



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

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

NOV 5 2008

Mr. J. H. Cain  
E.I. DuPont de Nemours & Company, Inc  
DuPont Crop Protection  
Stine-Haskell Research Center  
P.O. Box 30  
Newark, DE 19714-0030

Dear Mr. Cain:

Subject: DuPont Linage Prep Herbicide (Add Language from DCI)  
EPA Registration No. 352-767  
Application Dated August 26, 2008

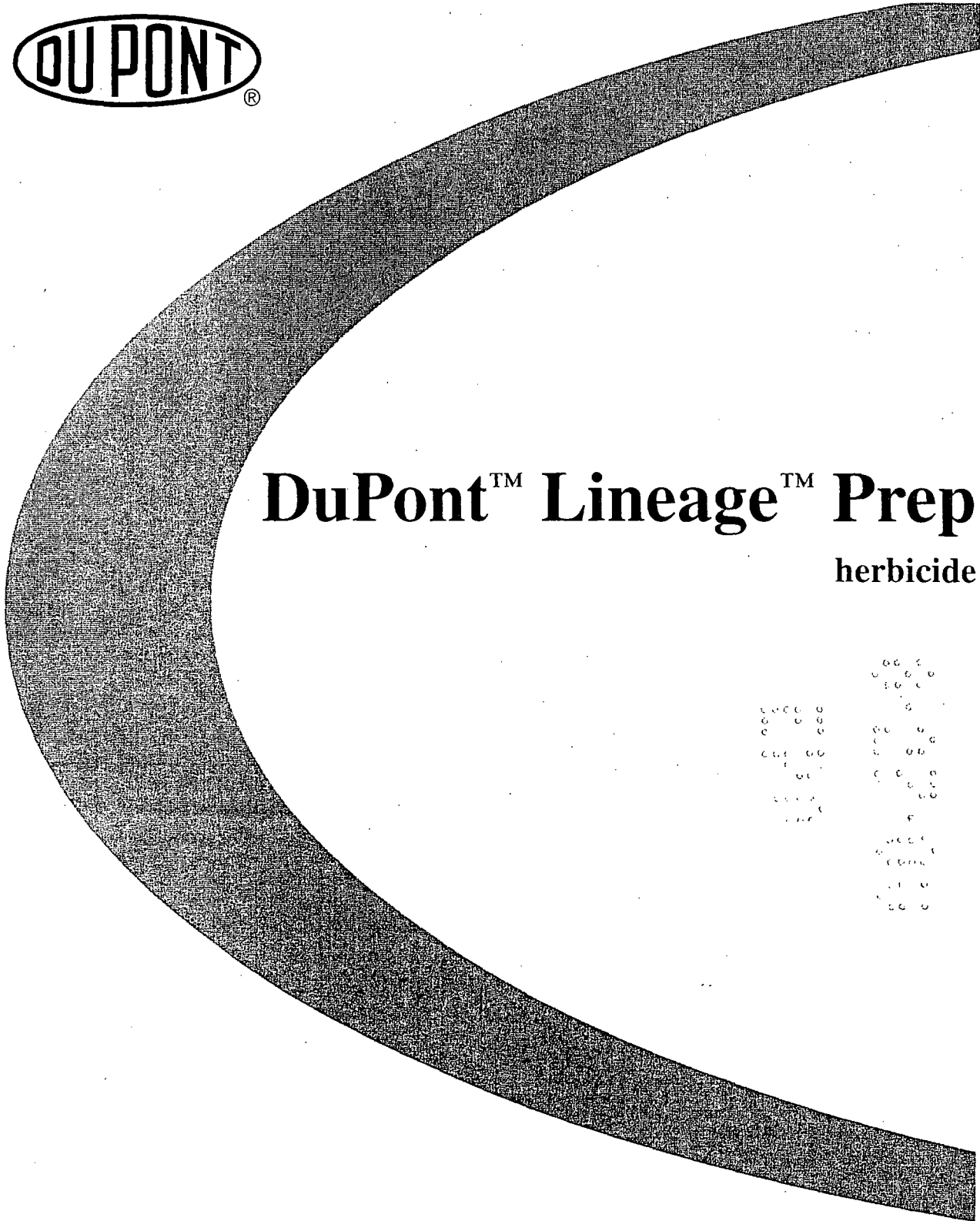
The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act as amended is acceptable provided you make the following changes before you release the product for shipment.

1. Add the statements "Discard clothing and other absorbent materials that have been drenched or heavily contaminated with the product's concentrate. Do not reuse them." immediately before the "Engineering Controls" section.
2. Add the statement "This product is toxic to plants" to the beginning of the Environmental Hazards section.

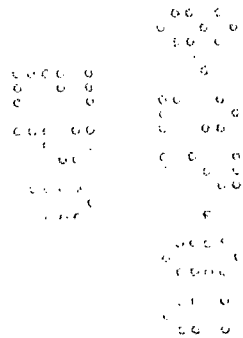
Submit one (1) copy of final printed labeling incorporating the above changes before you release the product for shipment. Amended labeling supersedes all previously approved ones. A stamped copy of labeling is enclosed for your records.

Sincerely,

*James A. Tompkins*  
James A. Tompkins  
Product Manager 25  
Herbicide Branch  
Registration Division (7505P)



**DuPont™ Lineage™ Prep**  
herbicide



**DRAFT LABEL**



# DuPont™ Lineage™ Prep

## herbicide

Dispersible Granules

Active Ingredient	By Weight
Imazapyr (2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-pyridinecarboxylic acid)	54.5%
Sulfometuron methyl {Methyl 2-[[[(4,6-dimethyl-2-pyrimidinyl)amino]-carbonyl]amino]sulfonyl]benzoate}	15.3%
Metsulfuron methyl Methyl 2-[[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl)amino]-carbonyl]amino]sulfonyl]benzoate	4.1%
<b>Inert Ingredients</b>	26.1%
<b>TOTAL</b>	100.0%

EPA Reg. No. 352-767

ACCEPTED  
with COMMENTS  
In EPA Letter Dated:  
NOV - 5 2008

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act,  
as amended, for the pesticide  
registered under EPA Reg. No.  
352-767

### KEEP OUT OF REACH OF CHILDREN

## CAUTION

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

### FIRST AID

**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 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 swallowed:** 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 to an unconscious person. Call a poison control center or doctor for further treatment advice.

**If inhaled:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

### FIRST AID (cont'd)

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 emergency medical treatment information.

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION!** Causes moderate eye irritation. Harmful if absorbed through skin, swallowed, or inhaled. Avoid contact with skin, eyes, or clothing.

Avoid breathing spray mist. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

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

**Mixers, loaders, applicators, and other handlers must wear:**

Long-sleeved shirt and long pants.

Shoes plus socks.

Chemical resistant gloves for all mixers and loaders, plus applicators using handheld equipment.

**User Safety Requirements:** Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**Engineering Controls:** Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)].

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in WPS for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

### USER SAFETY RECOMMENDATIONS

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

### ENVIRONMENTAL HAZARDS

For terrestrial uses, 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 cleaning of equipment or disposing of equipment washwaters or rinsate. This herbicide is phytotoxic at extremely low concentrations. Non-target plants may be adversely affected from drift.

