

pm25

1812 320

File 13



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

MAR 17, 1994

L. Vernon White
GRIFFIN CORPORATION
P. O. Box 1847
Valdosta, GA 31603

**OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES**

**Subject: Label Amendment Submission of 06/15/93 in Response to PR Notice 93-7
EPA Reg. No. 1812-320
LINEX 50 DF**

Dear Registrant:

The labeling cited above and submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is accepted subject to the comments reflected on the enclosed sheet. A copy of your proposed labeling stamped "ACCEPTED WITH COMMENTS" is enclosed.

WHAT THIS ACCEPTANCE MEANS:

Based on your certification, the Agency has accepted the labeling changes that are necessary to comply with the Worker Protection Standard (WPS) labeling requirements of 40 CFR part 156, subpart K, described in PR Notices 93-7 and 93-11. Any other labeling changes submitted in connection with this amendment application but not directly related to compliance with the WPS have not been reviewed or accepted by the Agency. If you wish to make such changes, you must submit a separate amendment application proposing them. If your product is currently suspended, the acceptance of this labeling amendment does not affect the suspension in any way.

WHAT YOU NEED TO DO NEXT:

By the next label printing make all the specified changes to your labeling. Send to EPA one (1) copy of the final printed labeling:

- BEFORE selling or distributing any product bearing the final printed labeling
- AND
- WITHIN one year from date of this acceptance.



Recycled/Recyclable
Printed with Soy/Canola Ink on paper that
contains at least 50% recycled fiber

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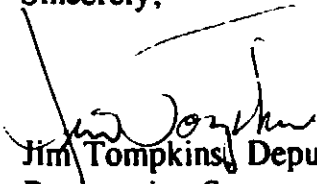
Submit the final printed labeling via the U.S. Postal Service to:

Document Processing Desk (FIN-LABEL)
Office of Pesticide Programs (7505C)
U.S. Environmental Protection Agency
401 M Street, SW
Washington, D.C. 20460-0001

Hand or courier deliveries of final printed labeling may be made to:

Document Processing Desk (FIN-LABEL)
Office of Pesticide Programs
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

Sincerely,



Jim Tompkins, Deputy Chief
Registration Support Branch
Registration Division (7505W)

Attachment

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Registration Division

L Vernon White
GRIFFIN CORPORATION
BOX 1847
VALDOSTA GA 31603

Comment for: EPA Reg Nr.1812-320
LINEX 50 DF

The following specific comments pertain to your WPS
labeling submission concerning the product
cited above:

User Safety Recommendations must either be placed in a box
or printed on the label in a contrasting color from
surrounding text.

The Agricultural Use Requirements section must be located in
a clearly separate box on the product labeling -- with lines
or other graphic indicators (such as contrasting color) to
separate the section from the surrounding text.

Correct the typographical errors circled on your proposed
label.

Linex® 4L
Flowable Herbicide

ACTIVE INGREDIENT:

| | |
|--|---------------|
| 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.

KEEP OUT OF REACH OF CHILDREN

CAUTION

STATEMENT OF PRACTICAL TREATMENT

IF SWALLOWED: Induce vomiting

IF ON SKIN: Remove by washing.

IF IN EYES: Wash with large amounts of water and get medical attention.

ACCEPTED
with COMMENTS
In EPA Letter Dated

MAR 17 1971

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

1812-320

Griffin Corporation
Valdosta, GA 31602

EPA Reg. No. 1812-320

Net Contents 2½ Gallons

5813

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS (AND DOMESTIC ANIMALS)
CAUTION**

Precautionary Statements: Avoid breathing spray. Avoid contact with skin, eyes and clothing. In case of skin contact, remove with washing; for eyes, wash with copious amounts of water and get medical attention. ~~Do not apply this product in such a manner as to directly or through drift expose workers or other persons. The area being treated must be vacated by unprotected persons.~~

PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers must wear:
~~coveralls, short-sleeved shirt and short pants
waterproof gloves
shoes plus socks
chemical-resistant headgear for overhead exposure~~

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 statements:

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:

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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

Do not apply directly to water. Do not apply where runoff is likely to occur. Do not apply where weather conditions favor drift from areas treated. Do not contaminate water when disposing of equipment washwaters.

PERSONAL PROTECTIVE EQUIPMENT

~~One-piece overalls which have long sleeves and long pants constructed of finely woven fabric as specified in the USDA/EPA Guide to Commercial Applicators. Wide-brimmed hats. Chemical-resistant gloves which are mid-forearm to elbow length. Any article worn while applying linuron must be cleaned before re-using. Clothing which has been drenched or has otherwise absorbed concentrated pesticide must be disposed of in a sanitary landfill, or incinerated, or if allowed by state and local authorities, by burning. Instead of clothing and equipment specified above, the applicator can use an enclosed tractor cab which provides a filtered air supply as described by Taschenberg and Bourke, 1975. Written or oral warnings must be given to workers who are expected to be in a treated area or in an area about to be treated with this product.~~

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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.

