

352-766

8/2/2010

10#21



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

AUG - 2 2010

OFFICE OF  
CHEMICAL SAFETY AND  
POLLUTION PREVENTION

J.H. Cain  
E.I. du Pont de Nemours and Company  
1007 Market Street  
Wilmington, DE 19898

Subject: Notification per PR Notice 98-10 (container disposal PR Notice 2007-4)  
DuPont Lineage Clearstand Herbicide  
EPA Reg. No. 352-766  
Application Dated July 6, 2010

Dear Mr. Cain:

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

Please note that the typo under **For plastic refillable drums:** has been corrected from "simazapyr" to "**imazapyr**" on the submitted label.

If you have any questions, please call me directly at 703-305-5697 or Mindy Ondish at 703-605-0723.

Sincerely,

A handwritten signature in black ink, appearing to read "Jim Tompkins".

Jim Tompkins  
Product Manager 25  
Herbicide Branch  
Registration Division (7505P)  
Office of Pesticide Programs

Please read instructions on reverse before completing form.

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



United States  
Environmental Protection Agency  
Washington, DC 20460

<input type="checkbox"/>	Registration
<input type="checkbox"/>	Amendment
<input checked="" type="checkbox"/>	Other

OPP Identifier Number

Application for Pesticide - Section I

1. Company/Product Number DuPont / 352-766	2. EPA Product Manager James A. Tompkins	3. Proposed Classification <input type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) DuPont /DuPont Lineage Clearstand Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) E. I. du Pont de Nemours & Co. 1007 Market Street Wilmington, DE 19898 Attention: J. Cain <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____	<b>NOTIFICATION</b> AUG 02 2010
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.	
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.	

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

Notification of label change per PR Notice 2007-4. This notification is consistent with the guidance in PR Notice 2007-4 and the requirements of EPA's regulations at 40 CFR §§ 156.10, 156.140, 156.144, 156.146, and 156.156. No other changes have been made to the labeling or the Confidential Statement of Formula for this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if the amended label is not consistent with the requirements of 40 CFR §§ 156.10, 156.140, 156.144, 156.146, and 156.156, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Metal	<input checked="" type="checkbox"/> Plastic
* Certification must be submitted	If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt	No. per container	<input type="checkbox"/> Glass
					<input checked="" type="checkbox"/> Paper
					<input checked="" type="checkbox"/> Other (Specify) _____ foil lined bag, supersack, lined fiber drum
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input checked="" type="checkbox"/> Container		4. Size(s) Retail Container 500cc; 3,4,12,25,30, & 300lb; 1,5 & 55gal		5. Location of Label Directions <input type="checkbox"/> On Label <input checked="" type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input checked="" type="checkbox"/> Lithograph <input checked="" type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled			<input checked="" type="checkbox"/> Other ECL (extended content label)		

Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name J. H. (Jack) Cain	Title Product Registration Manager	Telephone No? (Include Area Code) (302) 366-6417
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)
2. Signature 	3. Title Product Registration Manager	
4. Typed Name J. H. (Jack) Cain	5. Date July 6, 2010	



#304 21

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

**REGISTRATION ACTION: EPA PRN 2007-4 NOTIFICATION**

**FEE CATEGORY: Not Applicable** **REGISTRATION FEE: None**

July 6, 2010

Via Courier

Mr. James A. Tompkins (Team 25)  
Document Processing Desk (NOTIF)  
Office of Pesticide Programs (7504P)  
U.S. Environmental Protection Agency  
Room S-4900, One Potomac Yard  
2777 South Crystal Drive  
Arlington, VA 22202-4501

Dear Mr. Tompkins:

**Subject: DuPont™ Lineage™ Clearstand™ Herbicide  
EPA Registration Number 352-766  
Submission of Notification: Revision of Container Handling Statements  
As per Subpart H of 40 CFR §156 (“Container Labeling”) and  
EPA Pesticide Registration Notice 2007-4**

E.I. DuPont de Nemours and Company (DuPont) herein submits a Notification of revision of the container handling statements in the Storage And Disposal text box on the label for the subject registration of DuPont™ Lineage™ Clearstand Herbicide. This Notification complies with the regulatory requirements of 40 CFR §152.46 (*Notification and non-notification changes to registrations*) and is in accordance with the procedures in EPA Pesticide Registration Notices 98-10 and 2007-4. The requisite Notification certification in Section IV. A. of PRN 2007-4 is contained in Section – II of EPA Form 8570-1.

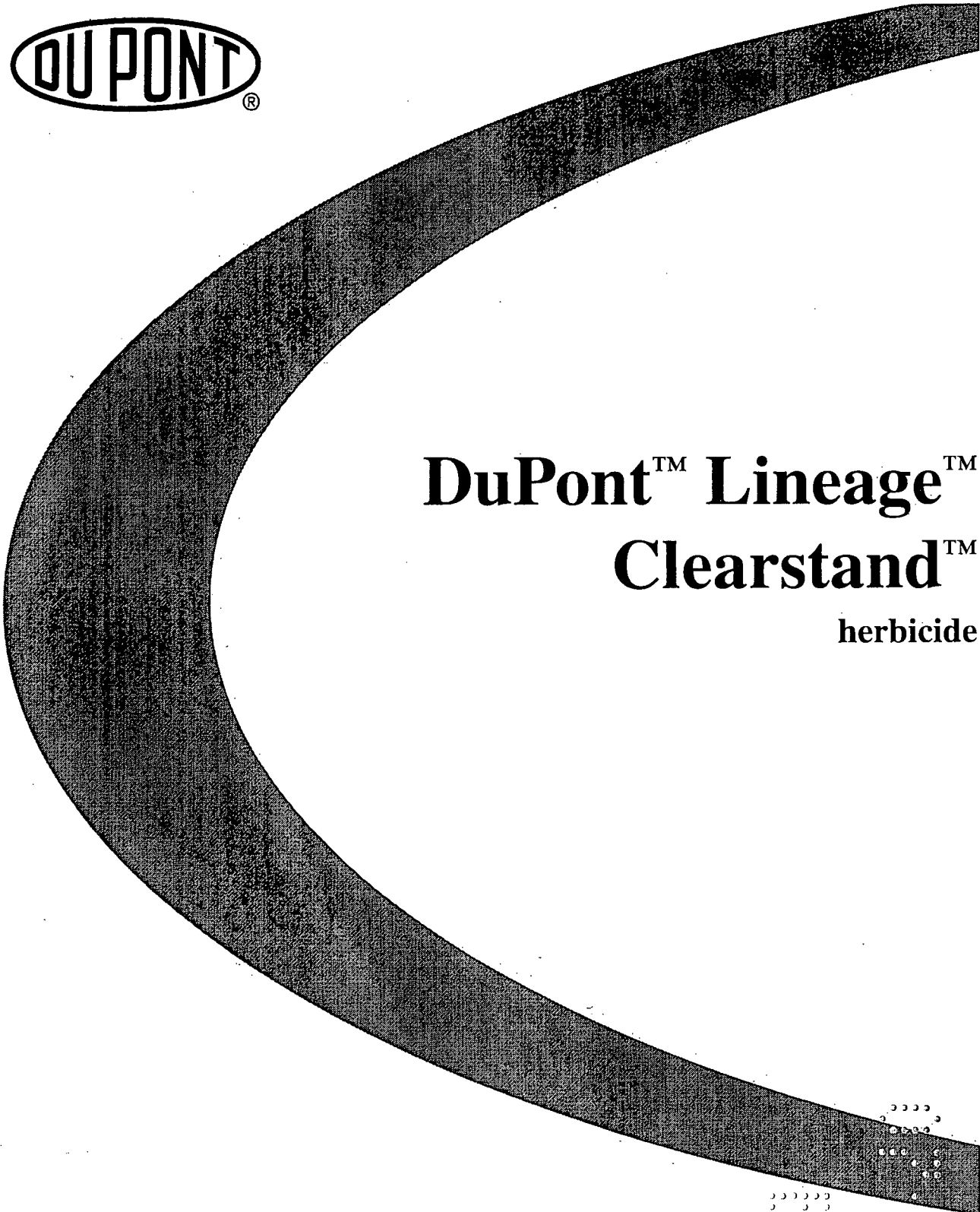
The following items are enclosed in support of this Notification submission:

**1. EPA Form 8570-1 (Application for Registration Amendment)**

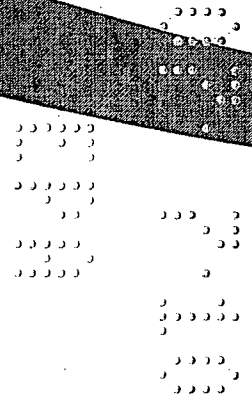
One signed copy of EPA Form 8570-1 is enclosed. The notification and certification described above is stated in the explanation box of Section - II.