### PHYSICAL AND CHEMICAL HAZARDS

Spray solutions of LINEAGE™ PREP should be mixed, stored, and applied only in stainless steel, fiberglass, plastic, and plastic-lined steel containers.

Do not mix, store, or apply LINEAGE™ PREP or spray solutions of LINEAGE™ PREP in unlined steel (except stainless steel) containers or spray tanks.

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation. DuPont™ LINEAGE™ PREP should be used only in accordance with instructions on the label or in DuPont supplemental labeling.

Do not use on food or feed crops.

## BIOLOGICAL ACTIVITY

LINEAGE™ PREP is quickly taken up by the leaves, stems and roots of plants and accumulates in the growing points of the plant. Growth of treated plants stop soon after treatment. Within one to three weeks after application, the leaves begin to turn yellow (chlorosis) and then gradually become necrotic. Death of the plants may require several more weeks. LINEAGE™ PREP is rain-fast one hour after application.

Warm, moist conditions following application accelerate the herbicidal activity of LINEAGE™ PREP; cold, dry conditions delay the herbicidal activity. In addition, undesirable hardwoods, vines and weeds hardened-off by drought stress are less susceptible to LINEAGE™ PREP. Moisture is needed to move LINEAGE™ PREP into the soil for preemergence weed control.

## TANK MIXTURES

LINEAGE™ PREP herbicide may be tank mixed with other herbicides and /or adjuvants registered for the uses specified in the product label. Refer to the label of the tank mix partner for any additional instructions or use restrictions. Tank mixing with 2,4 -D or products which contain 2,4-D have resulted in reduced performance of LINEAGE™ PREP. An anti-foaming agent, spray pattern indicator or drift reducing agent may be applied at the product labeled rate if needed.

## ADJUVANTS

For best postemergence performance in selected conifer plantation applications, wildlife habitat management and non-agricultural uses include a spray adjuvant when making applications of LINEAGE™ PREP.

**Non-ionic Surfactants:** Use a non-ionic surfactant at a minimum rate of 0.25% v/v (1 quart surfactant per 100 gallons of spray solution). Surfactant products must contain at least 70% non-ionic surfactant with a hydrophilic/lipophilic balance (HLB) of 12 to 17.

**Methylated Seed Oils or Vegetable Oils:** Under temperature or moisture stress conditions, a methylated seed oil (MSO) or vegetable oil based adjuvant may provide increased leaf absorption of LINEAGE™ PREP. For spray volumes of less than 30 gallons per acre use a rate of 1.5 to 2 pints per acre. For higher volume applications, spray volumes greater than 30 gallons per acre, include the MSO or vegetable oil adjuvant at 1% v/v (1 gallon per 100 gallons of spray solution).

**Silicone Based Surfactants:** Silicone based adjuvants reduce the surface tension of the spray droplet allowing better coverage of the leaf surface compared to some nonionic surfactants. In some cases, the silicone adjuvant may dry quickly and limit uptake. Refer to the manufacturers instructions for appropriate use rates.

**Invert Emulsions:** LINEAGE™ PREP may be applied as an invert emulsion. The spray solution results in an invert (water-in-oil) spray emulsion designed to minimize spray drift and spray run-off, resulting in more herbicide on the target foliage. The spray emulsion may be formed in a single tank (batch mixing) or injected (in-line mixing). Consult the invert chemical label for proper mixing directions.

## 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 recommendations 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 systems in your area.

### INVASIVE SPECIES MANAGEMENT

This product may be used 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 recommended, 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.

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

### GENERAL INFORMATION

DuPont™ LINEAGE™ PREP herbicide is a water soluble granule to be mixed with water and generally applied as a postemergent spray for the control of many broadleaf weeds, annual and perennial grasses, brush, vines and brambles in conifer plantations (site preparation, herbaceous weed control and release), and wildlife management areas. In certain natural regeneration conifer sites, it may be used for selective herbaceous and woody weed control. LINEAGE™ PREP can also be used for cut stem and stump treatments, for the control of woody vegetation along forest roads and for establishing and maintaining wildlife

openings. It may also be used to control weeds along the banks of drainage canals or ditches. Only treat up to the outer edge of a drainage ditch or canal when it contains water.

The use of LINEAGE™ PREP at rates less than or equal to 14 ounces per acre are intended for hardwood growth suppression, and some hardwood resprouting should be expected.

LINEAGE™ PREP may be applied on conifer plantations and wildlife management areas that contain areas of temporary surface water caused by the collection of water between planting beds, in equipment ruts, or in other depressions created by management activities in these sites, except in the state of New York. It is permissible to treat drainage ditches, intermittent drainage sites, intermittently flooded low lying sites, seasonally dry flood plains, and transitional areas between upland and low land sites when no water is present, except in the state of New York. It is also permissible to treat marshes, swamps, and bogs after water has receded, as well as seasonally dry flood deltas, except in the state of New York. Do not apply LINEAGE™ PREP on irrigation ditches or canals. Do not apply LINEAGE™ PREP on dry irrigation canals or dry irrigation ditches.

LINEAGE™ PREP may be applied by ground spray equipment (boom sprayers, backpack sprayers, tree injection, etc.) and by aerial spray equipment. Fixed wing aircraft and helicopters can be used to apply LINEAGE™ PREP. However, when making fixed wing aircraft applications, ensure that appropriate buffer zones can be maintained to prevent spray drift out of the target area. Aerial equipment designed to minimize spray drift, such as a helicopter equipped with a "Microfoil" boom, "Thru-Valve" boom or raindrop nozzles, must be used and calibrated. Except when applying with a "Microfoil" boom, a drift control agent may be added at the labeled rate.

### CONIFER PLANTATIONS – SITE PREPARATION

A LINEAGE™ PREP application controls the labeled weed species prior to planting conifer species. Allow 4 to 6 weeks after application for control of most herbaceous and grass weeds. The dead or dying plants may aid a site preparation burn; if needed. The residual activity of LINEAGE™ PREP will aid in the control of herbaceous weeds.

In sites where tolerant wildling conifers, brush or weed species exist, tank mix LINEAGE™ PREP with other registered herbicides affecting a different site of action.

### APPLICATION RATES

Apply LINEAGE™ PREP at the rates indicated by conifer species. Use a lower rate on coarse-textured soils (i.e., loamy sands, sandy loams) and a higher rate on fine textured soils (i.e. sandy clay loams and silty clay loams).

Conifer Species	Rate (ounces per acre)
Loblolly pine ( <i>Pinus taeda</i> )	11 - 15
Longleaf pine ( <i>Pinus palustris</i> )	11 - 15
Slash pine ( <i>Pinus elliotii</i> )	10
Douglas fir ( <i>Pseudotsuga menziesii</i> )	10 - 19
Western hemlock ( <i>Tsuga heterophylla</i> )	10 - 19
Ponderosa pine ( <i>Pinus ponderosa</i> )	10 - 19
Black spruce ( <i>Picea mariana</i> )	10 - 19

For ground boom application equipment, apply DuPont™ LINEAGE™ PREP in a minimum spray volume of 10 gallons per acre. For helicopter applications, use a total spray volume of 5 to 30 gallons per acre. Include a spray adjuvant with all postemergence applications. Use the higher spray volumes and herbicide rates for heavy weed/brush infestations, hard to control species and dense hardwood canopies.