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 Worker 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 long-sleeved shirt and short pants
- waterproof gloves
- shoes plus socks
- chemical-resistant headgear for overhead exposure

RE-ENTRY STATEMENT

Do not apply this product in such a manner as to directly or through drift expose workers or other persons. The area being treated must be vacated by unprotected persons. Do not re-enter treated areas for 24 hours following application unless protective clothing is worn. Because certain states may require more restrictive entry intervals for various crops treated with this product, consult your State Department of Agriculture for further information. Written or oral warnings must be given to workers who are expected to be in a treated area or in an area about to be treated with this product. Indicate oral warnings which inform workers of areas or fields that may not be entered without specific protective clothing, period of time field must be vacated and appropriate actions to take in case of accidental exposure. When oral warnings are given, warnings shall be given in a language customarily understood by workers. Oral warnings must be given if there is reason to believe that written warnings cannot be understood by workers. Written warnings must include the following information: CAUTION: Area treated with Linex 4L on (date of application). Do not re-enter treated areas for 24 hours following application unless protective clothing is worn. In case of accidental exposure see Statement of Practical Treatment.

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.

CONTAINER DISPOSAL: 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.

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.

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 and for non-selective weed control on non-cropland areas. It is non-corrosive to equipment, non-flammable and non-volatile.

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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 application 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 caution 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 | Grasses |
|----------------------|-------------------|
| Carpetweed | Barnyardgrass |
| Chickweed | (watergrass) |
| Dayflower, common | Canarygrass |
| Florida pusley | Crabgrass |
| Galinsoga | Foxtail |
| Nettleleaf goosefoot | (including giant) |
| Lambsquarters | Goosegrass |
| Mustard | Fall panicum |
| Pigweed | |
| Purslane | |
| Radish, wild | |
| Ragweed, common | |
| Smartweed | |

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

Annual morningglory
Cocklebur
Prickly sida (teaweed)
Sicklepod
Velvetleaf (buttonweed)

Linex 4L will not control established perennials such as:

Bermudagrass
Canada thistle
Field bindweed
Johnsongrass
Purple nutsedge

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" to 1" on moist soils; 1" to 2" 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 two 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 USE - Linex 4L controls seedlings of these weeds:

Broadleaf

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

Grasses

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

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Control of emerged weeds under drought stress is usually impractical.

APPLICATION DIRECTIONS

Linex 4L should be used only in accordance with recommendations on this label. Do not apply this product through any type of irrigation system.

Injury to or loss of desirable trees or other plants may result from failure to observe the following:

AERIAL APPLICATION: Preemergence Only - Potatoes and Soybeans - Apply Linex 4L in a minimum of 3 gallons of water per acre. Avoid applications under conditions where uniform coverage cannot be obtained or where extensive spray drift may occur. ~~Avoid applications directly to humans or animals. Flagmen and loaders should avoid inhalation of spray mist and contact with skin. Wash thoroughly before eating and at the end of each days operation.~~

GROUND APPLICATION: Use a fixed-boom power sprayer calibrated to a constant speed and rate of delivery. Openings in screen 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.

Equipment should not be flushed or drained or Linex 4L applied near desirable trees or other plants, or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots. 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 $\frac{1}{3}$ of the broadcast rate when treating a 14" band where row spacing is 42". 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.

SOIL LIMITATIONS: Unless otherwise directed, do not use on sand, loamy sand, gravelly soils or exposed subsoils nor on soils containing less than 1% organic matter as crop injury may result.

REPLANTING: If initial seedling fails to produce a stand, the same crop may be replanted in soil treated preemergence with Linex 4L (or with recommended tank mixtures). Thoroughly rework soil before replanting; do not re-treat field with a second application as injury to the crop may result.

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CROP ROTATION RECOMMENDATIONS: Unless otherwise directed, any crop may be planted after 4 months except for cereals where only barley, oats, rye and wheat may be planted.

West of the Rocky Mountains carrots or celery may be planted 4 months after the last application. Do not plant any crop until 1 year after the last application as crop injury may result.

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 one teaspoon for each pint/100 gallons.
 - (b) Dry ingredients (wetttable powders, dry flowables); add one tablespoon for each pound/100 gallons.
 - (c) Soluble ingredients; add one tablespoon for each pound/100 gallons.
 - (d) Flowables; add one teaspoon for each pint/100 gallons.
 - (e) Spreaders/stickers; add one 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 thirty 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.

