

352-767

08-15-2011

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460-0001



OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

8-15-11

Mr. J.H. Cain
E.I. DuPont de Nemours & Company
DuPont Crop Protection
Stine-Haskell Research Center
P.O. Box 30
Newark, DE 19714-0300

Subject: Amended Reregistration Label (Imazapyr Reregistration)
Product Name: DuPont Lineage Prep Herbicide
EPA Registration Number: 352-767
Label Submitted: August 9, 2011

Dear Mr. Cain:

The Agency, in accordance with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, has completed reviewing all of the information submitted with your application to support the reregistration of the above referenced product in connection with the Imazapyr RED, and has concluded that your submission is acceptable.

NOTE: This product is **not** being reregistered under sections 3(c)5 and 4(g) of FIFRA at this time because this product contains an additional active ingredient which is pending a RED amendment.

Please note that the record for this product currently contains the Confidential Statements of Formulation (CSFs) dated 10/6/08. Any previously dated CSFs are superseded.

A copy of your label stamped "Accepted" is enclosed along with copies of the acute toxicity and product chemistry reviews completed for the subject product. Products shipped after 12 months from the date of this amendment or the next printing of the label whichever occurs first, must bear the new revised label. Your release for shipment of the product bearing the amended label constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e).

If you have any questions about this letter, please contact Erik Kraft at (703) 380-0706 or via email at kraft.erik@epa.gov.

Sincerely,

Kable Bo Davis
Herbicide Branch
Registration Division (7505P)

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ACCEPTED
8-15-11
Under the Federal Insecticide,
Fungicide, and Rodenticide Act,
as amended, for the pesticide
registered under
EPA Reg. No. 352-767

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%
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Sulfometuron methyl {Methyl 2-[[[(4,6-dimethyl-2-pyrimidinyl)amino]-carbonyl]amino]sulfonyl]benzoate}	15.3%
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Metsulfuron methyl Methyl 2-[[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl)amino]-carbonyl]amino]sulfonyl]benzoate	4.1%
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Other Ingredients	26.1%
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TOTAL	100.0%
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EPA Reg. No. 352-767

EPA Est. No. _____

Nonrefillable Container

Net: _____

OR

Refillable Container

Net: _____

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.

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.

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PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are made of any waterproof material. If you want more options, follow the instructions for category A on an EPA chemical-resistant category selection chart.

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

Long-sleeved shirt and long pants.

Shoes plus socks.

Chemical resistant gloves (except for pilots) made of any waterproof material, such as polyethylene or polyvinylchloride.

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

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

See Engineering Controls for more requirements.

Engineering Control Statement: 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 Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4- 6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

USERS SHOULD: Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

ENVIRONMENTAL HAZARDS

This product is toxic to plants. Drift and runoff may be hazardous to plants in water adjacent to treated areas. 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 washwater or rinsate.

PHYSICAL AND CHEMICAL HAZARDS

Spray solutions of DuPont™ LINEAGE® PREP must 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.

LINEAGE® PREP must be used only in accordance with instructions on this label or in separately published DuPont labeling.

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

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.

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

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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 considered for use on public, private, and tribal lands to treat certain weed species infestations that have been determined to be invasive, consistent with the Federal Interagency Committee for the Management of Noxious and Exotic Weeds (FICMNEW) National Early Detection and Rapid Response (EDRR) System for invasive plants.

Effective EDRR systems address invasions by eradicating the invader where possible, and controlling them when the invasive species is too established to be feasibly eradicated. Once an EDRR assessment has been completed and action is 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.

PREPARING FOR USE - Site Specific Considerations

Understanding the risks associated with the application of DuPont™ LINEAGE® PREP is essential to aid in preventing off-site injury to desirable vegetation and agricultural crops. The risk of off-site movement both during and after application may be affected by a number of site specific factors such as the nature, texture and stability of the soil, the intensity and direction of prevailing winds, vegetative cover, site slope, rainfall, drainage patterns, and other local physical and environmental conditions. A careful evaluation of the potential for off-site movement from the intended application site, including movement of treated soil by wind or water erosion, must be made prior to using LINEAGE® PREP. This evaluation is particularly critical where desirable vegetation or crops are grown on neighboring land for which the use of LINEAGE® PREP is not labeled. If prevailing local conditions may be expected to result in off-site movement and cause damage to neighboring desirable vegetation or agricultural crops, do not apply LINEAGE® PREP.