It is my understanding that this action does not require the payment of registration service fees under PRIA because Agency initiated label revisions are not subject to PRIA. Consequently, no PRIA II pesticide registration fee category is proposed and no service fees have been paid.





**DuPont™ Lineage™**  
**Clearstand™**  
herbicide





# NOTIFICATION

AUG 02 2010

# DuPont™ Lineage™ Clearstand™

## 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)	63.2%
Metsulfuron methyl Methyl 2-[[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl)amino]-carbonyl]amino]sulfonyl]benzoate	9.5%
<b>Inert Ingredients</b>	27.3%
<b>TOTAL</b>	100.0%

EPA Reg. No. 352-766

### 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.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

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

##### Applicators and other handlers must wear:

Long-sleeved shirt and long pants.

Shoes plus socks.

Chemical resistant gloves 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, use detergent and hot water. Keep and wash PPE separately from other laundry.

**Engineering Control Statement:** 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 clothing immediately if pesticide gets inside. Then wash thoroughly and put on 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 LINEAGETM CLEARSTANDTM should be mixed, stored, and applied only in stainless steel, fiberglass, plastic, and plastic-lined steel containers.

Do not mix, store, or apply LINEAGETM CLEARSTANDTM or spray solutions of LINEAGETM CLEARSTANDTM 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™ CLEARSTAND™ should be used only in accordance with recommendations on the label.

## GENERAL INFORMATION

LINEAGE™ CLEARSTAND™ herbicide is a dispersible granule that is mixed in water and applied as a spray by ground or aerial application.

LINEAGE™ CLEARSTAND™ is recommended for the control of annual and perennial weeds and unwanted woody plants on conifer plantations (release), private, public and military lands, on rights-of-way, industrial sites, non-crop areas, rangeland, pasture, wildlife management areas, ditch banks of dry drainage ditches, and certain types of unimproved turf grass, including grazed areas on these sites. 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™ CLEARSTAND™ on irrigation ditches or canals. Do not apply LINEAGE™ CLEARSTAND™ on dry irrigation canals or dry irrigation ditches.

LINEAGE™ CLEARSTAND™ may be applied on conifer plantations, wildlife management areas, rangeland and pasture and non-crop 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 states of California and 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 states of California and 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 states of California and New York.

LINEAGE™ CLEARSTAND™ may be applied by ground spray equipment (boom sprayers, backpack sprayers, tree injection, etc.). LINEAGE™ CLEARSTAND™ may also be applied by aerial spray equipment, however, do not make applications by fixed wing aircraft unless appropriate buffer zones can be maintained to prevent spray drift out of the target area or, when treating open tracts of land, where spray drift can be tolerated.

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. Except

when applying with a "Microfoil" boom, a drift control agent may be added at the recommended rate.

LINEAGE™ CLEARSTAND™ controls weeds and woody plants primarily by postemergent activity. Although LINEAGE™ CLEARSTAND™ has preemergence activity, best results are generally obtained when LINEAGE™ CLEARSTAND™ is applied to foliage after emergence or dormancy break. Generally, for the control of annual weeds, LINEAGE™ CLEARSTAND™ provides the best results when applied to young, actively growing weeds. For the control of perennial weeds, applications made at the bud/bloom stage or while the target weeds are in the fall rosette stage may provide the best results. The use rate depends upon the weed species and size at the time of application. The degree and duration of control may depend on the following:

- weed spectrum and infestation intensity
- weed size at application
- environmental conditions at and following treatment
- soil pH, soil moisture, and soil organic matter.

Good spray coverage of the target plant is desired. Excessive wetting which causes the spray to run off target plants should be avoided.

**Note:** Injury or loss of desirable trees or other plants may result if LINEAGE™ CLEARSTAND™ 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.

Applying or draining or flushing equipment on or near sensitive desirable 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 may cause severe injury or death to these plants

Do not treat irrigation ditches, or water used for crop irrigation or for domestic uses.

## BIOLOGICAL ACTIVITY

LINEAGE™ CLEARSTAND™ is quickly taken up by the leaves, stems and roots of plants with accumulations occurring 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™ CLEARSTAND™ is rain-fast at one hour after application.

## TANK MIXTURES

LINEAGE™ CLEARSTAND™ 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™ CLEARSTAND™. An anti-foaming agent, spray pattern indicator or drift reducing agent may be applied at the product labeled rate if needed or desired.

## ADJUVANTS

For best performance, include a spray adjuvant when making postemergence applications of DuPont™ LINEAGE™ CLEARSTAND™.

**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™ CLEARSTAND™. 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 to quickly limiting uptake. Refer to the manufacturers recommendations for use rates.

**Invert Emulsions:** LINEAGE™ CLEARSTAND™ 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.

**Ammonium Nitrogen Fertilizer:** In addition to a non-ionic surfactant or seed oil concentrate, ammonium nitrogen fertilizer may be added to the LINEAGE™ CLEARSTAND™ spray solution. Use 32 to 48 ounces per acre of a high-quality urea ammonium nitrate (UAN), such as 28% N or 32% N, or a spray-grade ammonium sulfate (AMS).

## 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/crop systems in your area.

## AGRICULTURAL USES

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard. Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours. PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

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

## CONIFER PLANTATIONS

### CONIFER SITE PREPARATION

After consulting the "Weeds Controlled" and "Brush Species Controlled" tables, apply the rate of LINEAGE™ CLEARSTAND™ needed to control the most difficult species on the site.

**Loblolly and Slash Pine** - Apply up to 25 ounces per acre for Loblolly and Slash pines. Transplant the following planting season.

For the control of the brush species listed below, apply LINEAGE™ CLEARSTAND™ the rates of 8 to 16 ounces per acre.



Loblolly and slash pines may be transplanted the planting season following application. This application controls ash, black gum, cherry, hawthorn, honeysuckle, hophornbeam, persimmon, oaks (red, white and water), sassafras, sweetgum, vaccinium species, and suppresses blackberry, dogwood, elms, myrtle dahoon, hickory, and red maple.

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

**Control of pine and hardwood seedlings and saplings**

To control a combination of pine and hardwood seedlings and saplings in site preparation areas, apply a tank mixture of LINEAGE™ CLEARSTAND™ at 8 to 16 ounces per acre plus DuPont™ 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.

This tank mix is recommended for the control of Ash, Blackberry, Blackgum, Black locust, Box elder, Cherry, Dogwood, Elms (winged, slippery), Oaks (red, white), Red maple, Sassafras, and Sourwood.

**Douglas fir and Ponderosa pine** - Apply up to 13 ounces per acre prior to planting Douglas fir and Ponderosa pine in the coast rangeland and western slope of the Cascades in Oregon and Washington. The conifer species listed can be planted anytime after application. Other conifer species can be planted providing the user has prior experience indicating acceptable tolerance to LINEAGE™ CLEARSTAND™ soil residues.

**TANK MIXTURES**

Glyphosate (4 pound active per gallon) Tank mix 8 to 16 ounces of LINEAGE™ CLEARSTAND™ with 2 to 10 quarts of glyphosate per acre. Refer to the product container for a list of additional species controlled.

**CONIFER RELEASE**

A broadcast or directed application of LINEAGE™ CLEARSTAND™ may be used to control labeled 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 rates listed below as conifer injury may occur. Where infestations of hardwood brush species are competing with the conifers, make a broadcast application of LINEAGE™ CLEARSTAND™ at the rate per conifer species listed below. Use the higher herbicide rates for heavy weed/brush infestations, hard to control species and dense hardwood canopies.

