

1812-245

02/06/2006

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# Linex<sup>®</sup> 4L

## herbicide

Linuron Flowable

Active Ingredients	By Weight
Linuron 3-(3, 4-dichlorophenyl)-1-methoxy-1-methylurea	40.6%
Inert Ingredients	59.4%
TOTAL	100.0%

This product contains 4 lbs. of Linuron per gallon.

EPA Reg. No. 1812-245

EPA Est. No.

### 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 SWALLOWED:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

**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 INHALED:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably 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. For medical emergencies involving this product, call toll free 1-800-441-3637. See Label for Additional Precautions and Directions for Use.

ACCEPTED

FEB - 6 2006

Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended for the pesticide registered under EPA Reg. No. 1812-245

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**Caution!** Harmful if swallowed or absorbed through the skin. Avoid contact with eyes, skin, or clothing. Prolonged or frequently repeated skin contact may cause an allergic reaction in some individuals. Remove contaminated clothing and wash clothing before reuse.

#### PERSONAL PROTECTIVE EQUIPMENT

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 resistance category selection chart.

##### Mixers and loaders must wear:

- Coveralls over long-sleeved shirt and long pants
- Chemical resistant footwear
- Chemical resistant gloves made of any waterproof material such as nitrile, butyl, neoprene, and/or barrier laminate
- Chemical resistant apron.

##### Applicators and other (other than mixers and loaders) handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material such as nitrile, butyl, neoprene, and/or barrier laminate
- Shoes plus socks

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

**Engineering controls statement:** When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the 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

This pesticide is toxic to fish and aquatic invertebrates. 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 apply where weather conditions favor drift from areas treated. Do not contaminate water when cleaning of equipment or disposing of equipment washwater and rinsate.

#### Ground Water Advisory:

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

#### Surface Water Advisory:

Linuron may contaminate surface water through spray drift or under certain conditions from surface runoff into adjacent surface water bodies (ponds, lakes, streams, etc.). For several weeks post-application, linuron has a high potential to runoff when applied to fields with any of the following conditions: sloping land draining into nearby surface waters; very poorly to somewhat poorly drained soils; areas with extremely shallow ground water; frequently flooded areas; fields with surface water canals or ditches; and highly erodible land cultivated with poor management practices.

### 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.

### 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 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 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 intervals. The requirements in this box only apply to uses of this product that are covered by the Workers Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 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 over short-sleeved shirt and short pants
- Chemical resistant gloves made of any waterproof material
- Shoes plus socks
- Chemical-resistant headgear for overhead exposure

### GENERAL INFORMATION

LINEX® 4L is a flowable herbicide to be mixed in water and applied as a spray for selective control of weeds on certain crops. It is non-corrosive to equipment, non-flammable and non-volatile.

LINEX® 4L may be applied to soil prior to emergence of weeds to control susceptible weed seedlings for an extended period of time; the degree of control and duration of effect will vary with the amount of chemical applied, soil texture, rainfall and other conditions. Soils high in clay or organic

matter require higher dosages than soil low in clay or organic matter to obtain equivalent herbicide performance. Moisture is required to activate the chemical; best results occur if rainfall (or irrigation) occurs within 2 weeks of application. In the Columbia River Basin, use LINEX® 4L only if crop is sprinkler irrigated.

LINEX® 4L may also be used to control emerged weeds. Results vary with rate applied and environmental conditions; best results are obtained on succulent weeds growing under conditions of high humidity and temperatures of 70°F or higher. Addition of a surfactant to the spray (where recommended) increases contact effects of LINEX® 4L.

Since the effect of LINEX® 4L varies with soil, uniformity of application and environmental conditions, it is suggested that growers limit their first use to small areas. Observe all precautions and limitations on labeling of all products used in mixtures.

