

1812-320

10/12/2005

Page 1 of 12



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

AND

OFFICE OF
PREVENTION, PESTICIDES
TOXIC SUBSTANCES

OCT 12 2005

Mr. J. H. Cain
Griffin, LLC
Stine-Haskell Research Center
P. O. Box 30
Newark, DE 19714-0030

Dear Mr. Cain:

Subject: Lorox DF Herbicide
EPA Registration No. 1812-320
Application Dated August 24, 2005

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

--Revise the second sentence of the second paragraph of your Limitation of Warranty and Liability to read: **WHEN YOU BUY OR USE THIS PRODUCT, TO THE FULLEST EXTENT PERMITTED BY LAW, YOU AGREE TO ACCEPT THESE RISKS.**---

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

Sincerely,

Vicki Kivalas for
James A. Tompkins
Product Manager 25
Herbicide Branch
Registration Division (7505C)

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ACCEPTED
with COMMENTS
In EPA Letter Dated

Griffin

OCT 12 2005

Under the Federal Insecticide,
Fungicide, and Rodenticide Act,
as amended, for the pesticide
registered under EPA Reg. No.
1812-320

Lorox® DF

herbicide

Dry Flowable

Active Ingredients	By Weight
Linuron 3-(3, 4-dichlorophenyl)-1-methoxy-1-methylurea	50.0%
Inert Ingredients	50.0%
TOTAL	100.0%

EPA Reg. No. 1812-320
EPA Est. No.
Net Contents:

KEEP OUT OF REACH OF CHILDREN

CAUTION

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.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Caution! Harmful if swallowed or absorbed through the skin. Causes moderate eye irritation. Avoid contact with eyes, skin or clothing.

PERSONAL PROTECTIVE EQUIPMENT

Some of the 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 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:

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

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, 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.

[The following text is only applicable to Lorox 50DF that is packaged in water-soluble packets]

Water-soluble packets when used correctly qualify as a closed loading system under the WPS. Handlers handling this product while it is enclosed in intact water-soluble packets may elect to wear reduced PPE of long-sleeved shirt, long pants, shoes, socks, and chemical resistant gloves.

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 off equipment or disposing of equipment wash waters or 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 ground water 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 the protection of agricultural workers on farms, forests, nurseries, and greenhouses and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry 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
- Chemical-resistant gloves made of any waterproof material
- Shoes and socks
- Chemical-resistant headgear for overhead exposure

4812

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are not within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses. Non-crop weed control is not within the scope of the Worker Protection Standard.

Do not enter or allow unprotected persons to enter treated areas until the sprays have dried.

GENERAL INSTRUCTIONS AND INFORMATION

LOROX® DF is a dispersible granule 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. LOROX® DF is non-corrosive to equipment, non-flammable and non-volatile.

To control susceptible weed seedlings for an extended period of time, apply LOROX® DF to soil before weed emergence. The degree of control and duration of effect will vary with the amount of chemical applied, soil texture, rainfall and other conditions. Higher dosages are needed for soils high in clay or organic matter. Soil low in clay or organic matter will require lower dosages to obtain equivalent herbicide performance. Since moisture is needed to activate LOROX® DF, rainfall or irrigation is needed within 2 weeks of application. In the Columbia River Basin, use LOROX® DF only if the crop is sprinkler irrigated.

When using LOROX® DF to control emerged weeds best results are obtained on succulent weeds growing in temperatures of 70 F or higher with high humidity. Where recommended, addition of a surfactant to the spray increases contact effects of LOROX® DF.

It is suggested that growers limit their first use to small areas as the effect of LOROX® DF varies with soils, uniformity of application and environmental conditions. Follow all label directions on this and any product used in mixtures.

GRASSES AND BROADLEAF WEEDS CONTROLLED BY LOROX DF

PREEMERGENCE USE (GERMINATING WEEDS)

LOROX® DF, at recommended rates, controls annual weeds such as:

Broadleaf Weeds

- Carpetweed
- Chickweed
- Dayflower, common
- Florida beggarweed
- Florida pusley (Florida purslane)
- Galinsoga
- Nettleleaf goosefoot
- Lambsquarter
- Mustard
- Pigweed
- Purslane (common)
- Radish, wild
- Ragweed (common)
- Shepherd's Purse
- Smartweed (Pennsylvania)

Grasses

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

LOROX® DF will provide partial control of the following:

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

The lower dosage rates are effective on coarser soils and the higher rates on finer soils and on the more resistant seedling weeds. Sufficient moisture (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 the chemical into the root zone of germinating weeds; best results are obtained when this occurs within two weeks after application. If heavy rainfall occurs soon after application, injury to crop may result.