RECOMMENDED USES ASPARAGUS

California, Michigan, Minnesota,
North Carolina, Oregon, Washington

Direct Seeded or Newly planted crowns:

Do not exceed 4 pints total per acre per season. Do not use surfactant or fertilizer solution in spray mixture.

Preemergence Application:

Make a single application of 2 to 4 pints per acre after planting seed 1 1/2" deep in coarse soil and 1" deep in fine soils. During planting operation, spray activated charcoal as a 1" band on soil surface directly over seed rows at the rate of 300 lbs. per acre (equivalent to 15 lbs. per acre of crop with 20" row spacing). Preemergence weed control will be reduced in soils with high organic matter (greater than 5% and peat or muck).

Postemergence Application:

Make 1 or 2 applications of 1 to 2 pints per acre when ferns are in 6" to 18" stage and weeds are not over 4" tall

Established: Do not apply within 1 day of harvest. Do not exceed 8 pints total per acre per season. Do not use surfactant or fertilizer solution in spray mixture. Preemergence weed control will be reduced in soils with high organic matter (greater than 5% and peat or muck).

Preemergence:

Make a single application of 2 to 4 pints per acre.

Postemergence:

Make 1 to 4 applications of 1 to 2 pints per acre before weeds exceed 4" in height. Apply before cutting season or immediately after cutting. Do not reenter treated areas for 24 hours following application unless protective clothing is worn.

Directed Postemergence Application (Fern Stage):

Make a single application of 4 to 8 pints per acre as a directed spray to base of plants for control of dudaim melon.

NOTE: If more than 4 pints Linex 4L per acre is applied per season, do not plant any other crop until 1 year after last application.

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.

NOTE: Unless otherwise directed, do not use on sand, loam sand, gravelly soils or exposed subsoils nor on soils containing less than 1% organic matter as injury to the crop may occur.

CARROTS

Florida, Michigan, Ohio and Wisconsin

Preemergence Application:

Make a single application of 1 to 3 pts. per acre after planting but before carrots emerge; plant seed at least 1/2" deep. Use the lower rate on lighter soils (low in clay or organic matter) and the higher rate on heavier soils (high in clay or organic matter). Subsequent postemergence application may be made provided the total does not exceed 4 pts. per acre per season.

Postemergence Application — U.S.:

Apply 1 1/2 to 3 pts. per acre as a non-directed spray after carrots are at least 3" tall. Apply before annual grasses exceed 2" in height and before broadleaf weeds exceed 6" in height. Repeat application may be made but do not exceed 4 pts. per acre. Do not exceed 40 psi spray nozzle pressure as crop injury may result. (West of Rocky Mountains, do not exceed 3 pints per acre).

Linex 4L may be applied following an application of Stoddard solvent provided treatments are at least one day apart. Stoddard solvent may be applied following an application of Linex 4L provided treatments are at least 2 weeks apart. Shorter time intervals between applications may result in injury to the crop. Do not apply Linex 4L as a tank mixture with Stoddard solvent, surfactants, nitrogen solution, other pesticides, nor when temperature exceeds 85°F. as crop injury may result.

Note: Because carrot varieties vary in their resistance, determine tolerance to Linex 4L prior to adoption as a field practice to prevent possible crop injury. Do not treat susceptible varieties which show an initial burning of foliage following postemergence treatment. Do not apply within 14 days of harvest.

Postemergence Application — Alternate Treatment for New York:

For control of emerged broadleaf weeds early in the development of the carrot crop, apply 0.25 pint per acre to carrots having at least one fully developed true leaf and 0.5 pint per acre to carrots having three or more leaves. A single application applied prior to the five-leaf stage of carrots may not provide adequate season-long control. Multiple applications at 1- and 3- and 2- and 4-, or 3- and 5-leaf stages will significantly improve weed control. Early crop injury can occur, however the effect should be transitory, with no yield losses attributable to crop injury. At normal rate recommendation, carrots must be at least three inches tall at the time of application. Failure to control weeds before this stage of development will result in significant yield losses due to weed competition.

Note: The activity of Linex 4L on both carrots and weeds is increased if applied after three or more cloudy days. If spraying is done under these conditions, the dosage of Linex 4L must be reduced. Do not apply when the temperature exceeds 85°F. Linex 4L often interacts with other herbicides or insecticides and damages carrots when the chemicals are tank mixed or applied sequentially at close intervals. Several days, preferably a week should elapse before Linex 4L applications and application of insecticides.

