

PM 23

352-392

10/11

10 MAR 1993

Willy Lin, Ph.D.
Ag Products
E. I. du Pont de Nemours & Co. Inc.
P.O. Box 80038
Wilmington, DE 19880-0038

Dear Dr. Lin:

Subject: Du Pont Velpar® L Herbicide
EPA Registration No. 352-392
Application Dated February 25, 1993 Responding To
This Agency's Letter of January 11, 1993 by Adding
Appropriate PHIs for Grazing and Harvesting
Forage and Hay from Forestry and Industrial Sites
of Applications and Other Clarifying Amendments

The proposed amendments described in your application of February 25, 1993 and in the caption subject of this letter are acceptable for registration under section 3 of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) as amended are acceptable provided that you:

- o Submit five (5) printed copies of the final printed label before releasing the product for shipment.

If this condition is not complied with, the registration will be subject to cancellation in accordance with FIFRA, Section 6(a). Your release for shipment of the product constitutes acceptance of this condition.

A stamped copy of the labeling is enclosed for your records.

Sincerely yours,

Joanne I. Miller
Product Manager (23)
Fungicide-Herbicide Branch
Registration Division (H-7505C)

Enclosure

E. Wilson: Diskette #0009: 03-10-93

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PH 23 352-392 20711

REGISTRATION CODE 0000-000
PACKAGE SIZE
4 - 1 GALLON JUGS/CARTON
5 GALLON JUG
30 GALLON DRUM

VELPAR® L

HERBICIDE
WATER DISPERSIBLE LIQUID

CONTAINS 2 LBS ACTIVE INGREDIENT PER GALLON

ACTIVE INGREDIENT	BY WEIGHT
Hexazinone; [3-cyclohexyl-6-(dimethylamino)-1-methyl-1,3,5-triazine-2,4(1H,3H)-dione].....	25%
INERT INGREDIENTS	75%
TOTAL	100%

EPA Reg. No. 352-392

U.S. Pat. Nos. 3,902,887 & 3,983,116

**KEEP OUT OF REACH OF CHILDREN
DANGER**

PELIGRO PRECAUCION AL USUARIO: Si usted no lee ingles, no use este producto hasta que la etiqueta haya sido explicada ampliamente.

**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. Mixers, loaders, and applicators must wear goggles, face shield, or safety glasses. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

STATEMENT OF PRACTICAL TREATMENT

IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Call a physician if irritation persists.
IF ON SKIN: Wash with plenty of soap and water. Get medical attention if irritation persists.

For medical emergencies involving this product, call toll free 1-800-441-3637.

ENVIRONMENTAL HAZARDS

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

PHYSICAL AND CHEMICAL HAZARDS

FLAMMABLE. Keep away from heat, sparks, and open flames. Keep container closed.

10 MAR 1993
Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the registration of this product. Do not apply where the mean high water mark. EPA No. 352-392

IMPORTANT

Injury to or loss of desirable trees or other plants may result from failure to observe the following: Do not apply except as recommended or drain or flush equipment on or near desirable trees or other plants, or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots. Do not use on lawns, walks, driveways, tennis courts, or similar areas. Prevent drift of spray to desirable plants. Keep from contact with fertilizers, insecticides, fungicides, and seeds.

Thoroughly clean all traces of "Velpar" L from application equipment immediately after use. Flush tank, pump, hoses and boom with several changes of water after removing nozzle tips and screens (clean these parts separately).

GENERAL INFORMATION

Du Pont "Velpar" L Herbicide is a water-dispersible liquid to be mixed in water and applied as a spray for selective weed control in certain crops, Christmas trees, for selective weed and brush control in reforestation areas, and for non-selective weed and brush control on industrial areas. It may also be applied undiluted as a basal soil treatment for brush control in reforestation areas, rangeland, pastures, non-crop areas, or by tree injection for selective brush control. It is non-corrosive to equipment.

"Velpar" L is an effective general herbicide providing both contact and residual control of many weeds. At rates recommended for industrial areas, it provides control of many annual and biennial weeds, brush, woody vines, and, except for johnsongrass, is effective for control of most perennial weeds. It is absorbed through the roots and foliage. For brush control, soil application or injection is most effective.

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Moisture is required to activate "Velpar" L in the soil and best results are obtained when weeds are less than 2 inches in height or diameter, soil is moist at time of application and 1/4 to 1/2 inch of rainfall occurs within 2 weeks after application. Foliar activity on weeds is most effective under conditions of high temperature (80 degrees F), high humidity and good soil moisture. Foliar activity may be reduced when vegetation is dormant, semi-dormant, or under stress.

On herbaceous plants, symptoms usually appear within 2 weeks after application under warm, humid conditions, while 4 to 6 weeks may be required when weather is cool. If rainfall after application is inadequate to activate "Velpar" L in the soil, plants may recover from contact effects and continue to grow.

On woody plants, symptoms usually appear 3 to 6 weeks after sufficient rainfall has carried the herbicide into the root zone during periods of active growth. Defoliation and subsequent re-foliation may occur, but susceptible plants are killed. The degree of control and duration of effect will vary with the amount of chemical applied, rainfall, temperature, weed and brush species, soil texture and other conditions.

DIRECTIONS FOR USE

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

Du Pont "Velpar" L should be used only in accordance with recommendations on this label, or in separate published Du Pont recommendations available through local dealers.

Du Pont will not be responsible for losses or damages resulting from use of this product in any manner not specifically recommended by Du Pont. User assumes all risks associated with such non-recommended use.

Do not apply this product in such a manner as to directly or through drift expose workers or other persons. The area being treated must be vacated by unprotected persons.