**Note:** To reduce the potential for injury, do not plant Black Spruce seedlings for 3 months following a banded or broadcast application of LINEAGE™ PREP.

Other conifer species may be planted providing the user has experience indicating acceptable tolerance to LINEAGE™ PREP. Without prior experience, it is recommended that small area plantings be tested for tolerance to LINEAGE™ PREP soil residues before large scale plantings are made. The user accepts all responsibility for injury on any conifer species not listed above.

**TANK MIXTURES**

LINEAGE™ PREP herbicide may be tank mixed with other herbicides and /or adjuvants registered for the uses specified in the product label.

**SOUTH/SOUTHEAST US**

LINEAGE™ PREP may be tank mixed with site preparation treatments applied in the late summer to broaden the spectrum of undesirable hardwoods and/or wildling pines controlled and provide herbaceous weed control in the year following transplanting.

For quick brown out of foliage to aid burning, add 1 to 4 pints per acre of glyphosate (4 pounds active per gallon) or 1 to 3 pints per acre of triclopyr (4 pound active per gallon) to 15 ounces per acre of LINEAGE™ PREP. In site preparation areas with seedling pines (other than where Slash pines are to be planted), apply a tank mix of LINEAGE™ PREP at 15 ounces per acre plus glyphosate (4 pound active per gallon) at 3 to 4 quarts per acre.

Where burning is desired, burn only after adequate rainfall has occurred to move LINEAGE™ PREP into the soil. Soil disturbance from bedding or plowing may reduce spring herbaceous weed control.

**LINEAGE™ PREP plus KRENITE® S Pine and Hardwood seedlings and saplings**

To control a combination of pine and hardwood seedlings and saplings, apply a tank mixture of LINEAGE™ PREP at the rates specified for the conifer plantation species plus KRENITE® S at 4 to 6 quarts per acre.

Use the higher rates when either pine saplings predominate or when high infestations of seedling pines are in the area to be sprayed. Along with seedling and sapling pines and herbaceous weeds, this tank mix also provides control of Ash, Blackberry, Blackgum, Black locust, Box elder, Cherry, Dogwood, Elms (winged, slippery), Oaks (red, white), Red maple, Sassafras, Sweetgum and Sourwood brush species.

**CONIFER PLANTATIONS - RELEASE**

Apply LINEAGE™ PREP after transplanting to control certain species of hardwoods, broadleaf weeds and grasses. A broadcast or directed application of LINEAGE™ PREP may be used to control or suppress herbaceous, tree or brush species. In all ages of conifer stands, a low volume, directed spray application may be made to the targeted weed species while avoiding contact with the conifer foliage. Make sure to not apply more than the specified rate as conifer injury may occur.

Do not apply LINEAGE™ PREP when conifers are under stress from diseases, drought, animal or winter injury or other environmental or mechanical stresses as injury may occur.

**APPLICATION RATES**

Where infestations of hardwood brush species are competing with the conifers, make a broadcast application of LINEAGE™ PREP at the rate specified for the conifer plantation species. Use the higher herbicide rates for heavy weed/brush infestations, hard to control species and dense hardwood canopies.

Conifer Species	Rate (ounces/acre)
Loblolly Pine	10 to 15
Slash Pine	10 to 11

**Note:** Other conifer species may get a release treatment providing the user has experience indicating acceptable tolerance to LINEAGE™ PREP. Without prior experience, it is recommended that small areas be tested for tolerance to LINEAGE™ PREP. The user accepts all responsibility for injury on any conifer species not listed above.

**Slash Pines** - to control woody brush, make broadcast over-the-top release applications after September 15th. Only make applications to Slash pines that are at least 5 years old. Do not include an adjuvant and use the lower release rates on sandy soils. When release applications are made during periods of active conifer growth, minor stunting (slowing of growth) may occur. To reduce the potential for minor stunting, make broadcast release applications late in the growing season.

**Loblolly Pines** - In the first growing season after planting or in one year old naturally regenerated loblolly pine sites, LINEAGE™ PREP may be used for release treatments. For release of Loblolly Pines that are one year old apply LINEAGE™ PREP at 10 to 15 ounces per acre. These

applications should only be made after July 15th. A non-ionic surfactant at 0.25% v/v may be included with this treatment.

Do not apply DuPont™ LINEAGE™ PREP when conifers are under stress from diseases, drought, animal or winter injury or other environmental or mechanical stresses as injury may occur.

**MID ROTATION RELEASE**

For broadcast applications underneath the pine canopy in established stands of Loblolly pine use 12 to 20 ounces per acre. For mid rotation release of Slash pine, use 10 to 11 ounces per acre. Avoid contact with the conifer foliage when making mid rotation release applications.

**SPOT TREATMENT – RELEASE**

In all ages of Loblolly and Slash pines, a directed postemergence or cut stem application of LINEAGE™ PREP may be applied to control unwanted hardwoods or other brush. Care should be taken to not make direct applications to desired conifers as injury may occur. Injury may also occur to adjacent hardwoods or conifers where their roots extend into the treated area or if they share the same root system, or their roots have become grafted to those in the treated area.

LINEAGE™ PREP herbicide should be applied at the following use rates depending upon the vegetation to be controlled and the type of application being made. Use the higher spray volumes and herbicide rates for heavy weed/brush infestations, hard to control species and dense hardwood canopies.

<u>Vegetation</u>	<u>Application</u>	<u>Use Rate</u>
Hardwood trees brush	Directed foliar, or spot spray	3 to 6 ounces per 3 gallons of water
Stump or cut stem		6 ounces per gallon of water

**UNDESIRABLE HARDWOOD CONTROL**

For loblolly pine, apply 15 ounces per acre of LINEAGE™ PREP to control herbaceous weeds, grasses and undesirable hardwoods. Some minor conifer growth inhibition may be observed when release treatments are made during periods of active conifer growth. To minimize potential conifer height growth inhibition, broadcast release treatments may be made late in the growing season. A registered conifer release surfactant may be added at the rate recommended on the surfactant label.

For Slash Pine, over the top broadcast release treatments must be made after mid-August and only in stands 2 to 5 years old. For over the top applications to slash pine do not add a surfactant.

This treatment provides control or suppression of the following brush species:

Ash	Hickory*	Persimmon*
Black gum	Honeysuckle	Red maple*
Blackberry*	Hophornbeam	Sassafras
Cherry	Myrtle dahoon	Sweetgum
Dogwood*	Oak, red	Vaccinium
Elm*	Oak, white	
Hawthorn	Oak, water	

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

**WILDLIFE HABITAT MANAGEMENT**

LINEAGE™ PREP herbicide may be used to control exotic and other undesirable vegetation for purposes of wildlife habitat management and enhancement within forests as well as terrestrial non-crop sites. Applications can be made to control undesirable vegetation prior to planting desirable vegetation species. LINEAGE™ PREP may be applied either as a spot treatment, directed foliar treatment or a cut stump/stem treatment to selectively control unwanted plants for wildlife habitat management and enhancement. See Weeds Controlled section for use rates.