CELERY

East of Rocky Mountains Only

Post-transplant Application:

Make a single application of 1 1/2 to 3 pts. per acre. Apply as a non-directed spray after celery is transplanted and established, but before celery is 6" tall. Apply before annual grasses exceed 2" in height and before broadleaf weeds exceed 6" in height. In the Northeast, use only on celery grown on muck soils.

Do not exceed 40 psi spray nozzle pressure as crop injury may occur, and do not apply when temperature exceeds 85°F. nor as a tank mixture with surfactants, nitrogen solution, or other pesticides as injury to the crop may result. Do not reenter to crops other than celery or carrots within 4 months after application as injury to subsequent crops may result.

CORN (FIELD)

East of Rocky Mountains Only

Preemergence Application:

Select one of the following herbicide treatments for application as a tank mixture. Make a single application after planting but before crop emerges. Plant seed at least 1 1/4" deep on flat or raised seedbeds only or injury to the crop may result. Do not spray over top of emerged corn.

Linex 4L + Lasso[®] (Dilute Lasso with 2 parts of water and add as last ingredient to spray tank).

| Soil Texture | Product Per Acre | |
|--------------|---|--|
| | Low Organic Matter (1% to 3%) Linex 4L (pts.) + Lasso (Qts.) | Moderate Organic Matter (3% to 6%) Linex 4L (pts.) + Lasso (Qts.) |
| Sandy loam | 2/3 to 1 1/4 + 3/4 to 1 | 1 1/4 to 2 + 1 to 1 1/2 |
| Silt loam | 1 to 1 2/3 + 1 to 1 1/2 | 1 2/3 to 2 1/2 + 1 1/2 to 2 |
| Clay loam | 1 1/4 to 2 + 1 1/2 to 2 | 2 to 3 + 2 to 2 1/2 |

Replanting: Corn may be replanted within 4 months; after 4 months, any crop may be planted.

Linex 4L + Atrazine

| Soil Texture | Product Per Acre | |
|--------------|--|---|
| | Low Organic Matter (1% to 3%) Linex 4L (pts.) + Atrazine 80% (Lbs.) | Moderate Organic Matter (2% to 5%) Linex 4L (pts.) + Atrazine 80% (Lbs.) |
| Sandy loam | 2/3 to 1 + 1/2 to 2/3 | 1 to 2 + 2/3 to 1 1/4 |
| Silt loam | 1 to 1 1/2 + 2/3 to 1 | 1 1/2 to 2 1/2 + 1 to 1 1/2 |
| Clay loam | 1 1/3 to 1 2/3 + 3/4 to 1 | 1 2/3 to 3 + 1 to 2 |

Replanting: Corn may be replanted within 6 months. After 6 months, any crop may be planted except do not follow treated corn with sugar beets, tobacco, or vegetables in rotation.

CORN (FIELD AND SWEET)

Directed Postemergence Application:

Make a single application as a directed spray after corn is at least 15" 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 1/2 to 3 pts. per acre; add 1 pt. surfactant for each 25 gals. spray mixture. For field corn, 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" in height; use the higher rate on heavier soils (high in clay or organic matter) for weeds up to 5" in height.

COTTON

East of Rocky Mountains Only

Directed Postemergence Application:

Apply as a directed spray; adjust nozzles to minimize contact of cotton leaves with spray or drift as crop injury may result. Do not spray over top of cotton.

Apply 1 to 1 1/2 pts. per acre when cotton is at least 15" tall and emerged weeds do not exceed 2" in height; add 1 pt. surfactant for each 25 gals. spray mixture. If needed, a second application of same rate may be made one week or later after initial treatment. Alternatively, after cotton is 20" tall, make a single application of 2 to 3 pts. per acre following last cultivation; if emerged weeds are present, add surfactant as directed above.

Note: Do not use on Pima varieties of cotton. Do not graze treated fields or feed forage from treated areas to livestock. Do not feed gin trash to livestock.

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.

PARSNIPS

Preemergence Application:

Make a single application of 1 1/2 to 3 pts. per acre. Apply after planting but before crop emerges. Plant seed at least 1/2" deep.

POTATOES

Preemergence Application:

Make a single application as a broadcast spray after planting but before crop emerges. Plant seed at least 2" deep. Do not spray over top of emerged potatoes. If beds are to be "dragged" and/or "hilled," apply after the final "dragging" or "hilling" operation. Apply before grasses are 2" tall and before broadleaf weeds are 6" 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" to 2" of sprinkler irrigation (or rainfall). On powder dry soils, irrigate prior to herbicide application and follow with sprinkler irrigation to activate the herbicide. Do not use West of Rocky Mountains.