**Conifer Species Rate (ounces per acre)**

Loblolly pine	9 - 16
Slash pine	9 - 16

**Mid rotation release:** For broadcast applications underneath the pine canopy in established stands of Loblolly pine, use 13 to 19 ounces per acre. For mid rotation release of Slash pine, use the rates listed above.

**Note:** In Slash pine stands, to control woody brush, make broadcast over-the-top release applications after August 15th. Only make applications to Slash pines that are 2 to 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. In conifers, except loblolly pine, only make broadcast applications of LINEAGE™ CLEARSTAND™ after the second season of growth. To reduce the potential for minor stunting, make broadcast release applications late in the growing season.

During the first growing season after planting of loblolly pines or in one year old naturally regenerated loblolly pine sites, LINEAGE™ CLEARSTAND™ may be used for release treatments. For release of loblolly pines that are one year old apply LINEAGE™ CLEARSTAND™ at 9 to 16 ounces per acre. These applications should only be made after July 15th. Use rates below 13 ounces per acre will provide only suppression of hardwood brush and some re-sprouting should be expected. A non-ionic surfactant at 0.25% v/v may be included with this treatment. For hard to control species or heavy infestations, use the higher labeled rates of LINEAGE™ CLEARSTAND™.

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

**SPOT TREATMENT – RELEASE**

In all ages of conifers, a directed postemergence or cut stem application of LINEAGE™ CLEARSTAND™ may be applied to control unwanted hardwoods or other brush. Injury may also occur to desired 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 of the treated trees.

**MIXING AND APPLICATION INFORMATION**

LINEAGE™ CLEARSTAND™ 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 and brush	Directed foliar or spot spray	2.6 to 5.2 ounces per 3 gallons of water
Stump or cut stem		5.2 ounces per gallon of water
Herbaceous weeds	Broadcast	2.6 to 7.8 ounces per acre

See specific use directions in appropriate section.

### GROUND OPERATED SPRAY EQUIPMENT

Thoroughly mix and apply the recommended amount of DuPont™ LINEAGE™ CLEARSTAND™ herbicide in a minimum of 5 gallons of water per acre.

To mix, fill the spray tank with one-half to three-quarters of the desired volume with clean water. Add the required amount of LINEAGE™ CLEARSTAND™ to the spray tank while agitating. Add additional water to achieve the desired spray volume and agitate again. A suitable adjuvant (see Adjuvant section) may be added to the spray solution to enhance control of undesirable vegetation. 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.

For best results, uniformly cover the foliage of the vegetation to be controlled with the spray solution.

**Side Trimming:** Do not side trim with LINEAGE™ CLEARSTAND™ unless severe injury or death of the treated tree can be tolerated. LINEAGE™ CLEARSTAND™ is readily translocated and can result in death of the entire tree.

### 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™ CLEARSTAND™ and include a nonionic surfactant at a minimum of 0.25% by volume.

To mix the spray solution, add the volume of LINEAGE™ CLEARSTAND™ 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/brush infestations, hard to control species and dense hardwood canopies.

<u>SPRAY SOLUTION VOLUME</u>	<u>LINEAGE™ CLEARSTAND™</u>	<u>SURFACTANT (fluid ounce)</u>
2.5 gallons	2.6 to 5.2 ounces	0.8
4 gallons	4.2 to 8.3 ounces	1.5
5 gallons	5.2 to 10.7 ounces	1.6
10 gallons	10.7 to 21.4 ounces	3.2
20 gallons	21.4 to 41.6 ounces	6.4

**Important:** Do not over apply causing run-off from the treated foliage. Avoid direct application to desired plant species as injury may occur. Do not apply on or near desirable non-conifer trees or other plants, or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their

roots. Do not exceed 25 ounces of LINEAGE™ CLEARSTAND™ herbicide per acre.

**Application Tips:** For low volume, select proper nozzles to avoid over-application. Proper application is critical to ensure desirable results. Best results are achieved when the spray covers the crown and approximately 70 percent of the plant.

**Proper Spray Pattern:** Moisten but do not drench target vegetation causing spray solution to run off.

**Low Volume with Backpacks:** For brush up to 4 feet tall, spray down on the crown, covering crown and penetrating approximately 70% of the plant.

**For brush 4 to 8 feet tall:** Lace the sides of the brush by directing spray to at least two sides of the plant in smooth vertical motions from the crown to the bottom. Make sure to cover the crown when ever possible.

**For brush over 8 feet tall:** Lace the sides of the brush by directing spray to at least two sides of the target in smooth zigzag motions from crown to bottom.

**Low Volume with Hydraulic Handgun Application Equipment:** Use same technique as described above for individual stem treatments.

### BROADCAST APPLICATIONS

For broadcast applications, simulate a gentle rain near the top of target vegetation, allowing spray to contact the crown and penetrate the target foliage without falling to the understory. Herbicide spray solution which contacts the under story may result in severe injury or death of plants in the under story. Do not exceed 30 ounces of LINEAGE™ CLEARSTAND™ herbicide per acre broadcast.

### STUMP AND CUT STEM TREATMENTS

LINEAGE™ CLEARSTAND™ may be used to control undesirable woody vegetation by applying a solution of the herbicide in water to the cambium area of freshly-cut stump surfaces or to cuts on the stem of the target woody vegetation. Applications can be made at any time of the year except during periods of heavy sap flow in the spring. Tree injection and cut stem treatments are most effective in late summer and early fall.

**Mixing:** LINEAGE™ CLEARSTAND™ herbicide may be mixed and applied as a dilute solution to the surface of the stump or to cuts on the stem of the target woody vegetation. To prepare a dilute solution, thoroughly mix 5 ounces of LINEAGE™ CLEARSTAND™ with one gallon of water.

**For cut stump treatments:** Spray or brush the solution onto the cambium area of the freshly cut stump surface. Insure that the solution thoroughly wets the entire cambium area (the wood next to the bark of the stump).

**For tree injection treatments:** Using standard injection equipment, apply 1 milliliter of solution at each injection site around the tree with no more than one inch intervals between cut edges. Insure that the injector completely penetrates the bark at each injection site.

**For frill or girdle treatments:** Using a hatchet, machete, or similar device, make cuts through the bark at intervals around the tree with no more than two-inch intervals between cut edges. Spray or brush the solution into each cut until thoroughly wet.

**HERBACEOUS WEED CONTROL**

DuPont™ LINEAGE™ CLEARSTAND™ may be applied as a broadcast treatment using ground sprayers or as a directed treatment using backpack or hand-held sprayers for the control of herbaceous weeds. For broadcast treatments apply LINEAGE™ CLEARSTAND™ at rates of 2.6 to 7.8 ounces per acre and include a minimum of 0.25% by volume nonionic surfactant.

**IMPORTANT PRECAUTIONS  
CONIFER PLANTATIONS ONLY**

- Applications of LINEAGE™ CLEARSTAND™ made to conifers that are suffering from loss of vigor caused by insects, diseases, drought, winter damage, animal damage, excessive soil moisture, planting shock, or other stresses may injure or kill the trees.
- Applications of LINEAGE™ CLEARSTAND™ made for herbaceous release should only be made after adequate rainfall has closed the planting slit and settled the soil around the roots following transplanting.
- Do not apply LINEAGE™ CLEARSTAND™ to conifers grown as ornamentals.
- LINEAGE™ CLEARSTAND™ applications may result in damage and mortality to other species of conifers when they are present on sites with those listed in the preceding recommendations for conifer plantations.

**WILDLIFE HABITAT MANAGEMENT**

LINEAGE™ CLEARSTAND™ 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 (see WEEDS CONTROLLED section) prior to planting desirable species and to release desirable plant species. Spot, directed foliar and cut stump and stem treatments can be made to selectively control unwanted plants for wildlife habitat management and enhancement.

**PASTURE AND RANGELAND**

**SPOT APPLICATIONS**

LINEAGE™ CLEARSTAND™ may be used as a spot treatment for weed control in rangelands and grass pastures. Apply with ground equipment at the rate of 0.8 to 10 ounces per acre. Do not treat more than one tenth of the area to be cut for hay or grazed. Do not apply more than 10 ounces per acre per year.