**IMPORTANT PRECAUTIONS – AGRICULTURAL USE**

- Applications of LINEAGE™ PREP made to conifers that are suffering from loss of vigor caused by insects, diseases, drought, winter damage, animal damage, excessive soil moisture, planting shock, previous agricultural practices, or other stresses, may injure or kill the trees.
- Applications of LINEAGE™ PREP made after transplanting should only be made after adequate rainfall has closed the planting slit and settled the soil around the roots.
- Do not apply LINEAGE™ PREP to conifers grown for Christmas trees or ornamentals.
- Do not use a surfactant with LINEAGE™ PREP for herbaceous weed control when making over the top applications to conifer seedlings in the spring after transplanting. A surfactant specifically registered for conifer release may be used when targeting specific weed problems, such as, undesirable hardwoods.
- LINEAGE™ PREP applications may result in damage and mortality to other species of trees when they are present on sites with those listed in the preceding directions for conifer plantations uses.
- Injury or loss of desirable trees or other plants may result if LINEAGE™ PREP is applied on or near desirable trees or other plants, on areas where their roots extend, or in locations where the treated soil may be washed or moved into contact with their roots.
- Do not treat frozen soil.

- Treated soil should be left undisturbed to reduce the potential for DuPont™ LINEAGE™ PREP movement by soil erosion due to wind or water.
- Do not use on lawns, walks, driveways, tennis courts, or similar areas.
- Do not apply in or on irrigation ditches or canals including their outer banks or to water used for crop irrigation or for domestic uses.
- Do not apply through any type of irrigation system.
- Do not use this product in the following counties of Colorado: Saguache, Rio Grande, Alamosa, Costilla and Conejos.

### NON-AGRICULTURAL USES

**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 (WPS) 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. Terrestrial non-crop weed control is not within the scope of the Worker Protection Standard. See the General Information section of this label for a description of non-crop sites. Do not enter terrestrial/non-crop treated areas without protective clothing until sprays have dried.

### GENERAL INFORMATION

LINEAGE™ PREP herbicide is to be mixed with water and a surfactant, unless otherwise directed, and applied as a spray for the control of undesirable vegetation in terrestrial non-crop sites. LINEAGE™ PREP herbicide is to be used for general weed and brush control on private, public and military lands as follows: uncultivated non-agricultural areas (such as airports, highway, railroad and utility rights-of-way, sewage disposal areas, etc.); uncultivated agricultural areas - non-crop producing (such as farmyards, fuel storage areas, fence rows, non-irrigation ditch banks, barrier strips, etc.); industrial sites - outdoor (such as lumberyards, pipeline and tank farms, etc.). For best results, uniformly cover the foliage of the vegetation to be controlled with the spray solution.

This product may be applied to terrestrial non-crops sites that contain areas of temporary surface water caused by collection of water, in equipment ruts, or in other depressions created by management activities. It is permissible to treat 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. It may also be used to control weeds along the banks of drainage canals or ditches. Only treat up to the outer edge of a drainage ditch or canal when it contains water. Do not apply

LINEAGE™ PREP on irrigation ditches or canals. Do not apply LINEAGE™ PREP on dry irrigation canals or dry irrigation ditches.

LINEAGE™ PREP provides preemergence and postemergence control of the broadleaf weeds, perennial and annual grasses, vines and brush species listed on in the Weeds Controlled section of this label. For listed perennial species, a postemergence application should be used. For best postemergence performance, an adjuvant should be included to the spray solution (see Adjuvants section for information). Good spray coverage of the target plant is desired. Excessive wetting which causes the spray to run off target plants should be avoided. LINEAGE™ PREP may be applied by either ground or aerial spray equipment.

### TOTAL VEGETATION CONTROL - BAREGROUND

LINEAGE™ PREP may be used in sites for bareground (total vegetation control) weed control. Preemergence or postemergence applications of LINEAGE™ PREP provides control of many annual and perennial broadleaf and grass weeds. It may be used alone at 11 to 30 ounces per acre or in tank mixes with other products registered for use on bareground sites. Consult the manufacturer's labels for specific rates, weeds controlled and use restrictions. Make applications using a sufficient spray volume to ensure thorough coverage of the target site. Use the higher rates of LINEAGE™ PREP for fall applications and in previously untreated areas or areas with high weed infestations. For postemergence applications always include a spray adjuvant. For faster brown-out or burn down results, add glyphosate or similar products to the tank. For added residual weed control or to broaden the weed control spectrum, tank mix with other products registered for use on bareground sites. The degree and length of control will depend on the herbicide rate applied, amount of rainfall, the soil texture and other environmental and applications conditions.

### SPECIFIC WEED PROBLEMS - KUDZU

LINEAGE™ PREP may be used as part of a kudzu abatement program. Apply at a rate of 29 ounces per acre. Retreatment of any re-sprouting kudzu crowns following the initial treatment is necessary to fully control kudzu. Make applications to kudzu after leaves are fully mature and the plant has begun to bloom. Applications may continue until first frost. Apply LINEAGE™ PREP as a broadcast treatment for the initial application. Use spot-spray or broadcast followup applications as needed for thorough coverage. Thoroughly treat foliage and stems (spray-to-wet) without excess runoff. For handgun applications use a minimum of 100 gallons per acre. Boom or boom-less sprayer applications made by ground or air (helicopter only) equipment should use a minimum of 30 gallons per acre per application pass. Double pass applications from different directions can improve spray coverage.



### APPLICATION INFORMATION

Do not apply more than 30 ounces of DuPont™ LINEAGE™ PREP per acre per year.

### AERIAL APPLICATIONS

Uniformly apply the required amount of LINEAGE™ PREP, as listed in the Weeds Controlled section of this label, in a minimum of 5 gallons of water per acre. Use adequate spray volume to provide an accurate and uniform spray droplet distribution over the treated area and to avoid spray drift. Include a nonionic surfactant or methylated seed oil or a silicone based surfactant in the spray solution (see Adjuvant section). A foam reducing agent may be added at the recommended label rate, if needed.

**Important:** Thoroughly clean application equipment, including landing gear, immediately after use of this product. Prolonged exposure of this product to uncoated steel (except stainless steel) surfaces may result in corrosion and failure of the exposed part. The maintenance of an organic coating (paint) may prevent corrosion.

### GROUND APPLICATIONS

#### LOW VOLUME APPLICATIONS

Uniformly apply the required amount of LINEAGE™ PREP, as listed in the Weeds Controlled section of this label, in a minimum of 5 gallons of water. Prepare the spray solution by thoroughly mixing in water a sufficient quantity of LINEAGE™ PREP plus an adjuvant.

Good plant coverage is necessary for best results. Best results are achieved when the spray covers at least 75 percent of the target plant. Use adequate spray volume to help provide uniform distribution of spray droplets over the treated area and to avoid spray drift.

**Side Trimming:** Side trimming with LINEAGE™ PREP can cause severe injury or death to the treated tree. Do not make side trimming applications unless death of the tree is acceptable.

#### HIGH VOLUME APPLICATIONS

When treating medium to high infestations of weeds, apply LINEAGE™ PREP at the rate specified in this label. Mix LINEAGE™ PREP in a sufficient volume of water to ensure uniform coverage of the site to be treated. Include a surfactant and a foam reducing agent if needed.