Written or oral warnings must be given to farm workers performing hand labor operations who are expected to be in a treated cropland area or in a cropland area about to be treated with this product. When oral warnings are given, warnings shall be given in a language customarily understood by workers. Oral warnings must be given if there is reason to believe that written warnings cannot be understood by workers. Warnings must include the following information: "DANGER. Area treated with "Velpar" L on (date of application). Do not enter without appropriate protective clothing until sprays have dried. In case of contact, flush skin or eyes with plenty of water; for eyes, get medical attention."

Do not enter or allow entry into treated areas until sprays have dried to perform hand tasks. A person may enter the areas to perform other tasks only if the person is wearing the personal protective eye equipment listed on this label. Because certain states may require more restrictive reentry intervals for various crops treated with this product, consult your State Department of Agriculture for further information.

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

APPLICATION:

"Velpar" L may be applied by ground equipment, and where permitted, aerial equipment. Use rates, minimum spray gallonage and other application information are described in the various use categories. For all applications where "Velpar" L is mixed with water, use at least 5 gals of water for each gal of "Velpar" L.

For best results, apply "Velpar" L just before or soon after weed emergence. Do not apply to frozen or snow covered soil. Avoid overlapping and shut off spray booms while starting, turning, slowing or stopping, as injury to the crops may result.

Always calibrate application equipment prior to use.

RATE SELECTION:

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

SURFACTANTS:

When emerged seedling weeds are present, the addition of a surfactant improves contact action by increased wetting and absorption by foliage. For forestry and noncrop sites, use a non-ionic surfactant of at least 80% active ingredient at 0.25% by volume of water (1 qt/100 gals spray). Similarly, use an agricultural surfactant approved for use on growing crops such as X-77 with "Velpar" L for treatment of emerged weeds in dormant alfalfa. Use of "Velpar" L plus surfactant on growing crops (including trees) may cause injury to the crops.

MIXING:

Add the proper amount of "Velpar" L to the amount of water to be used and use mechanical or by-pass agitation to thoroughly mix the spray solution. A surfactant may be added to improve wetting and/or contact activity if the use directions do not prohibit the addition of a surfactant cleared for application to growing crops. After initial mixing, do not use excessive agitation as foaming problems may result. To avoid foaming problems, use anti-foam agents and minimal agitation.

Where applicable, add surfactant and/or anti-foam agent as last ingredient in the tank.

ALFALFA

Du Pont "Velpar" L is recommended for control of certain weeds in established alfalfa hay except in the states of Montana, North Dakota, South Dakota and Wyoming. It is also recommended for control of certain weeds in established seed alfalfa in the state of California.

Best results are obtained when 1/2 to 1" 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" tall or across.

Since the effect of "Velpar" L on alfalfa varies with soil conditions, uniformity of application, and environmental conditions, it is suggested that growers limit their first use to small areas.

Treat only stands of alfalfa established for one year or for one growing season, provided the alfalfa root system is well established and the crop is healthy, vigorous and not under stress from weather conditions, insect or disease damage. Do not use on seedling alfalfa, alfalfa-grass mixtures or other mixed stands.

At elevations above 3,000 ft., do not use "Velpar" L on alfalfa that has been established with a cover or nurse crop until the alfalfa has gone through two summer growing seasons.

NON-DORMANT AND SEMI-DORMANT VARIETIES:

Make a single application during winter months when alfalfa plants are in the least active stage of growth; see "Use Rates" for dosages.

In states of Connecticut, Delaware, Illinois, Indiana, Iowa, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Vermont, Virginia, West Virginia, Wisconsin, make a single application of 2 to 6 pints per acre in the spring before new growth exceeds 2" in height or to stubble after cutting following hay removal and before regrowth exceeds 2" in height. Severe alfalfa injury may result following an after-cutting application if the regrowth is more than 2" high, or significant stubble is left after alfalfa cutting, and/or the air temperature is above 90 degrees F.

DORMANT VARIETIES:

Make a single application after it becomes dormant and before new growth begins in the spring; see "Use Rates" for dosages.

Do not exceed 3 pints per acre on alfalfa less than one year old.

SEED ALFALFA (California only):

Do not use on fields with sandy loam or loamy sand soils having less than 1% organic matter.

Do not exceed 2 pints per acre on fields with sandy loam or loamy sand soils having between 1 and 2% organic matter.

Do not exceed 2 pints per acre on seed alfalfa that has been established for only one growing season.

If abnormally dry conditions exist following application, restrict first irrigation to not more than 1/2 acre inch of water.

See "Use Rates" for other situations.

Application and Spray Volumes:

Apply "Velpar" L using a fixed boom power sprayer or aerial equipment. Before spraying, calibrate equipment to determine the quantity of water necessary to uniformly and thoroughly cover the vegetation. The sprayer must be properly calibrated to a constant speed and rate of delivery. Avoid overlapping and shut off spray booms when starting, turning, slowing or stopping to prevent crop injury.

Add the "Velpar" L to a water-filled tank, mix thoroughly. Apply in at least 20 gals of water per acre by ground and 5 to 10 gals of water per acre by air, but use at least 5 gals of water for every 1 gal of "Velpar" L. To avoid foaming problems, anti-foam agents which are cleared for use on growing crops, may be added to the spray mixture.

Use Rates:

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

Soil Texture Description	"Velpar" L (Pints/Acre)		
	Percent Organic Matter in Soil		
	<1%	1 to 5%	>5% ¹
Coarse Loamy sand, sandy loam	2-3	2-3	4-6
Medium Loam, silt loam, silt, clay loam, sandy clay loam	2-3	3-6	4-6
Fine Silty clay loam, sandy clay, silty clay, clay	3-6	3-6	4-6

¹ On soils high in organic matter (>5%), the effectiveness of "Velpar" L can be significantly reduced and weed control may be unsatisfactory.

IMPORTANT-

Do not use on gravelly or rocky soils, exposed subsoils, hardpan, sand, poorly drained or alkali soils.

Crop injury, including mortality, may result in fields having restricted root growth due to non-uniform soil profiles such as gravel bases, hardpans and clay lenses.