Do not cut forage grass until 7 days after a LINEAGE™ CLEARSTAND™ application. There are no restrictions for grazing. For rangeland areas, LINEAGE™ CLEARSTAND™ should only be applied to control specific problem weeds. The successful weed management program depends on land management practices that promote the growth and development of desirable plant species.

LINEAGE™ CLEARSTAND™ herbicide controls non-native, invasive and noxious weeds in rangeland to aid in maintaining or establishing desirable plant species during normal conditions and following a fire. It is also used to control vegetation that could fuel wildfires or to help wildlife habitat improvement by suppressing/controlling undesirable vegetation or to release existing desirable rangeland plant communities from competing undesirable plants.

Caution should be used to protect threatened and endangered plants when applying LINEAGE™ CLEARSTAND™ in rangeland. To identify endangered plants in your area, work with the Fish and Wildlife Service or state conservation agencies to ensure protection of threatened or endangered plants. Federal agencies follow NEPA regulations but other organizations or people must operate under a Habitat Conservation Plan to ensure the protection of threatened and endangered plants.

**Rotational Crop Guidelines**

When used at the recommended rangeland and pasture rates, rotational crops may be planted 12 months after applications of LINEAGE™ CLEARSTAND™. Prior to planting any crop a successful field bioassay must be completed -- field bioassay to be completed after the 12 month interval. The field bioassay consists of a test strip of the intended rotational crop planted in the previously treated area in the grass pasture/rangeland sites and grown to maturity. The test strip should include low areas and knolls, and include variations in soil type and pH within the treated area. If no crop injury is evident in the test strip, the intended rotational crop may be planted the following year. LINEAGE™ CLEARSTAND™ used in recommended label directions can allow for normal growth of rotational crops but environmental and agronomic factors may vary resulting in injury to rotational crops at times.

**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

DuPont™ LINEAGE™ CLEARSTAND™ 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 and unimproved turf.

LINEAGE™ CLEARSTAND™ herbicide is to be applied as a spray solution 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.) including grazed or hayed areas on these sites. This product may be applied to terrestrial non-crops sites and unimproved turf 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™ CLEARSTAND™ on irrigation ditches or canals. Do not apply LINEAGE™ CLEARSTAND™ on dry irrigation canals or dry irrigation ditches.

LINEAGE™ CLEARSTAND™ provides preemergence and postemergence control of the broadleaf weeds, perennial and annual grasses, vines and brush species found on the label. For perennial species on the label, a postemergence application should be used. For best performance, an adjuvant should be included to the spray solution (see Adjuvants section for specific recommendations). Applications may be made by ground or air. Use a sufficient volume of water to ensure thorough coverage of the target vegetation with the application equipment being used.

Excessive wetting which causes the spray to run off target plants should be avoided. LINEAGE™ CLEARSTAND™ may be applied by either ground or aerial spray equipment. Note: Injury or loss of desirable trees or other plants may result if LINEAGE™ CLEARSTAND™ 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 root.

## APPLICATION INFORMATION

### BRUSH

#### AERIAL APPLICATIONS

LINEAGE™ CLEARSTAND™ may be applied by either fixed wing aircraft or helicopter spray equipment. Fixed wing aircraft and helicopters can be used to apply LINEAGE™ CLEARSTAND™, however, do not make applications by fixed

wing aircraft unless appropriate buffer zones can be maintained to prevent spray drift out of the target area or, when treating open tracts of land, spray drift as a result of fixed wing aircraft application can be tolerated. 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 recommended rate.

For brush sites, apply the recommended amount of LINEAGE™ CLEARSTAND™ in a sufficient spray volume to provide uniform coverage of 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. Side trimming is not recommended with LINEAGE™ CLEARSTAND™ unless death of the treated tree can be tolerated. All precautions should be taken to minimize or eliminate spray drift.

**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

Apply LINEAGE™ CLEARSTAND™ in a minimum of 5 gallons of spray solution per acre. Prepare the spray solution by thoroughly mixing in water a sufficient quantity of LINEAGE™ CLEARSTAND™ to apply 5 to 10 ounces per acre of LINEAGE™ CLEARSTAND™ plus a recommended adjuvant (see the Adjuvant section). Do not apply more than 25 ounces per broadcast acre of LINEAGE™ CLEARSTAND™. Good plant coverage is necessary for best results. The spray solution should cover the crown and at least 75% of the plant. Use adequate spray volume to help provide uniform distribution of spray droplets over the treated area and to avoid spray drift. Use the higher rates for hard to control brush species.

**Important:** Use 6 to 19 ounces LINEAGE™ CLEARSTAND™ per acre in combination with other recommended tank mixes when treating rights-of-way corridors that may have roots of desired trees extending into the treated area. Do not use more than 19 ounces per acre of LINEAGE™ CLEARSTAND™ in these areas as death to desired trees may occur. Add a spray pattern indicator, if desired, at the recommended label rates. Clean application equipment after using this product by thoroughly flushing with water.

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

#### Backpack Sprayers

For backpack manual sprayer applications, spray down on the crown and ensure coverage of 70% of the brush plant for plants up to 4 feet tall. When the plants are up to 8 feet tall, treat at

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least two sides of the plant. Make swipes vertically from the crown to the base of the plant, covering the crown. If brush plants are over 8 feet tall, lace at least two sides of the plants with back and forth movements starting at crown and moving downward to base.

**Hydraulic Handgun Equipment**

When making broadcast applications, apply near the tops of the brush plants in a light drizzle pattern. The spray solution should reach the crown of the plants and trickle down into the canopy but not reach the under-story plant growth as severe injury or death of the under-story plants could occur.

**High Volume Applications**

When treating medium to high infestations of brush, apply DuPont™ LINEAGE™ CLEARSTAND™ at up to 100 gallons of spray solution per acre (GPA). Mix LINEAGE™ CLEARSTAND™ at 13 to 25 ounces per acre plus a surfactant. Add a foam reducing agent if needed. Use the higher rate for hard to control brush species but do not apply more than 25 ounces per acre. Apply evenly to cover brush foliage but don't over apply causing run-off.

**Note:** Spray applications exceeding 100 GPA may cause injury to the under-story or ground cover due to spray runoff.

**Invert Emulsions Applications**

LINEAGE™ CLEARSTAND™ can be applied as an invert emulsion (water in oil). This can be done in a batch mixing (single tank) or inline-mixing (injected) process. Follow the directions on the invert chemical guide.

**Application Timing**

Make a foliar application of the recommended rate of LINEAGE™ CLEARSTAND™ during the period from full leaf expansion in the spring until the development of full fall coloration on deciduous species to be controlled. Coniferous species may be treated at anytime during the growing season.

**Spot Treatment**

LINEAGE™ CLEARSTAND™ is recommended for the control of many species of weeds including noxious/invasive weeds in certain established grasses growing on non-crop areas. Refer to the "Brush and Weeds Controlled" sections for a listing of susceptible weed species and the application rate per acre per the target weed.