**GRASSES AND BROADLEAF WEEDS CONTROLLED BY LINEX® 4L**

**PREEMERGENCE USE** - LINEX® 4L controls these weeds as they germinate:

**Broadleaf Weeds**

- Carpetweed
- Chickweed
- Dayflower, common
- Florida beggarweed
- Florida pusley
- Galinsoga
- Nettleleaf goosefoot
- Lambsquarters
- Mustard
- Pigweed
- Purslane, common
- Radish, wild
- Ragweed, common
- Shepherd's purse
- Smartweed, Pennsylvania

**Grasses**

- Barnyardgrass (watergrass)
- Canarygrass
- Crabgrass
- Foxtail (including giant)
- Goosegrass
- Fall panicum

LINEX® 4L will provide partial control (suppression) of the following:

- Annual morningglory
- Cocklebur
- Eastern black nightshade
- Prickly sida (teaweed)
- Sicklepod
- Velvetleaf (buttonweed)
- Waterhemp

The lower dosage rates are effective on the lighter soils and the higher rates on heavier soils and on the more resistant weeds. Sufficient moisture of 1/2 inch to 1 inch on moist soils; 1 inch to 2 inches on dry soils, in the form of rainfall or sprinkler irrigation is necessary after treatment to carry chemical into the root zone of germinating weeds; best results are obtained when this occurs within in 2 weeks after application.

A good seed bed must be prepared before application of LINEX® 4L, as crop injury may result if application is made to ground which is cloddy or compacted resulting in improperly planted seed. Plant seed to depth specified. Surface of the soil should not be cultivated or disturbed after application of LINEX® 4L and before emergence of the

crop as weed control may be reduced and crop injury may result. However, if moisture is insufficient to activate the herbicide, a shallow cultivation (rotary hoe preferred) should be made after emergence of row crops while weeds are small enough to be controlled by mechanical means.

**POSTEMERGENCE OR BURNDOWN USE - LINEX®**

4L will control up to 2 inch grasses and up to 6 inch broadleaves. For best results, apply to seedling grasses and broadleaves.

**Broadleaf**

- Annual morningglory
- Carpetweed
- Chickweed, common
- Cocklebur, common
- Dayflower, common
- Dog Fennel
- Fiddleneck (amsinckia)
- Florida beggarweed
- Florida purslane
- (Florida pusley)
- Groundsel
- Knawel
- Lambsquarters
- Mustard
- Nettleleaf goosefoot
- Pigweed
- Prickly sida (teaweed)
- Purslane, common
- Ragweed (common)
- Sesbania
- Sicklepod
- Smartweed, Pennsylvania
- Velvetleaf (buttonweed)
- Wild buckwheat

**Grasses**

- Barnyardgrass (watergrass)
- Broadleaf signalgrass
- Canarygrass
- Crabgrass
- Fall panicum
- Foxtail (including giant)
- Goosegrass
- Rattail fescue
- Ryegrass, annual
- Texas panicum

Results of postemergence treatment of emerged weeds vary with rate applied and environmental conditions. Best results are obtained on succulent weeds growing under conditions of high humidity and temperatures of 70 degrees F or higher. Addition of a surfactant to the spray (where recommended) increases contact effects of LINEX® 4L. Postemerge application will also provide control of emerging susceptible weed seedlings.

**TANK MIXING**

LINEX® 4L may be tank mixed or followed with sequential applications of other products registered for the same crops as LINEX® 4L. Applications of full or reduced rates of other products may be tank mixed with LINEX® 4L, provided:

- the tank mix product is labeled for the same timing, method of application, adjuvants and use restrictions as LINEX® 4L.
- the tank mixture is not specifically prohibited on the label of the tank mix product.
- the tank mix combination is compatible as determined by a 'jar test' described in the TANK MIX COMPATIBILITY TESTING section below.

When tank mixing LINEX® 4L with any other approved pesticide, always read and follow all use directions, restrictions, and precautions of both LINEX® 4L and the tank mix partner(s). When tank mixing, the most restrictive labeling applies.