LOROX® DF applied preemergence, before emergence of soybeans, asparagus, carrots, corn (field), parsnips, potatoes, and weeds, is an effective procedure because susceptible weeds are controlled in an early, vulnerable seedling stage before they compete with the crop. With favorable moisture conditions, LOROX® DF continues to control weeds for some time as the crop becomes better able to compete. Should weed seedlings begin to break through the preemergence treatment in significant numbers, secondary weed control procedures should be implemented; these include cultivation and postemergence herbicide application.

A good seed bed must be prepared before application of LOROX® DF 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 LOROX® DF 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. Deep cultivation reduces the effectiveness of LOROX® DF.

5712

POSTEMERGENCE USE (EMERGED SEEDLING WEEDS)

LOROX® DF, at recommended rates, controls up to 2 inch tall annual grasses and up to 6 inch tall broadleaf weeds.

Broadleaf

- Annual morningglory
- Carpetweed
- Chickweed (common)
- Cocklebur (common)
- Dayflower (common)
- Dog Fennel
- Fiddleneck (amsinckia)
- Florida beggarweed
- Florida purslane (Florida pusley)
- Groundsel
- Knawel
- Lambsquarter
- 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 LOROX® DF. Application will also provide control of emerging susceptible weed seedlings for an extended period of time.

APPLICATION DIRECTIONS

LOROX® DF 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 application directions.

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 screen should be equal to or larger than 50 mesh. Continuous agitation in the spray tank is necessary to keep the material in suspension. Agitation can be by hydraulic or mechanical 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 crop injury 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 LOROX® DF 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 LOROX® DF 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. LOROX® DF 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: The tank should be 1/4 full with clean water. Start agitation system, add LOROX® DF and continue adding water. Each component of any tank mix should be added separately while adding water. Surfactant, if used, should be added last when the tank is nearly full. Agitation should continue throughout. If poor mixing should occur with any component, premix the component with two parts water before adding to the spray tank.

RATES: All rates are expressed as broadcast rates; for band treatment, use proportionately less. For example, use 1/3 of the broadcast rate when treating a 14" band where row spacing is 42". Where a range of dosages is given, use the lower rate on coarser soils (low in clay or organic matter) and the higher rate on finer soils (high in clay or organic matter); for postemergence application, use the lower rate on smaller weeds and the higher rate on larger weeds. See crops sections for rates recommended for specific crops.

REPLANTING: If initial seeding fails to produce a stand, 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 LOROX® DF 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 1 teaspoon for each pint/100 gallons.
 - (b) Dry ingredients (wetable powders, dry flowables): add 1 tablespoon for each pound/100 gallons.
 - (c) Flowables: add 1 teaspoon for each pint/100 gallons.
 - (d) Soluble ingredients: add 1 tablespoon for each pound/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 4 ounces per 100 gallons. If this does not smooth the mixture, try higher concentrations and 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.

GENERAL CHEMIGATION INSTRUCTIONS

Apply this product only through one or more of the following types of systems: sprinkler including center pivot, lateral move, end tow, 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 any 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 system 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 a 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 LOROX® DF 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 cautions and limitations on the label of all products used in mixtures.

LOROX® DF 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 LOROX® DF 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 LOROX® DF 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 cautions and limitations on the label of all products used in mixtures.

LOROX® DF 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 LOROX® DF has been cleared from the last sprinkler head.

ASPARAGUS

Do not exceed a maximum of 4 lbs/acre LOROX® DF or 3 applications per year.

Do not use surfactant or fertilizer solution in spray mixture.

Do not apply within 1 day of harvest.

Direct Seeded or Newly Planted Crowns:

Preemergence: Make a single application of 2 to 4 lbs. per acre after planting seed 1/2 inches deep in coarse soil and 1 inch deep in fine soils. During planting operation, spray activated charcoal as a 1 inch 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 a 20 inch row spacing). Preemergence weed control will be reduced in soils with high organic matter (greater than 5% and peat or muck).

Postemergence: Make 1 or 2 applications of 1 to 2 pounds per acre when ferns are in the 6 to 18 inch stage and weeds are not over 4 inches tall.

Established Beds:

Preemergence: Make a single application of 2 to 4 lbs. per acre. Preemergence weed control will be reduced in soils with high organic matter (greater than 5% and peat or muck).

Postemergence: Make 1 to 3 applications of 1 to 2 pounds per acre before weeds exceed 4 inches in height. Apply before cutting season or immediately after cutting.

Directed Postemergence (Fern Stage): Make a single application of 4 pounds per acre as directed. Spray to base of plants for control of dudain melon.