**BRUSH SPECIES CONTROLLED**

Species	High Volume Rate (oz/100 gal)	Broadcast Rate (oz/acre)	
Salmonberry	<i>Rubus spectabilis</i>	3 - 6	6 - 19
Snowberry	<i>Symphoricarpos albus</i>	3 - 6	6 - 19
Thimbleberry	<i>Rubus parviflorus</i>	3 - 6	6 - 19
Wild roses	<i>Rosa spp.</i>	3 - 6	6 - 19
Willow	<i>Salix spp.</i>	3 - 6	6 - 19
Yellow poplar	<i>Liriodendron tulipifera</i>	3 - 6	6 - 19
Ash	<i>Fraxinus spp.</i>	6 - 13	6 - 19
Aspen	<i>Populus spp.</i>	6 - 13	6 - 19
Blackberry	<i>Rubus spp.</i>	6 - 13	6 - 19
Blueberry	<i>Vaccinium spp.</i>	6 - 13	13 - 19
Carnelthorn	<i>Alhagi maurorum</i>	6 - 13	6 - 19
Cherry	<i>Prunus spp.</i>	6 - 13	6 - 19
Cottonwood, black	<i>Populus trichocarpa</i>	6 - 13	13 - 19
Cottonwood, eastern	<i>Populus deltoides</i>	6 - 13	13 - 19
Dogwood	<i>Cornus spp.</i>	6 - 13	13 - 19
Elder	<i>Sambucus nigra</i>	6 - 13	13 - 19
Elm	<i>Ulmus spp.</i>	6 - 13	6 - 19
Grape, wild	<i>Vitis spp.</i>	6 - 13	13 - 19
Gum, black	<i>Nyssa sylvatica</i>	6 - 13	13 - 19
Hawthorn	<i>Crataegus spp.</i>	6 - 13	6 - 19
Hickory	<i>Carya spp.</i>	6 - 13	13 - 19
Honeysuckle	<i>Lonicera spp.</i>	6 - 13	6 - 13
Hophornbeam	<i>Ostrya virginiana</i>	6 - 13	6 - 19
Locust, black	<i>Robinia pseudoacacia</i>	6 - 13	6 - 19
Mulberry	<i>Morus spp.</i>	6 - 13	13 - 19
Myrtle dahoon	<i>Ilex myrtifolia</i>	6 - 13	13 - 19
Oaks	<i>Quercus spp.</i>	6 - 13	6 - 19
Ocean Spray	<i>Holodiscus</i>	6 - 13	13 - 19
Osage orange	<i>Maclura pomifera</i>	6 - 13	13 - 19
Persimmon	<i>Diospyros virginiana</i>	6 - 13	13 - 19
Red cedar, eastern	<i>Juniperus virginiana</i>	6 - 13	13 - 19
Red maple	<i>Acer rubrum</i>	6 - 13	13 - 19
Rose, MacCartney	<i>Rosa bracteata</i>	6 - 13	6 - 19
Rose, multiflora	<i>Rosa multiflora</i>	6 - 13	6 - 19
Sassafras	<i>Sassafras albidum</i>	6 - 13	13 - 19
Sparkleberry	<i>Vaccinium arboreum</i>	6 - 13	13 - 19
Sweetgum	<i>Liquidambar styraciflua</i>	6 - 13	13 - 19
Tree of heaven	<i>Ailanthus altissima</i>	6 - 13	6 - 13
Vaccinium spp		6 - 13	13 - 19
Firs	<i>Abies spp.</i>	19	13 - 19
Spruce , black	<i>Picea mariana</i>	19	13 - 19
Spruce, white	<i>Picea glauca</i>	19	13 - 19
Alder	<i>Alnus spp.</i>	25	25
Alder, red	<i>Alnus rubra</i>	25	25
Beech, American	<i>Fagus grandifolia</i>	25	25
Birch	<i>Betula spp.</i>	25	25
Boxelder	<i>Acer negundo</i>	25	25
Ceanothis	<i>Ceanothis spp.</i>	25	25
Chinaberry	<i>Melia azadarach</i>	25	25
Chinquapin	<i>Castanopsis chrysophylla</i>	25	25
Cypress	<i>Taxodium spp.</i>	25	25
Cypress, bald	<i>Taxodium distichum</i>	25	25
Eucalyptus	<i>Eucalyptus spp.</i>	25	25
Fetterbush	<i>Lyonia lucida</i>	25	25
Lyonia spp	<i>Lyonia spp.</i>	25	25
Madrone	<i>Arbutus menziesii</i>	25	25
Maple, bigleaf	<i>Acer macrophyllum</i>	25	25
Melaleuca	<i>Melaleuca quinquenervia</i>	25	25
Mulberry <sup>2</sup>	<i>Morus spp.</i>	25	25
Poison oak	<i>Rhus diversiloba</i>	25	25
Popcorn tree	<i>Sapium sebiferum</i>	25	25
Poplar	<i>Populus spp.</i>	25	25
Privet	<i>Ligustrum vulgare</i>	25	25
Olive, autumn	<i>Elaeagnus umbellate</i>	25	25
Olive, Russian	<i>Elaeagnus angustifolia</i>	25	25
Saltcedar	<i>Tamarix ramosissima</i>	25	25
Sourwood <sup>1</sup>	<i>Oxydendrum arboreum</i>	25	25
Staggerbush	<i>Lyonia mariana</i>	25	25
Sumac	<i>Rhus spp.</i>	25	25
Sycamore	<i>Platanus occidentalis</i>	25	25
Tallowtree, Chinese	<i>Sapium sebiferum</i>	25	25
Tanoak	<i>Lithocarpus densiflorus</i>	25	25
TiTi	<i>Cyrilla racemiflora</i>	25	25

1 - Best control prior to fall leaf color.

2 - Degree of control may be species dependent.

NOTE: For low volume and ultra-low volume ground applications, add 25 ounces of LINEAGE™ CLEARSTAND™ per 100 gallons of spray solution.

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## MIXING AND APPLICATION INFORMATION

DuPont™ LINEAGE™ CLEARSTAND™ 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 and brush	Directed foliar or spot spray	2.6 to 5.2 ounces per 3 gallons of water
Stump or cut stem		5.2 ounces per gallon of water
Herbaceous weeds	Broadcast	2.6 to 7.8 ounces per acre

See specific use directions in appropriate section.

**Ground Operated Spray Equipment:** Thoroughly mix and apply the recommended amount of LINEAGE™ CLEARSTAND™ herbicide in a minimum of 5 gallons of water per acre. To mix, fill the spray tank with one-half to three-quarters of the desired volume with clean water. Add the required amount of LINEAGE™ CLEARSTAND™ to the spray tank while agitating. Add additional water to achieve the desired spray volume and agitate again. A suitable adjuvant (see Adjuvant section) may be added to the spray solution to enhance control of undesirable vegetation. 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. For best results, uniformly cover the foliage of the vegetation to be controlled with the spray solution.

**Side Trimming:** Do not side trim with LINEAGE™ CLEARSTAND™ unless severe injury or death of the treated tree can be tolerated. LINEAGE™ CLEARSTAND™ is readily translocated and can result in death of the entire tree.

## TOTAL VEGETATION CONTROL

### BAREGROUND

When making directed or spot spray applications with ground spray equipment, or low-volume hand-operated spray equipment, thoroughly mix a solution of LINEAGE™ CLEARSTAND™ and include a nonionic surfactant at a minimum of 0.25% by volume. To mix the spray solution, add the volume of LINEAGE™ CLEARSTAND™ 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/brush infestations, hard to control species and dense hardwood canopies.

### SPRAY SOLUTION

<u>VOLUME</u>	<u>LINEAGE™ CLEARSTAND™</u>	<u>SURFACTANT</u>
		<u>(fluid ounce)</u>
2.5 gallons	2.6 to 5.2 ounces	0.8
4 gallons	4.2 to 8.3 ounces	1.5
5 gallons	5.2 to 10.7 ounces	1.6
10 gallons	10.7 to 21.4 ounces	3.2
20 gallons	21.4 to 41.6 ounces	6.4

**Important:** Do not over apply causing run-off from the treated foliage. Avoid direct application to desired plant species as injury may occur. Do not apply on or near desirable non-conifer trees or other plants, or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots. Do not exceed 25 ounces of LINEAGE™ CLEARSTAND™ herbicide per acre.

**Application Tips:** For low volume, select proper nozzles to avoid over-application. Proper application is critical to ensure desirable results. Best results are achieved when the spray covers the crown and approximately 70 percent of the plant.

**Proper Spray Pattern:** Moisten but do not drench target vegetation causing spray solution to run off.

**Low Volume with Backpacks:** For brush up to 4 feet tall, spray down on the crown, covering crown and penetrating approximately 70% of the plant.

**For brush 4 to 8 feet tall:** Lace the sides of the brush by directing spray to at least two sides of the plant in smooth vertical motions from the crown to the bottom. Make sure to cover the crown when ever possible.

**For brush over 8 feet tall:** Lace the sides of the brush by directing spray to at least two sides of the target in smooth zigzag motions from crown to bottom.

**Low Volume with Hydraulic Handgun Application Equipment:** Use same technique as described above for individual stem treatments.