Do not add surfactant to "Velpar" L when treating non-dormant alfalfa. For dormant alfalfa, where weeds have emerged, use a surfactant approved for use on crops (such as X-77) at 1 qt/100 gals spray solution.

Weeds Controlled:

"Velpar" L, when applied preemergence or early postemergence to the weeds, will control the following species:

1 to 2 Pints/Acre

Tansy-mustard

2 to 4 Pints/Acre

- | | |
|----------------------|-------------------------|
| Annual bluegrass | Jim Hill mustard |
| Blue mustard | London rocket |
| Cheatgrass | Miners lettuce |
| (downy brome) | Salsify |
| Common chickweed | Seedling foxtail barley |
| Common groundsel | Seedling orchardgrass |
| Dogfennel (mayweed) | Shepherdspurse |
| English catchfly | Spurry |
| Fiddleneck (tarweed) | Tansy-mustard |
| Field pennycress | Wild radish |
| Filaree | Yellow rocket |
| Flixweed | |

4 to 6 Pints/Acre

- | | |
|---------------------------------|--------------------|
| Annual ryegrass | Hyaleaf speedwell |
| Henbit | Purslane speedwell |
| Common dandelion (spring only)* | Prickly lettuce* |
| False dandelion | Quackgrass* |
| Foxtail (Setaria spp.)* | Seedling alfalfa* |
| Mexican tea* | White cockle* |
| Perennial bluegrass | |
| (i.e., Canada bluegrass)* | |

*Partial control. Observable reduction in weed competition as compared to an untreated area. Degree of partial control can vary with soil type, environmental factors, and size of weeds at the time of application.

Late Spring and Between Cutting Applications of 2 to 6 Pints/Acre Controls: (For Northeastern and Midwestern States Only)

- | | |
|----------------------|------------------------|
| Common lambsquarters | Foxtail (Setaria spp.) |
| Crabgrass | Jimsonweed |
| Fleabane | Redroot pigweed |

IMPREGNATION ON DRY BULK FERTILIZER (Except California and Arizona)

Dry bulk fertilizer may be impregnated or coated with "Velpar" L for application to established alfalfa. All recommendations, cautions and special precautions on this label must be followed along with state regulations relating to dry bulk fertilizer blending, impregnating and labeling. Keep "Velpar" L from heat, sparks and open flame. (Refer to Material Safety Data Sheet for "Velpar" L)

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, use a system consisting of a conveyor or closed drum which is used for dry bulk fertilizer blending. Any commonly used fertilizer can be impregnated with "Velpar" L, except potassium nitrate or sodium nitrate. Do not use on limestone.

Apply using a minimum of 250 pounds dry bulk fertilizer per acre and up to a maximum of 450 pounds per acre. To impregnate or coat the dry bulk fertilizer with "Velpar" L, the delivery nozzles must be directed to deliver a fine spray towards the fertilizer for thorough coverage while avoiding spray contact with mixing equipment. Uniform impregnation of "Velpar" L 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 (Johns Manville Product Corporation) is the recommended absorbent powder. When another herbicide is used with "Velpar" L, mix and impregnate immediately.

Apply immediately after impregnation unless experience has shown that impregnated fertilizer can be stored without becoming lumpy and difficult to spread.

Select the rate of "Velpar" L to apply per acre from the appropriate section of this label and refer to the rate table to determine the amount of "Velpar" L which is to be impregnated on a ton of dry bulk fertilizer based on the amount of fertilizer which will be distributed in one acre.

Rate Chart for Impregnating Fertilizer with "Velpar" L				
Fertilizer Rate/Acre	"Velpar" L Rate Per Acre			
	2 Pints	3 Pints	4 Pints	6 Pints
250 pounds	16 pts/ton	24 pts/ton	32 pts/ton	48 pts/ton
300 pounds	13.4 pts/ton	20 pts/ton	26.8 pts/ton	40.2 pts/ton
350 pounds	11.4 pts/ton	17.2 pts/ton	22.8 pts/ton	34.2 pts/ton
400 pounds	10 pts/ton	15 pts/ton	20 pts/ton	30 pts/ton
450 pounds	8.8 pts/ton	13.2 pts/ton	17.6 pts/ton	26.4 pts/ton

For rates other than those listed, use the following formula to calculate the amounts of "Velpar" L to be impregnated per ton of dry fertilizer.

$$\begin{matrix} \text{Pints} \\ \text{"Velpar" L} \\ \text{Per acre} \end{matrix} \times \frac{2000}{\text{Lbs Fertilizer Per Acre}} = \begin{matrix} \text{Pints "Velpar" L Per} \\ \text{Ton of Fertilizer} \end{matrix}$$

Application:

Uniform application of "Velpar" L which has been impregnated on dry fertilizer is essential for satisfactory weed control. Accurate calibration of fertilizer application equipment is essential for uniform distribution to surface. The recommended method of application is to apply 1/2 the recommended rate and overlap 50 percent. This results in the best distribution pattern.

REPLANTING (Following alfalfa):

Corn may be planted 12 months after the last treatment, except in areas of low rainfall (20" or less) where corn may be planted 12 months after the last treatment, provided the use rate did not exceed 3 pints per acre. Do not plant treated areas in any other crop within two years after treatment, as crop injury may result.

Do not plant seed alfalfa areas to any crop within two years after treatment, as crop injury may result.

NOTE:

Because crop injury may result, do not apply to actively growing alfalfa nor to stubble between cuttings, except as recommended for northeastern and midwestern states. Do not apply to alfalfa-grass mixtures; do not apply to alfalfa growing under stress from insect, disease, or winter injury, or showing symptoms of other stress conditions; do not use on hardpan, alkali or poorly drained soils. Extremely heavy rainfall or more than 1" of irrigation after application may result in crop injury or non-performance. Do not apply to snow-covered or frozen ground. Do not use in low desert valleys in California or Arizona. Temporary alfalfa yellowing may occur following herbicide applications. Do not use in the states of Montana, North Dakota, South Dakota and Wyoming.