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### TANK MIX COMPATIBILITY TESTING

Perform a jar test prior to tank mixing to ensure compatibility of LINEX® 4L to other pesticides. Use a clear glass quart jar with lid and mix the tank mix ingredients in their relative proportions. Invert the jar containing the mixture several times and observe the mixture for approximately 1/2 hour. If the mixture balls up, forms flakes, sludges, gels, oily films or layers, or other precipitates, it is not compatible and the tank mix combination should not be used.

### REPLANTING:

If initial seeding fails to produce a crop, any crop registered for the rate of linuron that was applied may be replanted immediately. Thoroughly rework soil before replanting; do not retreat field with a second application as injury to the crop may result.

### CROP ROTATION RECOMMENDATIONS:

#### *East of the Rocky Mountains*

- Any crop registered for the rate of linuron that was applied may be replanted immediately.
- Any crop may be planted after 4 months, except for cereals, where only barley, oats, rye, and wheat may be planted.
- Cereal crops not listed above may be planted after 12 months.

#### *West of the Rocky Mountains*

- Any crop registered for the rate of linuron that was applied may be replanted immediately.
- Do not plant any other crop until 12 months after the last LINEX® 4L application as crop injury may result.

### APPLICATION DIRECTIONS

LINEX® 4L should be used only in accordance with recommendations on this label. Injury to or loss of desirable trees or other plants may result from failure to observe the following:

**Do not apply by air.**

**Do not apply to sand or loamy sand.**

**Do not use on soils with less than 1% organic matter.**

**GROUND APPLICATION:** Use a fixed-boom power sprayer calibrated to a constant speed and rate of delivery. Openings in screens should be equal to or larger than 50 mesh. Continuous agitation in the spray tank is required to keep the material in suspension. Agitate by hydraulic means. If a by-pass or return line is used it should terminate at the bottom of the tank to minimize foaming. Avoid overlapping of spray swaths and shut off spray booms while starting, turning, slowing or stopping or injury to the crop may result.

For preemergence application, use a minimum of 15 gallons of water per acre. For postemergence application, use sufficient volume of water (minimum of 25 gallons per acre) for thorough coverage of weed foliage. Always apply in a manner and under conditions favorable to avoid spray drift.

**CLEANING:** Equipment should be cleaned of all traces of LINEX® 4L immediately after use. Nozzle tips and screens should be removed and cleaned separately. Flush tank, pump, hoses and boom with several changes of water.

Draining or flushing equipment on or near desirable trees or other plants or in areas where their roots may extend or in locations where the chemical may be washed or moved into contact with their roots may injure these plants. LINEX® 4L should not be used on home plantings of trees, shrubs or herbaceous plants, lawns, walks, driveways, tennis courts or similar areas. Keep drift of dry powder or spray from desirable plants.

**SPRAY PREPARATION:** Mix proper amount of LINEX® 4L into necessary volume of water; for preemergence applications, non-pressure nitrogen solution may be substituted for all or part of the water. Where use of surfactant is recommended dilute with 10 parts of water and add as last ingredient to nearly full tank. All dosages of LINEX® 4L (and tank mixtures) are expressed as broadcast rates; for band treatment, use proportionately less. For example, use 1/3 of the broadcast rate when treating a 14-inch band where row spacing is 42 inches. Where range of dosages is given, use the lower rate on lighter soil (low in clay or organic matter) and the higher rate on heavier soils (high in clay or organic matter); for postemergence application use the lower rate on smaller weeds and the higher rate on larger weeds.

**FERTILIZER SPRAY MIXTURES:** For preemergence application, nonpressure nitrogen or fertilizer solution may be used in the spray mixture unless otherwise directed. Small quantities should be tested for compatibility by the following procedure before full scale mixing.