East of Rocky Mountains only:

Apply 1 1/2 to 2 1/2 pts. per acre on the lighter soils (sandy loams, silt loams; 1 to 2% organic matter) and 2 1/2 to 4 pts. per acre on heavier soils (silt, clay loams; 2 to 5% organic matter); on soils over 5% organic matter, use 4 pts. per acre and apply to emerged weeds (before potatoes emerge).

Wisconsin — Central Sands Area:

Apply 1 pt. per acre on sands and 2 pts. per acre on loamy sands.

Northeast:

For improved control of annual grasses apply:

Linex 4L + Dual 8E

| Soil Texture | Product Per Acre | |
|--|---|---|
| | 1 to 3% Organic Matter Linex 4L (Pints) + Dual 8E (Pints) | 3 to 5% Organic Matter Linex 4L (Pints) + Dual 8E (Pints) |
| Coarse: Sandy Loam | 1 to 1 1/2 + 1 to 1 1/2 | 1 1/2 to 2 + 2 |
| Medium: Loam, Silt Loam, Silt, Sandy Clay, Sandy Clay Loam | 1 1/2 to 2 + 2 | 2 to 2 1/2 + 2 1/2 to 3 |

Note: See Aerial Application Instructions.

SORGHUM

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 5/8 to 1 1/2 pints/acre on sandy loam and 1 to 1 1/2 pints/acre on loam, silt loam, silt, sandy clay, or sandy clay loam. In soil with 2 to 4% organic matter, apply 1 to 1 1/2 pints/acre on sandy loam and 1 to 2 pints/acre on loam, silt loam, silt, sandy clay, or sandy clay loam. Plant seed at least 1" deep on flat or raised seedbeds only as injury to the crop may result. Do not apply over top of emerged sorghum.

Replanting: Do not follow treated sorghum with any fall crop, nor with sugar beets, tobacco, vegetables or potatoes in rotation. Prior to replanting, thorough seedbed preparation including fall or spring plowing is recommended. Sorghum or field corn may be replanted within 4 months; after 4 months any crop may be planted.

Directed Postemergence Application:

Make a single application of Linex 4L as a directed spray; add 1 pt. surfactant for each 25 gal. spray mixture. If sprayer is equipped with nozzles, shoes or shields, apply 1 pt. per acre when sorghum is 12" tall (free standing plants) and weeds are up to 2" in height; use 1 to 2 pts. per acre when sorghum is 15" tall and weeds are 2" to 4" 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.

Note: Do not graze or feed plants to livestock within 3 months after postemergence application.

SOYBEANS

Preemergence Application:

Select one of the following herbicide treatments and make a single application after planting but before crop emerges. Linex 4L, alone or as a tank mixture with Lasso, may be applied on flat or raised seed beds where seed are planted at least 1 1/4" deep. If applied on beds with seeds planted less than 1 1/4" deep crop injury may result. Do not spray over the top of emerged soybeans.

Linex 4L — If weeds have emerged, add 1 pt. for each 25 gals. spray mixture.

| Soil Texture | Linex 4L Pts. Per Acre | |
|--------------|-----------------------------------|---|
| | Low Organic Matter (1/2 to 2%) | Moderate Organic Matter (2 to 5%) |
| Sandy loam | 1 to 1 2/3 | 1 2/3 to 3 |
| Silt loam | 1 1/4 to 2 1/3 | 2 1/3 to 4 |
| Clay loam | 1 1/3 to 2 2/3 | 2 2/3 to 5 (Over 5% organic matter, use 6 pts.) |

Replanting: Soybeans or field corn may be replanted within 4 months; after 4 months, any crop may be planted.

Linex 4L following trifluralin preplant — Where trifluralin has been used as a preplant incorporated treatment (according to directions on trifluralin label), apply as a separate operation using 1/2 the rate recommended above for Linex 4L alone. For rotation crops, follow instructions on trifluralin label.

Linex 4L + Lasso[®] — East of Rocky Mountains (Dilute Lasso with 2 parts of water and add as last ingredient to spray tank).

| Soil Texture | Product Per Acre | |
|--------------|--|--|
| | Low Organic Matter (1/2 to 3%) Linex 4L (pts.) + Lasso (Qts.) | Moderate Organic Matter (3% to 6%) Linex 4L (pts.) + Lasso (Qts.) |
| Sandy loam | 2/3 to 1 1/4 + 3/4 to 1 | 1 1/4 to 2 + 1 to 1 1/2 |
| Silt loam | 1 to 1 2/3 + 1 to 1 1/2 | 1 2/3 to 2 1/2 + 1 1/2 to 2 |
| Clay loam | 1 1/4 to 2 + 1 1/2 to 2 | 2 to 3 + 2 to 2 1/2 |

Replanting: Soybeans or field corn may be replanted within 4 months; after 4 months, any crop may be planted.