Do not graze or feed forage or hay to livestock within 30 days following application.

FORESTRY:

Since the effect of "Velpar" L on conifers varies with soils, uniformity of application, and environmental conditions, it is suggested that growers limit their first use to small areas.

Because injury (stunting) to conifers may result; do not use in nurseries, seed beds or ornamental plantings; do not use on trees which show poor vigor because of insect, disease or winter injury, or show symptoms of other stress conditions; do not add surfactant if applied over the top of conifers; do not use on poorly drained soils. In addition, conifer injury may result where severe winter stress, disease, or insect damage follows application, or heavy rains occur soon after application.

NOTE: For broadcast treatments, do not cut for forage or hay nor graze domestic animals on treated areas for 60 days. Where individual stems of brush are treated by injection or basal soil treatments, there is no restriction on grazing by domestic animals nor on cutting for forage or hay.

CHRISTMAS TREE PLANTATIONS:

"Velpar" L is recommended for control of certain weeds where the following species are grown:

- | | |
|---------------|----------------|
| Austrian pine | Ponderosa pine |
| Grand fir | Scotch pine |
| Loblolly pine | Sitka spruce |
| Noble fir | |

USE RATES: (SEE TABLE 1)

East of the Rocky Mountains:

DO NOT USE IN:

- | | |
|---------------|----------------|
| Connecticut | North Carolina |
| Delaware | Pennsylvania |
| Maine | Rhode Island |
| Maryland | Texas |
| New Hampshire | Vermont |
| New Jersey | Virginia |
| New York | West Virginia |

Weeds Controlled:

- | | |
|---------------------------|------------------------|
| Annual bluegrass | Fleabane |
| Barnyardgrass | Foxtail |
| Bentgrass | Oxeye daisy |
| Bromegrass | Pennsylvania smartweed |
| Catsear (False dandelion) | Velvetgrass |
| Common groundsel | Wild carrot |
| Common ragweed | |



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TABLE 1		
Soil Texture ^a	Pints "Velpar" L Per Acre ³	
	FIRST YEAR ¹ : PLANTINGS ¹	ESTABLISHED TREES ²
Gravelly or rocky soils, exposed subsoils, clay knobs, sand, or sandy soil with 85% or more sand	DO NOT USE	DO NOT USE
Loamy sand, sandy loam (50-85% sand)**	4	4 to 5
Loam, silt loam, silt and sandy clay loam	4 to 5	5 to 7
Silty clay loam, clay loam, sandy clay, silty clay, and clay	5 to 6	7 to 8

Moisture is necessary for full activation of "Velpar" L. Best results are obtained when weeds are less than 2 inches in height or diameter, soil is moist at time of application and 1/2 to 1 inch of rainfall occurs within 2 weeks after application.

^a Do not use on any soil containing less than 1% organic matter; do not use on loamy sand or sandy loam with less than 2% organic matter.
^{**} On soils high in organic matter, 5% or greater, the effectiveness of "Velpar" L can be significantly reduced and weed control may be unsatisfactory.

¹ Apply only to transplant stock that is 2 years old or more (1 year old, for loblolly pine). Allow at least two months after transplanting before applying "Velpar" L, then apply only if rainfall has settled the soil around the base of the transplants.

² Rates recommended are for trees that have been established for 1 year or more.

³ Use rates in excess of those specified for the soil texture may result in injury to the conifers.

Treatment Provides Partial Control of:

- | | |
|-----------------------|--------------|
| Crabgrass | Goldenrod |
| Curly dock | Horseweed |
| Dandelion | Orchardgrass |
| Fescue | Ryegrass |
| Fireweed (willowweed) | |

See Table 1 for rate selection

Apply as a broadcast spray in the spring prior to conifer bud break. If application is made after bud break use directional spray equipment and prevent contact of conifer foliage or injury may result. Rates expressed are broadcast. For band application, use proportionately less; for example, use 1/2 of the broadcast rates when treating a 3 ft. band where row spacing is 6 ft.

West of Rocky Mountains:

In addition to trees listed above, "Velpar" L is recommended for use in Douglas Fir.

Weeds Controlled at 4 to 6 pts/acre:

- | | |
|---------------------------|------------------|
| Annual bluegrass | Fleabane |
| Barnyardgrass | Common groundsel |
| Bromegrass | Oxeye daisy |
| False dandelion (catsear) | Velvetgrass |

Treatment at 8 pts/acre Provides Partial Control of:

- | | |
|--------------|-----------------------|
| Crabgrass | Orchardgrass |
| Curlydock | Ryegrass |
| Dandelion | Smartweed |
| Fescue | Wild carrot |
| Goldenrod | Willowweed (fireweed) |
| Heath aster: | |

"Velpar" L may be applied by air or ground equipment. Select a spray volume that will ensure a thorough and uniform application, but not less than 5 gals of water for each gal of "Velpar" L. Use mechanical or by-pass agitation to thoroughly mix the spray solution. After initial mixing, do not use excessive agitation as foaming problems may result. To avoid foaming problems, use anti-foam agents and minimal agitation. Avoid overlapping and shut off spray booms while starting, turning, slowing or stopping, as injury to conifers may result.

Rainbelt (areas of high spring rainfall): For best results, apply in the Spring when weeds are actively growing, but prior to bud break on conifers. If application is made after bud break, use directional spray equipment so that spray does not contact new growth as injury may result.

Snowbelt (areas of low spring rainfall): For best results, apply in the Fall before soil freezes or in the Spring in anticipation of rainfall. Weed control results from Spring applications will be dependent on sufficient rainfall following treatment to activate "Velpar" L. Spring applications should be made after snow cover melts, but before bud break occurs.