In California, dudain melon and annual nightshade are controlled.

BULB

Tulip, Caladium, Calla Lily, Daffodil and Dutch Iris (California, Florida)

After planting of bulbs, settle the soil with sprinkler irrigation (rainfall will serve the same purpose); then before emergence of plants (bulbs), apply 2 lbs. LOROX® DF per acre in a minimum of 20 gallons of water per acre. Treat only once during the growing season.

CARROT

Because carrot varieties vary in their resistance, determine tolerance to LOROX® DF prior to adoption as a field practice to prevent possible crop injury.

Do not exceed 4 lbs. LOROX® DF per acre per year East of Rocky Mountains.

Do not exceed 3 lbs. LOROX® DF per acre per year West of Rocky Mountains.

Do not apply within 14 days of harvest.

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Preemergence - California, Colorado, Florida, Michigan, Minnesota, New Jersey, North Dakota, Ohio, Oregon, Washington, and Wisconsin only:

A single application of 1 - 2 lbs. per acre in California, Florida, Minnesota, North Dakota, Oregon, and Washington and 1 - 3 lbs. per acre in Michigan, New Jersey, Ohio, and Wisconsin should be made after planting but prior to carrots emerging. Seed should be planted at least 1/2 inch deep. The lower rate should be used on lighter soils and the higher rate on heavier soils. Additional postemergence applications may be made as long as the total does not exceed the seasonal maximum of LOROX® DF for the geography.

Postemergence - Entire U.S.:

Apply 1.5 to 3 lbs. per acre as a broadcast spray after carrots are at least 3 inches tall. Repeat application may be made as long as the total LOROX® DF use does not exceed the seasonal maximum of LOROX® DF for the geography.

Postemergence - Alternate Treatment for New York: For control of emerged broadleaf weeds early in the development of the carrot crop, apply 0.25 lb. per acre to carrots having at least one fully developed true leaf and 0.5 lb. 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 3 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.

Precautions for Postemerge Carrot Applications:

Do not treat susceptible varieties which show an initial burning of foliage following postemergence treatment with LOROX® DF.

Do not exceed 40 psi spray nozzle pressure as crop injury may result.

Do not apply when the temperature exceeds 85° F as crop injury may result.

The activity of LOROX® DF on both carrots and weeds is increased if applied after 3 or more cloudy days. If spraying is done under these conditions, the dosage of LOROX® DF must be reduced.

Do not apply LOROX® DF as a tank mixture with Stoddard solvent, surfactants, nitrogen or fertilizer solution, or other pesticides as crop injury may result.

LOROX® DF 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 between LOROX® DF applications and application of insecticides.

FOR USE ON CARROTS IN CHEMIGATION SYSTEMS IN CALIFORNIA

Follow the use direction in the section above and the chemigation instructions in the Chemigation section of this label.

For solid set and hand move irrigation systems, apply LOROX® DF at the beginning of the set and then apply 1/3 to 1" of water for activation (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"). For center pivot and lateral move irrigation systems, apply LOROX® DF in 1/3 to 1" of water for activation as a continuous injection (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1").

CELERY

Do not exceed 40 psi spray nozzle pressure.

Do not apply when temperature exceeds 85°F nor as a tank mixture with surfactants, nitrogen or fertilizer solution, or other pesticides as injury to the crop may result.

Do not apply within 45 days of harvest east of the Rocky Mountains. Do not apply within 67 days of harvest west of the Rocky Mountains.

Post-transplant Application:

Make a single application of 1.5 to 3 pounds per acre in all states except California. In California use 1.5 to 2 pounds per acre. Apply as a broadcast spray after celery is transplanted and established, but before celery is 8 inches tall. In the Northeast, use only on celery grown on muck soils.

CORN (FIELD)

East of Rocky Mountains Only

Do not exceed a seasonal maximum of 1.5 lb per acre.

Do not spray over top of emerged corn.

Preemergence: 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 LOROX® DF alone at 1 to 1.5 lb/acre. Use lower rates on lighter soils and higher rates on heavier soils. For improved grass and broadleaf weed residual, tank mix LOROX® DF 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 LOROX® DF and atrazine.

LOROX® DF + Atrazine

Soil Texture	1-2% Organic Matter lbs LOROX® DF + lb ai Atrazine	2-5% Organic Matter lbs LOROX® DF + 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

HYBRID POPLAR

Midwest

Apply 2 to 4 pounds LOROX® DF per acre before bud break in the spring. For application after bud break, apply 2 to 4 pounds LOROX® DF 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 pounds LOROX® DF per acre should be applied per year.