#### DIRECTED FOLIAR OR SPOT SPRAY APPLICATIONS

When making directed or spot spray applications with ground spray equipment, or low-volume hand-operated spray equipment, thoroughly mix a solution of LINEAGE™ PREP and include a nonionic surfactant at a minimum of 0.25% by volume. To mix the spray solution, add the volume of LINEAGE™ PREP herbicide and nonionic surfactant indicated in the table below to the desired amount of water. Use the higher spray volumes and herbicide rates for heavy weed infestations and hard to control weed species.

SPRAY SOLUTION VOLUME	LINEAGE™ PREP	SURFACTANT (fluid ounce)
3 gallons	3 to 6 ounces	1.0
4 gallons	4 to 8 ounces	1.5
5 gallons	9 to 12 ounces	1.6
10 gallons	12 to 24 ounces	3.2
20 gallons	24 to 30 ounces	6.4

### IMPORTANT PRECAUTIONS NON-AGRICULTURAL USE

- Injury or loss of desirable trees or other plants may result if LINEAGE™ PREP is applied on or near desirable trees or other plants, on areas where their roots extend, or in locations where the treated soil may be washed or moved into contact with their roots.
- Injury to or loss of desirable trees or other plants may result equipment is drained or flushed 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.
- Avoid overlapping applications and shut off spray booms while starting, turning, slowing or stopping to avoid injury to desired plants.
- Treatment of powdery, dry soil or light, sandy soil when there is little likelihood of rainfall soon after treatment may result in off target movement and possible damage to susceptible crops when soil particles are moved by wind or water. Injury to crops may result if treated soil is washed, blown, or moved onto land used to produce crops. Exposure to LINEAGE™ PREP may injure or kill most crops. Injury may be more severe when the crops are irrigated. Do not apply LINEAGE™ PREP when these conditions are identified and powdery, dry soil or light or sandy soil are known to be prevalent in the area to be treated.
- Applications made where runoff water flows onto agricultural land may injure crops. Applications made during periods of intense rainfall, to soils saturated with water, surfaces paved with materials such as asphalt or concrete, or soils through which rainfall will not readily penetrate may result in runoff and movement of LINEAGE™ PREP.
- Do not treat frozen soil.
- Treated soil should be left undisturbed to reduce the potential for LINEAGE™ PREP movement by soil erosion due to wind or water.
- Do not use on lawns, walks, driveways, tennis courts, or similar areas.
- Do not apply in or on irrigation ditches or canals including their outer banks or to water used for crop irrigation or for domestic uses.
- Do not apply through any type of irrigation system.
- If non-agricultural sites treated with LINEAGE™ PREP

are to be converted to a food, feed, or fiber agricultural crop, or to a horticultural crop, do not plant the treated sites for at least two years after the DuPont™

LINEAGE™ PREP application. A field bioassay must then be completed before planting to crops. To conduct a field bioassay, grow to maturity test strips of the crop you plan to grow the following year. The test strips should cross the entire field including knolls and low areas. Crop response to the bioassay will indicate whether or not to plant the crops grown in the test strips. In the case of suspected off-site movement of LINEAGE™ PREP to cropland, soil samples should be quantitatively analyzed for LINEAGE™ PREP or any other herbicide which could be having an adverse effect on the crop, in addition to conducting the above described bioassay.

- Do not use this product in the following counties of Colorado: Saguache, Rio Grande, Alamosa, Costilla and Conejos.

### ADDITIONAL USE INSTRUCTIONS CONIFER PLANTATIONS AND NON-CROP SITES

#### WEEDS CONTROLLED

LINEAGE™ PREP provides postemergence control and some residual control of the annual weeds in the following tables. The degree of control is both rate and species dependent. Postemergence applications generally provide best control of established biennials and perennial weeds. All rates in the Weeds Controlled table are expressed in the amount of herbicide required for broadcast applications. Review the weed lists and foot notes for additional application information prior to treating. Apply LINEAGE™ PREP at the rates indicated by weed type. When applied at lower rates, LINEAGE™ PREP provides short term control of weeds listed; when applied at higher rates, weed control is extended.

#### GRASSES

##### Apply 11 ounces per acre

Arrowgrass, seaside	<i>Triglochin maritimum</i>
Bluegrass, annual	<i>Poa annua</i>
Bahiagrass	<i>Paspalum notatum</i>
Barnyardgrass	<i>Echinochloa crus-gali</i>
Barley, foxtail	<i>Hordeum jubatum</i>
Barley, little	<i>Hordeum pusillum</i>
Barley, wild	<i>Hordeum spp.</i>
Brome, downy	<i>Bromus tectorum</i>
Brome, red	<i>Bromus rubens</i>
Brome, ripgut	<i>Bromus diandrus</i>
Canarygrass, reed	<i>Phalaris arundinacea</i>
Crabgrass	<i>Digitaria spp.</i>
Fescue	<i>Festuca spp.</i>
Foxtail, fescue	<i>Vulpia megalura</i>
Foxtail, green	<i>Setaria viridis</i>
Fescue, red	<i>Festuca rubra</i>
Goatgrass, jointed	<i>Aegilops cylindrica</i>
Johnsongrass	<i>Sorghum halepense</i>
Medusahead	<i>Taeniatherum caput-medusae</i>
Oat, wild	<i>Avena fatua</i>
Panicum (annual)	<i>Panicum spp.</i>
Panicum, browntop	<i>Panicum fasciculatum</i>
Panicum, fall	<i>Panicum dichotomiflorum</i>
Panicum, Texas	<i>Panicum texanum</i>
Rye	<i>Secale cereale</i>
Ryegrass, Italian	<i>Lolium multiflorum</i>

Saltgrass, seashore  
Sandbur, field  
Sandbur, southern  
Signalgrass, broadleaf  
Sprangletop, bearded  
Siltgrass, Japanese  
Wheat

##### Apply 15 ounces per acre

Bluegrass, Canada  
Bluegrass, Kentucky  
Brome, fescue  
Brome, smooth  
Dropseed, sand  
Foxtail  
Lovegrass  
Orchardgrass  
Paragrass  
Quackgrass  
Sprangletop, bearded  
Vaseygrass  
Witchgrass

*Distichlis stricta*  
*Cenchrus incertus*  
*Cenchrus echinatus*  
*Brachiaria platyphylla*  
*Leptochloa fascicularis*  
*Microstegium vimineum*  
*Triticum aestivum*

*Poa compressa*  
*Poa pratensis*  
*Vulpia bromoides*  
*Bromus inernis*  
*Sporobolus cryptandrus*  
*Setaria spp.*  
*Eragrostis spp.*  
*Dactylis glomerata*  
*Brachiaria mutica*  
*Agropyron repens*  
*Leptochloa fusca*  
*Paspalum urvillei*  
*Panicum capillare*

##### Apply 22 ounces per acre

Beardgrass  
Cheat  
Crowfootgrass  
Cupgrass, woolly  
Goosegrass  
Itchgrass  
Junglerice  
Maidencane  
Reed, giant  
Threawn, prairie  
Torpedograss