Rate selection is based on soil texture. Do not use rates in excess of those listed for a particular soil texture as injury to conifers may result. To determine soil texture and organic matter content, have soil samples classified by a reputable laboratory.

See Table 1 for use rates.

REFORESTATION AREAS:

"Velpar" L is recommended for use in site preparation and conifer release areas. Refer to use categories for specific recommendations for conifer species, rate, timing, and species controlled by geographic area.

Selective Brush Control:

Injection:
 Inject 1 milliliter of undiluted "Velpar" L through the bark of undesirable trees. Injections should be made at 4" intervals around the circumference of the tree. When using tubular injection equipment, inject near the ground level, or when using the "Hypo-Hatcher" Tree Injector or similar device, inject at waist height. Treatment should be made in the summer.

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Species Controlled:

Black cherry
Oaks (including live oak)
Red maple
Sweetgum

Basal Soil Treatment:

Apply "Velpar" L undiluted with an exact-delivery handgun applicator. This equipment delivers a thin stream of a predetermined volume when triggered. Apply at the rate of 2 to 4 milliliters for each 1" of stem diameter at breast height of trees to be controlled. Direct the treatment to the soil within 3 ft. of the root collar of the trees to be controlled. When treating large stems and more than one delivery of "Velpar" L is needed per stem, make applications on opposite sides of the stem. For multi-stemmed and low-growing brush that have stem diameters that are difficult to determine, apply "Velpar" L at the rate of 2 to 4 milliliters per 3' of canopy width. For tall, slender (columnar) brush types, apply 4 to 8 milliliters per 3' of height. Base rate on whichever canopy dimension is greater (width or height).

When treating brush that requires more than a single 4 ml. application of "Velpar" L, apply subsequent applications equally spaced around the plant. If treating brush on sloped sites, apply most of the "Velpar" L on the uphill side of the stem. If treating resprouts from brush disturbed by cutting or shredding, the rate of application should be proportional to the original tree size, not just the small regrowth of sprouts.

Species Controlled:

Aspen
Blackgum
Blackcherry
Catclaw acacia
Deerbrush
Dogwood
Elm
Green ash
Hackberry
Hawthorn
Hickory
Huisache
Junipers
Lotebush
Manzanita
Mesquite
Multiflora rose
Myrtle
Oaks (except live oak)
Osage orange
Persimmon
Red cedar
Small soapweed (Yucca glauca)
Snowbrush
Sumac
Sweet gum
Tallow
Whitehorn
Whitebrush
Wild cherry
Willow

Grid Application: Undiluted basal treatment.

"Velpar" L is recommended for use in site preparation, pre-harvest control of hardwoods, and pine release for growth enhancement of loblolly pine, longleaf pine, shortleaf pine, and slash pine.

Plants Controlled:

Black Cherry
Blackgum*
Dogwood*
Elm
Hawthorn
Hickory*
Oak
Red Maple*
Sweetgum
Sumac*

*Considered hard-to-kill

Apply 3 to 12 qts of undiluted "Velpar" L per acre for pre-harvest and site preparation, or 2 to 9 qts of undiluted "Velpar" L per acre for pine release. Make the application using a "grid" pattern and rate (ml per spot) as suggested in the table

Do not apply "Velpar" L spots closer than 36" to seedlings or directly upslope from seedlings. Use an exact delivery handgun applicator and calibrate for precise delivery of the undiluted product.

Selection of the rate per acre and "grid" pattern will depend on soil texture and woody plant composition. Use the higher rates on fine-textured soils and when the major component of the hardwoods is considered hard-to-kill. Use the lower rates on medium to coarse-textured soils where elm, blackcherry, oak and sweetgum are dominant.

Application Patterns and Rates For Undiluted "Velpar" L For Site Preparation and Pre-Harvest Control of Hardwoods			
	ML/Spot	Grid (Ft)	Qts/Acre
Coarse	1.0	4' x 4'	3
	3.0	4' x 6'	6
Medium/Fine	3.0	3' x 6'	8
	2.33	3' x 3'	12

For Pine Release			
	ML/Spot	Grid (Ft)	Qts/Acre
Coarse	2.0	6' x 7'	2+
	2.5	5' x 6'	3
Medium/Fine	2.0	4' x 6'	4
	2.33	3' x 6'	6
	1.5	3' x 3'	8

+Use on deep sands with pines four years of age.

"Velpar" L should be applied during the period from late winter (bud break) to early summer. Do not burn treated sites after initial foliage browning is evident. Burn only after brush has completely defoliated at least once, from sufficient root uptake of the herbicide. Inconsistent results may occur if the site is burned 3 to 6 months prior to treatment.

NOTE:

Use on 1 year old or 4 year old or older seedlings is acceptable; however, injury may result from use on 2 and 3 year old seedlings where root growth is extensive but hardness is lacking.

Results may be unsatisfactory where stump sprouts of less than one years growth predominate.

SITE PREPARATION:

East of Rocky Mountains:

"Velpar" L is recommended (ground or aerial) in forestry site preparation areas where these species will be grown:

Austrian pine
Balsam fir
Black spruce
Loblolly pine
Longleaf pine
Ponderosa pine
Red pine
Red spruce
Scotch pine
Shortleaf pine
Slash pine
Spruce
Virginia pine
White spruce

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Plants Controlled:

When used as directed, "Velpar" L provides both contact and residual control of:

- | | |
|------------------|------------------------|
| Annual bluegrass | Fleabane |
| Asters | Foxtail |
| Barnyardgrass | Oxeye daisy |
| Bentgrass | Pennsylvania smartweed |
| Common groundsel | Pinegrass |
| Common ragweed | Velvetgrass |
| Elksedge | Wild carrot |

