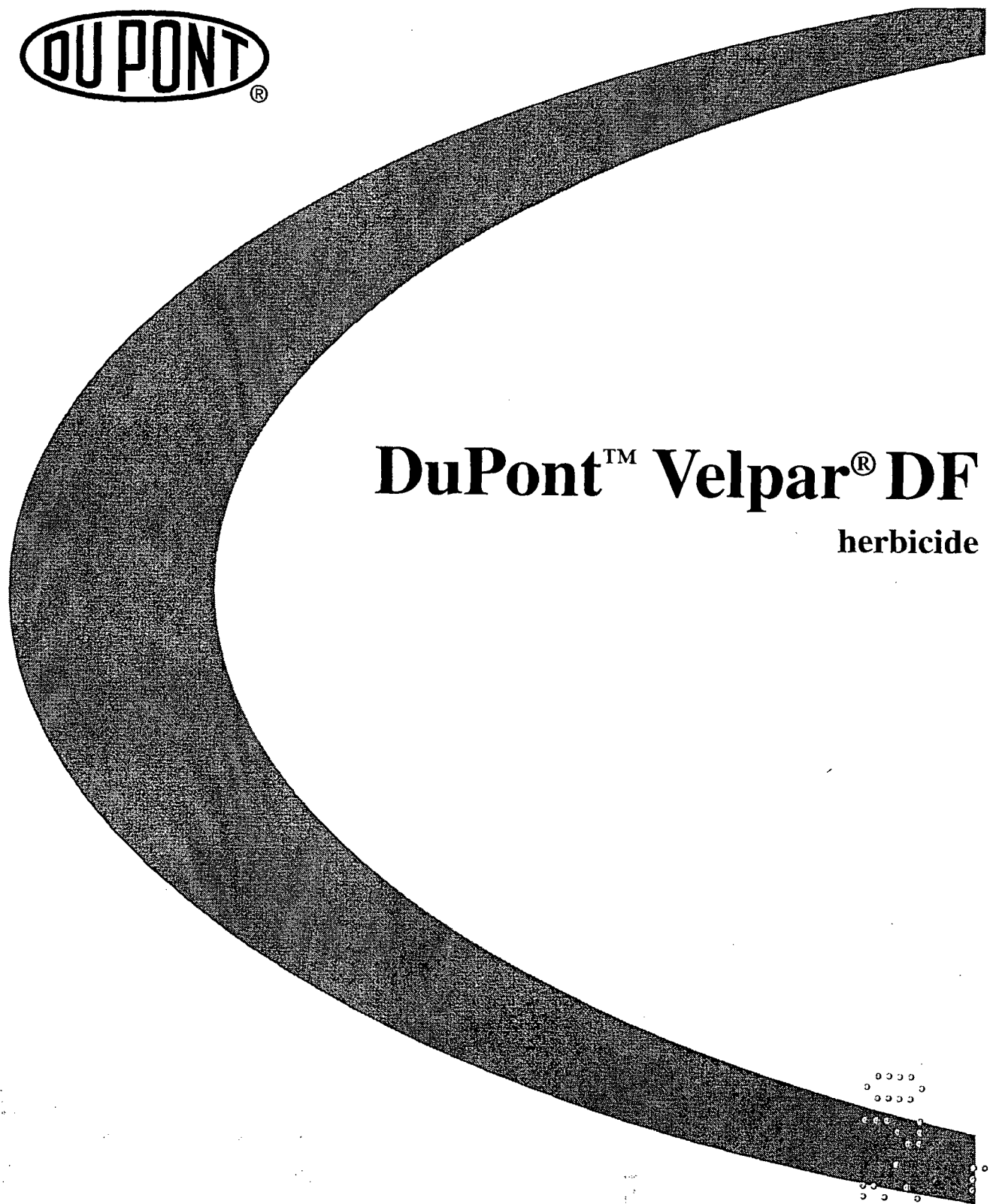
**SUBJECT: Notification of Label Revisions per Instruction of K. Montague for:  
DuPont™ Velpar® L Herbicide, EPA Reg. No. 352-392  
DuPont™ Velpar® DF Herbicide, EPA Reg. No. 352-581  
Consistent with PR Notice 98-10**

Dear Ms. Montague,

E.I. duPont de Nemours and Co. is herein submitting as Notifications per your instruction and in accordance with PR 98-10, label revisions for the two subject herbicides.

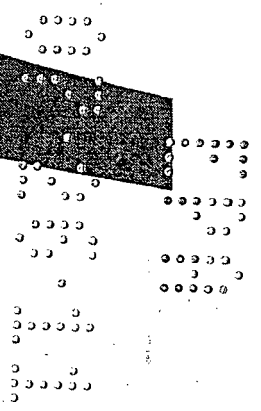
On December 23, 2010 EPA approved amendments of Velpar L and Velpar DF herbicide labels with a condition that a statement be added under the heading "Use Precautions And Restrictions Seed Alfalfa – Walla Walla County Washington" to read: "Do not apply within 30 days of harvest (cutting for hay), or feeding of forage or grazing". On January 3, 2011 DuPont returned Final Printed Labeling in response to this approval however, the required statement was inadvertently omitted. As agreed per our meeting of July 19, 2011 DuPont has now added the required statement to the enclosed subject labels, and is submitting them to your attention by Notification.





# DuPont™ Velpar® DF

herbicide



60932



# DuPont<sup>TM</sup> Velpar<sup>®</sup> DF

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## herbicide

NOTIFICATION

AUG 03 2011

### Dispersible Granules

Active Ingredient	By Weight
Hexazinone [3-cyclohexyl-6-(dimethylamino) -1-methyl-1,3,5-triazine-2,4(1H,3H)-dione]	75%

Other Ingredients 25%

TOTAL 100%

EPA Reg. No. 352-581 EPA Est. No. \_\_\_\_\_

#### Nonrefillable Container

Net: \_\_\_\_\_

OR

#### Refillable Container

Net: \_\_\_\_\_

E. I. duPont de Nemours and Company  
1007 Market Street  
Wilmington, DE 19898

### KEEP OUT OF REACH OF CHILDREN

## DANGER PELIGRO

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

### FIRST AID

**IF IN EYES:** 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:** 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 SWALLOWED:** 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 a poison control center or doctor. Do not give anything by mouth to an unconscious person.

**NOTE TO PHYSICIAN:** Probable mucosal damage may contraindicate the use of gastric lavage.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-441-3637 for medical emergencies involving this product.

### PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

#### DANGER! CAUSES EYE DAMAGE.

Corrosive, causes irreversible eye damage. Harmful if swallowed. Do not get in eyes or on clothing. Avoid contact with skin. Wash thoroughly with soap and water after handling.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants.
- Shoes plus socks.
- Protective eyewear.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. 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.

#### 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 and as soon as possible wash thoroughly and put on clean clothing.

#### ENVIRONMENTAL HAZARDS

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

The active ingredient, hexazinone, in this product is known to leach through soil into ground water, under certain conditions as a result of agricultural use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground-water contamination.

## DIRECTIONS FOR USE

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

DuPont™ VELPAR® DF must be used only in accordance with instructions on this label, or in supplemental DuPont 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 regulation.

The correct use rates by crop and geographical area, specified on the label, and proper mixing/loading site considerations and application procedures must be followed to minimize potential for hexazinone movement into ground water. Users are encouraged to consult with their state Department of Agriculture, Extension Service, or other pesticide lead agency for information regarding soil permeability, aquifer vulnerability, and best management practices for their area.

## PRODUCT INFORMATION

VELPAR® DF herbicide is a water-dispersible granule that is mixed in water and applied as a spray for weed control in certain crops, Christmas trees, forestry site preparation and release areas, and industrial areas. It may also be applied as a basal soil treatment for brush control in reforestation areas, rangeland, pastures and noncrop areas.

VELPAR® DF is an effective general herbicide providing both contact and residual control of many annual and biennial weeds and woody plants. It is also effective for control of most perennial weeds.

VELPAR® DF is noncorrosive to equipment.

Care must be exercised when applying VELPAR® DF near desirable trees or shrubs as they can absorb VELPAR® DF through roots extending in to treated areas.

This product may be applied on agricultural and non-agricultural sites that contain areas of temporary surface water caused by collection of water between planting beds, in equipment ruts, or in other depressions created by management activities. It is permissible to treat intermittent drainage, intermittently flooded low lying sites, seasonally dry flood plains and transitional areas between upland and lowland sites when no water is present. It is also permissible to treat marshes, swamps and bogs after water has receded, as well as seasonally dry flood deltas. DO NOT make applications to natural or man-made bodies of water such as lakes, reservoirs, ponds, streams and canals.

## ENVIRONMENTAL CONDITIONS AND BIOLOGICAL ACTIVITY

VELPAR® DF is absorbed through the roots and foliage. Moisture is required to activate VELPAR® DF in the soil. Best results are obtained when the soil is moist at the time of application and 1/4–1/2 inches of rainfall occurs within 2 weeks after application.

For best results, apply VELPAR® DF preemergence or postemergence when weeds are less than 2 inches in height or diameter. Herbicidal activity is most effective under conditions of high temperature (above 80 °F), high humidity, and good soil moisture. Herbicidal activity may be reduced when vegetation is dormant, semi-dormant, or under stress (e.g. temperature or moisture).

Herbicidal activity will usually appear within 2 weeks after application to susceptible plants under warm, humid conditions; while 4–6 weeks may be required when weather is cool or dry, or when susceptible plants are under stress. If rainfall after application is inadequate to activate VELPAR® DF in the soil, plants may recover from contact effects and continue to grow.

On woody plants, symptoms usually appear within 3–6 weeks after sufficient rainfall has carried the herbicide into the root zone during periods of active growth. Defoliation and subsequent refoliation may occur, but susceptible plants are killed.

The degree and duration of control will depend on the following:

- Use rate
- Weed spectrum and size at time of application
- Environmental conditions at and following treatment

Where a rate range is shown, use the higher levels of the dosage range on hard-to-control species, fine-textured soils, or soils containing greater than 5% organic matter or carbon. Use the lower levels of the dosage range on coarse-textured soils and/or on soils low in organic matter. Refer to specific uses for rate ranges.

## APPLICATION INFORMATION

VELPAR® DF may be applied by ground equipment and, where permitted, aerial equipment. Use rates, minimum spray gallonage, and other application information are described for various uses.

Dispose of the equipment washwater by applying it to a use-site listed on this label or in accordance with directions given in the "Storage and Disposal" section of this label.

Before spraying, calibrate equipment to determine the quantity of water necessary to uniformly and thoroughly cover the vegetation and soil in a measured area to be treated. Make sure the volume of water is sufficient to completely suspend the VELPAR® DF.

## TANK MIXTURES

VELPAR® DF herbicide may be tank mixed with other herbicides and /or adjuvants registered for the uses specified in the label.

Refer to the label of the tank mix partner(s) for any additional use instructions or restrictions. The most restrictive label provisions apply. If other label instructions conflict with this label do not tank mix the herbicide and/or adjuvant with VELPAR® DF herbicide.

## INVASIVE SPECIES MANAGEMENT

This product may be considered for use on public, private, and tribal lands to treat certain weed species infestations that have been determined to be invasive, consistent with the Federal Interagency Committee for the Management of Noxious and Exotic Weeds (FICMNEW) National Early Detection and Rapid Response (EDRR) System for invasive plants. Effective EDRR systems address invasions by eradicating the invader where possible, and controlling them when the invasive species is too established to be feasibly eradicated. Once an EDRR assessment has been completed and action is advised, a Rapid Response needs to be taken to quickly contain, deny reproduction, and if possible eliminate the invader. Consult your appropriate state extension service, forest service, or regional multidisciplinary invasive species management coordination team to determine the appropriate Rapid Response provisions and allowed treatments in your area.

## RESISTANCE

When herbicides that affect the same biological site of action are used repeatedly over several years to control the same weed species in the same field, naturally-occurring resistant biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that field. Adequate control of these resistant weed biotypes cannot be expected. If weed control is unsatisfactory, it may be necessary to retreat the problem area using a product affecting a different site of action.

To better manage herbicide resistance through delaying the proliferation and possible dominance of herbicide resistant weed biotypes, it may be necessary to change cultural practices within and between crop seasons such as using a combination of tillage, retreatment, tank-mix partners and/or sequential herbicide applications that have a different site of action. Weed escapes that are allowed to go to seed will promote the spread of resistant biotypes.

It is advisable to keep accurate records of pesticides applied to individual fields to help obtain information on the spread and dispersal of resistant biotypes. Consult your agricultural dealer, consultant, applicator, and/or appropriate state agricultural extension service representative for specific alternative cultural practices or herbicide instructions available in your area.

## INTEGRATED PEST MANAGEMENT

This product may be used as part of an Integrated Pest Management (IPM) program that can include biological, cultural, and genetic practices aimed at preventing economic pest damage. IPM principles and practices include field scouting or other detection methods, correct target pest identification, population monitoring, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop systems in your area.

## AGRICULTURAL USES

### 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 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.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 48 hours.

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

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

## ALFALFA

DuPont™ VELPAR® DF is labeled for control of certain weeds in established alfalfa grown for hay or seed production.

- Do not apply within 30 days of harvest (cutting for hay), or feeding of forage or grazing.
- Do not exceed 2 pounds per acre per application.
- Do not exceed 2 pounds (1.5 pounds active ingredient hexazinone) per acre per year.

## APPLICATION INFORMATION

### NON-DORMANT AND SEMI-DORMANT VARIETIES

In the following states, make a single application of VELPAR® DF during the winter months when alfalfa plants are in the least active stage of growth.

Arizona	Montana	Oklahoma	Washington
California	Nebraska	Oregon	Wyoming
Colorado	Nevada	South Dakota	
Idaho	New Mexico	Texas	
Kansas	North Dakota	Utah	

In the following states, make a single application of VELPAR® DF either in the spring before new growth exceeds 2 inches in height or to alfalfa stubble after cutting, following hay removal and before regrowth exceeds 2 inches in height.

Arkansas	Maine	New Jersey	Vermont
Connecticut	Maryland	New York	Virginia
Delaware	Massachusetts	North Carolina	West Virginia
Illinois	Michigan	Ohio	Wisconsin
Indiana	Minnesota	Pennsylvania	
Iowa	Missouri	Rhode Island	
Kentucky	New Hampshire	Tennessee	

**NOTE:** Severe alfalfa injury may result following application, if after cutting the regrowth is more than 2



inches high, or there is significant stubble left after cutting or grazing, or the air temperature is above 90 °F.

**DORMANT VARIETIES**

Make a single application of DuPont™ VELPAR® DF after alfalfa becomes dormant and before new growth exceeds 2 inches in height in the spring. Where weeds have emerged, use a surfactant.

**USE RATES**

Use higher rates on hard-to-control species, (see **Weeds Controlled** section below) fine textured soils, soils containing greater than 5% organic matter, or under adverse environmental conditions such as temperature extremes or when weeds are stressed due to low rainfall.

For dormant alfalfa, use a surfactant approved for crops at the rate of 0.25% v/v (1 quart per 100 gallons of spray solution).

Select the appropriate rate for soil texture and organic matter content as follows:

Soils	VELPAR® DF (Lb/Acre)		
	Percent Organic Matter in Soil		
	<1%	1-5%	>5%
<b>Coarse Texture</b>			
Loamy sand, sandy loam	2/3 - 1	2/3 - 1	1 1/3 - 2
<b>Medium Texture</b>			
Loam, silt loam, silt, clay loam, sandy clay loam	2/3 - 1	1 - 2	1 1/3 - 2
<b>Fine Texture</b>			
Silty clay loam, sandy clay, silty clay, clay	1 - 2	1 - 2	1 1/3 - 2

**NOTE:**

- In the states of MT, ND, SD, and WY, do not exceed a use rate of 1 1/3 pounds per acre on medium and fine textured soils.
- In the state of Montana (MT), do not apply to soils with less than 1.5% organic matter.
- In the state of Wyoming (WY): Do not apply to soils with less than 0.5% organic matter. Apply to irrigated alfalfa only.