*Andropogon spp.*  
*Bromus secalinus*  
*Dactyloctenium aegyptium*  
*Eriochloa villosa*  
*Eleusine indica*  
*Rotthoellia exaltata*  
*Echinochloa colonum*  
*Panicum hemitomon*  
*Arundo donax*  
*Aristida oligantha*  
*Panicum repens*

##### Apply 27 ounces per acre

Bermudagrass  
Bluestem, big  
Cattail  
Cogongrass  
Cordgrass, prairie  
Dallisgrass  
Feathertop  
Guineagrass  
Muhly, wirestem  
Phragmites  
Sprangletop  
Timothy

*Cynodon dactylon*  
*Andropogon gerardii*  
*Typha spp.*  
*Imperata cylindrical*  
*Spartina pectinata*  
*Paspalum dilatatum*  
*Pennisetum villosum*  
*Panicum maximum*  
*Muhlenbergia frondosa*  
*Phragmites australis*  
*Leptochloa spp.*  
*Phleum pratense*

#### BROADLEAF WEEDS

##### Apply 11 ounces per acre

Aster  
Beebalm  
Beakchervil, bur  
Beakchervil, woodland  
Blackeyed-susan  
Bouncingbet  
Burclover  
Buttercup, bur  
Carrot, wild  
Catchfly, conical  
Chamomile, false  
Chickweed, common  
Chickweed, mouseear  
Chicory  
Clover, crimson  
Clover, hop  
Cockle, cow  
Cocklebur  
Corncockle, common  
Coreopsis, plains  
Crazyweed, silky  
Croton, woolly  
Daisy, oxeye  
Dandelion  
Falseflax, smallseed  
Fiddleneck (tarweed)  
Flixweed  
Garlic, wild  
Geranium, Carolina  
Goldenrod  
Groundsel, common

*Aster spp.*  
*Monarda didyma*  
*Anthriscus caucalis*  
*Anthriscus sylvestris*  
*Rudbeckia hirta*  
*Saponaria officinalis*  
*Medicago polymorpha*  
*Ranunculus testiculatus*  
*Daucus carota*  
*Silene conica*  
*Matricaria maritima*  
*Stellaria media*  
*Cerastium vulgatum*  
*Cichorium intybus*  
*Trifolium incarnatum*  
*Trifolium procumbens*  
*Saponaria vaccaria*  
*Xanthium strumarium*  
*Agrostemma githago*  
*Coreopsis tinctoria*  
*Oxytropis sericea*  
*Croton capitatus*  
*Leucanthemum vulgare*  
*Taraxacum officinale*  
*Camelina microcarpa*  
*Amsinckia micrantha*  
*Descurainia sophia*  
*Allium vineale*  
*Geranium carolinianum*  
*Solidago spp.*  
*Senecio vulgaris*

Heliotrope, seaside  
 Hemlock, poison  
 Horseweed/marestail<sup>1</sup>  
 Houndstongue  
 Lambsquarters  
 Lettuce, miners  
 Lettuce, wild  
 Mallow, common  
 Mallow, little  
 Miners lettuce  
 Mustard, black  
 Mustard, blue  
 Mustard, treacle  
 Mustard, tumble  
 Mustard, wild  
 Orach, spreading  
 Pennycress, field  
 Pepperweed  
 Plantain  
 Pokeweed  
 Purslane, common  
 Pusley, Florida  
 Ragweed, common  
 Ragweed, giant  
 Ragwort, tansy  
 Salsify  
 Shepherd's-purse  
 Sneezeweed, bitter  
 Sowthistle, annual  
 Speedwell, common  
 Sunflower, maximilian  
 Tansy, common  
 Tansymustard  
 Vetch, common  
 Vetch, crown  
 Vetch, hairy  
 Yankeeweed

**Apply 15 ounces per acre**

Alligatorweed  
 Blackberry  
 Burdock  
 Bursage, woollyleaf  
 Camphorweed  
 Caraway, wild  
 Carpetweed  
 Clover  
 Crupina, common  
 Dewberry  
 Dock  
 Dogfennel  
 Dyer's woad  
 Filaree  
 Fireweed  
 Fleabane  
 Gaillardia, rose-ring  
 Goosefoot, nettleleaf  
 Gorse  
 Gumweed, curlycup  
 Henbane, black  
 Halogeton  
 Henbit  
 Mustard, Indian  
 Knotweed, prostrate  
 Kochia<sup>1</sup>  
 Lespedeza  
 Mullein  
 Parsnip, wild  
 Pigweed  
 Poorjoe (buttonweed)  
 Puncturevine  
 Ragweed, western  
 Rose, wild  
 Including: Multiflora rose  
 Macartney rose  
 Smartweed  
 Snakeroot, white  
 Snakeweed, broom  
 Snowberry, common  
 Snowberry, western  
 Sorrel  
 St. John's wort  
 Sunflower

*Heliotropium curassavicum*  
*Conium maculatum*  
*Conyza Canadensis*  
*Cynoglossum officinale*  
*Chenopodium album*  
*Claytonia perfoliata*  
*Lactuca spp.*  
*Malva neglecta*  
*Malva parviflora*  
*Montia perfoliata*  
*Brassica nigra*  
*Chorispora tenella*  
*Erysimum repandum*  
*Sisymbrium altissimum*  
*Sinapis arvensis*  
*Atriplex patula*  
*Thlaspi arvense*  
*Lepidium spp.*  
*Plantago spp.*  
*Phytolacca Americana*  
*Portulaca spp.*  
*Richardia scabra*  
*Ambrosia artemisiifolia*  
*Ambrosia trifida*  
*Senecio jacobaea*  
*Tragopogon spp.*  
*Capsela bursa-pastoris*  
*Helenium amarum*  
*Sonchus oleraceus*  
*Veronica officinalis*  
*Helianthus maximiliani*  
*Tanacetum vulgare*  
*Descurainia pinnata*  
*Vicia sativa*  
*Coronilla varia*  
*Vicia villosa*  
*Eupatorium compositifolium*

*Alternanthera philoxeroides*  
*Rubus spp.*  
*Arctium spp.*  
*Franseria tomentosa*  
*Heterotheca subaxillaris*  
*Carum carvi*  
*Mollugo verticillata*  
*Trifolium spp.*  
*Crupina vulgaris*  
*Rubus trivialis*  
*Rumex spp.*  
*Eupatorium capillifolium*  
*Isatis tinctoria*  
*Erodium spp.*  
*Epilobium angustifolium*  
*Erigeron spp.*  
*Grindelia squarrosa*  
*Chenopodium murale*  
*Ulex europaeus*  
*Grindelia squarrosa*  
*Hyoscyamus niger*  
*Halogeton glomeratus*  
*Lamium aplexicaule*  
*Brassica juncea*  
*Polygonum aviculare*  
*Kochia scoparia*  
*Lezpedeza spp.*  
*Verbascum spp.*  
*Pastinaca sativa*  
*Amaranthus spp.*  
*Diodia teres*  
*Tribulus terrestris*  
*Ambrosia psilostachya*  
*Rosa spp.*  
*Rosa multiflora*  
*Rosa bracteata*  
*Polygonum spp.*  
*Ageratina altissima*  
*Gutierrezia sarothrae*  
*Symphoricarpos albus*  
*Symphoricarpos occidentalis*  
*Rumex spp.*  
*Hypericum perforatum*  
*Helianthus spp.*