- | | |
|-------------------------------|-------------|
| Ash | Hazel |
| Aspens (big tooth, trembling) | Hickory |
| Balsam poplar | Oaks |
| Birch | Sweetgum |
| Elm | Willows |
| Hawthorne | Wild Cherry |

Plants Partially Controlled:

- | | |
|---------------------------|--------------------|
| Canada thistle | Goldenrod |
| Crabgrass | Heath aster |
| Curly dock | Perennial ryegrass |
| Dandelion | Honeysuckle |
| False dandelion (catsear) | Horseweed |
| Blackgum | Orchardgrass |
| Fireweed (Willowweed) | Quackgrass |
| Flowering dogwood | Red maple |
| Fescue | Sourwood |

Apply 1 to 3 gals of "Velpar" L per acre. For aerial application use at least 5 gals per acre; for ground application use enough water for thorough coverage, usually 25 gals/acre. On fine textured soils and hard-to-kill species use the higher rates of "Velpar" L; for coarser soils use a lower rate. To reduce drift, use a precise application spray boom and/or add a spray thickening agent. If a spray thickening agent is used in the tank mixture, follow all label directions.

Add the "Velpar" L to a water filled tank and mix thoroughly. A surfactant may then be added. After thorough mixing, a defoaming agent may be added. Agitate thoroughly to disperse the defoaming agent.

Combination with Tordon 101:

Apply as a foliar treatment for woody plant control for pine site preparation. In addition to the species listed above, this treatment controls woody plants such as:

- | | |
|-------------|-----------|
| Black gum | Sassafras |
| Pine | Sourwood |
| Prunus spp. | |

Apply 1 to 3 gals of "Velpar" L plus 1 to 2 gals of Tordon 101 per acre.

Use 1 1/2 to 2 gals of Tordon 101 per acre when the major components of the hardwood composition to be controlled are species other than elm, oak, or sweetgum.

When oak, elm, sweetgum, blackberry and prunus predominate, use 1 1/2 to 3 gals of "Velpar" L plus 1 gal of Tordon 101.

When blackgum, dogwood, sourwood and red maple predominate, use 1 to 3 gals of "Velpar" L plus 1 1/2 to 2 gals of Tordon 101.

"Velpar" L, alone or in tank mixture with Tordon 101, should be applied during the period from late spring to early summer after the trees have reached full leaf, but before leaf tissue hardens; or, in Maine, Michigan, Minnesota, New Hampshire, New York, Vermont and Wisconsin, after bud break. Do not burn treated sites after initial contact (browning) effect on foliage (ten weeks or more). Burn only after brush has completely defoliated at least once from sufficient root uptake of "Velpar" L, usually 60 to 90 days after adequate rainfall.

NOTE:

In the South, pines planted sooner than six months after treatment with Tordon 101 may be injured. For all conifers, the waiting period between treatment and planting should be 8 to 9 months in the lake states and the Northeastern U.S.

Do not use on wet or poorly drained sites.

Before using Tordon 101, read and carefully observe the cautionary statements and all other information appearing on the product label. Note in particular that Tordon 101 is a Restricted Use Pesticide, for retail sale to and use only by certified applicators or persons under their direct supervision and only for those uses covered by the certified applicators certification.

¹ Registered trademark of Dow Chemical Company.

CONIFER RELEASE

Southern, Northern States:

Recommended for conifer release where the following species are grown:

- | | |
|---------------|----------------|
| Balsam fir | Red spruce |
| Black spruce | Shortleaf Pine |
| Loblolly pine | Virginia pine |
| Norway spruce | White spruce |
| Red pine | |

Plants Controlled:

Herbaceous Plants:

- | | |
|------------------|-------------|
| Aster | Horseweed |
| Bracken fern | Fireweed |
| Common groundsel | Foxtail |
| Common ragweed | Panicums |
| Crabgrass | Wild Carrot |
| Dog fennel | Quackgrass* |
| Goldenrod | Ryegrass* |

Woody Plants:

- | | |
|------------------------|-----------------------------|
| Ash | Hawthorne |
| Aspen | Hazel |
| Balsam poplar | Honeysuckle |
| Birch | Oaks (red, black and white) |
| Box elder | Red maple* |
| Brambles | Sumac* |
| Cherry (black and pin) | Sweetgum* |
| Dogwood* | Willow ; |
| Elm | |

*Considered hard-to-kill. Partial control or suppression only.

Apply 2 to 4 qts of "Velpar" L per acre (red pine - 2 to 8 qts, loblolly pine - 1 1/2 to 6 qts, shortleaf pine - 4 qts) by air or ground. Do not use a surfactant.

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The preferred pine stage of growth for application is between growth spurts, if more than one occurs. Some conifer needles may be discolored, however, full recovery can be expected the following spring. Mortality of some pine trees may occur. At least 1 to 2 inches of rainfall are needed for soil activation.

Southern States:

"Velpar" L should be applied during the period from early spring (one-half leaf) until early summer after the hardwood trees have reached full leaf stage, but before leaf tissue has hardened.

Northern States:

Apply from late spring, at or near conifer bud break, until early summer. For maximum contact activity on woody brush, apply after brush is in 3/4 leaf stage.

NOTE:

Do not apply where conifers are suffering from loss of vigor caused by insects, disease, drought, winter damage, or other stresses, as injury may result.

Excessive injury may result to conifers less than 4 years of age from transplanting on coarse-textured soils, and less than 3 years of age from transplanting on medium and fine-textured soils.

Poor weed and brush control may result from use on poorly drained or marshy sites.

Poor weed and brush control may occur from applications made when the soil is saturated with water and rain is imminent within 24 hours. Severe injury may result from use on jack pine, white pine, or larch.

Use the lower rates on coarse-textured soils (i.e., sand, loamy sand, sandy loam).

Use the intermediate rates on medium-textured soil (i.e., loam, silt loam, silt).