**WEEDS CONTROLLED**

VELPAR® DF, when applied preemergence or early postemergence at the following rates, is labeled for the control or suppression of the following species in alfalfa:

**1/3 - 2/3 Lb/Acre**

- Tansymustard
- Descurainia pinnata*

**2/3 - 1 1/3 Lb/Acre**

- |                                |                                |
|--------------------------------|--------------------------------|
| Bluegrass, annual              | <i>Poa annua</i>               |
| Brome, downy (cheatgrass)      | <i>Bromus tectorum</i>         |
| Buckwheat, wild                | <i>Polygonum convolvulus</i>   |
| Catchfly, English              | <i>Silene gallica</i>          |
| Chamomile, mayweed (dogfennel) | <i>Anthemis cotula</i>         |
| Chickweed, common              | <i>Stellaria media</i>         |
| Fiddleneck, tarweed            | <i>Amsinckia lycopsoides</i>   |
| Filaree                        | <i>Erodium sp.</i>             |
| Flixweed                       | <i>Descurainia Sophia</i>      |
| Groundsel, common              | <i>Senecio vulgaris</i>        |
| Henbit*                        | <i>Lamium amplexicaule</i>     |
| Lettuce, Miner's               | <i>Montia perfoliata</i>       |
| Mustard, blue                  | <i>Chorispora tenella</i>      |
| Mustard, Jim Hill (tumble)     | <i>Sisymbrium altissimum</i>   |
| Mustard, wild                  | <i>Brassica kaber</i>          |
| Orchardgrass (seedling)        | <i>Dactylis glomerata</i>      |
| Pennycress, field              | <i>Thlaspi arvense</i>         |
| Pigweed, redroot               | <i>Amaranthus retroflexus</i>  |
| Radish, wild                   | <i>Raphanus raphanistrum</i>   |
| Rocket, London                 | <i>Sisymbrium irio</i>         |
| Rocket, common yellow          | <i>Barbarea vulgaris</i>       |
| Salsify                        | <i>Tragopogon spp.</i>         |
| Shepherdspurse                 | <i>Capsella bursa-pastoris</i> |
| Speedwell, purslane            | <i>Veronica peregrina</i>      |
| Spurry, corn                   | <i>Spergula arvensis</i>       |

**1 1/3 - 2 Lb/Acre**

- |                                     |                                 |
|-------------------------------------|---------------------------------|
| Alfalfa* (seedling)                 | <i>Medicago sativa</i>          |
| Barley, foxtail (seedling)          | <i>Hordeum jubatum</i>          |
| Bluegrass, perennial* (spring only) | <i>Poa spp</i>                  |
| Cockle, white*                      | <i>Melandrium album</i>         |
| Dandelion, common*                  | <i>Taraxacum officinale</i>     |
| Dandelion, false* (spotted catsear) | <i>Hypochaeris radicata</i>     |
| Foxtail*                            | <i>Setaria spp</i>              |
| Kochia                              | <i>Kochia scoparia</i>          |
| Lambsquarters, common               | <i>Chenopodium album</i>        |
| Lettuce, prickly*                   | <i>Lactuca serriola</i>         |
| Mallow, common                      | <i>Malva neglecta</i>           |
| Ryegrass, Italian (annual)          | <i>Lolium multiflorum</i>       |
| Quackgrass*                         | <i>Elytrigia repens</i>         |
| Speedwell, ivyleaf                  | <i>Veronica hederaefolia</i>    |
| Tea, Mexican*                       | <i>Chenopodium ambrosioides</i> |
| Thistle, Canada (seedling)          | <i>Cirsium arvense</i>          |
| Thistle, Russian                    | <i>Salsola iberica</i>          |

\* Suppression - a visible reduction in plant population and/or plant vigor as compared to an untreated area and generally not accepted as control.

VELPAR® DF, when applied in late spring or after cutting at the following rates, will control these species listed below:

**2/3 - 2 Lb/Acre**

- |                       |                               |
|-----------------------|-------------------------------|
| Crabgrass             | <i>Digitaria spp</i>          |
| Fleabane              | <i>Conyza spp</i>             |
| Foxtail               | <i>Setaria spp.</i>           |
| Jimsonweed            | <i>Datura stramonium</i>      |
| Lambsquarters, common | <i>Chenopodium album</i>      |
| Pigweed, redroot      | <i>Amaranthus retroflexus</i> |

**SEED ALFALFA (CA, ID, MT, NV, OR, UT, WA)**

VELPAR® DF may be used for general broadleaf weed and grass control in established alfalfa grown for seed.

**DORMANT VARIETIES**

Make a single application of DuPont™ VELPAR® DF after alfalfa becomes dormant and before new growth exceeds 2 inches in height in the spring. Where weeds have emerged, use a surfactant.

**NON-DORMANT AND SEMI-DORMANT VARIETIES**

In the following states, make a single application of VELPAR® DF during the winter months when alfalfa plants are in the least active stage of growth.

**WEEDS CONTROLLED**

Refer to the Alfalfa - Weeds Controlled section for specific use rates and weeds controlled.

**USE PRECAUTIONS AND RESTRICTIONS**

**SEED ALFALFA**

- Do not apply within 30 days of harvest (cutting for hay), or feeding of forage or grazing.
- Do not use VELPAR® DF on fields with sandy loam or loamy sand soils having less than 1% organic matter.
- Do not exceed 2/3 pound per acre on fields with sandy loam or loamy sand soils having 1-2% organic matter.
- Do not exceed 2/3 pound per acre on seed alfalfa that has been established for only one growing season.

**SEED ALFALFA**

**WALLA WALLA COUNTY, WASHINGTON**

VELPAR® DF Herbicide may be used for the suppression of prickly lettuce and quackgrass and control of Canada thistle (seedling), kochia, and certain other weeds in established alfalfa grown for seed.

**Use Rates: 1 1/3 to 2 pounds per acre**

Kochia	<i>Kochia scoparia</i>
Lettuce, prickly*	<i>Lactuca serriola</i>
Quackgrass*	<i>Elytrigia repens</i>
Thistle, Canada (seedling)	<i>Cirsium arvense</i>

\* Suppression

**USE PRECAUTIONS AND RESTRICTIONS SEED ALFALFA - WALLA WALLA COUNTY WASHINGTON**

Do not apply within 30 days of harvest (cutting for hay), or feeding of forage or grazing.

Do not exceed 2 pounds VELPAR® DF herbicide per acre per application.

Do not exceed 2 pounds (1.5 pounds active ingredient hexazinone) per acre per year.

**SPRAY EQUIPMENT**

Apply VELPAR® DF using a fixed boom power sprayer or aerial equipment.

For ground applications apply in a minimum of 20 gallons of spray solution per acre and by air in a minimum of 5 gallons.

**CHEMIGATION**

**ALFALFA**

Apply this product only through center pivot or linear-move sprinkler irrigation systems. Do not apply this product through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.

Severe alfalfa injury may result following application after cutting if either the regrowth is more than 2" high or significant stubble is left after alfalfa cutting.

If you have questions about calibration, you may contact State Extension Service specialists, equipment manufacturers or other experts.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments when needed.

**DORMANT APPLICATIONS**

Select the appropriate rate (see **Use Rates** section) for soil texture and organic matter content using 0.25" to 0.75" of sprinkler irrigation as a continuous injection during the application. Best results are obtained when soil is moist at time of application, and when weeds have not germinated or are less than 2" tall or across.

**APPLICATION AFTER CUTTING**

Apply VELPAR® DF at 5.3 ounces per acre to stubble after cutting, following hay removal, and before regrowth exceeds 2" in height. Apply VELPAR® DF using 0.25" to 0.75" of sprinkler irrigation as a continuous injection during the application. Best results are obtained when soil is moist at time of application and when weeds have not germinated or are less than 2" tall or across.

**NOTE:** Making an application when daily temperatures are forecast to be in the mid-to-high 90 degree range within 3 to 5 days after treatment may increase the potential for crop injury.

**SPRINKLER CHEMIGATION**

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

**MIXING INSTRUCTIONS**

1. Fill the supply tank 1/4 to 1/3 full of water.
2. While agitating, add the required amount of DuPont™ VELPAR® DF and continue agitation until the VELPAR® DF is fully dispersed, at least 5 minutes.
3. Once the VELPAR® DF is fully dispersed, maintain agitation and continue filling tank with water. VELPAR® DF must be thoroughly mixed with water before adding any other material.
4. As the tank is filling, add tank mix partners (if desired). Follow use precautions and directions on the tank mix partner label.
5. After thorough mixing, the agitation system can be stopped to prevent excessive foaming in the tank. Once thoroughly mixed the solution in the supply tank does not require additional agitation unless specified on the companion products label. If foaming occurs in the injection supply tank, a defoaming agent (defoamer) may be added.
6. Apply VELPAR® DF spray mixture within 48 hours of mixing to avoid product degradation.

**USE PRECAUTIONS AND RESTRICTIONS - CHEMIGATION**

- Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label prescribed safety devices for public water systems are in place.
- Distributing treated water in an uneven manner can result in crop injury, lack of effectiveness, or over-tolerance pesticide residues in the crop. Therefore, to ensure that the mixture is applied evenly at the labeled rate, use sufficient water, apply the mixture for the proper length of time and ensure sprinkler produces a uniform water pattern.
- Do not permit run-off during chemigation.

**POSTING OF AREAS TO BE TREATED**

Posting of areas to be chemigated is required when 1) any part of a treated area is within 300 feet of sensitive areas such as residential areas, labor camps, businesses, daycare centers, hospitals, in-patient clinics, nursing homes, or any public areas such as schools, parks, playgrounds, or other public facilities not including public roads, or 2) when the chemigated area is open to the public such as golf courses or retail greenhouses.

Posting must conform to all the following requirements:

- Treated areas shall be posted with signs at all usual points of entry and along likely routes of approach from the listed sensitive areas. When there are no usual points of entry, signs must be posted in the corners of the treated areas and in any other location affording maximum visibility to sensitive areas.
- The printed side of the sign must face away from the treated area towards the sensitive area. The signs shall be

printed in English. Signs must be posted prior to application and must remain posted until foliage has dried and soil surface water has disappeared. Signs may remain in place indefinitely as long as they are composed of materials to prevent deterioration and maintain legibility for the duration of the posting period.

- All words shall consist of letters at least 2 1/2 inches tall, and all letters and the symbol shall be a color which sharply contrasts with their immediate background. At the top of the sign shall be the words "KEEP OUT", followed by an octagonal stop sign symbol at least 8 inches in diameter containing the word "STOP". Below the symbol shall be the words "PESTICIDE IN IRRIGATION WATER".
- Posting required for chemigation does not replace other posting and reentry requirements for farm worker safety.

**REPLANTING (FOLLOWING ALFALFA)**

- Do not replant treated areas to any crop except corn, root crops or sugarcane within two years after treatment, as crop injury may result.
- Corn may be planted 12 months after the last treatment in areas of moderate to high rainfall (greater than 20 inches), provided the use rate did not exceed 1 lb per acre.
- Root crops such as potatoes, sugarbeets, radish and carrots may be planted 12 months after last treatment, provided the use rate does not exceed 2/3 lb per acre. Sites with use rates higher than 2/3 lb per acre must not be replanted to any root crop within 2 years after application of VELPAR® DF, or unacceptable crop injury may result.

In areas where irrigation is needed to produce the crop, the crop rotation intervals listed may need to be extended if the normal irrigation amount is reduced for any reason.

- Sugarcane may be planted any time following treatment.
- In California, do not replant seed alfalfa areas to any crop within two years after treatment, as crop injury may result.

**CROP ROTATION**

**Field Bioassay**

In arid climates (10 inches of rainfall or less per year) or areas where drought conditions have prevailed for one or more years, a field bioassay must be completed prior to planting any desired crop. The results of this bioassay may require the rotation intervals listed above to be extended.

A successful bioassay means growing to maturity a test strip of the crop(s) intended for production. The test crop(s) strip must cross the entire field including knolls, low areas, and areas where any berms were located.

**ALFALFA - IMPREGNATION ON DRY BULK FERTILIZER (EXCEPT CALIFORNIA AND ARIZONA)**

Dry bulk fertilizer may be impregnated or coated with VELPAR® DF for application to established alfalfa. All instructions on this label must be followed along with state regulations relating to dry bulk fertilizer blending, impregnating and labeling.

If fertilizer materials are excessively dusty, use a suitable additive to reduce dust prior to impregnation, as dusty fertilizer will result in poor distribution during application. The dry fertilizer must be properly impregnated and uniformly applied to the alfalfa to avoid crop injury and/or poor weed control.

To impregnate the fertilizer, use a system consisting of a conveyor or closed drum used to blend dry bulk fertilizer. Any commonly used fertilizer can be impregnated with DuPont™ VELPAR® DF, except potassium nitrate or sodium nitrate. Do not use VELPAR® DF on limestone.

Use a minimum of 250 lb dry bulk fertilizer per acre and up to a maximum of 450 lb per acre. To impregnate or coat the dry bulk fertilizer with VELPAR® DF, mix 2 2/3 pounds of VELPAR® DF with sufficient water to make one gallon of suspension and thoroughly agitate. Direct the nozzles to deliver a fine spray of this suspension toward the fertilizer for thorough coverage while avoiding spray contact with mixing equipment. Uniform impregnation of VELPAR® DF to dry bulk fertilizer will vary, and if the absorptivity is not adequate, the use of an absorptive powder may be required to produce a dry, free-flowing mixture. "Microcel E" is the absorbent powder of choice. When another herbicide is used with VELPAR® DF, mix and impregnate the fertilizer immediately.

Apply impregnated fertilizer as soon as possible after impregnation for optimum performance.

Select the rate of VELPAR® DF to apply per acre from the appropriate section of this label. Then refer to the rate chart below to determine the amount of VELPAR® DF that is to be impregnated on a ton of dry bulk fertilizer, based on the amount of fertilizer to be distributed in one acre.

**Rate Chart for Impregnating Fertilizer with VELPAR® DF**

Fertilizer Rate/Acre	VELPAR® DF Rate Per Acre			
	2/3 Lbs	1 Lbs	1 1/3 Lbs	2 Lbs
250 lbs	5.3 lbs/ton	8.0 lbs/ton	10.6 lbs/ton	16.0 lbs/ton
300 lbs	4.4 lbs/ton	6.6 lbs/ton	8.8 lbs/ton	13.3 lbs/ton
350 lbs	3.7 lbs/ton	5.7 lbs/ton	7.5 lbs/ton	11.4 lbs/ton
400 lbs	3.3 lbs/ton	5.0 lbs/ton	6.7 lbs/ton	10.0 lbs/ton
450 lbs	2.9 lbs/ton	4.4 lbs/ton	5.9 lbs/ton	8.9 lbs/ton

For rates other than those listed, use the following formula to calculate the amounts of VELPAR® DF to be impregnated per ton of dry fertilizer.

$$\text{Lbs VELPAR® DF Per Acre} \times \text{1 Ton Fertilizer} = \text{Lbs VELPAR® DF per Ton of Fertilizer}$$

**APPLICATION**

Uniform application of VELPAR® DF-impregnated dry fertilizer is essential for satisfactory weed control. Accurate calibration of the application equipment is essential for uniform distribution to the surface. The customary method of application is to apply 1/2 the labeled rate and overlap 50%. This results in the best distribution pattern.

**USE PRECAUTIONS AND RESTRICTIONS - ALFALFA**

- Best results are obtained when 1/2–1 inches of rainfall or sprinkler irrigation occurs within two weeks after application, when soil is moist at time of application, and

when weeds have not germinated or are less than 2 inches in height or diameter. Heavy rainfall or excessive irrigation after application may result in crop injury or poor performance of the herbicide.