Before applying LINEAGE® PREP the user must read and understand all label directions, precautions and restrictions completely, including these requirements for a site specific evaluation. If you do not understand any of the instructions or precautions on the label, or are unable to make a site specific evaluation yourself, consult your local agricultural dealer, cooperative extension service, land managers, professional consultants, or other qualified authorities familiar with the area to be treated. If you still have questions regarding the need for site specific considerations, please call 1-888-6-DUPONT.

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

APPLICATION INFORMATION

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

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regeneration conifer sites, it may be used for selective herbaceous and woody weed control. DuPont™ 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 helicopter.

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).

<u>Conifer Species</u>		<u>Rate (ounces per acre)</u>
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 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 advised 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

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with seedling pines (other than where Slash pines are to be planted), apply a tank mix of DuPont™ 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.

<u>Conifer Species</u>	<u>Rate (ounces/acre)</u>
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 advised 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 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.

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DuPont™ LINEAGE® PREP herbicide may 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

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 and SPOT TREATMENT - RELEASE charts of this label for use rates.

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	Sassafrass
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.

PRECAUTIONS AND RESTRICTIONS – 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 must 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.

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- Leave treated soil 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 or allow worker entry into treated areas until sprays have dried.

PRODUCT 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-agricultural 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 (including airports, highway, railroad and utility rights-of-way (ROW), sewage disposal areas); uncultivated agricultural areas - non-agricultural producing (including farmyards, fuel storage areas, fence rows, non-irrigation ditch banks, barrier strips); industrial sites - outdoor (including lumberyards, pipeline and tank farms). 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-agricultural 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 may be included to the spray solution (See the ADJUVANTS section of this label). 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.

Note: 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.

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 29 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.

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SPECIFIC WEED PROBLEMS - KUDZU

DuPont™ 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. Do not apply more than 39 ounces per acre per year on a broadcast basis.

APPLICATION INFORMATION

See the Spray Drift Management and Spray Drift Restrictions sections of this label for additional instructions, precautions and restrictions when making aerial or ground applications.

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 manufacturers labeled 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.

<u>SPRAY SOLUTION VOLUME</u>	<u>LINEAGE®PREP</u>	<u>SURFACTANT (fluid ounce)</u>
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 29 ounces	6.4

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PRECAUTIONS AND RESTRICTIONS - NON-AGRICULTURAL USE

- Injury or loss of desirable trees or other plants may result if DuPont™ 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 if 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 or snow covered soil.
- Leave treated soil 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 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 must 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 INSTRUCTIONS, PRECAUTIONS, AND RESTRICTIONS FOR AGRICULTURAL AND NON-AGRICULTURAL USES

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
 Bluegrass, annual
 Bahiagrass
 Barnyardgrass
 Barley, foxtail
 Barley, little
 Barley, wild
 Brome, downy
 Brome, red
 Brome, ripgut

Triglochin maritimum
Poa annua
Paspalum notatum
Echinochloa crus-gali
Hordeum jubatum
Hordeum pusillum
Hordeum spp.
Bromus tectorum
Bromus rubens
Bromus diandrus

Canarygrass, reed
Crabgrass
Fescue
Foxtail, fescue
Foxtail, green
Fescue, red
Goatgrass, jointed
Johnsongrass
Medusahead
Oat, wild
Panicum (annual)
Panicum, browntop
Panicum, fall
Panicum, Texas
Rye
Ryegrass, Italian
Saltgrass, seashore
Sandbur, field
Sandbur, southern
Signalgrass, broadleaf
Sprangletop, bearded
Stiltgrass, 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

Apply 22 ounces per acre

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

Apply 27 ounces per acre

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

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

Phalaris arundinacea
Digitaria spp.
Festuca spp.
Vulpia megalura
Setaria viridis
Festuca rubra
Aegilops cylindrica
Sorghum halepense
Taeniatherum caput-medusae
Avena fatua
Panicum spp.
Panicum fasciculatum
Panicum dichotomiflorum
Panicum texanum
Secale cereale
Lolium multiflorum
Distichlis stricta
Cenchrus incertus
Cenchrus echinatus
Brachiaria platyphylla
Leptochloa fascicularis
Microstegium vimineum
Triticum aestivum

