

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

R. # 352-543

PM-25

10/6

OCT 22 1990

Ms. Marie M. Chubb  
E.I. du Pont de Nemours & Company, Inc.  
Agricultural Products Department  
Barley Mill Plaza, Walker's Mill  
P.O. Box 80038  
Wilmington, DE 19880-0038

Dear Ms. Chubb:

**BEST AVAILABLE COPY**

Subject: Reformat and include Supplementals  
DuPont New Lotox Plus Herbicide  
EPA Registration No. 352-543  
Your Application Dated September 11, 1990

The labeling, referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable. Please submit five (5) copies of your final printed labeling before you release the product for shipment. A stamped copy of labeling is enclosed for your records.

Sincerely yours,

Robert J. Taylor  
Product Manager (25)  
Fungicide-Herbicide Branch  
Registration Division (H7505C)

Enclosure

54417: I/C: Walters: L25-14: RENC: 10/13/90: 11/11/90: DD: JH: DD

CONCURRENCES

SYMBOL	17505C							
SURNAME	K Walker							
DATE	10/18/90							

Reg # 352-543

PM-25

276

**NEW LOROX PLUS®****HERBICIDE**

REGISTRATION CODE 0000-000

PACKAGE SIZE  
2 - 10 POUND JUGS/CARTON

DISPERSIBLE GRANULES

**FOR USE ON SOYBEANS ONLY**

ACTIVE INGREDIENTS.....	BY WEIGHT 60%
Linuron: [3-(3,4-dichlorophenyl)-1-methoxy-1-methylurea].....	56.9%
Chlorimuron Ethyl: Ethyl 2-[[[(4-chloro-6-methoxypyrimidin-2-yl)amino]carbonyl]amino]sulfonate.....	3.1%
INERT INGREDIENTS.....	40%
	TOTAL 100%

EPA Reg. No. 352-543 U.S. Pats. 4,391,596 & 4,547,215

**KEEP OUT OF REACH OF CHILDREN****CAUTION****PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS AND DOMESTIC ANIMALS****CAUTION!** HARMFUL IF SWALLOWED OR ABSORBED THROUGH SKIN. CAUSES MODERATE EYE INJURY.

AVOID CONTACT WITH SKIN, EYES AND CLOTHING. AVOID BREATHING DUST OR SPRAY MIST. WASH THOROUGHLY WITH SOAP AND WATER AFTER HANDLING. REMOVE AND WASH CONTAMINATED CLOTHING BEFORE REUSE.

**STATEMENT OF PRACTICAL TREATMENT**

If in eyes: Flush with plenty of water and get medical attention if irritation persists.

If on skin: Wash with soap and water and get medical attention if irritation persists.

If swallowed: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

For medical emergencies involving this product, call toll free 1-800-441-3637.

**ENVIRONMENTAL HAZARDS**

Do not apply directly to water or wetlands (swamps, bogs, marshes and potholes). Do not contaminate water by cleaning of equipment or disposal of wastes.

**IMPORTANT**

When mixing/loading and spraying, wear a wide-brimmed hat, mid-forearm to elbow length chemical resistant gloves, and one-piece overalls which have long sleeves and long pants. Overalls should be constructed of finely woven fabric as specified in the USDA/EPA Guide for Commercial Applicators

Any article of clothing worn while applying product must be cleaned before reusing. 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 specified by Taschenberg and Bourke, 1975).

Injury to or loss of desirable trees or vegetation may result from failure to observe the following: Do not apply or drain or flush equipment on or near desirable trees or other plants, or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots. Do not use on lawns, walks, driveways, tennis courts, or similar areas. Prevent drift of spray to desirable plants. Do not contaminate any body of water. Keep from contact with fertilizers, insecticides, fungicides, and seeds during storage.

Prior to using "Lorox Plus", consideration should be given to crop rotation plans. Crops other than soybeans can be extremely sensitive to low concentrations of "Lorox Plus" remaining in the soil the next planting season. Choice of rotational crop is restricted following application of "Lorox Plus" (See "ROTATIONAL CROP GUIDELINES").

Do not apply if soil pH is greater than 6.8.

"Lorox Plus" is registered for use on soybeans only. Use on crops other than soybeans will result in severe crop injury or crop death.

## DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with the terms of the label.

Do not apply this product through any type of irrigation system.

### FOR USE ON SOYBEANS ONLY

## General Information

Du Pont "Lorox Plus" Herbicide is a dispersible granule formulation to be mixed with water and sprayed for selective preemergence weed control in soybeans. When applied according to the instructions on this label, it will control many broadleaf weeds and provide partial control of nutsedge.

Preemergence applications of "Lorox Plus" require rainfall or sprinkler irrigation to activate the herbicide. Degree of control and duration of effect depend on: rate used, weed spectrum, growing conditions at and following time of treatment, soil pH, texture, organic matter, moisture and precipitation.