1. Measure one pint of intended spray water or fertilizer solution into a jar.
2. Add in the order given, the intended ingredients, shaking after each addition.
  - (a) Surfactants (spreaders), acidifiers, compatibility agents and activators: add 1 teaspoon for each pint/100 gallons.
  - (b) Dry ingredients (wetttable powders, dry flowables): add 1 tablespoon for each pound/100 gallons.
  - (c) Soluble ingredients: add 1 tablespoon for each pound/100 gallons.
  - (d) Flowables: add 1 teaspoon for each pint/100 gallons.

(e) Spreaders/stickers: add 1 teaspoon for each pint/100 gallons.

- 3. The final mixture should be uniform and smooth with no evidence of coagulation occurring.

If incompatibility is evident, begin test again with a compatibility agent added first. Six drops is equivalent to four ounces per 100 gallons. If this does not smooth the mixture, try higher concentrations or other compatibility agents.

- 4. Allow the mixture to stand undisturbed 30 minutes. If separation occurs, shake and observe the resulting mixture.

If mixture is smooth proceed with spraying, provided the tank has good agitation.

If mixture is not smooth do not spray. You may try:

- (a) more compatibility agents.
(b) different formulations of the active ingredients (switch from WP or EC to flowable or from WP to EC).
(c) change active ingredients; some combinations will not tank mix.

GENERAL CHEMIGATION INSTRUCTIONS

Apply this product only through one or more of the following types of systems: sprinkler including center pivot, lateral move, end row, side (wheel) roll, traveler, big gun, solid set or hand move irrigation system(s). Do not apply this product through any other type of irrigation system.

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

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

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

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

CHEMIGATION SYSTEMS CONNECTED TO PUBLIC WATER SYSTEMS

Public water systems means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.

Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into the reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

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

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

The system must contain functional, interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.

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

Do not apply when wind speed favors drift beyond the area intended for treatment.

When mixing, fill nurse tank half full with water. Add LINEX® 4L slowly to tank while hydraulic or mechanical agitation is operating and continue filling with water. Stickers, spreaders, insecticides, nutrients, etc. should be added last. If compatibility is in question, use the compatibility jar test before mixing a whole tank. Because of the wide variety of possible combinations which can be encountered, observe all precautions and limitations on the label of all products used in mixtures.

LINEX® 4L should be added through a traveling irrigation system continuously or at the last 30 minutes of solid set or hand moved irrigation systems. Agitation is recommended. Shut off injection equipment after treatment and continue to operate irrigation system until LINEX® 4L has been cleared from the last sprinkler head.

SPRINKLER CHEMIGATION

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

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

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

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

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

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

Do not apply when wind speed favors drift beyond the area intended for treatment.

When mixing, fill nurse tank half full with water. Add LINEX® 4L slowly to tank while hydraulic or mechanical agitation is operating and continue filling with water. Stickers, spreaders, insecticides, nutrients, etc. should be added last. If compatibility is in question, use the compatibility jar test before mixing a whole tank. Because of the wide variety of possible combinations which can be encountered, observe all precautions and limitations on the label of all products used in mixtures.

LINEX® 4L should be added through a traveling irrigation system continuously or at the last 30 minutes of solid set or hand moved irrigation systems. Agitation is recommended. Shut off injection equipment after treatment and continue to operate irrigation system until LINEX® 4L has been cleared from the last sprinkler head

## RECOMMENDED USES

### BULB

**Tulip, Calla Lily, Daffodil, Dutch Iris (California)**

After planting of bulbs, settle the soil with sprinkler irrigation (rainfall will serve the same purpose). Before emergence of plants (bulbs) apply 2 pints LINEX® 4L per acre in a minimum of 20 gallons of water per acre. Treat only during growing season.

### CORN (FIELD)

**East of Rocky Mountains Only**

**Do not exceed a seasonal maximum of 1.5 pts per acre.**

**Do not spray over top of emerged corn.**

**Preemergence Application:** Make a single application after planting but before crop emerges. Plant seed at least 1.75 inches deep on flat or raised seedbeds only or injury to the crop may result.