PARSLEY

(East of Mississippi River and Including Texas)

Do not exceed a total of 3 lbs. of LOROX® DF per acre per season.

Do not apply within 30 days of harvest.

In Texas, use on mineral soils only.

Preemergence (Mineral and Muck Soils): Make a single broadcast application of LOROX® DF at a rate of 1 to 3 lbs. per acre after planting, but before the crop emerges. Use lower rates on coarse soils and higher rates on heavier soils.

Postemergence (Muck Soils Only): Make a single application of LOROX® DF at a rate of 1 lb. per acre to control emerged weeds. Apply after parsley has a minimum of 3 true leaves or crop injury may result. Apply when weeds are in the 1 to 3 true leaf stage.

PARSNIP

Preemergence Application: A single application of 1.5 to 3 lbs. per acre should be made after planting but prior to crop emergence. Seed should be planted at least 1/2 inch deep.

POTATO

Do not use West of Rocky Mountains.

Do not spray over top of emerged potatoes.

Do not exceed 3 lb per acre per year.

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

Preemergence: 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.

LOROX® DF + "Dual MAGNUM"

Soil Texture	1 to 3% Organic Matter lb LOROX® DF pt "Dual"	3 to 5% Organic Matter lb LOROX® DF pt "Dual"
Coarse: Sandy loam	1 to 1.5 + 1	1.5 to 2 + 1.33
Medium: Loam, Silt Loam, Silt, Sandy Clay, Sandy Clay Loam	1.5 to 2 + 1.33	2 to 2.5 + 1.67 to 2

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

Select a registered herbicide treatment for application as a tank mixture. Make a single application as a tank mixture. Make a single application after planting but before crop emerges. In soil with 1 to 2% organic matter apply 0.5 to 1 pound per acre on sandy loam and 1 to 1.5 pounds 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 pounds per acre on sandy loam and 1 to 2 pounds 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:

Make a single application of LOROX® DF 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 pound per acre when sorghum is 12 inches tall (free standing plants) and weeds are up to 2 inches in height. Use 1 to 2 pounds 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 on upper leaves or whorf of sorghum by spray or drift as such contact may cause crop injury.

SOYBEAN

Make only a single preemergence application of LOROX® DF per season.

Do not exceed 2 lbs of LOROX® DF in any application.

Soybeans planted too shallow have increased potential for injury.

Do not spray over top of emerged soybeans.

Do not feed treated forage to livestock.

Preemergence - all tillage types

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

For specific tank mix rate recommendations for LOROX® DF + "Sencor", see Table 2 below.

Notill, Minimum till or Stale Seedbed

Timing

Apply LOROX® DF 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, or to expand the burndown spectrum, tank mix LOROX® DF with such herbicides as 2,4-D LVE, SYNCHRONY® XP, CLASSIC®, glyphosate and/or paraquat. When tank-mixing LOROX® DF 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 LOROX® DF + 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 | pennycress |
| chickweed, common | shepherd's purse |
| chickweed, mouseear | speedwell, corn, field, |
| cutleaf evening primrose | purcellane |
| deadnettle* | white heath aster |
| henbit | |

* suppression

Table 1. Preemergence rates of LOROX® DF for soybeans - all tillage types

Soil Texture	LOROX® DF lbs per acre	
	1 to 3% Organic Matter	3 to 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 to 2
Fine:		
Silty Clay, Silty Clay Loam, Clay, Clay Loam	1.25 to 2	2

Table 2. Tank mix of LOROX® DF + Sencor

Soil Texture	1 to 3% Organic Matter	3 to 6% Organic Matter
	lb LOROX® DF + lb "Sencor"*	lb LOROX® DF + lb "Sencor"*
Coarse:		
Sandy loam	.5 + .167 to .25	.5 to .75 + .25 to .5
Medium:		
Loam, Silt Loam, Silt, Sandy Clay Loam	.5 to .75 + .25 to .5	.5 to 1.5 + .25 to .5
Fine:		
Silty Clay, Silty Clay Loam, Clay, Clay Loam	.75 to 1.5 + .25 to .5	1.5 to 2 + .5 to .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".

NONCROP WEED CONTROL

Apply 2 to 6 pounds LOROX® DF per acre in 40 to 100 gallons of water for short term control of annual weeds on non cropland areas such as roadsides and fence rows. Apply shortly before weed growth begins or at early seedling stage of growth for best results. Add 2 quarts of surfactant per

11 8 12

100 gallons of spray mixture for control of established annual weeds. Apply as a thorough coverage spray during periods when daily temperatures exceed 70° F and before weed growth exceeds 8 inches in height.

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 by 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.

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