Use the higher rates on medium-fine and fine-textured soils (i.e., sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay).

Use on gravelly or rocky soils and exposed subsoils may cause conifer injury or mortality.

On tracts of land where various soil types are present and "Velpar" L rate selection is difficult, conifer damage or less than expected vegetation suppression may occur due to rate differences required for various soil types.

SITE PREPARATION, CONIFER RELEASE:

West of Rocky Mountains:

"Velpar" L is recommended for use in forestry site preparation and conifer release where the following species are grown:

- | | |
|--------------|----------------|
| Douglas fir | Ponderosa pine |
| Grand fir | Sitka spruce |
| Jeffrey pine | White fir |
| Noble fir | |

Plants Controlled:

- | | |
|---------------------------|-------------------------|
| Annual bluegrass | Fleabane |
| Barnyardgrass | Foxtail |
| Bromegrass | Oxeye daisy |
| Catsear (false dandelion) | Velvet grass |
| Common groundsel | Wild carrot |
| Deerbrush ceanothus | Snowbrush ceanothus |
| Greenleaf manzanita | (varnishleaf ceanothus) |
| | Squawcarpet |

Plants partially controlled:

- | | |
|-------------|----------------------|
| Dandelion | Orchardgrass |
| Fescue | Ryegrass |
| Goldenrod | Smartweed |
| Heath aster | Willowweed (freweed) |

Apply as a pre-plant or post-plant broadcast or band application. For band applications, use proportionately less; for example, use 1/2 the broadcast rate when treating a 3 ft. band where row spacing is 6 ft.

For herbaceous control, use 2 to 4 qts per acre and 3 to 6 qts per acre for brush control. 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.

For brush control, applications should be made to brush seedlings or sprouts when less than 18" in height or diameter. "Velpar" L effects may be slow to appear and maximum results will be seen 12 to 24 months following the application.

Rainbelt (areas of high spring rainfall): For best results, apply in the late winter or spring when weeds are actively growing, but prior to bud break on conifers. If application is made after bud break, use directional spray equipment so spray does not contact new growth, as injury may result.

Weed control is dependent on sufficient rainfall following treatment to activate "Velpar" L. Apply "Velpar" L by air or ground equipment. Select a spray volume that will insure a thorough and uniform application, at least 8 gals. of spray per acre by air and usually 25 gals. of spray per acre by ground, but not less than 5 gals. of water for each gal. of "Velpar" L. Use mechanical or by-pass agitation to thoroughly mix the spray solution. After initial mixing, do not use excessive agitation as foaming problems may result. To avoid foaming problems, use anti-foam agents and minimal agitation.

Snowbelt (areas of low spring rainfall): For best results, apply in the fall before soil freezes, or in the spring in anticipation of rainfall. Weed control results from spring applications will be dependent on sufficient rainfall following treatment to activate "Velpar" L. Spring applications should be made after snow cover melts, but before bud break occurs.

NOTE:

Use on gravelly or rocky soils, exposed subsoils, clay knolls, sand or sandy soils with 85% or more sand may cause conifer injury or mortality and poor weed and brush control may occur.

Conifer injury or mortality may occur on a soil containing less than 1% organic matter.

On soils high in organic matter (greater than 5%) effectiveness of "Velpar" L is reduced and results may be unsatisfactory.

Use on loamy sand or sandy loam with less than 2% organic matter may cause conifer injury except for Ponderosa and Jeffrey pine.

On first year plantations, "Velpar" L may only be applied (either pre-plant or post-plant) to transplant stock that is 2 years old (2-0) or more, except for 1 year old (1-0) for Ponderosa and Jeffrey pine.

When applying "Velpar" L after transplanting, wait until rainfall has settled the soil around the base of the transplants before making the treatment.

Damage may occur to incense cedar, Sugar pine and Giant Sequoia.

Heavy duff or slash present at time of application may result in poor weed or brush control.

Poor weed and brush control may occur from use on poorly drained or marshy sites.

Poor weed and brush control may occur from applications made when the soil is saturated with water and rain is imminent within 24 hours.

RANGELAND, PASTURE

Make application just before or during period of active growth of brush species to be controlled. Apply "Velpar" L with an exact delivery handgun applicator. This equipment delivers a thin stream of predetermined volume when triggered. Direct the application to the soil within 3' of the root collar at the rate of 2 to 4 milliliters for each 1" of stem diameter of brush to be controlled, but not to exceed 1/3 gal of "Velpar" L per acre per season. When treating large stems, and when more than one shot of "Velpar" L is needed per stem, make application on opposite sides of the stem. Do not treat more than 300 one-inch stem equivalents (approximately 709 brush plants) per acre per season. For species controlled, see Reforestation Areas, Basal Treatment.

NOTE: For effective brush control and prevention of damage to desirable vegetation; do not apply to brush standing in water, do not use water from treated ditches for irrigation; do not use where desirable trees or shrubs are immediately adjacent to the treated area.

Do not use on marshy or poorly drained sites nor on soils classified as clays. Do not cut hay from treated grasses.

Do not apply to snow covered or frozen ground.

Do not apply "Velpar" L within three times the height or canopy diameter (whichever is greater) of desirable trees or other plants. Injury or death of desirable trees or plants may result if this buffer is not maintained.

There is no restriction on grazing by domestic animals nor on cutting for forage or hay.

INDUSTRIAL WEED AND BRUSH CONTROL

"Velpar" L is recommended for general weed and brush control in noncropland areas such as railroads, highways, utility and pipeline rights-of-ways, petroleum tank farms, storage areas, industrial plant sites, the berms of drainage ditches (do not apply to the inside of ditch banks or to the inside of banks along waterways) and other similar areas.

For broadcast treatments (ground equipment only), apply "Velpar" L as a spray just before or soon after weed emergence. Do not apply to frozen or snow-covered soil. 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. Use at least 5 gals of water for each gal of "Velpar" L.