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| Product Per Acre | | |
|------------------|---|---|
| Soil Texture | 1/2 to 3% Organic Matter Linex 4L (pts.) + Dual 8E (Pts.) | 3 to 6% Organic Matter Linex 4L (pts.) + Dual 8E (Pts.) |
| Sandy loam | 2/3 to 1 1/4 + 1 1/4 | 1 1/4 to 2 + 1 1/2 |
| Silt loam | 1 to 1 2/3 + 1 1/2 | 1 2/3 to 2 1/2 + 2 |
| Clay loam | 1 1/4 to 2 + 2 | 2 to 3 + 2 to 2 1/2 |

Note: Do not graze feed forage from treated areas to livestock.

Replanting: Soybeans or field corn may be replanted within 4 months; for rotation crops, follow instructions on Dual 8E label.

Linex 4L + Prowl[®] (Tank Mixture) or Linex 4L following Prowl Preplant.

Apply tank mixture as preemergence treatment only; for replant treatment, incorporate Prowl and then follow with Linex 4L as a separate operation.

| Product Per Acre | | |
|------------------|---|---|
| Soil Texture | 1 to 3% Organic Matter Linex 4L (pts.) + Prowl (Pts.) | 3 to 6% Organic Matter Linex 4L (pts.) + Prowl (Pts.) |
| Sandy loam | 2/3 to 1 1/4 + 1 to 1 1/2 | 1 1/4 to 2 + 1 1/2 |
| Silt loam | 1 to 1 2/3 + 1 1/2 to 2 | 1 2/3 to 2 1/2 + 1 1/2 to 2 |
| Clay loam | 1 1/4 to 2 + 1 1/2 to 2 | 2 to 3 + 2 to 2 1/2 |

Replanting: Soybeans or field corn may be replanted within 4 months; other crops may be planted the following year.

Linex 4L + Lexone[®] DF

| Soil Texture | 1 to 3% Organic Matter Linex 4L + Lexone DF pints lbs. | 3 to 6% Organic Matter Linex 4L + Lexone DF pints lbs. |
|---|--|--|
| Coarse Sandy loam | 1/4 to 1/2 1/8 to 1/4 (Lexone 4L 1/4 to 2/5 pt.) | 1/2 to 3/4 1/4 to 1/2 (Lexone 4L 2/5 to 1/2 pt.) |
| Medium: Loam, Silt loam, Silt, Sandy clay, Sandy clay loam | 1/2 to 2/4 1/4 to 1/2 (Lexone 4L 2/5 to 1/2 pt.) | 1/2 to 1-1/2 1/4 to 1/2 (Lexone 4L 1/2 to 3/4 pt.) |
| Fine: Silty clay, Silty clay loam, Clay, Clay loam | 3/4 to 1-1/2 1/4 to 1/2 (Lexone 4L 1/2 to 3/4 pt.) | 1-1/2 to 2 1/2 to 3/4 (Lexone 4L 3/4 to 1 pt.) |

NOTE: Soybean varieties such as Altona, Coker 102 and 158, Govan, NKS 1884, Semmes, Tracy, Vansoy, Terra Vig 505 and 606, Agnipro 55, Asgrow 6520, Maple Amber, Portage, Vinton 81 and AP 71 are sensitive to Lexone. Injury may occur if Lexone is used on these varieties. Before use on any other soybean variety, tolerance to Lexone must first be determined. Varieties showing above average tolerance to Lexone are Americana Revere, Asgrow 1937, Asgrow 3859, Asgrow 3860, DSR 171, DSR 207, Essex, Fayette, Hisoy 170, Lakota, Lawrence, LOL 4207, NKS 1492, Pride 8216, Pride 8242, SRF 250, SRF 350, SRF 350P, Union, Wayne, Wells II and Williams 82. For maximum weed control use the higher rate where a range is given for the appropriate soil type and organic matter as shown in the table, injury may occur if Lexone is used on soils having a calcareous surface layer or pH of 7.5 or higher or if used in conjunction with soil applied organic phosphate pesticides such as Dusant, Disyston, Mocap, Nemacur, Thime Panthion, Lombar 15G or Counter. Injury may occur if atrazine was applied on the soil the year before use of Lexone. Seeding disease, cold weather, deep planting of more than 2" excessive moisture, high soil pH 7.5 or higher, high salt concentration, or drought may weaken soybean seedlings and increase possibility of crop injury.

Do not use on sand or loamy sand.