Use LINEX® alone at 1 to 1.5 pt/acre. Use lower rates on lighter soils and higher rates on heavier soils. For improved grass and broadleaf weed residual, tank mix LINEX® 4L with such products registered for field corn as "Lasso", atrazine, "Prowl", or "Dual Magnum II". See the table below for recommended tank mix rates for LINEX® 4L and atrazine.

### LINEX® 4L + Atrazine:

Soil Texture	Rate Per Acre	
	1-2% Organic Matter pts LINEX® 4L + lb ai Atrazine	2-5% Organic Matter pts LINEX® 4L + lb ai Atrazine
Coarse: Sandy loam	0.67 to 1 + 0.4 to 0.5	1 to 1.5 + 0.5 to 1
Medium: Loam, Silt Loam, Silt, Sandy Clay Loam	1 to 1.5 + 0.5 to 0.8	1.5 + 0.8 to 1.2
Fine: Silty Clay, Silty Clay Loam, Clay, Clay Loam	1.33 to 1.5 + 0.6 to 0.8	1.5 + 0.8 to 1.6

**Directed Postemergence Application:** Make a single application as a directed spray after corn is at least 15 inches high (measured to the highest leaf surface on free standing plants). Do not spray over top of corn. Apply only when there is sufficient differential between height of corn and weeds so that the directed spray thoroughly covers all weed foliage without contact of upper leaves or whorl of corn by spray or drift, as such contact may cause crop injury. Early cultivation (rotary hoe or other suitable equipment) will aid in achieving proper differential between height of corn and weeds.

Use 1.25 to 1.5 pints per acre; add 1 pint of surfactant for each 25 gallons of spray mixture.

Non-pressure nitrogen solution may be substituted for all or part of the water. Use the lower rate on lighter soils (low in clay or organic matter) and when weeds do not exceed 2 inches in height; use the higher rate on heavier soils (high in clay or organic matter) for weeds up to 5 inches in height. Do not apply within 57 days of harvest.

### COTTON

**East of Rocky Mountains**

**Do not spray over top of cotton.**

**Do not apply within 76 days of harvest.**

**Do not use on Pima varieties of cotton.**

**Directed Postemergence Application:** Apply as a directed spray, adjust nozzles to minimize contact to cotton leaves with spray or drift as crop injury may result.

Make first application of 1pt per acre when cotton is at least 12 inches tall. Use 1 to 1.5 pints per acre when cotton is at least 18 inches tall and emerged weeds do not exceed 2 inches in height. Add 1 pint surfactant for each 25 gallons spray mixture. If needed, a second application of same rate

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may be made one week or later after initial treatment. Alternatively, after cotton is 20 inches tall, make a single application of 2 to 3 pints per acre following last cultivation; if emerged weeds are present, add surfactant as directed above.

**HYBRID POPLAR**

**Midwest**

Apply 2 to 4 pints LINEX® 4L per acre before bud break in the spring. For application after bud break, apply 2 to 4 pints LINEX® 4L per acre as a directed spray. Spray should be directed to weed growth and to avoid contact with the poplar plant. Do not spray over the top of the poplar as injury to the plant will result.

Use the lower rate on light soils and higher rate on heavier soils. For best results on emerged weeds, treat at the seedling stage.

More than one treatment may be made but no more than 8 pints LINEX® 4L per acre should be applied per year.

**KENAF**

LINEX® 4L may be used on Kenaf being managed for the production of fiber or pulp.

**Directed Application:** Make a single application of 1 to 2 pints per acre as a directed spray to the base of 8 to 10 inch tall Kenaf plants. Direct the spray to contact the Kenaf plants at no higher than 3 inches above the soil surface. The addition of a surfactant to the spray mixture may increase the activity of LINEX® 4L on emerged weeds. The addition of MSMA at 2.66 pints per acre to the spray mixture may improve the control of emerged grasses.