- On soils high in organic matter (greater than 5%), the effectiveness of VELPAR® DF can be significantly reduced and weed control may be unsatisfactory.
- Avoid overlapping of spray swaths and shut off spray booms while starting, turning, slowing or stopping or crop injury may result.
- Crop injury, including mortality, may result in fields with restricted root growth due to non-uniform soil profiles such as gravel bases and clay lenses.
- Crop injury may result if hot weather, mid-to-high 90 degree range or higher, occurs within a few days after application.
- Do not apply to snow-covered or frozen ground.
- Crop injury to alfalfa can be influenced by several factors including alfalfa variety, soil conditions, uniformity of application and environmental conditions, etc., if no prior use history for the site or variety, treat only a small area when first using VELPAR® DF.
- If abnormally dry conditions exist following application, restrict the first irrigation to no more than 1/2 acre inch of water.
- Temporary yellowing of alfalfa may occur following VELPAR® DF applications.
- Treat only stands of alfalfa established for one year or for one growing season (except in California), provided:
  - The alfalfa stand has a well developed tap root structure that is at least 10 inches in length (0.25 inch diameter below the crown) throughout the field and the crop is healthy, vigorous, and not under stress from weather conditions, low fertility, insects or disease damage.
  - In areas with shorter growing seasons, such as, higher elevations, adequate alfalfa tap root growth may not occur and especially when alfalfa is grown together with a cover or nurse crop. If an adequate tap root is not present, delay application of VELPAR® DF until the alfalfa has gone through a minimum of two growing seasons.
- In California, fall planted alfalfa may be treated in the following winter months with VELPAR® DF at 1/3 to 2/3 pounds per acre (use higher rate for fine textured soils) provided:
  - alfalfa root growth exceeds 6 inches in length
  - vegetative top growth of alfalfa has lateral development of secondary growth
  - alfalfa is healthy and vigorous, not growing under stress from insect, disease, winter injury or other types of stress. Injury may result to alfalfa plants that fail to meet these growth criterion listed above.
- Do not use VELPAR® DF on seedling alfalfa, alfalfa-grass mixtures, or other mixed stands as injury may result to the seedling alfalfa or companion crop.

- Do not use a surfactant with DuPont™ VELPAR® DF when treating non-dormant alfalfa.
- Do not use VELPAR® DF on gravelly or rocky soils, exposed subsoils, hardpan, sand, poorly drained soil, or alkali soils.

## BLUEBERRY

### HIGH BUSH BLUEBERRIES

VELPAR® DF is labeled for control of certain herbaceous and woody weeds in established high bush blueberry fields.

#### APPLICATION INFORMATION

VELPAR® DF may be applied to high bush blueberries that have been established for 3 or more years. Apply VELPAR® DF in the spring before the lower leaves of the blueberry plant have fully expanded. Avoid contact of the leaves with the spray solution.

Using calibrated ground spray equipment, make the application in sufficient water to provide thorough and uniform coverage to the treated area (usually 20 gallons per acre). Shut off spray booms when starting, turning, slowing or stopping, or injury to the crop may result.

#### USE PRECAUTIONS AND RESTRICTIONS HIGH BUSH BLUEBERRIES

- Do not apply through any type of irrigation system.
- Do not apply within 90 days of harvest.
- Do not apply to flooded field with standing water.
- Application to blueberry foliage will result in crop injury.
- Since the effect of VELPAR® DF on blueberries varies with soil type, plant vigor, uniformity of applications and amount of rainfall, it is suggested that growers limit their first use to small areas.

#### USE RATES (Lbs/Acre) HIGH BUSH BLUEBERRIES

Soil texture	less than or equal to 3% organic matter	greater than 3% organic matter
Coarse loamy sand, sandy loam (50-85% sand)	1.3	1.6
Medium loam, silt loam, silt, clay loam, sandy clay loam		2.6
Fine silty clay loam, clay loam, sandy clay, silty clay, clay	1.3 - 2*	2.6

\*Use the higher rate as the soil organic matter approaches 3%.

### LOW BUSH BLUEBERRIES

VELPAR® DF may be used for the control of certain weeds in low bush blueberries.

#### APPLICATION INFORMATION

VELPAR® DF may only be applied to pruned blueberry fields in the spring before leaf emergence. Using calibrated ground spray equipment, make the application in sufficient water to provide thorough and uniform coverage to the treated area (usually 20 gallons per acre). Shut off spray

booms when starting, turning, slowing or stopping, or injury to the crop may result.

#### USE PRECAUTIONS AND RESTRICTIONS LOWBUSH BLUEBERRIES

- Do not apply through any type of irrigation system.
- Do not apply to flooded field with standing water.
- Do not apply within 450 days of harvest.
- Do not exceed 2.4 pounds per acre if field has been treated with hexazinone within the past 8 years.
- Application to blueberry foliage will result in crop injury.
- Since the effect of VELPAR® DF on blueberries varies with soil type, plant vigor, uniformity of applications and amount of rainfall, it is suggested that growers limit their first use to small areas. If excessive leaf drop is observed after treatment, reduce rate in future applications.
- Maintain a 50 foot buffer from any well head or water reservoir.

#### LOW BUSH BLUEBERRIES (LBS/ACRE)

Soil texture	less than or equal to 3% organic matter	greater than 3% organic matter
Coarse loamy sand, sandy loam (50-85% sand)	1.2	1.6
Medium loam, silt loam, silt, clay loam, sandy clay loam		2
Fine silty clay loam, clay loam, sandy clay, silty clay, clay	1.2 - 2.4*	2.4 - 3.6**

\*Use the higher rate as the soil organic matter approaches 3%.

\*\*Use the higher rate for harder to control species.

#### IMPREGNATION ON DRY BULK FERTILIZER

Dry bulk fertilizer may be impregnated or coated with VELPAR® DF for application to established high bush or low bush blueberries. All instructions on this label must be followed along with state regulations relating to dry bulk fertilizer blending, impregnating and labeling.

If fertilizer materials are excessively dusty, use a suitable additive to reduce dust prior to impregnation, as dusty fertilizer will result in poor distribution during application. The dry fertilizer must be properly impregnated and uniformly applied to the alfalfa to avoid crop injury and/or poor weed control.

To impregnate the fertilizer, use a system consisting of a conveyor or closed drum used to blend dry bulk fertilizer. Any commonly used fertilizer can be impregnated with VELPAR® DF, except potassium nitrate or sodium nitrate. Do not use VELPAR® DF on limestone.

Use a minimum of 250 lb dry bulk fertilizer per acre and up to a maximum of 450 lb per acre. To impregnate or coat the dry bulk fertilizer with VELPAR® DF, mix 2 2/3 pounds of VELPAR® DF with sufficient water to make one gallon of suspension and thoroughly agitate. Direct the nozzles to

deliver a fine spray of this suspension toward the fertilizer for thorough coverage while avoiding spray contact with mixing equipment. Uniform impregnation of DuPont™ VELPAR® DF to dry bulk fertilizer will vary, and if the absorptivity is not adequate, the use of an absorptive powder may be required to produce a dry, free-flowing mixture. "Microcel E" is the absorbent powder of choice. When another herbicide is used with VELPAR® DF, mix and impregnate the fertilizer immediately.

Apply impregnated fertilizer as soon as possible after impregnation for optimum performance.

Select the rate of VELPAR® DF to apply per acre from the appropriate section of this label. Then refer to the rate chart below to determine the amount of VELPAR® DF that is to be impregnated on a ton of dry bulk fertilizer, based on the amount of fertilizer to be distributed in one acre.

**Rate Chart for Impregnating Fertilizer with VELPAR® DF**

Fertilizer Rate/Acre	VELPAR® DF Rate Per Acre			
	2/3 Lbs	1 Lbs	1 1/3 Lbs	2 Lbs
250 lbs	5.3 lbs/ton	8.0 lbs/ton	10.6 lbs/ton	16.0 lbs/ton
300 lbs	4.4 lbs/ton	6.6 lbs/ton	8.8 lbs/ton	13.3 lbs/ton
350 lbs	3.7 lbs/ton	5.7 lbs/ton	7.5 lbs/ton	11.4 lbs/ton
400 lbs	3.3 lbs/ton	5.0 lbs/ton	6.7 lbs/ton	10.0 lbs/ton
450 lbs	2.9 lbs/ton	4.4 lbs/ton	5.9 lbs/ton	8.9 lbs/ton

For rates other than those listed, use the following formula to calculate the amounts of VELPAR® DF to be impregnated per ton of dry fertilizer.

$$\text{Lbs VELPAR® DF Per Acre} \times \text{1 Ton Fertilizer} = \text{Lbs VELPAR® DF per Ton of Fertilizer}$$

**APPLICATION**

Uniform application of VELPAR® DF-impregnated dry fertilizer is essential for satisfactory weed control. Accurate calibration of the application equipment is essential for uniform distribution to the surface. The customary method of application is to apply 1/2 the labeled rate and overlap 50%. This results in the best distribution pattern.

**WEEDS CONTROLLED**

VELPAR® DF is labeled for the control or suppression of the following species in high and low bush blueberry crops:

- |  |                                   |
|--|-----------------------------------|
| Aster, heath*                          | <i>Aster ericoides</i>            |
| Barnyardgrass                          | <i>Echinochloa crus-galli</i>     |
| Blackberry* (briar)                    | <i>Rubus spp</i>                  |
| Bluegrass,                             |                                   |
| Kentucky (perennial)*                  | <i>Poa pratensis</i>              |
| Brome, downy (cheatgrass)              | <i>Bromus tectorum</i>            |
| Broomsedge*                            | <i>Andropogon virginicus</i>      |
| Carrot, wild*                          | <i>Daucus carota</i>              |
| Catchfly, English                      | <i>Silene gallica</i>             |
| Chamomile, mayweed                     | <i>Anthemis cotula</i>            |
| Cherry, wild                           | <i>Prunus serotia</i>             |
| Chickweed, common                      | <i>Stellaria media</i>            |
| Cinquefoil                             | <i>Potentilla spp</i>             |
| Cockle, white*                         | <i>Melandrium album</i>           |
| Dandelion, common*                     | <i>Taraxacum officinale</i>       |
| Dandelion, false*<br>(spotted catsear) |                                   |
| Daisy, oxeye                           | <i>Hypochaeris radicata</i>       |
| Dock, curly*                           | <i>Chrysanthemum leucanthemum</i> |
| Dogfennel                              | <i>Rumex crispus</i>              |
| Fescue*                                | <i>Eupatorium capillifolium</i>   |
| Fiddleneck, tarweed                    | <i>Festuca spp</i>                |
| Filaree                                | <i>Amsinckia lycopsoides</i>      |
| Fireweed*(willowweed)                  | <i>Erodium spp</i>                |
| Fleabane, flax-leaved                  | <i>Epilobium angustifolium</i>    |
| Flixweed                               | <i>Conyza bonariensis</i>         |
| Foxtail, yellow                        | <i>Descurainia Sophia</i>         |
| Goldenrod                              | <i>Setaria lutescens</i>          |
| Groundsel, common                      | <i>Solidago spp</i>               |
| Hawkweed                               | <i>Senecio vulgaris</i>           |
| Horseweed/marestail                    | <i>Hieracium spp</i>              |
| Jimsonweed                             | <i>Conyza canadensis</i>          |
| Lambsquarters, common                  | <i>Datura stramonium</i>          |
| Lettuce, Miner's                       | <i>Chenopodium album</i>          |
| Lettuce, prickly*                      | <i>Montia perfoliata</i>          |
| Mustard, blue                          | <i>Lactuca serriola</i>           |
| Mustard, Jim Hill (tumble)             | <i>Chorispura tenella</i>         |
| Orchardgrass *                         | <i>Sisymbrium altissimum</i>      |
| Orchardgrass (seedling)                | <i>Dactylis glomerata</i>         |
| Panicgrass (witchgrass)                | <i>Dactylis glomerata</i>         |
| Panicum, fall                          | <i>Panicum capillare</i>          |
| Pearly everlasting                     | <i>Panicum dichotomiflorum</i>    |
| Pennycress, field                      | <i>Anaphalis margaritacea</i>     |
| Pigweed, redroot                       | <i>Thlaspi arvense</i>            |
| Quackgrass                             | <i>Amaranthus retroflexus</i>     |
| Radish, wild                           | <i>Agropyron repens</i>           |
| Ragweed, common                        | <i>Raphanus raphanistrum</i>      |
| Raspberry* (briar)                     | <i>Ambrosia elatior</i>           |
| Rocket, London                         | <i>Rubus spp</i>                  |
| Rocket, common yellow                  | <i>Sisymbrium irio</i>            |
| Ryegrass, Italian (annual)             | <i>Barbarea vulgaris</i>          |
| Ryegrass, perennial*                   | <i>Lolium multiflorum</i>         |
| Salsify                                | <i>Lolium perenne</i>             |
| Shepherdspurse                         | <i>Tragopogon spp</i>             |
| Smartweed, Pennsylvania                | <i>Capsella bursa-pastoris</i>    |
| Sorrel, red                            | <i>Polygonum pensylvanicum</i>    |
| Sorrel, sheep                          | <i>Rumex acetosella</i>           |
| Spurry, corn                           | <i>Rumex angiocarpus</i>          |
| Strawberry, wild                       | <i>Spergula arvensis</i>          |
| Tansymustard (pinnate)                 | <i>Fragaria virginiana</i>        |
| Tea, Mexican*                          | <i>Descurainia pinnata</i>        |
| Velvetgrass                            | <i>Chenopodium ambrosioides</i>   |
| Yarrow                                 | <i>Holcus lanatus</i>             |
|  | <i>Achillea spp</i>               |
| <b>2.4 to 3.6 Lbs/acre</b>             |                                   |
| Dogbane**                              | <i>Apocynum spp</i>               |
| Meadow-sweet                           | <i>Filipendula ulmaria</i>        |
| Blackberry, trailing                   | <i>Rubus ursinus</i>              |
| Laurel, sheep                          | <i>Kalmia angustifolia</i>        |
| Rose, wild**                           | <i>Rosa spp</i>                   |

\* Suppression – a visible reduction in plant population and/or plant vigor as compared to an untreated area and generally not accepted as control.

\*\* Harder to control species.

## CHRISTMAS TREES

DuPont™ VELPAR® DF is labeled for control of certain weeds where the following species are grown:

Fir, Douglas (western US only)	<i>Pseudotsuga menziesii</i>
Fir, Fraser	<i>Abies fraseri</i>
Fir, grand	<i>Abies grandis</i>
Fir, noble	<i>Abies procera</i>
Pine, Austrian	<i>Pinus nigra</i>
Pine, loblolly	<i>Pinus taeda</i>
Pine, ponderosa	<i>Pinus ponderosa</i>
Pine, Scotch	<i>Pinus sylvestris</i>
Spruce, Sitka	<i>Picea sitchensis</i>

Unless otherwise directed in separately published DuPont instructions, do not use VELPAR® DF on Christmas trees in the following states:

Alabama	Louisiana	New Jersey	Texas
Arkansas	Maine	New York	Vermont
Connecticut	Maryland	North Carolina	Virginia
Delaware	Massachusetts	Pennsylvania	West Virginia
Georgia	Mississippi	Rhode Island	
Florida	New Hampshire	South Carolina	

## APPLICATION INFORMATION

### EASTERN US

Apply VELPAR® DF as a broadcast spray in the spring prior to bud break. If application is made after bud break, use directional spray equipment to prevent contact with foliage.

### WESTERN US

Areas of greater than 20 inches annual rainfall - VELPAR® DF may be applied as a broadcast spray in the spring prior to conifer bud break. If application is made after bud break, use directional spray equipment to prevent contact with foliage.

Areas of less than 20 inches annual rainfall - VELPAR® DF may be applied in the fall before the soil freezes or in the spring after snow cover melts, but before conifer bud break occurs.

### USE RATES

The rates listed below are for broadcast application. For band application, use proportionately less; for example, use 1/2 of the broadcast rates when treating a 3-foot band where row spacing is 6 feet. Use the higher end of the rate range on the heavier soil type.

Do not use more than one application of VELPAR® DF per year.

Soils	VELPAR® DF (Lb/Acre)	
	First Year Plantings	Established Trees
<b>Coarse Texture</b>		
Loamy sand, sandy loam (50-85% sand)	1 1/3	1 1/3 - 1 2/3
<b>Medium Texture</b>		
Loam, silt loam, silt, clay loam, sandy clay loam	1 1/3 - 1 2/3	1 2/3 - 2 1/3
<b>Fine Texture</b>		
Silty clay loam, clay loam, sandy clay, silty clay, clay	1 2/3 - 2	2 1/3 - 2 2/3

**First year plantings** - Transplant stock that is 2 years old or more (1 year old for loblolly pine). Apply VELPAR® DF only if rainfall has settled the soil around the base and root systems of the transplants.