Add the proper amount of "Velpar" L to a spray tank filled with the amount of water to be used and mix thoroughly. A surfactant at .25% by volume may then be added to improve wetting and/or contact activity. After thoroughly mixing the spray solution, a suitable defoaming agent may also be added should foaming become a problem. Agitate thoroughly to disperse the defoaming agent.

Use a sprayer properly calibrated to a constant speed and rate of delivery. For application with a handgun sprayer, use sufficient water (50 to 200 gals per acre) for thorough coverage.

NOTE: Do not cut for forage or hay nor graze domestic animals on treated areas for 60 days; for rates above 3 gals "Velpar" L, do not cut for forage or hay nor graze.

For basal soil treatment only, there is no restriction on grazing by domestic animals nor on cutting for forage or hay.

WEED CONTROL

SHORT-TERM CONTROL (up to 3 months):

Apply "Velpar" L at the rate of 1 to 2 1/2 gals per acre for control of many annual, biennial and perennial weeds:

- | | |
|-----------------|-------------------|
| Barnyardgrass | Lespedeza |
| Bindweed* | Milkweed* |
| Bourcinq bet* | Mustard |
| Bromegrass | Nutsedge* |
| Buffalograss* | Orchardgrass* |
| Burdock | Oxalis |
| Cocklebur | Paragrass |
| Crabgrass | Pigweed |
| Crown vetch | Purslane |
| Curly dock* | Quackgrass |
| Dandelion* | Ryegrass |
| Dogbane* | Smartweed |
| Fiddleneck | Spurge |
| Filaree | Truett creeper* |
| Fleabane | Wild oats* |
| Goatsbeard vine | Wild parsnip |
| Goldenrod | Wild star thistle |

*Considered hard-to-kill; partial control or suppression only.

SEASON-LONG CONTROL:

Apply "Velpar" L at the rate of 3 to 6 gals per acre. Species controlled:

- | | |
|-----------------|------------------|
| Bahiagrass* | Heath aster |
| Bermudagrass* | Honeysuckle |
| Bluegrass | Lantana |
| Broomsedge | Marestail |
| Camphorweed | Natalgrass |
| Canada thistle* | Plantain |
| Chickweed | Prickly lettuce |
| Clovers | Rogueted |
| Dewberry | Smuggress |
| Dogfennel* | Spanish nettle |
| Fescue* | Vareygrass |
| Fingergrass | Wild blackberry* |
| Foxtail | Wild carrot |
| Guineagrass | |

*Considered hard-to-kill; partial control or suppression only.

BRUSH CONTROL:

Apply "Velpar" L as a broadcast treatment or an undiluted basal soil treatment for the control of many woody species. Apply to the soil during the period between late winter and early summer. 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 TREATMENT:

Apply 4 gals of "Velpar" L per acre as a coarse spray with water. Direct the spray to the soil beneath woody plants to be controlled.

BASAL SOIL TREATMENT:

Apply "Velpar" L undiluted with an exact-delivery handgun applicator. This equipment delivers a thin stream of a predetermined volume when triggered. Apply at the rate of 2 to 4 milliliters for each 1" of stem diameter at breast height. Direct the treatment to the soil within 3 ft of the root collar of woody plants to be controlled. When treating large stems and more than one delivery of "Velpar" L is needed per stem, make applications on opposite sides of the stem. For species controlled, see Reforestation Areas, Basal Treatment.

LACING AND STREAKING TREATMENT:

"Velpar" L is recommended for control of undesirable woody plants in noncropland areas by the lacing and streaking method.

Lacing and streaking is a method which employs a straight stream application of a concentrated solution of "Velpar" L in water to the soil. Apply to soil during the period from late winter and early summer. Moisture is necessary to activate "Velpar" L. In areas where the soil normally remains frozen during the winter, and spring rains are usually inadequate for activation, a fall or winter treatment may be applied before the soil freezes. Do not apply to frozen or snow-covered soil.

Apply 2 to 6 gals of "Velpar" L per acre. Prepare by mixing 1 gal of "Velpar" L with 5 or more gals of water. Use lower rates on sands and higher rates on clay and/or hard-to-kill species. Direct the spray to the soil in a serpentine pattern using a handgun so that the swath on the soil is 6 to 12 inches wide at the base of the brush to intercept the major portion of the root system and swaths are 2 to 4 feet apart.

Plants Controlled:

- | | |
|--------------------|------------------|
| Alder | Mulberry |
| American elm | Oak |
| Ash | Privet |
| Black cherry | Sassafras* |
| Blackgum | Sourwood |
| Chinaberry* | Southern red oak |
| Chinese Elm | Sumac |
| Chinese tallow | Sweet bay |
| Eastern red cedar* | Sweet gum |
| Hackberry | Water oak |
| Hawthorne | Wild dogwood |
| Hickory | Wild plum |
| Huisache | Willow |
| Locust | Winged elm |
| Mesquite | Yellow poplar |

*Considered hard-to-kill. Partial control or suppression only.

NOTE:

For effective brush control and prevention of damage of desirable vegetation: do not apply to brush standing in water; do not use water from treated ditches for irrigation; do not use where roots of desirable trees or shrubs are immediately adjacent to the treated area.

STORAGE AND DISPOSAL

STORAGE: Do not subject to temperatures below 32 degrees F. Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food or feed in storage.

PRODUCT DISPOSAL: Do not contaminate water, food or feed by storage or disposal. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA regional office for guidance.

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

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

NOTICE OF WARRANTY

Du Pont warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for purposes stated on such label only when used in accordance with directions under normal use conditions. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials or the manner of use or application, all of which are beyond the control of Du Pont. In no case shall Du Pont be liable for consequential, special or indirect damages resulting from the use or handling of this product. All such risks shall be assumed by the Buyer. D J PONT MAKES NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

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