Sweet-clover  
 Teasel  
 Thistle, bull  
 Thistle, musk  
 Thistle, plumeless  
 Thistle, Russian<sup>1</sup>  
 Thistle, Scotch  
 Turnip, wild  
 Vervain, hoary  
 Whitetop, hairy  
 Woodsorrel, yellow

**Apply 22 ounces per acre**

Camelthorn, desert  
 Cudweed  
 Fiddleneck  
 Knapweed, diffuse  
 Loosestrife, purple  
 Nettle, stinging  
 Nutsedge, yellow  
 Pepperweed, perennial  
 Rocket, London  
 Rocket, yellow  
 Rush  
 Saltbush  
 Skeletonweed, rush  
 Spurge, annual  
 Starthistle, purple  
 Starthistle, yellow  
 Velvetleaf

**Apply 27 ounces per acre**

Arrowwood  
 Knapweed, Russian  
 Knotweed, Japanese  
 Mallow, little  
 Milkweed  
 Nightshade, silverleaf  
 Primrose  
 Rabbitbrush, gray  
 Ragweed, giant  
 Thistle, Canada  
 Thistle, Texas

**VINES AND BRAMBLES**

**Apply 15 ounces per acre**

Bindweed, field  
 Bindweed, hedge  
 Buckwheat, wild

**Apply 25 ounces per acre**

Greenbriar  
 Morningglory  
 Poison ivy  
 Redvine

**Apply 29 ounces per acre**

Kudzu<sup>1</sup>  
 Trumpet creeper  
 Virginia creeper  
 Wild grape

**BRUSH SPECIES**

**Apply 15 ounces per acre**

Ash  
 Black gum  
 Cherry  
 Hawthorn  
 Honeysuckle  
 Hophornbeam  
 Myrtle dahoon  
 Oak, red  
 Oak, white  
 Oak, water  
 Sassafras  
 Sweetgum  
 Vaccinium spp.  
 Including: Blueberry  
 Sparkleberry

*Melilotus spp.*  
*Dipsacus spp.*  
*Cirsium vulgare*  
*Carduus nutans*  
*Carduus acanthoides*  
*Salsola kali*  
*Onopordum acanthium*  
*Brassica campestris*  
*Verbena stricta*  
*Lepidium pubescens*  
*Oxalis stricta*

*Alhagi pseudalhagi*  
*Gnaphalium spp.*  
*Amsinckia intermedia*  
*Centaurea diffu*  
*Lythum salicaria*  
*Urtica dioica*  
*Cyperus esculentus*  
*Lepidium latifolium*  
*Sisymbrium irio*  
*Barbarea vulgaris*  
*Juncus spp.*  
*Atriplex spp.*  
*Chondrilla juncea*  
*Euphorbia spp.*  
*Centaurea calcitrapa*  
*Centaurea solstitialis*  
*Abutilon theophrasti*

*Pluchea sericea*  
*Centaurea repens*  
*Polygonum cuspidatum*  
*Malva parvilora*  
*Asclepias spp.*  
*Solanum elaeagnifolium*  
*Oenothera lundiana*  
*Chrysothamnus nauseosus*  
*Ambrosia trifida*  
*Cirsium arvense*  
*Cirsium texanum*

*Convolvulus arvensis*  
*Calystegia sepium*  
*Polygonum convolvulus*

*Smilax spp.*  
*Ipomoea spp.*  
*Rhus radicans*  
*Brunnichia cirrhosa*

*Pueraria lobata*  
*Campsis radicans*  
*Parthenocissus quinquefolia*  
*Vitis spp.*

*Fraxinus spp.*  
*Nyssa sylvatica*  
*Prunus spp.*  
*Crataegus spp.*  
*Lonicera spp.*  
*Ostrya virginiana*  
*Ilex myrtifolia*  
*Quercus rubra*  
*Quercus alba*  
*Quercus nigra*  
*Sassafras albidum*  
*Liquidambar styraciflua*

*Vaccinium spp.*  
*Vaccinium arboreum*

**Apply 29 ounces per acre**

Alder	<i>Ahnus spp.</i>
American beech	<i>Fagus grandifolia</i>
Aspen	<i>Populus spp.</i>
Autumn olive	<i>Elaeagnus umbellate</i>
Bald cypress	<i>Taxodium distichum</i>
Birch	<i>Betula spp.</i>
Boxelder	<i>Acer negundo</i>
Black oak	<i>Quercus kelloggii</i>
Ceanothis	<i>Ceanothis spp.</i>
Chinaberry	<i>Melia azadarach</i>
Chinese tallow-tree	<i>Sapium sebiferum</i>
Chinquapin	<i>Castanopsis chrysophylla</i>
Cottonwood	<i>Populus trichocarpa and P. deltoides</i>
Cypress	<i>Taxodium spp.</i>
Dogwood	<i>Cornus spp.</i>
Eucalyptus	<i>Eucalyptus spp.</i>
Hickory	<i>Carya spp.</i>
Huckleberry	<i>Gaylussacia spp.</i>
Lyonia spp.	<i>Lyonia lucida</i>
Including: Fetterbush	<i>Lyonia mariana</i>
Staggerbush	<i>Arbutus menziesii</i>
Madrone	<i>Acer spp.</i>
Maple	<i>Acer rubrum</i>
Maple, red	<i>Acer macrophyllum</i>
Maple, bigleaf	<i>Melaleuca quinquenervia</i>
Melaleuca	<i>Morus spp.</i>
Mulberry <sup>2</sup>	<i>Quercus spp.</i>
Oak	<i>Elaeagnus angustifolia</i>
Olive, Russian	<i>Diospyros virginiana</i>
Persimmon <sup>1</sup>	<i>Rhus diversiloba</i>
Poison oak	<i>Sapium sebiferum</i>
Popcorn tree	<i>Populus spp.</i>
Poplar	<i>Liriodendron tulipifera</i>
Poplar, yellow	<i>Ligustrum vulgare</i>
Privet	<i>Tamarix ramosissima</i>
Saltcedar	<i>Oxydendrum arboreum</i>
Sourwood <sup>1</sup>	<i>Rhus spp.</i>
Sumac	<i>Platanus occidentalis</i>
Sycamore	<i>Lithocarpus densiflorus</i>
Tanoak	<i>Cyrilla racemiflora</i>
TiTi	<i>Ailanthus altissima</i>
Tree of heaven	<i>Salix spp.</i>
Willow	

1 Best control prior to formation of fall leaf color.  
 2 Degree of control may be species dependent.  
 3 Certain biotypes of Horseweed/marestail, Kochia and Russian thistle are less sensitive to DuPont™ LINEAGE™ PREP and may be controlled by tank mixes with herbicides with a different mode of action.

**SPRAY EQUIPMENT**

Thoroughly mix the required amount of LINEAGE™ PREP herbicide in a spray tank or nurse tank. A drift control agent and a foam reducing agent may be added at the recommended label rates, if needed. If desired, a spray pattern indicator may be added at the recommended label rate.