Cultivation after Planting: Treated soil may be shallow-cultivated, rotary hoed or hand-hoed without reducing the weed control activity of the tank mix. Do not cultivate deeper than the treated layer of soil since this may bring untreated soil to the surface and poor weed control may result.

Replanting: If initial seeding fails to produce a stand, treated fields may be replanted to soybeans. Do not rework soil. Do not retreat field with a second application as injury to the crop may occur. Do not replant treated areas to any crop other than soybeans within four months after treatment as injury to subsequent crops may occur.

NOTE: See Aerial Application instructions.

SOYBEANS

Minimum or No-Tillage

Linex 4L may be used with paraquat or glyphosate in tank mixture combinations for preemergence and postemergence control of many broadleaf weeds and grasses and for top kill or suppression of some perennials where soybeans will be planted directly into a preformed bed (stale seed bed), cover crop, or in previous crop residues such as corn or small grain stubble. Addition of Dual 8E or Lasso to the tank mixture improves control of grasses and volunteer small grains. Apply aerially or with ground equipment immediately before, during or after planting but before crop emerges.

Linex 4L + paraquat — Select the rate from the table for preemergence use of Linex 4L alone and thoroughly mix in spray tank first, then add paraquat as directed under paraquat Combinations below.

Linex 4L + Dual 8E + paraquat or glyphosate — Thoroughly mix Linex 4L and Dual 8E in spray tank first according to directions, then add paraquat or glyphosate as directed under paraquat Combinations below.

NOTE: Do not graze or feed forage from treated areas to livestock.

| Product Per Acre | | |
|------------------|---|---|
| Soil Texture | 1/2 to 3% Organic Matter Linex 4L (pts.) + Dual 8E (Pts.) | 3 to 6% Organic Matter Linex 4L (pts.) + Dual 8E (Pts.) |
| Sandy loam | 2/3 to 1 1/4 + 1 1/2 | 1 1/4 to 2 + 1 1/2 |
| Silt loam | 1 to 1 2/3 + 2 | 1 2/3 to 2 1/2 + 2 |
| Clay loam | 1 1/4 to 2 + 2 to 2 1/2 | 2 to 3 + 2 to 2 1/2 |

Linex 4L + Lasso — paraquat or glyphosate — Thoroughly mix Linex 4L and Lasso in spray tank first according to directions; then add paraquat or glyphosate as directed under paraquat Combinations or glyphosate Combinations below.

| Product Per Acre | | |
|------------------|---|---|
| Soil Texture | 1/2 to 3% Organic Matter Linex 4L (pts.) + Lasso (Qts.) | 3 to 6% Organic Matter Linex 4L (pts.) + Lasso (Qts.) |
| Sandy loam | 2/3 to 1 1/4 + 2 | 1 1/4 to 2 + 2 1/2 |
| Silt loam | 1 to 1 2/3 + 2 1/2 | 1 2/3 to 2 1/2 + 3 |
| Clay loam | 1 1/4 to 2 + 2 1/2 | 2 to 3 + 3 |

Paraquat Combinations — Select and tank mix one of the above treatments; then add 1 to 2 pints paraquat per acre. Use the higher rate for weeds 4" to 8" tall. As the last ingredient, add 1/2 pint Surfactant WK or Ortho X-77 Spreader per 100 gallons of spray mixture, maintain constant agitation.

Glyphosate Combinations — Select and tank mix one of the above treatments. As the last ingredient, add 1 1/2 quarts of glyphosate per acre for control of emerged annual weeds or 2 to 4 quarts per acre for control of emerged perennial and annual weeds.

NOTE: Do not graze or feed forage from treated areas to livestock; do not use seed for food, or oil purposes.

Replanting: Soybeans, sorghum, or field corn may be replanted within 4 months; after 4 months, any crop may be planted.

Directed Postemergence Application:

Apply Linex 4L alone or as a tank mixture with 2, 4-DB, as a directed spray to cover weed foliage with minimum contact of the soybean plant. Do not spray higher than 3" on the soybean stem or crop injury may result. Do not spray over top of soybean plants. For broadcast application, use a single flood-type spray nozzle ("K" series or equivalent) per middle mounted on an oiling shoe or gauge wheel. For band treatment, use two nozzles per row mounted on oiling shoes or gauge wheels, one on each side of row. To avoid spray drift, which may cause crop injury, do not exceed nozzle pressure of 25 psi nor use nozzle tips smaller than 8002T-Jet (or equivalent) and do not spray under windy conditions. For best results, use a preemergence treatment (such as Linex 4L) or cultivation to control early weed growth and to increase the differential between height of soybeans and weeds.

Note: Do not use on soils with less than 1/4% organic matter. Do not apply within 60 days of harvest. Do not feed soybean forage or hay to livestock from fields treated postemergence. Harvested soybeans may be used for food, feed, or oil purposes.