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

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

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

Aster spp.
Monarda didyma
Anthriscus caucalis
Anthriscus sylvestris
Rudbeckia hirta
Saponaria officinalis
Medicago polymorpha
Ranunculus testiculatus
Daucus carota
Silene conica
Matricaris maritima
Stellaria media
Cerastium vulgatum
Cichorium intybus
Trifolium incarnatum

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
 Heliotrope, seaside
 Hemlock, poison
 Horseweed/marestail³
 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
 Kochia³
 Lespedeza
 Mullein

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 vulgari
Heliotropium curassavicum
Conium maculatum
Conyza Canadensis
Cynoglossum officinale
Chenopodium album
Claytonia perfoliata
Lactuca spp.
Malva neglecta
Malva parviflora
Montia perfoliata
Brassica nigra
Chorisporea 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 villos
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
Chenonodium murale
Ulex europaeus
Grindelia squarrosa
Hyoscyamus niger
Halogeton glomeratus
Lamium aplexicaule
Brassica juncea
Polygonum aviculare
Kochia scoparia
Lezpedeza spp.
Verbascum spp.

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
 Sweet-clover
 Teasel
 Thistle, bull
 Thistle, musk
 Thistle, plumelless
 Thistle, Russian³
 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

Kudzu⁴
 Trumpet creeper
 Virginia creeper
 Wild grape

BRUSH SPECIES

Apply 15 ounces per acre

Ash
 Black gum
 Cherry
 Hawthorn

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.
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 diffusa
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 parviflora
Asclepias spp.
Solanum elaeagnifolium
Oenothera kunthiana
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.

Honeysuckle
 Hophornbeam
 Myrtle dahoon
 Oak, red
 Oak, white
 Oak, water
 Sassafras
 Sweetgum
 Vaccinium spp.
 Including: Blueberry
 Sparkleberry

Apply 29 ounces per acre

Alder
 American beech
 Aspen
 Autumn olive
 Bald cypress
 Birch
 Boxelder
 Black oak
 Ceanothis
 Chinaberry
 Chinese tallow-tree
 Chinquapin
 Cottonwood
 Cypress
 Dogwood
 Eucalyptus
 Hickory
 Huckleberry
 Lyonia spp.
 Including: Fetterbush
 Staggerbush
 Madrone
 Maple
 Maple, red
 Maple, bigleaf
 Melaleuca
 Mulberry²
 Oak
 Olive, Russian
 Persimmon¹
 Poison oak
 Popcorn tree
 Poplar
 Poplar, yellow
 Privet
 Saltcedar
 Sourwood¹
 Sumac
 Sycamore
 Tanoak
 Titi
 Tree of heaven
 Willow

Lonicera spp.
Ostrya virginiana
Ilex myrtifolia
Quercus rubra
Quercus alba
Quercus nigra
Sassafras albidum
Liquidambar styraciflua

Vaccinium spp.
Vaccinium arboreum

Alnus spp.
Fagus grandifolia
Populus spp.
Elaeagnus umbellata
Taxodium distichum
Betula spp.
Acer negundo
Quercus kelloggii
Ceanothis spp.
Melia azadarach
Sapium sebiferum
Castanopsis chrysophylla
Populus trichocarpa and *P. deltoides*
Taxodium spp.
Cornus spp.
Eucalyptus spp.
Carya spp.
Gaylussacia spp.

Lyonia lucida
Lyonia mariana
Arbutus menziesii
Acer spp.
Acer rubrum
Acer macrophyllum
Melaleuca quinquenervia
Morus spp.
Quercus spp.
Elaeagnus angustifolia
Diospyros virginiana
Rhus diversiloba
Sapium sebiferum
Populus spp.
Liriodendron tulipifera
Ligustrum vulgare
Tamarix ramosissima
Oxydendrum arboreum
Rhus spp.
Platanus occidentalis
Lithocarpus densiflorus
Cyrilla racemiflora
Ailanthus altissima
Salix spp.

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.

4 Use a minimum of 75 GPA – control of established stands may require repeat applications.

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.

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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. DuPont™ 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.

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. When tank mixing, use the most restrictive label limitations for each of the products used in the tank mix.

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.

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.