**PARSNIP**

**Preemergence Application:** Make a single application of 1.5 to 3 pts. per acre. Apply after planting but before crop emerges. Plant seed at least 0.5 inches deep.

**POTATO**

**Do not use West of Rocky Mountains.**

**Do not spray over top of emerged potatoes.**

**Do not exceed 3 pints per acre per year.**

**East of Rocky Mountains only:** Apply 1.5 to 2.5 pts. per acre on the lighter soils (sandy loams, silt loams; 1 to 2% organic matter) and 2.5 to 3 pts. per acre on heavier soils (silts, clay loams; 2 to 5% organic matter). On soils over 5% organic matter, use 3 pts. per acre to emerged weeds (before potatoes emerge). For improved annual grass and nutsedge control, see table below for recommended tank mixes with "Dual Magnum" or "Dual II Magnum".

**Preemergence Application:** Make a single application as a broadcast spray after planting but before crop emerges. Plant seed at least 2 inches deep. If beds are to be dragged and/or hilled, apply after the final dragging or hilling operation. Apply before grasses are 2 inches tall and before

broadleaf weeds are 6 inches tall, preferably just before or when weed seedlings emerge. If emerged weeds are present, add 1 pt. surfactant for each 25 gals. spray mixture.

In irrigated areas, best results are obtained when application is made to moist soil, followed within 2 weeks by 1 inches to 2 inches of sprinkler irrigation (or rainfall). On powder dry soils, irrigate prior to herbicide application and follow with sprinkler irrigation to activate the herbicide.

**LINEX® 4L + "Dual MAGNUM", "Dual II MAGNUM"**

Soil Texture	1-3% Organic Matter LINEX® 4L (pts) + "Dual" (pts)	3-5% Organic Matter LINEX® 4L (pts) + "Dual" (pts)
	Coarse: Sandy loam	1 to 1.5 + 1 to 1.5
Medium: Loam, Silt Loam, Silt, Sandy Clay, Sandy Clay Loam	1.5 to 2 + 2	2 to 2.5 + 2.5 to 3

**SORGHUM**

**Do not apply over top of emerged sorghum.**

**Do not apply 75 days within harvest.**

**Do not graze or feed plants to livestock within 3 months after directed postemergence application.**

**Preemergence Application**

Select a registered herbicide treatment for application as a tank mixture. Make a single application after planting but before crop emerges. In soil with 1 to 2% organic matter, apply 0.625 to 1.25 pints per acre on sandy loam and 1 to 1.5 pints per acre on loam, silt loam, silt, sandy clay or sandy clay loam. In soil with 2 to 4% organic matter, apply 1 to 1.5 pints per acre on sandy loam and 1 to 2 pints per acre on loam, silt loam, silt, sandy clay or sandy clay loam. Plant seed at least 1 inch deep on flat or raised seedbeds only as injury to the crop may result.

**Directed Postemergence Application:**

Make a single application of LINEX® 4L as a directed spray; add 1 pint surfactant for each 25 gallons spray mixture. If sprayer is equipped with skids, shoes or shields, apply 1 pint per acre when sorghum is 12 inches tall (free standing plants) and weeds are up to 2 inches in height; use 1 to 2 pints per acre when sorghum is 15 inches tall and weeds are 2 to 4 inches in height. Apply only when there is sufficient differential between height of sorghum and weeds so that the directed spray thoroughly covers all weed foliage without contact of upper leaves or whorl of sorghum by spray or drift as such contact may cause crop injury.

## SOYBEAN

**Make a single preemergence application of LINEX® 4L per season.**

**Soybeans planted too shallow have increased potential for injury.**

**Do not exceed 2 pt LINEX® 4L in any application.**

**Do not spray over the top of emerged soybeans.**

**Do not feed treated forage or hay to livestock.**

### Preemergence application- all tillage types

Apply LINEX® 4L prior to soybean emergence at the rates recommended in the Table 1 below. For improved control or for a broader spectrum of control, LINEX® 4L may be tank mixed with such herbicides as "Dual Magnum" or "Dual Magnum II", "Sencor", SYNCHRONY® XP, CLASSIC®, "Prowl", "Boundary", "Domain", and "Gangster".