**Established trees** - Trees that have been planted in the plantation for 1 year or more.

## WEEDS CONTROLLED

VELPAR® DF is labeled for the control or suppression of the following weed species in Christmas tree crops:

Aster, heath*	<i>Aster ericoides</i>
Barnyardgrass	<i>Echinochloa crus-galli</i>
Bentgrass, common	<i>Agrostis alba</i>
Bluegrass, annual	<i>Poa annua</i>
Bromegrass	<i>Bromus spp</i>
Burnweed, American*	<i>Erechtites hieracifolius</i>
Carrot, wild	<i>Daucus carota</i>
Crabgrass*	<i>Digitaria spp</i>
Curly dock*	<i>Rumex crispus</i>
Daisy, oxeye	<i>Chrysanthemum leucanthemum</i>
Dandelion, common*	<i>Taraxacum officinale</i>
Dandelion, false* (spotted catsear)	<i>Hypochaeris radicata</i>
Fescue*	<i>Festuca spp</i>
Fleabane	<i>Conyza spp</i>
Foxtail	<i>Setaria spp</i>
Goldenrod*	<i>Solidago spp</i>
Groundsel, common	<i>Senecio vulgaris</i>
Horseweed/marestail	<i>Conyza canadensis</i>
Orchardgrass *	<i>Dactylis glomerata</i>
Ragweed, common	<i>Ambrosia elatior</i>
Ryegrass, Italian (annual)	<i>Lolium multiflorum</i>
Ryegrass, perennial*	<i>Lolium perenne</i>
Smartweed, Pennsylvania	<i>Polygonum pennsylvanicum</i>
Velvetgrass, common	<i>Holcus lanatus</i>

\* Suppression – a visible reduction in plant population and/or plant vigor as compared to an untreated area and generally not accepted as control.

## SPRAY EQUIPMENT

VELPAR® DF may be applied by ground equipment or by air.

Select a spray volume that will ensure a thorough and uniform application. Apply a minimum of 5 gallons per acre by air and a minimum of 10 gallons per acre by ground equipment.

## USE PRECAUTIONS AND RESTRICTIONS CHRISTMAS TREES

- Do not use VELPAR® DF in nurseries, seed beds, or ornamental plantings.
- Do not add a surfactant in applications over the top of conifers.
- Weed control results from spring applications depend on sufficient moisture to activate VELPAR® DF.
- Livestock may be grazed immediately following a broadcast application of VELPAR® DF at rates of 1.5 pounds per acre or less, and treated vegetation may be cut, dried, and fed after 38 days.
- Do not cut treated vegetation for feed, or graze livestock on treated areas for 60 days following application of VELPAR® DF at broadcast rates exceeding 1.5 pounds per acre.

- Poor weed and brush control may result from the following:
  - Heavy duff or slash present at the time of application.
  - Use on poorly drained sites.
  - Applications made when soil is saturated with water and rain is imminent within 24 hours.
  - Applications to soils high in organic matter (greater than 5%).
- Injury may occur when DuPont™ VELPAR® DF is used on the following:
  - Trees that show poor vigor, insect damage, disease, winter injury, or other stress conditions.
  - Any soil containing less than 1% organic matter.
  - Loamy sand or sandy loam with less than 2% organic matter (except Jeffrey Pine and Ponderosa Pine).
  - Foliage after bud break.
  - Gravelly or rocky soils, exposed subsoils, clay knobs, sand, or sandy soil with 85% or more sand.

### PINEAPPLE

VELPAR® DF is labeled for control of certain weeds in pineapple.

#### APPLICATION INFORMATION

Mix the proper amount of VELPAR® DF in water. Add a surfactant at the rate of 0.25% V/V.

Use the lower rates on coarse-textured soils or in areas where rainfall exceeds 65 inches per year. Use the higher rates on fine-textured soils or in areas where rainfall is less than 65 inches per year.

**Intercrop period** - Apply VELPAR® DF as a broadcast spray in 100–400 gallons of water per acre at the rate of 1/3 - 2 1/3 pounds per acre. For aerial application, use at least 10 gal water per acre.

**Post mulch, preplant** - Apply VELPAR® DF as a broadcast spray in 100–400 gallons of water per acre at the rate of 1/3 - 2 1/3 pounds per acre.

**Post plant, before planted cuttings start active growth** - Apply VELPAR® DF as a broadcast spray in 100–400 gallons of water per acre at the rate of 1/3 - 2 1/3 pounds per acre. When weed growth has escaped control by other herbicide applications, a post-planting application may be made after the planted cuttings start to grow.

**Prior to forcing first ratoon** - Apply VELPAR® DF as a broadcast spray in 100–400 gallons of water per acre at the rate of 1/3 - 2 1/3 pounds per acre.

**Directed postemergence (pineapple and weeds) inter-space application** - Apply VELPAR® DF as a directed spray 3–10 months after planting in 50–200 gallons of water per acre (broadcast basis) at the rate of 1/3 - 2 1/3 pounds per acre (broadcast basis) using a stroller boom or knapsack.

**Directed spot treatments for perennial grasses before floral induction** - Spray perennial grasses postemergence to wet (50–200 gallons per acre depending on size) with 1 1/3 - 2 1/3 pounds per 100 gallons of water as a spot treatment.

**Treatments to field edges and roadsides** - Apply VELPAR® DF at 2 1/3 - 4 8/10 pounds per acre in 100–400 gallons of water.

### WEEDS CONTROLLED

VELPAR® DF is labeled for the control or suppression of the following species in pineapple crops:

Ageratum, tropic	<i>Ageratum conyzoides</i>
Balsamapple	<i>Momordica charantia</i>
Castorbean	<i>Ricinus communis</i>
Crabgrass	<i>Digitaria spp</i>
Crotalaria	<i>Crotalaria spp</i>
Dallisgrass	<i>Paspalum dilatatum</i>
Guineagrass	<i>Panicum maximum</i>
Junglerice	<i>Echinochloa colonum</i>
Kao haole*	<i>Leucaena glauca</i>
Moana loa vine*	<i>Canavalia cathartica</i>
Morningglory	<i>Ipomoea spp</i>
Oxalis	<i>Oxalis spp</i>
Popolo	<i>Solanum sandwicense</i>
Richardsonium	<i>Richardsonia spp</i>
Vaseygrass	<i>Paspalum urvillei</i>

\* Suppression – a visible reduction in plant population and/or plant vigor as compared to an untreated area and generally not accepted as control.

### USE PRECAUTIONS AND RESTRICTIONS

#### - PINEAPPLE

- Do not exceed 4.8 lb VELPAR® DF per acre per crop.
- Do not apply VELPAR® DF within 181 days of harvest.

### SUGARCANE

VELPAR® DF is labeled for selective weed control in sugarcane except in the State of Florida.

#### APPLICATION INFORMATION

Apply a single treatment of VELPAR® DF per year using a fixed-boom sprayer and a minimum of 25 gallons per acre unless otherwise directed.

### HAWAII

Apply VELPAR® DF pre- or postemergence at the following rates for the indicated soil texture:

Soils	DuPont™ VELPAR® DF (Lb/Acre) (Plus surfactant 0.25% by volume)
<b>Coarse Texture</b>	
Sand, loamy sand, sandy loam	2/3 - 1 2/10
<b>Medium Texture</b>	
Loam, silt loam, silty clay loam	2/3 - 2 1/3
<b>Fine Texture</b>	
Clay, gray hydromorphic clay	2 1/3 - 4 8/10

Use the higher levels of the labeled rate ranges on soils high in organic matter. Do not apply more than twice the highest labeled rate for the indicated soil texture per crop (18–24 months).

Add an adjuvant for all uses.



For preemergence use only, DuPont™ VELPAR® DF may be applied with aerial equipment using at least 10 gallons of spray per acre.

Apply VELPAR® DF herbicide as a spot spray application for emerged weeds in sugarcane. Mix 1 to 4 pounds of VELPAR® DF per 100 gallons of water. Apply a sufficient volume of spray solution to thoroughly wet weed foliage but do not exceed a use rate of 4.8 pounds per acre. Use the lower concentrations on coarse-textured soils that are low in organic matter, and use the higher concentrations on fine-textured soils that are high in organic matter.

**LOUISIANA**

Apply 2/3 - 1 2/10 pound of VELPAR® DF per acre broadcast in the fall before sugarcane emerges or in the spring before active cane tillering begins. Fall treatments of 2/3 - 1 2/10 pound per acre may be followed by a spring treatment of 2/3 - 1 2/10 pound per acre. Do not apply more than 2 pound per year. Use the lower rates on coarse textured soils and the higher rates on fine textured soils.

**PUERTO RICO**

For preemergence treatments, apply 1/3 - 2/3 pound of VELPAR® DF per acre.

For postemergence treatments, apply 1/3 - 2/3 pound of VELPAR® DF per acre to weeds after they have emerged. Use the lower rates on coarse-textured soils and the higher rates on fine-textured soils (high in clay or organic matter). Each ratoon may receive up to 2/3 pound of VELPAR® DF per acre.

For spot treatment of emerged weeds, VELPAR® DF may be applied with a knapsack sprayer in concentrations of 1/3 - 2/3 pound per 100 gallons of water. Apply a sufficient spray volume to wet the weed foliage. Do not exceed 100 gallons of spray per treated acre. Use the lower concentration on coarse-textured soils and the higher concentration on fine-textured soils.

Note: Since it is difficult to calibrate "spot" knapsack applications, extra care must be taken not to exceed the rate equivalent of the maximum of 2/3 pound VELPAR® DF per acre.

Do not apply more than 1 1/3 pound of VELPAR® DF per acre per crop season.

**TEXAS**

Apply 2/3 - 2 1/3 pound of VELPAR® DF per acre. On plant cane, apply the herbicide before the cane emerges or as a directed layby treatment. On stubble cane, apply VELPAR® DF preemergence to early postemergence (up to the 3-leaf stage) or as a directed layby treatment. A pre- or early postemergence treatment may be followed by a layby treatment, provided at least 60 days have elapsed and 3 inches of rainfall or sprinkler irrigation have occurred since the first treatment.

Do not apply more than 2 1/3 pound of VELPAR® DF per acre per season.

Use the following rates according to the different soil textures:

Soils	VELPAR® DF (Lb/Acre)	
	Preemergence	+ Layby
<b>Coarse Texture*</b>		
Sandy loam	1/3	1/3
<b>Medium Texture</b>		
Loam, silt loam	9/10	9/10
<b>Fine Texture</b>		
Clay loam	1 1/3	1 1/3

\* With at least 2% organic matter

On dormant cane, a surfactant may be added to the spray mixture to increase control of emerged weeds.

**WEEDS CONTROLLED**

VELPAR® DF is labeled for the control or suppression of the following species in sugarcane crops:

- |                               |                                    |
|-------------------------------|------------------------------------|
| Ageratum, tropic*             | <i>Ageratum conyzoides</i>         |
| Alexandergrass                | <i>Brachiaria plantaginea</i>      |
| Balsamapple                   | <i>Momordica charantia</i>         |
| Barnyardgrass                 | <i>Echinochloa crus-galli</i>      |
| Bermudagrass*                 | <i>Cynodon dactylon</i>            |
| Burnweed, American (fireweed) | <i>Erechtites hieracifolius</i>    |
| Chickweed, common             | <i>Stellaria media</i>             |
| Crabgrass, large              | <i>Digitaria sanguinalis</i>       |
| Crabgrass, smooth             | <i>Digitaria ischaemum</i>         |
| Crotalaria, fuzzy             | <i>Crotalaria incana</i>           |
| Crotalaria, showy             | <i>Crotalaria spectabilis</i>      |
| Cuphea, tarweed               | <i>Cuphea carthagenensis</i>       |
| Dallisgrass                   | <i>Paspalum dilatatum</i>          |
| Fingergrass, radiate          | <i>Chloris radiata</i>             |
| Fingergrass, swollen          | <i>Chloris barbata</i>             |
| Foxtail, bristly              | <i>Setaria verticillata</i>        |
| Foxtail, yellow               | <i>Setaria lutescens</i>           |
| Geranium, Carolina            | <i>Geranium carolinianum</i>       |
| Goosegrass                    | <i>Elusine indica</i>              |
| Guineagrass                   | <i>Panicum maximum</i>             |
| Henbit                        | <i>Lamium amplexicaule</i>         |
| Itchgrass*                    | <i>Rottboellia cochinchinensis</i> |
| Job's-tears                   | <i>Coxix lacryma</i>               |
| Johnsongrass (seedling)       | <i>Sorghum halepense</i>           |
| Junglerice                    | <i>Echinochloa colonum</i>         |
| Lambsquarters, common         | <i>Chenopodium album</i>           |
| Millet, Texas                 | <i>Panicum texanum</i>             |
| Morningglory, hairy           | <i>Ipomoea pentaphylla</i>         |
| Morningglory, threelobe       | <i>Ipomoea triloba</i>             |
| Mustard, wild                 | <i>Sinapis arvensis</i>            |
| Oxalis                        | <i>Oxalis spp</i>                  |
| Paintbrush, Flora's           | <i>Emilia sonchifolia</i>          |
| Panicum, browntop             | <i>Panicum fasciculatum</i>        |
| Paspalum, ricegrass           | <i>Paspalum orbiculare</i>         |
| Paspalum, sour                | <i>Paspalum conjugatum</i>         |
| Pigweed, redroot              | <i>Amaranthus retroflexus</i>      |
| Pigweed, slender (green)      | <i>Amaranthus viridus</i>          |
| Pigweed, smooth               | <i>Amaranthus chlorostachys</i>    |
| Popolo                        | <i>Solanum sandwicense</i>         |
| Purslane, common              | <i>Portulaca oleracea</i>          |
| Sandbur                       | <i>Cenchrus spp</i>                |
| Sensitive plant (hila hila)   | <i>Mimosa spp</i>                  |
| Signalgrass, broadleaf        | <i>Brachiaria platyphylla</i>      |
| Sowthistle, common            | <i>Sonchus oleraceus</i>           |
| Spanishneedles                | <i>Bidens bipinnata</i>            |
| Sprangletop                   | <i>Leptochloa spp</i>              |
| Spurge, prostrate             | <i>Euphorbia humistrata</i>        |
| Spurge, graceful              | <i>Chamaesyce hypericifolia</i>    |
| Sunflower                     | <i>Helianthus spp</i>              |
| Vaseygrass                    | <i>Paspalum urvillei</i>           |
| Waltheria (hia loa)           | <i>Waltheria spp</i>               |

\* Suppression – a visible reduction in plant population and/or plant vigor as compared to an untreated area and generally not accepted as control.

## USE PRECAUTIONS AND RESTRICTIONS

### - SUGARCANE

- Do not plant any crop other than sugarcane following an application of DuPont™ VELPAR® DF.
- Do not feed sugarcane forage to livestock.
- Do not apply VELPAR® DF:
  - Within 180 days of harvest in Hawaii.
  - Within 234 days of harvest in Louisiana.
  - Within 288 days of harvest in Puerto Rico.
  - Within 234 days of harvest in Texas.
- To avoid injury to sugarcane, observe the following precautions:
  - Do not use VELPAR® DF on cane that shows poor vigor because of insect damage, disease, or winter injury, or shows symptoms of other stress conditions such as drought stress.
  - Do not add a surfactant in applications unless otherwise specified.
  - Do not use VELPAR® DF on gravelly or rocky soils, thinly covered subsoils, or coarse-textured soils (sands to sandy loams) with less than 1% organic matter.
  - Temporary chlorosis of the crop may result from application over emerged cane. Applications during active cane growth must be directed to cover the weeds and soil while minimizing crop contact.
  - Do not use VELPAR® DF on varieties known to be susceptible to herbicides.
- Extremely heavy rainfall after application may result in poor weed control and/or crop injury, especially if the application is made to dry soil.