Because most crops are highly sensitive to "Lorox Plus", all direct or indirect contact (such as spray drift) to crops or to land scheduled to be planted to crops other than soybeans should be avoided.

## Biological Activity

"Lorox Plus" rapidly inhibits the growth of susceptible weeds. Following preemergence treatment, susceptible weeds may germinate and emerge, but growth then ceases and leaves become yellow 3-5 days after emergence. Death of leaf tissue and growing point will follow in some species while others will remain green but stunted and noncompetitive. "Lorox Plus" provides partial control of some annual grasses, but other products may be needed to ensure adequate grass control.

## Weeds Controlled

When used as directed "Lorox Plus" will provide control of the following weeds:

- |                            |                        |
|----------------------------|------------------------|
| Carpetweed                 | Prickly sida (teaweed) |
| Cocklebur*                 | Purslane               |
| Eastern black nightshade** | Ragweed, common        |
| Jimsonweed                 | Smartweeds, annual     |
| Lambquarters               | Spotted purse          |
| Mustards                   | Velvetleaf             |
| Pigweed species            |                        |
| Palmer amaranth            |                        |
| Redroot                    |                        |
| Smooth                     |                        |
| Spiny amaranth             |                        |
| Tall waterhemp             |                        |

When used as directed "Lorox Plus" will provide partial control of the following weeds:

- |                          |                  |
|--------------------------|------------------|
| Burcucumber              | Nutsedge species |
| Crabgrass species        | Panicum species  |
| Eastern black nightshade | Ragweed, giant*  |
| Foxtail species          | Sunflower*       |
| Johnsongrass, seedling   |                  |
| Morningglory, annual*    |                  |
| Entireleaf               |                  |
| Ivyleaf                  |                  |
| Pitted                   |                  |
| Tall                     |                  |

\* Large seeded weeds, germinating deep in the soil, such as morningglory, sunflower, cocklebur and giant ragweed or weeds with subsequent flushes may require a cultivation or an application of Du Pont "Classic" Herbicide postemergent for season-long control. Consult "Classic" label for application directions, recropping intervals, and use restrictions. NOTE: Consult Lasso[1], Dual[2], Prowl[3], Trellan[4], Sonalan[4] or Surlar[4] labels for additional weeds controlled when "Lorox Plus" is used in conjunction with these herbicides.

\*\* Requires the addition of "Lasso".

## APPLICATION INFORMATION

### Spray Tank Preparation

It is important that spray equipment is clean and free of existing pesticide deposits before using "Lorox Plus". Follow the spray tank cleanout procedures specified on the label of product previously sprayed. If no cleanout procedure is provided, follow the cleanout procedure below for all application equipment.

1. Thoroughly rinse sprayer, tanks, boom, and hoses with clean water.
2. Partially fill the tank with water and add one of the cleaning agents listed in the SPRAYER CLEANUP section of this label. Complete filling the tank and flush the cleaning solution through the boom and hoses. Let stand for 15 minutes with agitation or recirculation and then drain the tank after flushing the hoses, boom, and nozzles.
3. Thoroughly rinse sprayer, tanks, boom, and hoses with clean water.
4. Follow label directions of the product previously sprayed for rinsate disposal.

NOTE: During an extended period where spraying or mixing equipment will be used to apply multiple loads of "Lorox Plus", at the end of each day of spraying partially fill the tank with fresh water, flush the boom and hoses and allow to sit overnight.

## Equipment / Spray Volumes

Apply uniformly by ground equipment with a properly calibrated low pressure (20 to 40 psi) fixed-boom sprayer equipped with fan-type nozzles or other carefully calibrated nozzles and screens no finer than 50 mesh. Use 10 to 40 gals of water per acre.

Continuous agitation in the spray tank is required to keep the material in suspension. Avoid overlap and shut off spray booms while starting, turning, slowing or stopping, as injury to the crop may result.

## Mixing Instructions

Fill tank 1/4 full with water. Start agitation system, add "Lorox Plus" and continue adding water. Add separately each additional component of any tank mix while adding water. Continue agitation throughout. If poor mixing should occur with any component, premix the component with two parts water before adding to the spray tank. A fertilizer solution may be used in the spray mixture. Small quantities should be tested for compatibility by the following procedures before full scale mixing.

1. Put 1 pint of fertilizer solution in quart jar
2. Mix 2 teaspoons "Lorox Plus" with 2 tablespoons of water, mix thoroughly and add to fertilizer solution
3. Close jar and shake well

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4. If other herbicides are to be used in the mixture, premix 2 teaspoons of wettable powder or 1 teaspoon of liquid with 2 tablespoons of water; add to "Lorox Plus" fertilizer solution mixture.
5. Close jar and shake well.
6. Watch mixture for several seconds; check again in 30 minutes.
7. If mixture does not separate, foam, gel or become lumpy, it may be used.
8. Mixing ability may be improved by adding compatibility agents such as Kalo Laboratories "Compex"[5] or Witco Chemicals "Sponto"[6] 168D. Follow directions on container.