For specific tank mix rate recommendations for LINEX® 4L + "Sencor", see Table 2 below.

### Notill, Minimum till or Stale Seedbed

#### Timing

Apply LINEX® 4L up to 30 days prior to soybean planting. For maximum in-season residual control, apply no earlier than 14 days before planting.

#### Adjuvants and tank mixes

For burndown control (postemergence activity), addition of adjuvant is required.

- For best results, use 1 gallon crop oil concentrate per 100 gallons of spray.
- Alternatively, use 1 qt nonionic surfactant per 100 gallons of spray.
- To burndown larger than 2 inch grasses and 6 inch broadleaves, tank mix LINEX® 4L with such herbicides as 2,4-D LVE, SYNCHRONY® XP, CLASSIC®, glyphosate and/or paraquat. When tank-mixing LINEX® 4L with glyphosate, substitute nonionic surfactant (1 qt per 100 gallons spray) for crop oil concentrate. Follow the glyphosate manufacturer's instructions for addition of ammonium sulfate.
- 1 pt LINEX® 4L + 1 pt 2,4-D LVE + 1 gallon Crop oil concentrate per 100 gallons spray will burn down the following winter annual weeds (up to 6 inches in size) as well as the weeds included in "Postemergence Use" at the beginning of this label.

bushy wallflower  
chickweed, common  
chickweed, mousear  
cutleaf evening primrose  
deadnettle\*  
henbit

pennycress  
shepherd's purse  
speedwell, corn. field,  
purselane  
white heath aster

\* suppression

**Table 1. Preemergence rates of LINEX® 4L for soybeans - all tillage types**

Soil Texture	LINEX® 4L Pts. Per Acre	
	1-3% Organic Matter	3-6% Organic Matter
Coarse:		
Sandy loam	1 to 1.25	1.25 to 2
Medium:		
Loam, Silt Loam, Silt, Sandy Clay Loam	1 to 2	1.5 - 2
Fine:		
Silty Clay, Silty Clay Loam, Clay, Clay Loam	1.25 to 2	2

**Table 2. Tank mix of LINEX® 4L + "Sencor"\***

Soil Texture	Tank Mix Rates	
	1-3% Organic Matter pts LINEX® 4L + lbs "Sencor"	3-5% Organic Matter pts LINEX® 4L + lbs "Sencor"
Coarse:		
Sandy loam	0.5 + .167 to 0.25	0.5 to 0.75 + 0.25 to 0.5
Medium:		
Loam, Silt Loam, Silt, Sandy Clay Loam	0.5 to 0.75 + 0.25 to 0.5	0.5 to 1.5 + 0.25 to 0.5
Fine:		
Silty Clay, Silty Clay Loam, Clay, Clay Loam	0.75 to 1.5 + 0.25 to 0.5	1.5 to 2 + 0.5 to 0.75

\* read and follow all precautions and restrictions on the "Sencor" label, especially with respect to soybean varietal sensitivity and environmental conditions that may favor soybean injury from "Sencor".

## WHEAT (WINTER)

### (DRILL-PLANTED)

#### IDAHO, OREGON, WASHINGTON

**Plant seed at least 1 inch deep; when seed is planted during abnormally dry weather, treat after soil has been settled by rainfall or irrigation.**

**Apply as a broadcast spray prior to emergence of wheat or to semi-dormant wheat plants. Application to actively growing plants may result in temporary yellowing (chlorosis) of wheat.**

**Do not apply after wheat has reached the boot stage of maturity nor when maximum daily temperature exceeds 60°F.; do not use LINEX® 4L in combination with other pesticides (except as noted), surfactants, or nitrogen solution after wheat has emerged.**

Crop injury may result where severe winter stress, disease or insect damage follows application, and also from failure to observe correct planting depth and soil type restrictions. Do not treat wheat where winter climatic conditions have



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caused heaving of plants, or where plants are lacking in vigor due to poor emergence, insect damage, disease, high alkalinity, or other causes.