Linex 4L — Midsouth and Southeast

Apply when soybeans are at least 12" tall and when weeds do not exceed 4" in height. In Midsouth, application may be made when soybeans are at least 8" tall and weeds do not exceed 2" in height. Make a single application of 1 to 2 pints per acre (1/2 to 1 pt. per acre on 8" soybeans); add 1 pt. surfactant for each 25 gals. spray mixture. Alternatively, if application is made to 12" soybeans, make a split application of 1 pt. per acre followed by a second application at same rate after one week or later. Do not apply more than 2 pints per acre per season for postemergence treatment.

Linex 4L + 2, 4-DB — U.S.: Apply 1 pt. Linex 4L plus 1/5 lb. 2, 4-DB (1 pt. Butyrac 175 or 13 fl. oz. Butyrac 200) per acre when soybeans are at least 8" tall and when weeds do not exceed 4" in height. Add 1 pt. surfactant for each 25 gals. spray mixture. A second application may be made if needed, but do not make more than 2 applications per season.

Soybeans: Broadcast Application — Linex 4L and Sencor[®] DF and Lasso

| Product Per Acre | | | |
|--|---------------------|---------------------|-------------------|
| Soil Texture | Linex 4L (Pints) | Sencor DF (Lbs.) | Lasso (Quarts) |
| 1/2 to 3% Organic Matter | | | |
| Sandy loam | 1/3 to 1/2 | 1/6 to 1/4 | 3/4 to 1 |
| Loam, Silt, loam, Silt, Sandy clay, Sandy clay loam | 1/2 to 3/4 | 1/4 to 1/3 | 1 to 1-1/2 |
| Silty clay loam, Silty clay loam, Clay, Clay loam | 3/4 to 1-1/2 | 1/3 to 1/2 | 1-1/4 to 2 |

Soybeans: Broadcast Application — Linex 4L and Sencor DF and Dual 8E

| Product Per Acre | | | |
|---|---------------------|---------------------|--------------------|
| Soil Texture | Linex 4L (Pints) | Sencor DF (Lbs.) | Dual 8E (Pints) |
| 1/2 to 3% Organic Matter | | | |
| Sandy loam | 1/3 to 1/2 | 1/6 to 1/4 | 1 to 1-1/4 |
| Loam, Silt, Loam, Silt, Sandy clay, Sandy clay | 1/2 to 3/4 | 1/4 to 1/3 | 1-1/4 to 1-1/2 |
| Loam, Silty clay, Silty clay loam, Silty clay loam, Clay loam | 3/4 to 1-1/2 | 1/3 to 1/2 | 1-1/2 to 2 |

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**WHEAT
(WINTER)
(Drill-Planted)
Idaho, Oregon, Washington**

Plant seed at least 1" 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.

Crop injury may result where severe winter stress, disease or insect damage follows application, and also from failure to observe the following: Do not use on sand or loamy sand soils, nor on gravelly or sandy loams low in organic matter (less than 1%), nor on thinly covered or exposed sub-soil areas (clay knobs); do not treat wheat planted less than 1" deep; do not treat wheat where winter climatic conditions have caused "heaving" of plants; do not treat wheat plants lacking in vigor due to poor emergence, insect damage, disease, high alkalinity, or other causes; do not apply after wheat has reached the "boot" state of maturity not 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.

Do not graze or feed immature plants to livestock. Do not replant treated areas to any rotation crop within 6 months after last application as injury to subsequent crops may result.

West of Cascade Range:

Make a single application of Linex 4L at 2 to 3½ pts. per acre as soon as possible after planting. If wheat and weeds have emerged, apply before weeds are 3" to 4" 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 1½ pts. Linex 4L per acre either before or after wheat has emerged but before weeds are 2" tall. Treatment after October 1 generally gives best results. Do not apply after soil freezes in the fall.

Spring Treatment:

Apply 1 to 1 1/4 pts. Linex 4L per acre as soon as wheat starts to grow in the spring. Application after weeds have reached a height of 2" 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 1½ 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" 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 1½ pt. Linex 4L plus 1/4 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" tall or across.

NON-CROP WEED CONTROL

For short-term control of annual weeds on non-cropland areas such as roadsides and fence rows — apply 2 to 6 pts. Linex 4L per acre in 40 to 100 gals. of water. For best results, apply shortly before weed growth begins or at early seedling stage of growth. For control of established annual weeds, add surfactant at rate of 2 pts. per 100 gals. of spray mixture and apply as a thorough coverage spray during periods when daily temperatures exceed 70°F. and before weed growth exceeds 8" in height.

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