### BROADCAST APPLICATIONS

For broadcast applications, simulate a gentle rain near the top of target vegetation, allowing spray to contact the crown and penetrate the target foliage without falling to the understory. Herbicide spray solution which contacts the under story may result in severe injury or death of plants in the under story. Do not exceed 30 ounces of LINEAGE™ CLEARSTAND™ herbicide per acre broadcast.

### STUMP AND CUT STEM TREATMENTS

LINEAGE™ CLEARSTAND™ may be used to control undesirable woody vegetation by applying a solution of the herbicide in water to the cambium area of freshly-cut stump surfaces or to cuts on the stem of the target woody vegetation. Applications can be made at any time of the year except during periods of heavy sap flow in the spring. Tree injection and cut stem treatments are most effective in late summer and early fall.

**Mixing:** LINEAGE™ CLEARSTAND™ herbicide may be mixed and applied as a dilute solution to the surface of the stump or to cuts on the stem of the target woody vegetation. To prepare a dilute solution, thoroughly mix 5 ounces of LINEAGE™ CLEARSTAND™ with one gallon of water.

**For cut stump treatments:** Spray or brush the solution onto the cambium area of the freshly cut stump surface. Insure that the solution thoroughly wets the entire cambium area (the wood next to the bark of the stump).

**For tree injection treatments:** Using standard injection equipment, apply 1 milliliter of solution at each injection site around the tree with no more than one inch intervals between cut edges. Insure that the injector completely penetrates the bark at each injection site.

**For frill or girdle treatments:** Using a hatchet, machete, or similar device, make cuts through the bark at intervals around the tree with no more than two-inch intervals between cut edges. Spray or brush the solution into each cut until thoroughly wet.

### USE PRECAUTIONS

- Do not drain or flush equipment on or near desirable trees or other plants, or on areas where their roots may extend, or in locations where the product may be washed or moved into contact with their roots, as injury or loss of desirable trees or other plants may result
- 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 DuPont™ LINEAGE™ CLEARSTAND™ may injure or kill most crops. Injury may be more severe when the crops are irrigated. Do not apply LINEAGE™ CLEARSTAND™ when these conditions are identified and powdery, dry soil or light or sandy soils are known to be prevalent in the area being 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, to surfaces paved with materials such as asphalt or concrete, or to soils through which rainfall will not readily penetrate may result in runoff and movement of LINEAGE™ CLEARSTAND™. Do not treat frozen soil. Treated soil should be left undisturbed to reduce the potential for LINEAGE™ CLEARSTAND™ movement by soil erosion due to wind or water.
- Do not use on lawns, walks, driveways, tennis courts or similar areas.
- Do not apply through any type of irrigation system.
- When used as directed, there are no grazing restrictions for use rates of 11 ounces per acre and less. At use rates of 11 to 21 ounces per acre, forage grasses may be cut for hay, fodder or green forage and fed to livestock, including lactating animals, 7 days after treatment.
- Do not use this product in the following counties of Colorado: Saguache, Rio Grande, Alamosa, Costilla and Conejos.
- Do not use this product in California.

## INDUSTRIAL TURF APPLICATIONS

### UNIMPROVED BERMUDAGRASS TURF

LINEAGE™ CLEARSTAND™ may be used in non-crop industrial sites, such as, utility rights-of-way and roadsides, for general weed control where common bermudagrass or coastal bermudagrass is the established turf. **Do not apply to bahiagrass.** Applications to bermudagrass will cause stunting and seed head inhibition. Apply LINEAGE™ CLEARSTAND™ by ground equipment only. Use a minimum of 10 gallons of spray solution per acre and a spray pressure of 20 to 50 pounds per square inch (psi). Do not apply in the first growing season of bermudagrass. Do not apply LINEAGE™ CLEARSTAND™ to grass under stress from disease, insects, drought, or other causes.

**Important:** A temporary chlorosis (yellowing) may occur if applications are made after growth begins.

**NOTE:** Do not include surfactants at a rate greater than 1 (one) ounce per 25 gallons of spray solution.

### RATES AND TIMINGS BERMUDAGRASS

In dormant bermudagrass, LINEAGE™ CLEARSTAND™ may be applied at 2 to 4 ounces per acre. When bermudagrass has attained the full green-up stage of growth, LINEAGE™ CLEARSTAND™ may be applied at 2 to 2.7 ounces per acre. Treatments made prior to the full green-up stage will delay green-up. Use the lower rates on small seedling weeds and a higher rate on larger weeds.

### WEEDS CONTROLLED

Barley, little	<i>Hordeum pusillum</i>
Bedstraw	<i>Galium spp.</i>
Bishopweed	<i>Ptilimnium capillaceum</i>
Buttercup	<i>Ranunculus parviflorus</i>
Carrot, wild	<i>Daucus carota</i>
Clover, white	<i>Trifolium repens</i>
Fescue	<i>Festuca spp.</i>
Foxtail	<i>Setaria spp.</i>
Johnsongrass, seedling	<i>Sorghum halepense</i>
Geranium, carolina	<i>Geranium carolinianum</i>
Woodsorrel, yellow	<i>Oxalis stricta</i>

### GRASS GROWTH AND SEED HEAD SUPPRESSION

For areas of unimproved turf grass, LINEAGE™ CLEARSTAND™ may be used for the suppression of grass growth and seed head development. Depending on the environmental conditions at time of treatment, applications to desirable turf grass may cause discoloration or injury. For best results, all applications should be made before stem (culm) elongation. LINEAGE™ CLEARSTAND™ applications may be made prior to or after mowing. For applications before mowing, the grass should have had at least 3 days of active growth. Applications made after mowing should also allow time for the grass to recover. LINEAGE™ CLEARSTAND™ applications made too soon before or after mowing could result in increased grass injury. Check turf grass conditions first before making LINEAGE™ CLEARSTAND™ applications. Do not apply to

grass under stress from cold, insects, diseases, drought, damage, etc. or severe injury or death may occur.

**Bermudagrass:** Apply DuPont™ LINEAGE™ CLEARSTAND™ herbicide at 2 to 2.7 ounces per acre from full green-up to prior to seed head initiation. Do not add a surfactant for this application.

**IMPORTANT PRECAUTIONS  
INDUSTRIAL TURF ONLY**

- An application of LINEAGE™ CLEARSTAND™ may cause temporary discoloration (chlorosis) of the grasses. Use the lower recommended rates for minimum discoloration.
- Excessive injury may result when LINEAGE™ CLEARSTAND™ is applied to turf that is under stress from drought, insects, disease, cold temperatures (winter injury) or poor fertility.
- LINEAGE™ CLEARSTAND™ is not recommended for use on bahiagrass.

**TOTAL VEGETATION CONTROL**

**BAREGROUND**

LINEAGE™ CLEARSTAND™ may be used in sites for bareground (total vegetation control) weed control. Preemergence or postemergence applications of LINEAGE™ CLEARSTAND™ provides control of many annual and perennial broadleaf and grass weeds. It may be used alone at 10 to 25 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 spray volume of up to 100 gallons per acre and include an adjuvant.

Apply at any time of the year. Make a thorough and uniform application with calibrated spray equipment per label recommendations. Use the higher rates of LINEAGE™ CLEARSTAND™ 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.

As above for postemergence applications, the addition of glyphosate or similar products may be added for faster brown-out or burndown of the escaped weeds. For added residual weed control or to broaden the weed control spectrum, tank mix with other residual products registered for use on bareground sites. The level and length of control will depend on the herbicide(s) rate applied, amount of rainfall, the soil texture and other environmental and applications conditions.

**WEEDS CONTROLLED**

LINEAGE™ CLEARSTAND™ 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.