## FORESTRY

### SITE PREPARATION

VELPAR® DF is labeled for weed and brush control in areas where the following species are grown:

#### EASTERN US AND LAKE STATES

Fir, balsam  
 Pine, Austrian  
 Pine, loblolly  
 Pine, longleaf  
 Pine, ponderosa  
 Pine, red  
 Pine, Scotch  
 Pine, shortleaf  
 Pine, slash  
 Pine, Virginia  
 Spruce, black  
 Spruce, red  
 Spruce, white

*Abies balsamea*  
*Pinus negra*  
*Pinus taeda*  
*Pinus palustris*  
*Pinus ponderosa*  
*Pinus resinosa*  
*Pinus sylvestris*  
*Pinus echinata*  
*Pinus elliotii*  
*Pinus virginiana*  
*Picea mariana*  
*Picea rubens*  
*Picea glauca*

#### WESTERN US

Fir, Douglas  
 Fir, grand  
 Fir, Noble  
 Fir, white  
 Pine, Jeffrey  
 Pine, lodgepole  
 Pine, ponderosa  
 Spruce, blue  
 Spruce, Engleman  
 Spruce, Sitka

*Pseudotsuga menziesii*  
*Abies grandis*  
*Abies procera*  
*Abies concolor*  
*Pinus jeffreyi*  
*Pinus contorta*  
*Pinus ponderosa*  
*Picea pungens*  
*Picea engelmannii*  
*Picea sitchensis*

## APPLICATION INFORMATION

### EASTERN US

Apply VELPAR® DF from early spring to early summer after hardwoods have broken bud and before the foliage has hardened off.

Soils	VELPAR® DF (Lb/Acre)
	Eastern US
<b>Coarse Texture</b>	
Sand, loamy sand, sandy loam	2 2/3 - 4
<b>Medium Texture</b>	
Loam, silt loam, sandy clay loam	4 - 5 1/3
<b>Fine Texture</b>	
Silty clay loam, clay loam, sandy clay, silt, silty clay, clay	5 1/3 - 6 2/3

The rates listed are for broadcast application. Use the lower rates on coarse textured soils and soils low in organic matter. Use the higher rates on fine textured soils and soils high in organic matter. Use the higher rates where weeds identified with an \* in the Weeds Controlled list predominate.

### WESTERN US

For **SITE PREPARATION**, VELPAR® DF may be applied at 1.3 to 4 pounds per acre. Use the lower rates on coarse textured soils and soils low in organic matter. Use the higher rates on fine textured soils and soils high in organic matter. Use the higher rates where weeds identified in this label as "suppression" predominate.

In areas where other conifer species may be mixed in with the conifers listed above, VELPAR® DF may be applied if the user has prior experience with VELPAR® DF on the other conifer species. With no prior experience, it is advised that either a small area of plantings be tested for conifer safety prior to treating larger areas, or make no application of VELPAR® DF in these areas within the site preparation area. Conifer species that are sensitive to VELPAR® (hexazinone) DF, such as, sugar pine and western larch, require 18 months before interplanting on treated sites.

Applications made to shelter wood sites may also result in mortality to over-story conifers. Factors that may influence conifer sensitivity in these sites could include application rate, conifer species, soil characteristics, uniformity of spray distribution across the treatment swath and environmental stress.

**Rain Belt** (areas of high spring rainfall): For best results, apply in late winter or spring when weeds and brush are actively growing.

**Snow Belt** (areas of low spring rainfall): For best results, apply in the fall before soil freezes, or in the spring after snow cover melts in anticipation of rainfall. Weed and brush control results from spring applications will be dependent on sufficient rainfall following application to activate VELPAR® DF.

**PLANTS CONTROLLED**

DuPont™ VELPAR® DF is labeled for the control or suppression of the following species in site preparations for forestry crops:

**HERBACEOUS PLANTS**

Asters	
Aster, heath*	<i>Aster ericoides</i>
Barnyardgrass	<i>Echinochloa crus-galli</i>
Bentgrass	<i>Agrostis spp</i>
Bluegrass, annual	<i>Poa annua</i>
Bromegrass	<i>Bromus spp</i>
Carrot, wild	<i>Daucus carota</i>
Crabgrass*	<i>Digitaria spp</i>
Daisy, oxeye	<i>Chrysanthemum leucanthemum</i>
Dandelion, common*	<i>Taraxacum officinale</i>
Dandelion, false* (spotted catsear)	<i>Hypochaeris radicata</i>
Dock, curly*	<i>Rumex crispus</i>
Elksedge	<i>Carex geeyeri</i>
Fescue*	<i>Festuca spp</i>
Fireweed*(willowweed)	<i>Epilobium angustifolium</i>
Fleabane	<i>Conyza spp</i>
Foxtail	<i>Setaria spp</i>
Goldenrod*	<i>Solidago spp</i>
Groundsel, common	<i>Senecio vulgaris</i>
Horseweed/marestail	<i>Conyza canadensis</i>
Mullein, common**	<i>Verbascum thapsus</i>
Orchardgrass *	<i>Dactylis glomerata</i>
Pinegrass	<i>Calamagrostis rubescens</i>
Quackgrass*	<i>Agropyron repens</i>
Ragweed, common	<i>Ambrosia elatior</i>
Ryegrass, Italian (annual)	<i>Lolium multiflorum</i>
Ryegrass, perennial*	<i>Lolium perenne</i>
Smartweed, Pennsylvania	<i>Polygonum pensylvanicum</i>
Squawcatpet	<i>Ceanothus prostratus</i>
Thistle, Canada*	<i>Cirsium arvense</i>
Velvetgrass, common	<i>Holcus lanatus</i>

\*\* For western US site preparation, apply at 4 pounds per acre.

**WOODY PLANTS**

Ash	<i>Fraxinus spp</i>
Aspen, big tooth	<i>Populus grandidentata</i>
Aspen, trembling	<i>Populus tremuloides</i>
Birch	<i>Betula spp</i>
Blackgum	<i>Nyssa sylvatica</i>
Cherry, black	<i>Prunus serotina</i>
Deerbrush	<i>Ceanothus integerrimus</i>
Dogwood, flowering*	<i>Cornus florida</i>
Elm	<i>Ulmus spp</i>
Hawthorn	<i>Crataegus spp</i>
Hazel	<i>Corylus spp</i>
Hickory	<i>Carya spp</i>
Honeysuckle*	<i>Lonicera spp</i>
Manzanita, Greenleaf	<i>Arctostaphylos patula</i>
Maple, red*	<i>Acer rubrum</i>
Oaks	<i>Quercus spp</i>
Poplar, balsam	<i>Populus balsamifera</i>
Snowbrush (varnishleaf)	<i>Ceanothus velutinus</i>
Sourwood*	<i>Oxydendrum arboretum</i>
Sweetgum	<i>Liquidambar spp</i>
Willows	<i>Salix spp</i>

\* Suppression is a visible reduction in plant competition (reduced population and/or vigor) as compared to an untreated area. Degree of suppression will vary with rate applied, size of plants at application and environmental conditions following treatment. Species indicated above, especially resprouts of these species, may require a follow up treatment for acceptable control. Burning, as a follow up treatment, will enhance control of resprouts.

Within several weeks after VELPAR® DF activation by rainfall, affected vegetation may be burned, if desired. This

burn may further enhance control of vegetation. Burn the vegetation only after any residual stand is completely defoliated, at least twice, allowing for sufficient root uptake of VELPAR® DF. In the West, results may take one to two years in areas of low rainfall.

**SPRAY EQUIPMENT**

When applied as a liquid spray using water as the carrier, VELPAR® DF may be applied by ground equipment or by air (helicopter only).

For ground application, use enough water for thorough coverage, usually a minimum of 25 gallons per acre. For aerial applications, use at least 5 gallons of water per acre.

**GRID APPLICATION**

Mix 2 2/3 pounds of VELPAR® DF with sufficient water to make one gallon of suspension and thoroughly agitate. Intermittent agitation may be required to maintain the VELPAR® DF in suspension.

Apply the VELPAR® DF suspension directly to the soil surface in a grid pattern using an exact delivery handgun applicator. This equipment delivers a thin stream of predetermined volume. VELPAR® DF must be applied during the period from hardwood bud break to early summer.

Application rate and grid pattern will depend on soil texture and woody plant composition. Use the lower rates on coarse textured soils and when the major component of the hardwoods are susceptible species. Use the high rates on fine-textured soils and where weeds identified in this label as "partial control or suppression" predominate.

**Application Patterns and Rates For VELPAR® DF Suspension**

	ML/Spot	Grid (Ft)	Lb/Acre
Coarse	0.6	3 X 3	2
	2.0	4 X 4	4
	3.1	4 X 6	4
Medium/Fine	1.6	3 X 3	5.3
	2.8	4 X 4	5.3
	3.5	4 X 4	6.6
	5.2	4 X 6	6.6

**BASAL (SOIL) SINGLE STEM TREATMENTS**

Mix 2 2/3 pounds of VELPAR® DF with sufficient water to make one gallon of suspension and thoroughly agitate. Apply the VELPAR® DF suspension with an exact-delivery handgun applicator. This equipment delivers a thin stream of predetermined volume when triggered. Apply the VELPAR® DF suspension at the rate of 2 to 4 ml for each inch of stem diameter at breast height. Direct the treatment to the soil within 3 feet of the root collar of woody plants to be controlled.

For multi-stemmed and low-growing brush that have stem diameters that are difficult to determine, apply the VELPAR® DF suspension at the rate of 2 to 4 ml per 3 feet of canopy width. For tall, slender (columnar) brush types, apply 4 to 8 ml per 3 feet of height. Base the rate on

whichever canopy dimension is greater (width or height). Apply the lower volumes for coarse textured soils or soils with low organic matter soils and the higher volumes for fine textured soils or soils with high organic matter.

When treating brush that requires more than a single delivery of the DuPont™ VELPAR® DF suspension, apply subsequent deliveries equally spaced around the target plant. If treating brush on sloping sites, apply most of the suspension on the uphill side of the stem. If treating resprouts from brush disturbed by cutting or other mechanical methods, the rate of application must be proportional to the original tree size, not just the size of sprout regrowth.

**USE PRECAUTIONS AND RESTRICTIONS  
SITE PREPARATION**

- Where burning is desired, burn the vegetation only after any residual brush has completely defoliated, at least twice, allowing for sufficient root uptake of VELPAR® DF.
- Following harvest, allow sufficient time for stumps and injured trees to adequately resprout before applying VELPAR® DF.

**FORESTRY – RELEASE**

VELPAR® DF is labeled for conifer release where the following species are grown:

**EASTERN US AND LAKE STATES**

Fir, balsam	<i>Abies balsamea</i>
Pine, loblolly	<i>Pinus taeda</i>
Pine, longleaf	<i>Pinus palustris</i>
Pine, red	<i>Pinus resinosa</i>
Pine, shortleaf	<i>Pinus echinata</i>
Pine, slash	<i>Pinus elliotti</i>
Pine, Virginia	<i>Pinus virginiana</i>
Spruce, black	<i>Picea mariana</i>
Spruce, Norway	<i>Picea abies</i>
Spruce, red	<i>Picea rubens</i>
Spruce, white	<i>Picea glauca</i>

**WESTERN US**

Fir, Douglas	<i>Pseudotsuga menziesii</i>
Fir, grand	<i>Abies grandis</i>
Fir, Noble	<i>Abies procera</i>
Fir, white	<i>Abies concolor</i>
Hemlock, Western	<i>Tsuga heterophylla</i>
Pine, Jeffrey	<i>Pinus jeffreyi</i>
Pine, lodgepole	<i>Pinus contorta</i>
Pine, ponderosa	<i>Pinus ponderosa</i>
Spruce, blue	<i>Picea pungens</i>
Spruce, Englemann	<i>Picea englemannii</i>
Spruce, Sitka	<i>Picea sitchensis</i>

**APPLICATION INFORMATION**

**EASTERN US**

Apply VELPAR® DF from early spring to early summer after hardwoods have broken bud and before full leaf expansion.

Applications made over the top of pines may result in excessive pine injury under conditions of high humidity and temperature (80 degrees F).

**WESTERN US**

**Rainbelt** (areas of high spring rainfall): For best results, apply in late winter or spring when brush is actively growing, but prior to conifer budbreak. Dormant trees are less susceptible to injury. Applications where the spray comes into direct contact with conifers after dormancy break in the spring or before the final resting bud has hardened in the fall may severely injure or kill the trees.

**Snowbelt** (areas of low spring rainfall): For best results, apply in the fall before soil freezes and after the final resting bud has hardened on the conifers. Or, spring applications may be made after snow cover melts in anticipation of rainfall prior to conifer budbreak. Brush control results from spring treatments will be dependent on sufficient rainfall following application to activate VELPAR® DF.

**USE RATES**

The rates listed below are for broadcast application. Do not use more than one application of VELPAR® DF per year. Use the higher rate range for the harder to control\* (suppression) species in the PLANTS CONTROLLED listings of the Site Prep and Release sections.

**EASTERN US**

Crop Species	Soil Description	VELPAR® DF
		(Lb/Acre) Established Trees
Loblolly pine	Loamy sand,	1 1/3 - 2
Longleaf pine	sandy loam	
Shortleaf pine	Loam, silt loam,	1 1/3 - 2 2/3
Virginia pine	silt, sandy clay loam	
Slash pine	Silty clay loam, clay loam, sandy clay, silty clay, clay	3 - 4
Red pine	Loamy sand, sandy loam	1 1/3 - 2 2/3
	Loam, silt loam, silt, sandy clay loam	2 2/3 - 4
	Silty clay loam, clay loam, sandy clay, silty clay, clay	4 - 5 1/3

**Established Trees**

- 4 years of age from transplanting on coarse-textured soils
- 3 years of age from transplanting on medium-textured soils
- 2 years of age from transplanting for Red Pine

**WESTERN US**

Application rates by soil type for VELPAR® DF in the following western conifers: Blue spruce, Douglas fir, Engleman spruce, Grand fir, Jeffrey pine, Lodgepole pine, Noble fir, Ponderosa pine, Sitka spruce, Western hemlock and White fir.

**DuPont™ VELPAR® DF**

**Soil Description (Lb/Acre)**

Loamy sand, sandy loam	1 1/3 - 3
Loam, silt loam, sandy clay loam	2 2/3 - 4
Silt, silty clay loam, clay loam, sandy clay, silty clay, clay	3 - 4

For first year plantings utilizing bare root stock, treat only transplant stock that is 2 years old (2-0, 1-1) or more, except (1-0) for Ponderosa and Jeffrey pines. Apply VELPAR® DF only if rainfall has settled the soil around the base and root systems of the transplants.

**BRUSH CONTROLLED**

VELPAR® DF is labeled for the control or suppression of the following species in conifer release sites:

Ash	<i>Fraxinus spp</i>
Aspen, big tooth	<i>Populus grandidentata</i>
Aspen, trembling	<i>Populus tremuloides</i>
Birch	<i>Betula spp</i>
Elder, box	<i>Acer negundo</i>
Brambles	<i>Rubus spp</i>
Cherry, black	<i>Prunus serotina</i>
Cherry, pin	<i>Prunus pensylvanica</i>
Deerbrush	<i>Ceanothus integerrimus</i>
Dogwood, flowering*	<i>Cornus florida</i>
Elm	<i>Ulmus spp</i>
Hawthorn	<i>Crataegus spp</i>
Hazel	<i>Corylus spp</i>
Honeysuckle*	<i>Lonicera spp</i>
Manzanita, Greenleaf	<i>Arctostaphylos patula</i>
Maple, red*	<i>Acer rubrum</i>
Oaks	<i>Quercus spp</i>
Poplar, balsam	<i>Populus balsamifera</i>
Snowbrush (varnishleaf)	<i>Ceanothus velutinus</i>
Sourwood*	<i>Oxydendrum arboretum</i>
Sweetgum	<i>Liquidambar spp</i>
Willows	<i>Salix spp</i>

\* Suppression -- a visible reduction in plant population and/or plant vigor as compared to an untreated area and generally not accepted as control.

In addition to brush controlled, herbaceous species listed in Weeds Controlled section of Release-Herbaceous Weed Control may be controlled with these applications.

**SPRAY EQUIPMENT**

When applied as a liquid spray using water as the carrier, VELPAR® DF may be applied by ground equipment or by air (helicopter only).

For ground applications, use sufficient spray volume for thorough and uniform coverage of the site to be treated, usually a minimum of 25 gallons per acre. For aerial applications, use a minimum of 5 gallons per acre.

**GRID APPLICATION**

Mix 2 2/3 pounds of VELPAR® DF with sufficient water to make one gallon of suspension and thoroughly agitate. Intermittent agitation may be required to maintain the VELPAR® DF in suspension.