**West of Cascade Range:** Make a single application of LINEX® 4L at 2 to 3.5 pts. per acre as soon as possible after planting. If wheat and weeds have emerged, apply before weeds are 3 inches to 4 inches tall.

**East of Cascade Range:** Make a single application of LINEX® 4L alone or, where recommended below, as a tank mixture with bromoxynil. If fall-planted wheat fails to grow due to winter kill or adverse growing conditions after fall treatment, allow 4 months before planting spring wheat.

Do not retreat field with a second application during the same crop year as injury to the crop may result.

**Where Average Annual Rainfall Exceeds 16 Inches**

**Fall Treatment:** For early fall-planted wheat (seeded before September 10), apply 1 to 1.5 pts. LINEX® 4L per acre either before or after wheat has emerged but before weeds are 2 inches tall. Treatment after October 1 generally gives best results. Do not apply after soil freezes in the fall.

**Spring Treatment:** Apply 1 to 1.25 pts. LINEX® 4L per acre as soon as wheat starts to grow in the spring. Application after weeds have reached a height of 2 inches may give poor results.

**Where Average Annual Rainfall is 10 to 16 Inches:**

**Fall or Winter Treatment:** After wheat is planted in the fall, apply 1 to 1.25 pts. LINEX® 4L per acre when sufficient moisture is available to germinate wheat seed. Apply either before or after wheat has emerged, but before weeds are 2 inches tall and before the soil freezes. Application later than March 1 may give poor results.

**Where Average Rainfall is 10 to 20 Inches:**

**Fall or Spring Treatment:** Apply 0.5 pt. LINEX® 4L plus 0.25 lb. bromoxynil per acre as a tank mixture, either in the fall after wheat has emerged but before soil freezes or in the spring as soon as soil thaws; apply before weeds are 2 inches tall or across.

**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.

## STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**PESTICIDE STORAGE:** Store product in original container only. Store in a cool, dry place.

**PESTICIDE DISPOSAL:** Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

**CONTAINER DISPOSAL: Plastic Containers:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. **Paper and Plastic Bag:** Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill, or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**Container Refilling and Disposal (For Containers up to 250 gal):** This is a refillable container. If the container is to be refilled, do not rinse with any material or introduce any pesticide other than LINEX® 4L. Reseal and return the container to any authorized DuPont refilling facility. If the container is not to be refilled, triple rinse (or equivalent) and offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or by open burning, if allowed by state and local authorities. If burned, keep out of smoke.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire or other emergency, call 1-800-441-3637 day or night.

**Container Disposal for Bulk Containers:** When this container is empty, replace the cap and seal all openings that have been opened during use, and return the container to the point of purchase or to a designated location named at time of purchase of this product. The container must only be refilled with this pesticide product. **DO NOT REUSE THE CONTAINER FOR ANY OTHER PURPOSE.** Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices. Check for leaks after refilling and before transporting. Do not transport if this container is damaged or leaking. If the container is damaged, leaking or obsolete, contact DuPont at 1-800-441-3637. If not returned to the point of purchase or to a designated location, triple rinse emptied container and offer for recycling. Disposal of this container must be in compliance with state and local regulations.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire or other emergency, call 1-800-441-3637 day or night.

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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 Griffin. These risks can cause: ineffectiveness of the product; crop injury, or; injury to non-target crops or plants.

Griffin does not agree to be an insurer of these risks. **WHEN YOU BUY OR USE THIS PRODUCT, TO THE FULLEST EXTENT PERMITTED BY LAW, YOU AGREE TO ACCEPT THESE RISKS.**

Griffin 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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