**GRASSES**

**13 Ounces per acre**

- Bluegrass, annual
- Bluegrass, Canada
- Bluegrass, Kentucky
- Brome, downy
- Brome, smooth
- Dropseed, sand
- Fescue
- Foxtail
- Johnsongrass<sup>1</sup>
- Lovegrass 1
- Oats, wild
- Orchardgrass
- Paragrass
- Quackgrass
- Ryegrass, Italian
- Sandbur
- Signalgrass, broadleaf
- Vaseygrass
- Witchgrass

- Poa annua*
- Poa compressa*
- Poa pratensis*
- Bromus tectorum*
- Bromus inermis*
- Sporobolus cryptandrus*
- Festuca spp.*
- Setaria spp.*
- Sorghum halepense*
- Eragrostis spp.*
- Avena fatua*
- Dactylis glomerata*
- Brachiaria mutica*
- Agropyron repens*
- Lolium multiflorum*
- Cenchrus spp.*
- Brachiaria platyphylla*
- Paspalum urvillei*
- Panicum capillare*

**19 Ounces per acre**

- Barnyardgrass
- Beardgrass
- Canarygrass, Reed
- Cheat
- Crabgrass
- Crowfootgrass
- Goosegrass
- Itchgrass
- Junglerice
- Lovegrass
- Maidencane
- Panicum, browntop
- Panicum, fall
- Panicum, Texas
- Reed, giant
- Tthreeawn, prairie
- Sandbur, field

- Echinochloa crus-gali*
- Andropogon spp.*
- Phalaris arundinacea*
- Bromus secalinus*
- Digitaria spp.*
- Dactyloctenium aegyptium*
- Eleusine indica*
- Rothoellia exaltata*
- Echinochloa colonum*
- Eragrostis spp.*
- Panicum hemitomon*
- Panicum fasciculatum*
- Panicum dichotomiflorum*
- Panicum texanum*
- Arundo donax*
- Aristida oligantha*
- Cenchrus incertus*

**25 Ounces per acre**

- Bahiagrass
- Bermudagrass
- Bluestem, big
- Cattail
- Cogongrass
- Cordgrass, prairie
- Dallisgrass
- Feathertop
- Guineagrass
- Phragmites
- Saltgrass
- Sprangletop
- Timothy

- Paspalum notatum*
- Cynodon dactylon*
- Andropogon gerardii*
- Typha spp.*
- Imperata cylindrica*
- Spartina pectinata*
- Paspalum dilatatum*
- Pennisetum villosum*
- Panicum maximum*
- Phragmites australis*
- Distichlis stricta*
- Leptochloa spp.*
- Phleum pratense*

1 The higher rates should be used where heavy or well established infestations of these grasses occur.



**BROADLEAVES**

**2 to 3 ounces per acre**

Aster  
 Bahiagrass  
 Beebalm  
 Bittercress  
 Blackeyed-susan  
 Buttercup, bur  
 Catchfly, conical  
 Chamomile, false  
 Chicory  
 Chickweed, common  
 Clover  
 Clover, sweet  
 Cocklebur  
 Cockle, corn  
 Cockle, cow  
 Coreopsis, plains  
 Crazyweed, silky  
 Dandelion  
 Dogfennel  
 Falseflax, smallseed  
 Filaree, redstem  
 Fleabane, rough  
 Garlic, wild  
 Goldenrod  
 Groundsel, common  
 Lambsquarters  
 Lettuce, miners  
 Lettuce, wild  
 Marestalk/horseweed<sup>1</sup>  
 Mustard, blue  
 Mustard, treacle  
 Mustard, tumble  
 Mustard, wild  
 Plantain  
 Pigweed, redroot  
 Pigweed, smooth  
 Purslane, common  
 Shepherd's-purse  
 Smartweed, Pennsylvania  
 Sneezeweed, bitter  
 Sowthistle, annual  
 Sunflower, Maximilian  
 Tansymustard  
 Vetch, crown  
 Yarrow, common

*Aster* spp.  
*Paspalum notatum*  
*Monarda* spp.  
*Cardamine* spp.  
*Rudbeckia hirta*  
*Ranunculus testiculatus*  
*Silene conica*  
*Matricaria maritima*  
*Cichorium intybus*  
*Stellaria media*  
*Trifolium* spp.  
*Melilotus alba*  
*Xanthium* spp.  
*Agrostemma githago*  
*Vaccaria hispanica*  
*Coreopsis tinctoria*  
*Oxytropis sericea*  
*Taraxacum officinale*  
*Eupatorium capillifolium*  
*Camelina microcarpa*  
*Erodium cicutarium*  
*Erigeron strigosus*  
*Allium canadense*  
*Solidago* spp.  
*Senecio vulgaris*  
*Chenopodium album*  
*Claytonia perfoliata*  
*Lactuca virosa*  
*Coryza canadensis*  
*Chorispura tenella*  
*Erysimum Cheiranthoides*  
*Sisymbrium altissimum*  
*Sinapis arvensis*  
*Plantago* spp.  
*Amaranthus retroflexus*  
*Amaranthus hybridus*  
*Portulaca oleracea*  
*Capsella bursa-pastoris*  
*Polygonum pennsylvanicum*  
*Helenium amarum*  
*Sonchus oleraceus*  
*Helianthus maximiliani*  
*Descurainia pinnata*  
*Coronilla varia*  
*Achillea millefolium*

**3 to 6 ounces per acre**

Arrowgrass, seaside  
 Barley, little  
 Bedstraw  
 Bishopweed  
 Blackberry, wild  
 Buttercup  
 Caraway, wild  
 Carrot, wild  
 Crupina, common  
 Daisy, oxeye  
 Dewberry  
 Dock, curly  
 Dyer's woad  
 Fescue  
 Foxtail  
 Gaillardia, rosering  
 Geranium, Carolina  
 Gorse, common  
 Halogeton  
 Henbane, black  
 Henbit  
 Honeysuckle  
 Johnsongrass, seedling  
 Knotweed, prostrate  
 Lespedeza, sericea  
 Mustard, garlic  
 Plantain, buckhorn  
 Ragwort, tansy  
 Rose, Macartney  
 Rose, multiflora  
 Rose, wild  
 Snakeweed, broom<sup>4</sup>  
 Sunflower, common  
 Teasel, common  
 Thistle, bull  
 Thistle, musk<sup>3</sup>  
 Thistle, plumeless

*Triglochin maritima*  
*Hordeum pusillum*  
*Galium* spp.  
*Ptilimnium capillaceum*  
*Rubus fruticosus*  
*Ranunculus parviflorus*  
*Carum carvi*  
*Daucus carota*  
*Crupina vulgaris*  
*Leucanthemum vulgare*  
*Rubus* spp.  
*Rumex crispus*  
*Isatis tinctoria*  
*Festuca* spp.  
*Setaria* spp.  
*Gaillardia puchella*  
*Geranium carolinianum*  
*Ulex europaeus*  
*Halogeton glomeratus*  
*Hyoscyamus niger*  
*Lamium amplexicaule*  
*Lonicera* spp.  
*Sorghum halepense*  
*Polygonum aviculare*  
*Lespedeza cuneata*  
*Alliaria petiolata*  
*Plantago lanceolata*  
*Senecio jacobaea*  
*Rosa bracteata*  
*Rosa multiflora*  
*Rosa* spp.  
*Gutierrezia sarothrae*  
*Helianthus annuus*  
*Dipsacus fullonum*  
*Cirsium vulgare*  
*Carduus nutans*  
*Carduus acanthoides*

**6 to 13 ounces per acre**

Bindweed, field  
 Bindweed, hedge  
 Cinquefoil, sulphur  
 Fern, old world climbing  
 Greasewood  
 Gumweed, curlycup  
 Hemlock, poison  
 Houndstongue  
 Iris, wild  
 Loosetrife, purple  
 Lupine  
 Mullein, common  
 Pepperweed, perennial  
 Salsify  
 Salsify, western  
 Scabious, purple  
 Scouringrush  
 Snowberry  
 St. John'swort  
 Tansy, common  
 Thistle, Scotch  
 Whitetop (hoary cress)

*Convolvulus arvensis*  
*Calystegia sequium*  
*Potentilla recta*  
*Lygodium microphyllum*  
*Sarcobatus vermiculatus*  
*Grindelia cuneifolia*  
*Conium maculatum*  
*Cynoglossum officinale*  
*Iris missouriensis*  
*Lythrum salicaria*  
*Lupinus* spp.  
*Verbascum thapsus*  
*Lepidium latifolium*  
*Tragopogon* spp.  
*Tragopogon dubius*  
*Scabiosa columbaria*  
*Equisetum hyemale*  
*Symphoricarpos albus*  
*Hypericum perforatum*  
*Tanacetum vulgare*  
*Onopordum acanthium*  
*Cardaria draba*