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

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

CONTROLLING DROPLET SIZE - GROUND TECHNIQUES

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

CONTROLLING DROPLET SIZE - AIRCRAFT

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

BOOM LENGTH (AIRCRAFT) AND APPLICATION HEIGHT

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

WIND

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

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

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TEMPERATURE AND HUMIDITY

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

SURFACE TEMPERATURE INVERSIONS

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

SHIELDED SPRAYERS

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

AIR ASSISTED (AIR BLAST) FIELD CROP SPRAYERS

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

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

SENSITIVE AREAS

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

DRIFT CONTROL ADDITIVES

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

SPRAY DRIFT RESTRICTIONS

AERIAL APPLICATIONS:

- Applicators are required to use a coarse or coarser droplet size (ASABE S572.1) or, if specifically using a spinning atomizer nozzle, applicators are required to use a volume mean diameter (VMD) of 385 microns or greater for release heights below 10 feet; Applicators are required to use a very coarse or coarser droplet size or, if specifically using a spinning atomizer nozzle, applicators are required to use a VMD of 475 microns or greater for release heights above 10 feet; Applicators must consider the effects of nozzle orientation and flight speed when determining droplet size.
- Applicators are required to use upwind swath displacement.
- The boom length must not exceed 60% of the wingspan or 90% of the rotor blade diameter to reduce spray drift.
- Applications with wind speeds less than 3 mph and with wind speeds greater than 10 mph are prohibited.
- Applications into temperature inversions are prohibited.

GROUND BOOM APPLICATIONS:

- Applicators are required to use a nozzle height below 4 feet above the ground or plant canopy and coarse or coarser droplet size (ASABE S572.1) or, if specifically using a spinning atomizer nozzle, applicators are required to use a volume mean diameter (VMD) of 385 microns or greater.
- Applications with wind speeds greater than 10 mph are prohibited.
- Applications into temperature inversions are prohibited.

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STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store product in original container only.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

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

Nonrefillable Plastic and Metal Containers (Capacity Equal to or Less Than 50 Pounds): Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Nonrefillable Plastic and Metal Containers (Capacity Greater Than 50 Pounds): Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Nonrefillable Plastic and Metal Containers, e.g., Intermediate Bulk Containers [IBC] (Size or Shape Too Large to be Tipped, Rolled or Turned Upside Down): Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying the contents from this container into application equipment or mix tank and before final disposal using the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. For Metal Containers, offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Nonrefillable Paper or Plastic Bags, Fiber Sacks including Flexible Intermediate Bulk Containers (FIBC) or Fiber Drums With Liners: Nonrefillable container. Do not reuse or refill this container. Completely empty paper or plastic bag, fiber sack or drum liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. Then offer for recycling if available or dispose of empty paper or plastic bag, fiber sack or fiber drum and liner in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances.

Refillable Fiber Drums With Liners: Refillable container (fiber drum only). Refilling Fiber Drum: Refill this fiber drum with DuPont™ LINEAGE® PREP containing sulfometuron methyl and chlorsulfuron only. Do not reuse this fiber drum for any other purpose. Cleaning before refilling is the responsibility of the refiller. Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment.

Disposing of Fiber Drum and/or Liner: Do not reuse this fiber drum for any other purpose other than refilling (see preceding). Cleaning the container (liner and/or fiber drum) before final disposal is the responsibility of the person disposing of the container. Offer the liner for recycling if available or dispose of liner in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. If drum is contaminated and cannot be reused, dispose of it in the manner required for its liner. To clean the fiber drum before final disposal, completely empty the fiber drum by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. Then offer the fiber drum for recycling if available or dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances.

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All Other Refillable Containers: Refillable container. Refilling Container: Refill this container with DuPont™ LINEAGE® PREP containing sulfometuron methyl and chlorsulfuron only. Do not reuse this container for any other purpose. Cleaning before refilling is the responsibility of the refiller. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn out threads and closure devices. If damage is found, do not use the container, contact DuPont at the number below for instructions. Check for leaks after refilling and before transporting. If leaks are found, do reuse or transport container, contact DuPont at the number below for instructions. **Disposing of Container:** Do not reuse this container for any other purpose other than refilling (see preceding). Cleaning the container before final disposal is the responsibility of the person disposing of the container. To clean the container before final disposal, use the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

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

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

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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.**

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Internet address: www.cropprotection.dupont.com

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