Following an LINEAGE™ PREP application, the use of spray equipment to apply other pesticides to crops on which LINEAGE™ PREP is not registered may result in their damage. Low rates of LINEAGE™ PREP can kill or severely injure most crops. The most effective way to reduce this crop damage potential is to use dedicated mixing and application equipment. The selected sprayer should be equipped with an agitation system to keep LINEAGE™ PREP suspended in the spray tank.

**MIXING INSTRUCTIONS**

1. Fill the tank 1/3 to 1/2 full of water.
2. While agitating, add the required amount of LINEAGE™ PREP.
3. Continue agitation until the LINEAGE™ PREP is fully dispersed, at least 5 minutes.

4. Once the LINEAGE™ PREP is fully dispersed, maintain agitation and continue filling tank with water. LINEAGE™ PREP should be thoroughly mixed with water before adding any other material.
5. As the tank is filling, add tank mix partners (if desired) then add the necessary adjuvant. Always add the adjuvant last.
6. If the mixture is not continuously agitated, settling will occur. If settling occurs, thoroughly re-agitate before using.
7. LINEAGE™ PREP spray preparations are stable if they are pH neutral or alkaline and stored at or below 100° F.
8. If LINEAGE™ PREP and a tank mix partner are to be applied in multiple loads, pre-slurry the LINEAGE™ PREP in clean water prior to adding to the tank. This will prevent the tank mix partner from interfering with the dissolution of the LINEAGE™ PREP.

**SPRAYER CLEANUP**

Spray equipment must be cleaned before LINEAGE™ PREP is sprayed. Follow the cleanup procedures specified on the labels of previously applied products. If no directions are provided, follow the sprayer clean up directions on this label.

When multiple loads of LINEAGE™ PREP herbicide are applied, it is recommended that at the end of each day of spraying, the interior of the tank be rinsed with fresh water and then partially filled, and the boom and hoses flushed. This will prevent the buildup of dried pesticide deposits that can accumulate in the application equipment.

**AT THE END OF THE DAY**

1. Drain tank; thoroughly rinse spray tanks, boom, and hoses with clean water. Loosen and physically remove any visible deposits.
2. Fill the tank with clean water and add 1 gallon of household ammonia (contains 3% active) for every 100 gallons of water. Equivalent amounts of an alternate-strength ammonia solution or a DuPont-approved cleaner can be used in the cleanout procedure. Carefully read and follow the individual cleaner instructions. Consult your agricultural dealer, applicator, or DuPont representative for a listing of approved cleaners. Flush the hoses, boom, and nozzles with the cleaning solution. Then add more water to completely fill the tank. Circulate the cleaning solution through the tank and hoses for at least 15 minutes. Flush the hoses, boom, and nozzles again with the cleaning solution, and then drain the tank.
3. Remove the nozzles and screens and clean separately in a bucket containing cleaning agent and water.
4. Repeat step 2.
5. Rinse the tank, boom, and hoses with clean water.
6. Dispose of the rinsate on a labeled site or at an approved waste disposal facility. If a commercial cleaner is used follow the directions for rinsate disposal on the label.

**Notes:**

1. Do not use chlorine bleach with ammonia, as dangerous gases will form. Do not clean equipment in an enclosed area.
2. Steam-cleaning aerial spray tanks is recommended prior to performing the above cleanout procedure to facilitate the removal of any caked deposits.
3. When DuPont™ LINEAGE™ PREP is tank mixed with other pesticides, all required cleanout procedures should be examined and the most rigorous procedure should be followed.
4. In addition to this cleanout procedure, all pre-cleanout guidelines on subsequently applied products should be followed as per the individual labels.

**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 way to reduce drift potential is to apply large droplets (>150 - 200 microns). The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. 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!** See Wind, Temperature and Humidity, and Surface Temperature Inversions sections of this label.

**CONTROLLING DROPLET SIZE - GENERAL TECHNIQUES**

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. **WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.**
- **Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using lowdrift nozzles.

**CONTROLLING DROPLET SIZE - AIRCRAFT**

- **Number of Nozzles** - Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.
- **Nozzle Orientation** - Orienting nozzles so that the spray is emitted backwards, parallel to the airstream will produce larger droplets than other orientations.

- **Nozzle Type** - Solid stream nozzles (such as disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types.

**BOOM LENGTH AND HEIGHT**

- **Boom Length (aircraft)** - The boom length should not exceed 3/4 of the wing length, using shorter booms decreases drift potential. For helicopters use a boom length and position that prevents droplets from entering the rotor vortices.
- **Boom Height (aircraft)** - Application more than 10 ft above the canopy increases the potential for spray drift.
- **Boom Height (ground)** - Setting the boom at the lowest height which provides uniform coverage reduces the exposure of droplets to evaporation and wind. The boom should remain level with the crop and have minimal bounce.

**WIND**

Drift potential increases at wind speeds of less than 3 mph (due to variable direction and inversion potential) or more than 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. **AVOID APPLICATIONS DURING GUSTY OR WINDLESS CONDITIONS.**

**Note:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they effect spray drift.

**TEMPERATURE AND HUMIDITY**

When making applications in hot and dry conditions, set up equipment to produce larger droplets to reduce effects of evaporation.

**SURFACE TEMPERATURE INVERSIONS**

Drift potential is high during a surface temperature inversion. Surface inversions restrict vertical air mixing, which causes 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. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates a surface inversion, while 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 preventing drift and not interfering with uniform deposition of the product.

**SENSITIVE AREAS**

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g, when wind is blowing away from the sensitive areas).

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## DRIFT CONTROL ADDITIVES

Drift control additives may be used with all spray equipment with the exception of controlled droplet applicators. When a drift control additive is used, read and carefully observe cautionary statements and all other information on the label. It is recommended that drift control additives be certified by the Chemical Producers and Distributors Association (CPDA).

**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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### STORAGE AND DISPOSAL

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

**Pesticide Storage:** Do not store below 10°F. 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 Disposal: For Plastic Containers:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**For Metal Containers (non aerosol/stainless steel only):** Triple rinse (or equivalent) the container. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities.

**Container Refilling and Disposal (For Containers up to 250 gal):** This is a refillable container. If the container is to be refilled, do not rinse with any material or introduce any pesticide other than DuPont™ LINEAGE™ PREP. Reseal and return the container to any authorized DuPont refilling facility. If the container is not to be refilled, triple rinse (or equivalent) and offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or by open burning, if allowed by state and local authorities. If burned, keep out of smoke. For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire or other emergency, call 1-800-441-3637 day or night.

**Container Disposal for Bulk Containers:** When this container is empty, replace the cap and seal all openings that have been opened during use, and return the container to the point of purchase or to a designated location named at time of purchase of this product. The container must only be refilled with this pesticide product. **DO NOT REUSE THE CONTAINER FOR ANY OTHER PURPOSE.** Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, wornout threads and closure devices. Check for leaks after refilling and before transporting. Do not transport if this container is damaged or leaking. If the container is damaged, leaking or obsolete, contact DuPont at 1-800-441-3637. If not returned to the point of purchase or to a designated location, triple rinse emptied container and offer for recycling. Disposal of this container must be in compliance with state and local regulations. For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire or other emergency, call 1-800-441-3637 day or night.

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**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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