**8 to 13 ounces per acre**

Knapweed, Russian<sup>2</sup>  
 Larkspur, duncecap  
 Larkspur, tall  
 Parsnip, wild  
 Thistle, Canada<sup>2</sup>  
 Toadflax, dalmation<sup>2</sup>  
 Toadflax, yellow<sup>2</sup>

*Centaurea repens*  
*Delphinium occidentale*  
*Delphinium glaucum*  
*Pastinaca sativa*  
*Cirsium arvense*  
*Linaria dalmatica*  
*Linaria vulgaris*

**13 ounces per acre**

Alligatorweed  
 Buckwheat, wild  
 Burdock  
 Bursage, woollyleaf  
 Camphorweed  
 Carpetweed  
 Goosefoot, nettleleaf  
 Kochial  
 Mustard, Indian  
 Pigweed  
 Puncturevine  
 Ragweed, common  
 Ragweed, western  
 Thistle, Russian!  
 Sorrel  
 Vervain, hoary  
 Turnip, wild  
 Woodsorrel, yellow

*Alternanthera philoxeroides*  
*Polygonum convolvulus*  
*Arctium* spp.  
*Franseria tomentosa*  
*Heterotheca subaxillaris*  
*Mollugo verticillata*  
*Chenopodium murale*  
*Kochia scoparia*  
*Brassica juncea*  
*Amaranthus* spp.  
*Tribulus terrestris*  
*Ambrosia artemisiifolia*  
*Ambrosia psilostachya*  
*Salsola kali*  
*Rumex* spp.  
*Verbena stricta*  
*Brassica campestris*  
*Oxalis stricta*

**19 ounces per acre**

Burclover  
 Camelthorn, desert  
 Chickweed, mouseear  
 Clover, hop  
 Cudweed  
 Dock  
 Fiddleneck  
 Greenbriar  
 Ivy, poison  
 Knapweed, diffuse  
 Kudzu  
 Morningglory  
 Nettle, stinging  
 Pokeweed  
 Pusley, Florida  
 Redvine  
 Rocket, London  
 Saltbush  
 Skeletonweed, rush  
 Spurge, annual  
 Starthistle, yellow  
 Velvetleaf

*Medicago* spp.  
*Alhagi pseudalhagi*  
*Cerastium vulgatum*  
*Trifolium procumbens*  
*Gnaphalium* spp.  
*Rumex* spp.  
*Amsinckia intermedia*  
*Smilax* spp.  
*Rhus radicans*  
*Centaurea diffusa*  
*Pueraria montana*  
*Ipomoea* spp.  
*Urtica dioica*  
*Phytolacca americana*  
*Richardia scabra*  
*Brunnichia cirrhosa*  
*Sisymbrium irio*  
*Atriplex* spp.  
*Chondrilla juncea*  
*Euphorbia* spp.  
*Centaurea solstitialis*  
*Abutilon theophrasti*

**25 ounces per acre**

Arrowwood  
 Creeper, Virginia  
 Grape, wild  
 Knotweed, Japanese  
 Mallow, little  
 Milkweed  
 Nightshade, silverleaf  
 Primrose  
 Rabbitbrush, grey  
 Ragweed, giant  
 Thistle, Canada  
 Thistle, Texas  
 Trumpetcreeper

*Pluchea sericea*  
*Parthenocissus quinquefolia*  
*Vitis* spp.  
*Polygonum cuspidatum*  
*Malva parviflora*  
*Asclepias* spp.  
*Solanum elaeagnifolium*  
*Oenothera kuntiana*  
*Chrysothamnus nauseosus*  
*Ambrosia trifida*  
*Cirsium arvense*  
*Cirsium texanum*  
*Campsis radicans*

1 - Certain biotypes of marestalk, kochia, and Russian thistle are less sensitive to DuPont™ LINEAGE™ CLEARSTAND™ and may be controlled with tank mixes using herbicides with a different mode of action.

2 - Suppression, which is a visual reduction in weed competition (reduced population or vigor) as compared to untreated areas. Apply as a full coverage spray for best performance.

3 - Treatments of LINEAGE™ CLEARSTAND™ may be applied from rosette through bloom stages of development.

4 - Apply fall through spring.

**MIXING INSTRUCTIONS**

1. Fill the tank 1/4 to 1/3 full of water.
2. While agitating, add the required amount of LINEAGE™ CLEARSTAND™.
3. Continue agitation until the LINEAGE™ CLEARSTAND™ is fully dispersed, at least 5 minutes.
4. Once the LINEAGE™ CLEARSTAND™ is fully dispersed, maintain agitation and continue filling tank with water. LINEAGE™ CLEARSTAND™ 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 volume of nonionic surfactant. Always add surfactant last.
6. If the mixture is not continuously agitated, settling will occur. If settling occurs, thoroughly re-agitate before using.
7. LINEAGE™ CLEARSTAND™ spray preparations are stable if they are pH neutral or alkaline and stored at or below 100° F.
8. If LINEAGE™ CLEARSTAND™ and a tank mix partner are to be applied in multiple loads, pre-slurry the LINEAGE™ CLEARSTAND™ in clean water prior to adding to the tank. This will prevent the tank mix partner from interfering with the dissolution of the LINEAGE™ CLEARSTAND™.

**SPRAY EQUIPMENT**

Low rates of LINEAGE™ CLEARSTAND™ can kill or severely injure most crops. Following an LINEAGE™ CLEARSTAND™ application, the use of spray equipment to apply other pesticides to crops on which LINEAGE™ CLEARSTAND™ is not registered may result in their damage. 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™ CLEARSTAND™ suspended in the spray tank.

Use a sufficient volume of water to thoroughly cover the foliage of undesirable weeds, generally 10 to 40 gallons per acre. Select a spray volume and delivery system that will deliver a uniform spray pattern. Be sure the sprayer is calibrated before use. Avoid overlapping and shut off spray booms while starting, turning, slowing or stopping to avoid injury to desired plants. Refer to the brush control section of this label for information unique to that particular use.

**SPRAYER CLEANUP**

Spray equipment must be cleaned before LINEAGE™ CLEARSTAND™ is sprayed. Follow the cleanup procedures specified on the labels of previously applied products. If no directions are provided, follow the six steps outlined below.

**At the End of the Day**

When multiple loads of LINEAGE™ CLEARSTAND™ 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.

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 1 gal of household ammonia\* (contains 3% active) for every 100 gal of water. 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 min. 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. If only ammonia is used as a cleaner, the rinsate solution may be applied back to the crop(s) recommended on this label. Do not exceed the maximum labeled use rate. If other cleaners are used, consult the cleaner label for rinsate disposal instructions. If no instructions are given, dispose of the rinsate on site or at an approved waste disposal facility.

\* 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.

**Notes:**

1. **Attention:** 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™ CLEARSTAND™ 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 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 low-drift 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** - The boom length should not exceed 3/4 of the wing or rotor length - longer booms increase drift potential.
- **Application Height** - Application more than 10 ft above the canopy increases the potential for spray drift.

**BOOM HEIGHT**

Setting the boom at the lowest labeled height (if specified) which provides uniform coverage reduces the exposure of droplets to evaporation and wind. For ground equipment, 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 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 GUSTY OR WINDLESS CONDITIONS. Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect 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.

**TEMPERATURE INVERSIONS**

Drift potential is high during a temperature inversion. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and

move laterally in a concentrated cloud. Temperature 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 an 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.

### ADDITIONAL USE PRECAUTIONS

#### 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).

#### 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).

#### WIND EROSION

Avoid treating powdery dry or light sandy soils when conditions are favorable for wind erosion. Under these conditions, the soil surface should first be settled by rainfall or irrigation.

### 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 Handling: For plastic jugs and transfer containers:** 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 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 paper, plastic and/or fiber flexible bags and/or sacks:** Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling if available or dispose of empty bag or sack in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. **For fiber drums with liners:** Nonrefillable container. Do not reuse or refill this container. Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then offer 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.

**For plastic refillable drums:** Refillable container. Refill this container with imazapyr and metsulfuron methyl only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances.

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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.

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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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