Apply the VELPAR® DF suspension directly to the soil surface in a grid pattern using an exact delivery handgun applicator. This equipment delivers a thin stream of predetermined volume. VELPAR® DF must be applied during the period from hardwood bud break to early summer.

Application rate and grid pattern will depend on soil texture and woody plant composition. Use the lower rates on coarse textured soils and when the major component of the hardwoods are susceptible species. Use the high rates on fine-textured soils and where weeds identified in the label as "partial control or suppression" predominate.

**Application Patterns and Rates For VELPAR® DF Suspension**

	ML/Spot	Grid (Ft)	Lb/Acre
<b>Coarse</b>	0.5	3 X 4	1.3*
	1.2	3 X 6	2
	2.1	4 X 6	2.6
<b>Medium/Fine</b>	1.2	3 X 3	4
	2.3	3 X 6	4
	1.6	3 X 3	5.3
	3.1	3 X 6	5.3

\* Use on deep sands with pines four years or more of age.

**BASAL (SOIL) SINGLE STEM TREATMENT**

Mix 2 2/3 pounds of VELPAR® DF with sufficient water to make one gallon of suspension and thoroughly agitate. Apply the VELPAR® DF suspension with an exact-delivery handgun applicator. This equipment delivers a thin stream of predetermined volume when triggered. Apply the VELPAR® DF suspension at the rate of 2 to 4 ml for each inch of stem diameter at breast height. Direct the treatment to the soil within 3 feet of the root collar of woody plants to be controlled.

For multi-stemmed and low-growing brush that have stem diameters that are difficult to determine, apply the VELPAR® DF suspension at the rate of 2 to 4 ml per 3 feet of canopy width. For tall, slender (columnar) brush types, apply 4 to 8 ml per 3 feet of height. Base the rate on whichever canopy dimension is greater (width or height). Apply the lower volumes for coarse textured soils or low organic matter soils and the higher volumes for fine textured soils or high organic matter soils.

When treating brush that requires more than a single delivery of the VELPAR® DF suspension, apply subsequent deliveries equally spaced around the target plant. If treating brush on sloping sites, apply most of the suspension on the uphill side of the stem. If treating resprouts from brush disturbed by cutting or other mechanical methods, the rate of application must be proportional to the original tree size, not just the size of sprout regrowth.

## USE PRECAUTIONS AND RESTRICTIONS RELEASE - GRID & SINGLE STEM

- Application of DuPont™ VELPAR® DF basal soil spot treatments closer than 36 inches to conifer seedlings in their first season or directly up slope from these seedlings may result in injury or mortality.
- Use VELPAR® DF on seedlings in their first or fourth year and older. Injury may result from use on two and three year old seedlings where root growth is extensive but hardness is lacking.

## RELEASE HERBACEOUS WEED CONTROL

VELPAR® DF is labeled for controlling herbaceous weeds where these pine species are grown:

### EASTERN US

Loblolly pine	Slash pine
Longleaf pine	Red pine

### WESTERN US

Blue spruce	Noble fir
Douglas fir	Ponderosa pine
Engelman spruce	Sitka spruce
Grand fir	Western hemlock
Jeffrey pine	White fir
Lodgepole pine	

## APPLICATION INFORMATION

### EASTERN US

Apply VELPAR® DF as a broadcast or banded spray in the spring prior to conifer bud break to lessen conifer injury potential.

### WESTERN US

**Rainbelt** (areas of high spring rainfall): For best results, apply as a broadcast or banded spray in the late winter or spring when weeds are actively growing, but prior to conifer budbreak. If application is made after conifer bud break, use directional spray equipment to prevent contact with conifer foliage, as injury may result.

**Snowbelt** (areas of low spring rainfall): For best results, apply as a broadcast or banded spray in the fall before soil freezes and after the final resting bud has hardened on the conifers. Or, spring applications may be made after snow cover melts in anticipation of rainfall prior to conifer budbreak. Weed control results from spring treatments will be dependent on sufficient rainfall following application to activate VELPAR® DF.

## USE RATES

The rates listed below are for broadcast application. For band application, use proportionately less. For example, use 1/2 of the broadcast rates when treating a 3-foot band where row spacing is 6 feet. Use the higher rate range for the harder to control (\*Suppression) weeds listed in the table below.

## EASTERN US

Soil Description	VELPAR® DF (Lb/Acre)	
	First Year Plantings	Established Trees
Loamy sand, sandy loam(50-85% sand)	1 1/3	1 1/3 - 1 2/3
Loam, silt loam, silt, sandy clay loam	1 1/3 - 1 1/2	1 2/3 - 2 1/3
Silty clay loam, clay loam, sandy clay, silty clay, clay	1 1/2 - 1 8/10	2 1/3 - 2 2/3

Red pine only - Refer to labeled rates in the FORESTRY RELEASE - Use Rates Eastern US section of the label.

## WESTERN US

Refer to labeled rates in the FORESTRY RELEASE - Use Rates Western US section of the label.

## WEEDS CONTROLLED

VELPAR® DF is labeled for the control or suppression of the following species in release sites:

Asters	<i>Aster spp</i>
Aster, heath*	<i>Aster ericoides</i>
Barnyardgrass	<i>Echinochloa crus-galli</i>
Bentgrass	<i>Agrostis spp</i>
Bluegrass, annual	<i>Poa annua</i>
Brackenfern	<i>Pteridium aquilinum</i>
Bromegrass	<i>Bromus spp</i>
Carrot, wild	<i>Daucus carota</i>
Crabgrass*	<i>Digitaria spp</i>
Daisy, oxeye	<i>Chrysanthemum leucanthemum</i>
Dandelion, common*	<i>Taraxacum officinale</i>
Dandelion, false* (spotted catsear)	<i>Hypochaeris radicata</i>
Dock, curly*	<i>Rumex crispus</i>
Fescue*	<i>Festuca spp</i>
Fireweed*(willowweed)	<i>Epilobium angustifolium</i>
Fleabane	<i>Conyza spp</i>
Foxtail	<i>Setaria spp</i>
Goldenrod*	<i>Solidago spp</i>
Groundsel, common	<i>Senecio vulgaris</i>
Horseweed/marestail	<i>Conyza canadensis</i>
Orchardgrass *	<i>Dactylis glomerata</i>
Panicums	<i>Panicum spp</i>
Pinegrass	<i>Calamagrostis rubescens</i>
Ragweed, common	<i>Ambrosia elatior</i>
Ryegrass, Italian (annual)	<i>Lolium multiflorum</i>
Ryegrass, perennial*	<i>Lolium perenne</i>
Smartweed, Pennsylvania	<i>Polygonum pennsylvanicum</i>
Squawcarpet	<i>Ceanothus prostratus</i>
Velvetgrass, common	<i>Holcus lanatus</i>

\* Suppression – a visible reduction in plant population and/or plant vigor as compared to an untreated area and generally not accepted as control.

## FORESTRY IMPREGNATION ON DRY BULK FERTILIZER

DuPont™ VELPAR® DF is labeled for impregnating or coating dry bulk fertilizer to be applied on forested sites for the establishment or release of conifer plantations (except longleaf pine) as specified on this label.

### PLANTS CONTROLLED

Fertilizer impregnated with VELPAR® DF is labeled for the control and suppression of the weeds and brush identified for the specific applications on this label. Consult the appropriate segment of this label to determine the appropriate rate of VELPAR® DF to be applied per acre. Apply this amount of VELPAR® DF to the volume of fertilizer to be applied per acre.

### IMPREGNATION EQUIPMENT

To impregnate or coat the fertilizer use a system consisting of conveyor or closed drum used to blend dry bulk fertilizer.

### IMPREGNATION INSTRUCTIONS

To impregnate dry bulk fertilizer with VELPAR® DF, mix the amount as prescribed above in a sufficient quantity of water to uniformly coat the desired amount of fertilizer. Suspensions of VELPAR® DF will require thorough agitation.

Direct the spray nozzles of the impregnation equipment to deliver a fine spray of the mixture toward the fertilizer for thorough coverage while avoiding contact with mixing equipment. The use of a spray pattern indicator may be beneficial to visually determine the uniformity of impregnation.

Uniform impregnation of dry bulk fertilizer may vary. If absorption of the spray is not adequate, the use of an absorptive powder or additive, such as "Microcel E" or "HiSil 233", may be required to produce a dry, free flowing mixture.

Apply the fertilizer as soon as possible after impregnation for optimum performance. Impregnated fertilizer may become lumpy and difficult to apply following storage.

Diammonium phosphate, potassium chloride, 16-16-16 and 24-4-4 have been successfully impregnated.

### APPLICATION EQUIPMENT

Applications of impregnated fertilizer may be made by ground equipment or by air (helicopter or fixed wing). Accurate calibration and patterning of the equipment is essential for uniform distribution of the impregnated fertilizer on the soil surface.

## USE PRECAUTIONS AND RESTRICTIONS FORESTRY - IMPREGNATED FERTILIZER

- If fertilizer materials are excessively dusty, use a suitable additive to reduce dust prior to impregnation. Application of dusty fertilizer which has been impregnated may result in off-target drift and injury to desirable vegetation. Such drift and associated injury may be aggravated by high wind conditions.

- The dry fertilizer must be properly impregnated and uniformly applied to avoid pine injury/mortality and poor weed and brush control.
- Uniform and precise application of the impregnated fertilizer is essential for satisfactory weed and brush control and to minimize pine injury. Overlaps or skips between adjoining swaths or non-uniform distribution of impregnated fertilizer within the swath will deliver poor results and may result in pine injury or mortality.
- Do not impregnate potassium nitrate, sodium nitrate or triple super phosphate fertilizers with VELPAR® DF as herbicidal action will be lost.

## USE PRECAUTIONS AND RESTRICTIONS FORESTRY

- Do not use VELPAR® DF in nurseries, seedbeds, or ornamental plantings.
- On tracts of land where various soil types are present and VELPAR® DF rate selection is difficult, conifer damage or less-than-expected vegetation suppression may occur due to the different rates required for various soil types.
- Poor weed and brush control may result from the following:
  - Heavy duff or slash present at time of application
  - Use on poorly drained sites
  - Applications made when the soil is saturated with water and rain is imminent within 24 hours
  - Applications to soils high in organic matter (greater than 5%)
- Following harvest, allow stumps and injured trees sufficient time to adequately resprout before applying VELPAR® DF.
- Where burning is desired, burn vegetation after any brush has completely defoliated, at least twice, allowing for sufficient root uptake of VELPAR® DF.
- Do not use VELPAR® DF on frozen soils; use in spring after snow melt.
- Do not add a surfactant in applications over the top of conifers.
- Weed control results from spring applications depend on sufficient moisture to activate VELPAR® DF.
- When applying VELPAR® DF after transplanting, wait until rainfall has settled the soil around the base and root systems of the transplants before making the treatment.
- Crop injury may occur when VELPAR® DF is used:
  - On trees that show poor vigor, insect damage, disease, winter injury, or other stress conditions
  - On any soil containing less than 1% organic matter
  - On loamy sand or sandy loam with less than 2% organic matter, except Jeffrey pine and Ponderosa pine
  - On conifer foliage after conifer bud break
  - On gravelly or rocky soils, exposed subsoils, clay knobs, sand, or sandy soil with 85% or more sand.

- Livestock may be grazed immediately following a broadcast application of DuPont™ VELPAR® DF at rates of 1.5 pounds per acre or less, and treated vegetation may be cut, dried, and fed after 38 days.
- Do not cut treated vegetation for feed, or graze livestock on treated areas for 60 days following application of VELPAR® DF at broadcast rates exceeding 1.5 pounds per acre.

### YELLOW POPLAR PLANTINGS

VELPAR® DF is labeled for the control of herbaceous weeds in the establishment of yellow poplar plantations. Applications may be made over the top of planted seedlings after the soil has settled around the root systems but before the seedlings have broken dormancy (bud break). A subsequent application may be made before dormancy break in the Spring of the second year. USE RATES: Use the rate range specified in the "RELEASE- HERBACEOUS WEED CONTROL" section for pine plantations - eastern US.

For ground application, use sufficient spray volume for uniform and thorough coverage of the site to be sprayed, usually a minimum of 25 gallons per acre. For aerial applications, use a minimum of 5 gallons of water per acre. For broader spectrum control VELPAR® DF may be tank mixed with DuPont™ ESCORT® XP herbicide. Add ESCORT® XP at a rate of 1/2 ounce per acre with the prescribed rate of VELPAR® DF.

### USE PRECAUTIONS AND RESTRICTIONS YELLOW POPLAR PLANTINGS

- Applications of VELPAR® DF and tank mixes of VELPAR® DF and DuPont™ ESCORT® XP made to yellow poplar seedlings that are suffering from loss of vigor caused by insects, disease, drought, winter damage, animal damage, excessive soil moisture, planting shock or other stresses may injure or kill the seedlings.
- Applications of VELPAR® DF and tank mixes of VELPAR® DF and ESCORT® XP must only be made after adequate rainfall has closed the planting slit and settled the soil around the roots following transplanting.
- The use of surfactant with VELPAR® DF is not advised for applications made over the tops of seedlings.
- Careful consideration must be given by an experienced and knowledgeable forester to ensure the specific growth requirements of yellow poplar will be provided by the selected planting site. Treatment of yellow poplar planted on a site inadequate to meet its requirements may injure or kill the seedlings.

### PASTURE / RANGELAND

VELPAR® DF is labeled for control of brush and weeds in pasture.

### BERMUDAGRASS / BAHIAGRASS

VELPAR® DF is labeled for control of smutgrass and other weeds in established stands of bermudagrass and bahiagrass.

### APPLICATION INFORMATION

Make a single application of VELPAR® DF per year when weeds are actively growing.

### WEEDS CONTROLLED - USE RATES

VELPAR® DF effectively controls the following weeds at the rates shown in pastures. Use a lower rate on coarse-textured soils (sand to sandy loam). Use the higher rate on fine-textured soils (clay loam to clay) and on soils high in organic matter.

9/10 - 1 1/2 Lb/Acre

Barley, little	<i>Hordeum pusillum</i>
Barnyardgrass	<i>Echinochloa crus-galli</i>
Dogfennel	<i>Eupatorium capillifolium</i>
Fescue	<i>Festuca spp</i>
Lespedeza	<i>Lespedeza cuneata</i>
Oxalis	<i>Oxalis spp</i>
Passionflower, maypop	<i>Passiflora incarnate</i>
Pepperweed, Virginia	<i>Lepidium virginicum</i>
Pigweed	<i>Amaranthus spp</i>
Smutgrass*	<i>Sporobolus indicus</i>

\* Suppression may result with some of the giant (larger) smutgrass species.

Suppression – a visible reduction in plant population and/or plant vigor as compared to an untreated area and generally not accepted as control.

### SPRAY EQUIPMENT

Apply VELPAR® DF uniformly over the desired area using ground equipment only.

For ground application, use enough water for thorough coverage usually a minimum of 25 gallons per acre. The use of a surfactant may increase the potential for bermudagrass or bahiagrass injury.

### USE PRECAUTIONS AND RESTRICTIONS BERMUDAGRASS/BAHIAGRASS

- For bermudagrass that may be grown in the states of ID, OR, UT or WA, determine the suitability of using VELPAR® DF by treating a small area at a labeled application rate prior to treating larger areas. The smaller treated area must be observed for any signs of herbicidal injury during 60 days of normal growing conditions to determine if the treatment is safe to bermudagrass. If this evaluation is not completed prior to use, the user assumes the responsibility for any plant damage or other liability resulting from the use of VELPAR® DF on bermudagrass.
- Use VELPAR® DF only in stands of bermudagrass and bahiagrass established for at least one year. Do not treat newly sprigged or sodded areas.
- Some temporary discoloration of the bermudagrass or bahiagrass may occur after application.
- Treatment of mixed pastures containing forage species other than bermudagrass or bahiagrass may result in injury or mortality to the other forage species.
- Injury may result when desirable grasses are under stress from drought, insects, disease, cold temperature, or poor fertility.
- Injury to or loss of desirable trees or other plants may result if VELPAR® DF is applied or if equipment is drained or flushed on or near desirable trees or other



plants, on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots.

- Severe crop injury may occur if applications are made on gravelly or rocky soils, thinly covered subsoils, or soils with less than 1% organic matter.
- Livestock may be grazed immediately following a broadcast application of DuPont™ VELPAR® DF at rates of 1.5 pounds per acre or less, and treated vegetation may be cut, dried, and fed after 38 days.

### PASTURE/RANGELAND

#### BRUSH CONTROL

VELPAR® DF may be used either broadcast or as a basal-soil treatment for the control of undesirable brush in pasture or rangeland.

#### APPLICATION INFORMATION

Apply VELPAR® DF from late winter through summer, pre-budbreak until new growth hardens off.

In areas where the soil remains frozen during the winter and spring rains are usually inadequate for soil activation, a fall or winter treatment may be applied before the soil freezes.

For broadcast rates needed to control the species below, see the Forestry - Release, Use Rates section.

#### BRUSH CONTROLLED

VELPAR® DF is labeled for the control or suppression of the following brush species in pasture and rangeland:

- |                         |                                |
|-------------------------|--------------------------------|
| Alder                   | <i>Alnus spp</i>               |
| Ash                     | <i>Fraxinus spp</i>            |
| Aspen                   | <i>Populus spp</i>             |
| Birch                   | <i>Betula spp</i>              |
| Blackgum                | <i>Nyssa sylvatica</i>         |
| Bay, sweet              | <i>Magnolia virginiana</i>     |
| Catclaw acacia          | <i>Acacia greggii</i>          |
| Cedar, Eastern red      | <i>Juniperus virginiana</i>    |
| Cherry, black           | <i>Prunus serotina</i>         |
| Chinaberry*             | <i>Melia azedarach</i>         |
| Deerbrush               | <i>Ceanothus integerrimus</i>  |
| Dogwood, flowering*     | <i>Cornus florida</i>          |
| Elm, American           | <i>Ulmus Americana</i>         |
| Elm, Chinese            | <i>Ulmus parvifolia</i>        |
| Hackberry, common       | <i>Celtis occidentalis</i>     |
| Hawthorn                | <i>Crataegus spp</i>           |
| Hazel                   | <i>Corylus spp</i>             |
| Hickory                 | <i>Carya spp</i>               |
| Huisache                | <i>Acacia farnesiana</i>       |
| Juniper                 | <i>Juniperus spp</i>           |
| Locust                  | <i>Robinia spp</i>             |
| Lotebush                | <i>Ziziphus obtusifolia</i>    |
| Manzanita, Greenleaf    | <i>Arcostaphylos patula</i>    |
| Maple, red              | <i>Acer rubrum</i>             |
| Mesquite                | <i>Prosopis glandulosa</i>     |
| Mulberry                | <i>Morus spp</i>               |
| Oaks                    | <i>Quercus spp</i>             |
| Osage-orange            | <i>Maclura pomifera</i>        |
| Persimmon               | <i>Diospyros spp</i>           |
| Plum, wild              | <i>Prunus munsoniana</i>       |
| Poplar, balsam          | <i>Populus balsamifera</i>     |
| Poplar, yellow          | <i>Liriodendron tulipifera</i> |
| Privet                  | <i>Ligustrum spp</i>           |
| Rose, multiflora        | <i>Rosa multiflora</i>         |
| Sassafras*              | <i>Sassafras albidum</i>       |
| Soapweed, small (yucca) | <i>Yucca glauca</i>            |
| Snowbrush (varnishleaf) | <i>Ceanothus velutinus</i>     |
| Sourwood                | <i>Oxydendrum arboretum</i>    |
| Sumac                   | <i>Rhus spp</i>                |
| Sweetgum                | <i>Liquidambar spp</i>         |
| Tallow, Chinese         | <i>Sapium sebiferum</i>        |
| Waxmyrtle               | <i>Myrica cerifera</i>         |
| Whitebrush              | <i>Aloysia gratissima</i>      |
| Willow                  | <i>Salix spp</i>               |

\* Suppression – a visible reduction in plant population and/or plant vigor as compared to an untreated area and generally not accepted as control.

### SPRAY EQUIPMENT AND APPLICATION TECHNIQUES

Basal (Soil)-Mix 2 2/3 pounds of VELPAR® DF with sufficient water to make one gallon of suspension and thoroughly agitate. Apply the VELPAR® DF suspension with an exact-delivery handgun applicator. This equipment delivers a thin stream of predetermined volume when triggered. Apply the VELPAR® DF suspension at the rate of 2 to 4 ml for each inch of stem diameter at breast height. Direct the treatment to soil within 3 inches of the root collar of woody plants to be controlled. When treating large stems and when more than one delivery of the VELPAR® DF suspension is needed per stem, make applications on opposite sides of the stem. Do not apply more than 1/3 gallon of the VELPAR® DF suspension per acre per year. Intermittent agitation may be required to maintain the VELPAR® DF in suspension.

### USE PRECAUTIONS AND RESTRICTIONS PASTURE/RANGELAND

- Injury to or loss of desirable trees or other plants may result if VELPAR® DF is applied or if equipment is drained or flushed on or near desirable trees or other plants, on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots.
- Poor weed and brush control may result from the following:
  - Use on poorly drained sites
  - Applications made when the soil is saturated with water and rain is imminent within 24 hours
  - Applications to soils high in organic matter (greater than 5%)
- Following mechanical cutting or clearing, allow stumps and injured trees sufficient time to adequately resprout before applying VELPAR® DF.
- Do not use VELPAR® DF on frozen soils.
- Leave treated soil undisturbed to reduce the potential for VELPAR® DF movement by soil erosion due to wind or water.
- Weed and brush control results depend on sufficient moisture to activate VELPAR® DF.
- When VELPAR® DF is applied as a basal soil treatment, there is no restriction on grazing by domestic animals nor on cutting surrounding vegetation for forage or hay.
- Livestock may be grazed immediately following a broadcast application of VELPAR® DF at rates of 1.5 pounds per acre or less, and treated vegetation may be cut, dried, and fed after 38 days.
- Do not cut treated vegetation for feed, or graze livestock on treated areas for 60 days following application of VELPAR® DF at broadcast rates exceeding 1.5 pounds per acre.

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# NON-AGRICULTURAL USES

2 2/3 - 6 2/3 Lb/Acre

**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.

Use on non-crop sites including industrial turfgrasses are not within the scope of the Worker Protection Standard.

When applied as a spray do not enter or allow worker entry into treated areas until sprays have dried.

## APPLICATION INFORMATION

DuPont™ VELPAR® DF is labeled for general weed and brush control as follows: uncultivated nonagricultural areas (such as, airports, highway, railroad and utility right-of way, sewage disposal areas); uncultivated agricultural areas (non-crop producing, which includes: farmyards, fuel storage areas, fence rows, barrier strips); industrial sites (outdoor, such as, lumberyards, pipeline and tank farms).

## NON-CROP SITES

VELPAR® DF is labeled for control of many annual, biennial, and perennial weeds in non-crop sites.

## APPLICATION INFORMATION

Apply VELPAR® DF as a preemergence or postemergence spray when weeds are actively germinating or growing.

## WEEDS CONTROLLED - USE RATE

VELPAR® DF effectively controls the following weeds when applied at the use rates shown in industrial sites. When applied at lower rates, VELPAR® DF provides short-term control of the weeds listed; when applied at higher rates, weed control is increased and extended.

Use lower rate on coarse-textured soils (sand to sandy loam). Use the higher rate on fine-textured soils (clay loam to clay) and on soils high in organic matter.

- |                                     |                               |
|-------------------------------------|-------------------------------|
| Barnyardgrass                       | <i>Echinochloa crus-galli</i> |
| Bindweed, field*                    | <i>Convolvulus arvensis</i>   |
| Bouncingbet*                        | <i>Saponaria officinalis</i>  |
| Bromegrass                          | <i>Bromus spp</i>             |
| Buffalograss*                       | <i>Buchloe dactyloides</i>    |
| Burdock                             | <i>Arctium spp</i>            |
| Cocklebur                           | <i>Xanthium spp</i>           |
| Crabgrass                           | <i>Digitaria spp</i>          |
| Crown vetch                         | <i>Coronilla varia</i>        |
| Curly dock*                         | <i>Rumex crispus</i>          |
| Dandelion, common*                  | <i>Taraxacum officinale</i>   |
| Dandelion, false* (spotted catsear) | <i>Hypochaeris radicata</i>   |
| Dogbane*                            | <i>Apocynum cannabinum</i>    |
| Fiddleneck, tarweed                 | <i>Amsinckia lycopsoides</i>  |
| Filaree                             | <i>Erodium spp</i>            |
| Fleabane, flax-leaved               | <i>Coryza bonariensis</i>     |
| Goatsbeard vine (sweet briar)       | <i>Aruncus sylvester</i>      |
| Goldenrod                           | <i>Solidago spp</i>           |
| Horseweed/marestail                 | <i>Conyza canadensis</i>      |
| Lespedeza                           | <i>Lespedeza cuneata</i>      |
| Milkweed, common*                   | <i>Asclepias syriaca</i>      |
| Mustard, wild                       | <i>Sinapis arvensis</i>       |
| Nutsedge*                           | <i>Cyperus spp</i>            |
| Oats, wild*                         | <i>Avena fatua</i>            |
| Orchardgrass *                      | <i>Dactylis glomerata</i>     |
| Orchardgrass (seedling)             | <i>Dactylis glomerata</i>     |
| Oxalis                              | <i>Oxalis spp</i>             |
| Paragrass                           | <i>Panicum purpurascens</i>   |
| Parsnip, wild                       | <i>Pastinaca sativa</i>       |
| Pigweed                             | <i>Amaranthus spp</i>         |
| Purslane, common                    | <i>Portulaca oleracea</i>     |
| Quackgrass                          | <i>Agropyron repens</i>       |
| Ryegrass, Italian (annual)          | <i>Lolium multiflorum</i>     |
| Smartweed                           | <i>Polygonum spp</i>          |
| Spurge                              | <i>Euphorbia spp</i>          |
| Star thistle                        | <i>Centaurea spp</i>          |
| Trumpet creeper*                    | <i>Campsis radicans</i>       |

8 - 10 2/3 Lb/Acre

- |                      |                                 |
|----------------------|---------------------------------|
| Aster, heath         | <i>Aster ericoides</i>          |
| Bahiagrass*          | <i>Paspalum notatum</i>         |
| Bermudagrass*        | <i>Cynodon dactylon</i>         |
| Blackberry           | <i>Rubus spp</i>                |
| Bluegrass            | <i>Poa spp</i>                  |
| Broomsedge           | <i>Andropogon virginicus</i>    |
| Camphorweed          | <i>Heterotheca subaxillaris</i> |
| Canada thistle*      | <i>Cirsium arvense</i>          |
| Carrot, wild         | <i>Daucus carota</i>            |
| Chickweed            | <i>Stellaria media</i>          |
| Clovers              | <i>Trifolium spp</i>            |
| Dewberry             | <i>Rubus trivialis</i>          |
| Dogfennel            | <i>Eupatorium capillifolium</i> |
| Fescue*              | <i>Festuca spp</i>              |
| Fingergrass          | <i>Digitaria ciliaris</i>       |
| Foxtail              | <i>Setaria spp</i>              |
| Guineagrass          | <i>Panicum maximum</i>          |
| Honeysuckle          | <i>Lonicera spp</i>             |
| Horseweed/marestail  | <i>Conyza canadensis</i>        |
| Lantana              | <i>Lantana camara</i>           |
| Lettuce, prickly     | <i>Lactuca scariola</i>         |
| Natalgrass (red top) | <i>Rhynchelytrum repens</i>     |
| Plantain             | <i>Plantago spp</i>             |
| Ragweed, common      | <i>Ambrosia elatior</i>         |
| Smutgrass**          | <i>Sporobolus indicus</i>       |
| Spanishneedles       | <i>Bidens bipinnata</i>         |
| Vaseygrass           | <i>Paspalum urvillei</i>        |

\* Suppression – a visible reduction in plant population and/or plant vigor as compared to an untreated area and generally not accepted as control.

\*\* Suppression may result with some of the giant (larger) smutgrass species.

## SPECIFIC WEED PROBLEMS

### Control of Canada Thistle in Crown Vetch - DuPont™

VELPAR® DF is labeled for control of Canada thistle in established stands of crown vetch on noncrop sites. Make a single application of 1 - 1 2/3 lb of VELPAR® DF from late spring through mid-summer, when thistle is actively growing prior to flowering. Do not use a surfactant. Some discoloration of the crown vetch foliage may occur after application.

## SPRAY EQUIPMENT

Apply VELPAR® DF uniformly over the desired area using ground equipment or helicopter. Do not apply more than 8 lbs per acre by air.

Use enough water for thorough coverage. For ground application this is usually a minimum of 25 gallons per acre. Higher application volumes may be needed to obtain uniform application with handgun equipment. For aerial applications (helicopter only) this is usually a minimum of 5 gallons per acre. Higher volumes of water may be needed when water temperatures are cold or the higher rates of VELPAR DF are used.

## NON-CROP BRUSH CONTROL

VELPAR® DF is labeled for the control of undesirable brush in non-crop sites.

## APPLICATION INFORMATION

Apply VELPAR® DF from late winter through summer, prebud break until new growth hardens off.

In areas where the soil remains frozen during the winter and spring rains are usually inadequate for soil activation, a fall or winter treatment may be applied before the soil freezes.

## BROADCAST

Apply 5 1/3 to 10 2/3 lb of VELPAR® DF per acre as a coarse spray by ground equipment or 5 1/3 to 8 lb per acre by air (helicopter only). Use enough water for thorough coverage. For ground equipment, usually a minimum of 25 gallons per acre. For aerial equipment, usually a minimum of 10 gallons per acre. Higher volumes of water may be needed when water temperatures are cold or the higher rates of VELPAR® DF are used.

## BASAL (SOIL)

### SINGLE STEM TREATMENT

Mix 2 2/3 pounds of VELPAR® DF with sufficient water to make one gallon of suspension and thoroughly agitate. Apply the VELPAR® DF suspension with an exact-delivery handgun applicator. This equipment delivers a thin stream of predetermined volume when triggered. Apply the VELPAR® DF suspension at the rate of 2 to 4 ml for each inch of stem diameter at breast height.

Direct the treatment to the soil within 3 feet of the root collar of woody plants to be controlled.

For multi-stemmed and low-growing brush that have stem diameters that are difficult to determine, apply the VELPAR® DF suspension at the rate of 2 to 4 ml per 3 feet of canopy

width. For tall, slender (columnar) brush types, apply 4 to 8 ml per 3 feet of height. Base the rate on whichever canopy dimension is greater (width or height).

When treating brush that requires more than a single delivery of the VELPAR® DF suspension, apply subsequent deliveries equally spaced around the target plant. If treating brush on sloping sites, apply most of the suspension on the uphill side of the stem. If treating resprouts from brush disturbed by cutting or other mechanical methods, the rate of application must be proportional to the original tree size, not just the size of sprout regrowth.

**LACING/STREAKING** - Mix VELPAR® DF with water to form a concentrated suspension. Apply 5 1/3 to 10 2/3 lbs of VELPAR® DF per acre. Adjust the application equipment to deliver a narrow or straight stream spray pattern such that the swath width on the soil surface is 6 to 12 inches wide. Direct the spray at the base of the brush. Swaths or treated bands must be 2 to 4 feet apart. Apply the lower volumes for coarse textured soils or soils with low organic matter and the higher volumes for fine textured soils or soils with high organic matter.

## USE RATES

VELPAR® DF is labeled for the control or suppression of the following species in non-crop sites. Use lower rate on coarse-textured soils (sand to sandy loam). Use the higher rate on fine-textured soils (clay loam to clay) and on soils high in organic matter.

280A32

**5 1/3 to 10 2/3 Lb/Acre**

Alder  
 Ash  
 Aspen  
 Birch  
 Blackgum  
 Bay, sweet  
 Catclaw acacia  
 Cedar, Eastern red  
 Cherry, black  
 Chinaberry\*  
 Deerbrush  
 Dogwood, flowering\*  
 Elm, American  
 Elm, Chinese  
 Hackberry, common  
 Hawthorn  
 Hazel  
 Hickory  
 Huisache  
 Juniper  
 Locust  
 Lotebush  
 Manzanita, Greenleaf  
 Maple, red  
 Mesquite  
 Mulberry  
 Oaks  
 Osage-orange  
 Persimmon  
 Plum, wild  
 Poplar, balsam  
 Poplar, yellow  
 Privet  
 Rose, multiflora  
 Sassafras\*  
 Soapweed, small (yucca)  
 Snowbrush (varnishleaf)  
 Sourwood  
 Sumac  
 Sweetgum  
 Tallow, Chinese  
 Waxmyrtle  
 Whitebrush  
 Willow

*Alnus spp*  
*Fraxinus spp*  
*Populus spp*  
*Betula spp*  
*Nyssa sylvatica*  
*Magnolia virginiana*  
*Acacia greggii*  
*Juniperus virginiana*  
*Prunus serotina*  
*Melia azedarach*  
*Ceanothus integerrimus*  
*Cornus florida*  
*Ulmus Americana*  
*Ulmus parvifolia*  
*Celtis occidentalis*  
*Crataegus spp*  
*Corylus spp*  
*Carya spp*  
*Acacia farnesiana*  
*Juniperus spp*  
*Robinia spp*  
*Ziziphus obtusifolia*  
*Arctostaphylos patula*  
*Acer rubrum*  
*Prosopis glandulosa*  
*Morus spp*  
*Quercus spp*  
*Maclura pomifera*  
*Diospyros spp*  
*Prunus munsoniana*  
*Populus balsamifera*  
*Liriodendron tulipifera*  
*Ligustrum spp*  
*Rosa multiflora*  
*Sassafras albidum*  
*Yucca glauca*  
*Ceanothus velutinus*  
*Oxydendrum arboretum*  
*Rhus spp*  
*Liquidambar spp*  
*Sapium sebiferum*  
*Myrica cerifera*  
*Aloisia gratissima*  
*Salix spp*

\* Suppression – a visible reduction in plant population and/or plant vigor as compared to an untreated area and generally not accepted as control.

**INDUSTRIAL TURFGRASS**

DuPont™ VELPAR® DF is labeled for selective weed control in established stands of bermudagrass and/or bahiagrass in noncrop areas.

**APPLICATION TIMING**

Make a single application of VELPAR® DF per year when weeds are actively growing.

**WEEDS CONTROLLED - USE RATE**

VELPAR® DF effectively controls the following weeds at the rates shown in industrial turf (unimproved only). Use a lower rate on coarse-textured soils (sand to sandy loam). Use the higher rate on fine-textured soils (clay loam to clay) and on soils high in organic matter.

**9/10 - 1 1/2 Lb/Acre**

Barley, little  
 Barnyardgrass  
 Dogfennel  
 Fescue  
 Lespedeza  
 Oxalis  
 Passionflower, maypop  
 Pepperweed, Virginia  
 Pigweed  
 Smutgrass\*

*Hordeum pusillum*  
*Echinochloa crus-galli*  
*Eupatorium capillifolium*  
*Festuca spp*  
*Lespedeza cuneata*  
*Oxalis spp*  
*Passiflora incarnate*  
*Lepidium virginicum*  
*Amaranthus spp*  
*Sporobolus indicus*

\* Suppression may result with some of the giant (larger) smutgrass species.

Suppression – a visible reduction in plant population and/or plant vigor as compared to an untreated area and generally not accepted as control.

**SPRAY EQUIPMENT**

Apply VELPAR® DF uniformly over the desired area using ground equipment only.

For ground application, use enough water for thorough coverage usually a minimum of 25 gallons per acre. The use of a surfactant is not advised.

**USE PRECAUTIONS AND RESTRICTIONS ALL NON-CROP SITES**

- For bermudagrass that may be grown in the states of ID, OR, UT or WA, determine the suitability of using VELPAR® DF by treating a small area at a labeled application rate prior to treating larger areas. The smaller treated area must be observed for any signs of herbicidal injury during 60 days of normal growing conditions to determine if the treatment is safe to bermudagrass. If this evaluation is not completed prior to use, the user assumes the responsibility for any plant damage or other liability resulting from the use of VELPAR® DF on bermudagrass.
- Injury to or loss of desirable trees or other plants may result if VELPAR® DF is applied or if equipment is drained or flushed on or near desirable trees or other plants, on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots.
- Application spray drift may injure desirable plants.
- Poor weed and brush control may result from the following:
  - Use on poorly drained sites
  - Applications made when the soil is saturated with water and rain is imminent within 24 hours.
  - Applications to soils high in organic matter (greater than 5%).
- Following mechanical cutting or clearing, allow stumps and injured trees sufficient time to adequately resprout before applying VELPAR® DF.
- Do not use VELPAR® DF on frozen soils.
- Leave treated soil undisturbed to reduce the potential for VELPAR® DF movement by soil erosion due to wind or water.
- Do not use VELPAR® DF on lawns, driveways, tennis courts, or other residential or recreational areas.

- Weed and brush control results from spring applications depend on sufficient moisture to activate DuPont™ VELPAR® DF.
- Livestock may be grazed immediately following a broadcast application of VELPAR® DF at rates of 1.5 pounds per acre or less, and treated vegetation may be cut, dried, and fed after 38 days.
- Do not cut treated vegetation for feed, or graze livestock on treated areas for 60 days following application of VELPAR® DF at broadcast rates greater than 1.5 pounds and up to 8 pounds per acre.
- For VELPAR® DF rates above 8 pounds per acre, do not cut treated vegetation for forage or hay nor graze domestic animals for 1 year following application.
- There are no grazing or haying restrictions for the directed basal-soil applications of VELPAR® DF.
- Use VELPAR® DF only in stands of bermudagrass and bahiagrass turfgrasses established for at least one year. Do not treat newly sprigged or sodded areas.
- Some discoloration of the bermudagrass or bahiagrass turfgrasses may occur after application.
- Injury may result when desirable turfgrasses are under stress from drought, insects, disease, cold temperature, or poor fertility.
- Severe turfgrass injury may occur if applications are made on gravelly or rocky soils, thinly covered subsoils, or soils with less than 1% organic matter.

**ADDITIONAL INSTRUCTIONS, PRECAUTIONS, AND RESTRICTIONS FOR AGRICULTURAL AND NON-AGRICULTURAL USES**

**SPRAY TANK CLEAN OUT**

Thoroughly clean all traces of VELPAR® DF from application equipment immediately after use. Flush the tank, pump, hoses, and boom with several changes of water after removing nozzle tips and screens (clean these parts separately). Dispose of the equipment wash water by applying it to a use-site listed on this label.

**SPRAY DRIFT MANAGEMENT**

The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions. Avoiding spray drift is the responsibility of the applicator.

**IMPORTANCE OF DROPLET SIZE**

The most effective drift management strategy is to apply the largest droplets which are consistent with pest control objectives. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly or under unfavorable environmental conditions.

A droplet size classification system describes the range of droplet sizes produced by spray nozzles. The American Society of Agricultural and Biological Engineers (ASABE) provide a Standard that describes droplet size spectrum categories defined by a number of reference nozzles (fine, coarse, etc.). Droplet spectra resulting from the use of a specific nozzle may also be described in terms of volume mean diameter (VMD). Coarser droplet size spectra have larger VMD's and lower drift potential.

**CONTROLLING DROPLET SIZE - GROUND APPLICATION**

- **Nozzle Type** - Select a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. The use of low-drift nozzles will reduce drift potential.
- **Pressure** - The lowest spray pressures recommended for the nozzle produce the largest droplets. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, using a higher-capacity nozzle instead of increasing pressure results in the coarsest droplet spectrum.
- **Flow Rate/Orifice Size** - Using the highest flow rate nozzles (largest orifice) that are consistent with pest control objectives reduces the potential for spray drift. Nozzles with higher rated flows produce coarser droplet spectra.

**CONTROLLING DROPLET SIZE – AIRCRAFT**

- **Nozzle Type** - Solid stream, or other low drift nozzles produce the coarsest droplet spectra.
- **Number of Nozzles** - Using the minimum number of nozzles with the highest flow rate that provide uniform coverage will produce a coarser droplet spectrum
- **Nozzle Orientation** - Orienting nozzles in a manner that minimizes the effects of air shear will produce the coarsest droplet spectra. For some nozzles such as solid stream, pointing the nozzles straight back parallel to the airstream will produce a coarser droplet spectrum than other orientations.
- **Pressure** – Selecting the pressure that produces the coarsest droplet spectrum for a particular nozzle and airspeed reduces spray drift potential. For some nozzle types such as solid streams, lower pressures can produce finer droplet spectra and increase drift potential.

**BOOM LENGTH (AIRCRAFT), AND APPLICATION HEIGHT**

- **Boom Length (aircraft)** - Using shorter booms decreases drift potential. Boom lengths are expressed as a percentage of an aircraft's wingspan or a helicopter's rotor blade diameter. Shorter boom length and proper positioning can minimize drift caused by wingtip or rotor vortices.
- **Application Height (aircraft)** - Applications made at the lowest height that are consistent with pest control objectives and the safe operation of the aircraft will reduce the potential for spray drift.
- **Application Height (ground)** - Applications made at the lowest height consistent with pest control objectives, and that allow the applicator to keep the boom level with the application site and minimize bounce, will reduce the

exposure of spray droplets to evaporation and wind, and reduce spray drift potential.

**WIND**

Drift potential is lowest when applications are made in light to gentle sustained winds (2-10 mph), which are blowing in a constant direction. Many factors, including droplet size and equipment type also determine drift potential at any given wind speed. **AVOID GUSTY OR WINDLESS CONDITIONS.**

Local terrain can also influence wind patterns. Every applicator is expected to be familiar with local wind patterns and how they affect spray drift.

**TEMPERATURE AND HUMIDITY**

Setting up equipment to produce larger droplets to compensate for droplet evaporation can reduce spray drift potential. Droplet evaporation is most severe when conditions are both hot and dry.

**SURFACE TEMPERATURE INVERSIONS**

Drift potential is high during a surface temperature inversion. Surface inversions restrict vertical air mixing, which may cause small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Surface inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Mist or fog may indicate the presence of an inversion in humid areas. Inversions may also be identified by producing smoke and observing its behavior. Smoke that remains close to the ground, or moves laterally in a concentrated cloud under low wind conditions indicates a surface inversion. Smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

**SHIELDED SPRAYERS**

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are minimizing drift potential, and not interfering with uniform deposition of the product.

**AIR ASSISTED (AIR BLAST) FIELD CROP SPRAYERS**

Air assisted field crop sprayers carry droplets to the target via a downward directed air stream. Some may reduce the potential for drift, but if a sprayer is unsuitable for the application and/or set up improperly, high drift potential can result. It is the responsibility of the applicator to determine that a sprayer is suitable for the intended application, that it is configured properly, and that drift potential has been minimized.

Note: Air assisted field sprayers can affect product performance by affecting spray coverage and canopy penetration. Read the specific crop use and application equipment instructions to determine if an air assisted field crop sprayer can be used.

**SENSITIVE AREAS**

Making applications when there is a sustained wind moving away from adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is an effective way to minimize the effect of spray drift.

**DRIFT CONTROL ADDITIVES**

Using product compatible drift control additives can reduce drift potential. When a drift control additive is used, read and carefully observe cautionary statements and all other information on the additive's label. If using an additive that increases viscosity, ensure that the nozzles and other application equipment will function properly with a viscous spray solution. Preferred drift control additives have been certified by the Chemical Producers and Distributors Association (CPDA).

## STORAGE AND DISPOSAL

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

**Pesticide Storage:** Store product in original container only. Store in a cool, dry place.

**Pesticide Disposal:** Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**CONTAINER HANDLING:** Refer to the Net Contents section of this product's labeling for the applicable "Nonrefillable Container" or "Refillable Container" designation.

### **Nonrefillable Plastic and Metal Containers (Capacity Equal to or Less Than 50 Pounds):**

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

### **Nonrefillable Plastic and Metal Containers (Capacity Greater Than 50 Pounds):**

**Nonrefillable container.** Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then, (a) for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning; if burned, stay out of smoke, or (b) for Metal Containers, offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

### **Nonrefillable Plastic and Metal Containers, e.g., Intermediate Bulk Containers [IBC] (Size or Shape Too Large to be Tipped, Rolled or Turned Upside Down):**

**Nonrefillable container.** Do not reuse or refill this container. Pressure rinse as follows: Empty the remaining product contents into application equipment or a mix tank. Insert pressure rinsing nozzle in the container, and rinse at about 40 PSI for at least 30 seconds. Drain rinsate for 10 seconds after the flow begins to drip. Pour or pump rinsate into application equipment or rinsate collection system. Then, (a) for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning; if burned, stay out of smoke, or (b) for Metal Containers, offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

### **Nonrefillable Paper or Plastic Bags, Fiber Sacks including Flexible Intermediate Bulk Containers (FIBC) or Fiber Drums With Liners:**

**Nonrefillable container.** Do not reuse or refill this container. Completely empty paper or plastic bag, fiber sack or drum liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. Then offer for recycling if available or dispose of empty paper or plastic bag, fiber sack or fiber drum and liner in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

### **Refillable Fiber Drums With Liners: Refillable container (fiber drum only).**

**Refilling Fiber Drum:** Refill this fiber drum with DuPont™ VELPAR® DF herbicide containing hexazinone only. Do not reuse this fiber drum for any other purpose. Cleaning before refilling is the responsibility of the refiller. Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. **Disposing of Fiber Drum and/or Liner:** Do not reuse this fiber drum for any other purpose other than refilling (see preceding). Cleaning the container (liner and/or fiber drum) before final disposal is the responsibility of the person disposing of the container. Offer the liner for recycling if available or dispose of liner in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. If drum is contaminated and cannot be reused, dispose of it in the manner required for its liner. To clean the fiber drum before final disposal, completely empty the fiber drum by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. Then offer the fiber drum for recycling if available or dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**All Other Refillable Containers: Refillable container. Refilling Container:** Refill this container with DuPont™ VELPAR® DF herbicide containing hexazinone only. Do not reuse this container for any other purpose. Cleaning before refilling is the responsibility of the refiller. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn out threads and closure devices. Check for leaks after refilling and before transporting.

**Disposing of Container:** Do not reuse this container for any other purpose other than refilling (see preceding). Cleaning the container before final disposal is the responsibility of the person disposing of the container. 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, (a) for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning; if burned, stay out of smoke, or (b) for Metal Containers, offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**Outer Pouches of Water Soluble Packets (WSP):** Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available or, dispose of the empty outer foil pouch in the trash as long as WSP is unbroken. If the outer pouch contacts the formulated product in any way, the pouch must be triple rinsed with clean water. Add the rinsate to the spray tank and dispose of the outer pouch as described previously.

**Do not transport if this container is damaged or leaking.** If the container is damaged, leaking or obsolete, or in the event of a major spill, fire or other emergency, contact DuPont at 1-800-441-3637, day or night.

**NOTICE TO BUYER:** Purchase of this material does not confer any rights under patents of countries outside of the United States.

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**SL - 1582-1 072111 12-23-10**

**LIMITATION OF WARRANTY AND LIABILITY**

**NOTICE:** Read this Limitation of Warranty and Liability Before Buying or Using This Product. If the Terms Are Not Acceptable, Return the Product at Once, Unopened, and the Purchase Price Will Be Refunded.

It is impossible to eliminate all risks associated with the use of this product. Such risks arise from weather conditions, soil factors, off target movement, unconventional farming techniques, presence of other materials, the manner of use or application, or other unknown factors, all of which are beyond the control of DuPont. These risks can cause: ineffectiveness of the product, crop injury, or injury to non-target crops or plants. **WHEN YOU BUY OR USE THIS PRODUCT, YOU AGREE TO ACCEPT THESE RISKS.**

DuPont warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for the purpose stated in the Directions for Use, subject to the inherent risks described above, when used in accordance with the Directions for Use under normal conditions.

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To the extent consistent with applicable law that allows such requirement, DuPont or its Ag Retailer must have prompt notice of any claim so that an immediate inspection of buyer's or user's growing crops can be made. Buyer and all users shall promptly notify DuPont or a DuPont Ag Retailer of any claims, whether based on contract, negligence, strict liability, other tort or otherwise, or be barred from any remedy.

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**For product information call: 1-888-6-DUPONT [1-888-638-7668]**

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