Provided the above procedure shows the mixture to be compatible, prepare the tank mixture as follows: Add the fertilizer solution to the spray tank first; with the agitator running, add the required amount of "Lorox Plus" and thoroughly mix. For tank mixtures with other herbicides, follow directions above.

When tank mixing with other herbicides, all applicable directions, restrictions and precautions for the additional herbicides are also to be followed. Use "Lorox Plus" spray preparations the same day as mixed or product degradation may occur. Thoroughly reagitrate before using if allowed to settle.

### APPLICATION METHODS

Dosage rates listed are broadcast rates. For band applications use proportionally less.

Plant seed 1 1/2" to 2" deep on a flat or raised seedbed only, or crop injury may occur.

Soybean stunting may occur if excessive rainfall occurs after application but before soybeans germinate. Injury is more prevalent under poor drainage or compacted conditions or when soil is saturated for long periods of time. Soybeans rapidly outgrow stunting once favorable growing conditions return.

**NOTE:** Seedling disease, nematodes, cold weather, deep planting (more than 2"), excessive moisture, high salt concentration or drought may weaken soybean seedlings and increase the possibility of crop injury.

### Early Preplant or Preplant Incorporated (See Rate Table 1)

"Lorox Plus" can be applied at planting or up to 30 days prior to planting either preemergence or preplant incorporated. If incorporated, "Lorox Plus" should be uniformly incorporated no deeper than the top 1-2" of soil prior to planting soybeans. Use equipment suited for proper incorporation into the top 1-2 inches of soil e.g.: Do-all, field cultivator or Roterra. If tank-mixed with a grass herbicide, such as a DNA like "Trellan", "Sonalan", or acetanilide such as "Dual", or "Lasso", follow label instructions for proper incorporation of the grass herbicide into the top 1 to 2" of soil. Improper soil incorporation can result in erratic weed control or crop injury. Rainfall (~1") is required to activate preplant incorporated herbicides such as "Lorox Plus" before weed emergence.

Use of a disk for incorporation is not recommended.

### Preemergence (See Rate Table 1)

Apply before soybeans emerge. Do not spray over top of emerged soybeans or severe crop injury or crop death will occur.

Preemergence activity of "Lorox Plus" requires rainfall or irrigation to activate. Best results are obtained if treatment is made to moist soil and followed by rainfall or irrigation (1/2" to 1") before weeds germinate. On dry soil, chemical activation requires more moisture (1-2"). If moisture is insufficient to activate the herbicide, a rotary hoeing or shallow cultivation should be made after emergence of crop while weeds are small enough to be controlled by mechanical means. "Lorox Plus" can be applied preemergence in combination with "Lasso", "Dual", "Prowl", "Surflan" or following the use of a preplant grass material such as "Trellan", "Prowl" or "Sonalan". Consult labels for rates and use instructions.

### Minimum Tillage or No-Till (See Rate Table 1)

"Lorox Plus" applied preemergence to soybeans but postemergence to broadleaf weeds and small annual grasses will provide limited burndown of existing weeds. When used for burndown add a nonionic surfactant at a rate of 0.25% V/V surfactant (1 qt/100 gal) or crop oil concentrate at 1% V/V (1 gal/100 gal). For added postemergence control, especially on grasses, "Lorox Plus" can be applied with Roundup[1], paraquat or "Bronco"[1]. For added preemergence control, especially on grasses, "Lorox Plus" can be mixed with "Dual", "Lasso", or "Surflan". Consult labels for rates and use instructions. Maintain constant agitation of spray mixture.

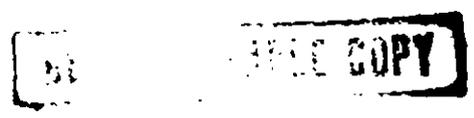
RATE TABLE 1	
Soil Texture (1/2-3% Organic Matter*)	Rate (Ounces Per Acre)
Coarse: Loamy sand, Sandy loam	12 - 14
Medium: Loam, Silty loam, Silt	14 - 16
Fine: Silty clay loam, Clay loam, Clay	16 - 18
*Do not apply to soil with less than 1/2% O.M. Do not apply "Lorox Plus" to soils with pH greater than 6.8.	

### Reduced rate followed by Classic® Herbicide

"Lorox Plus" may be applied at a reduced rate when followed by a postemergence application of Du Font's "Classic" Herbicide for broadleaf weed control.

Apply "Lorox Plus" preplant incorporated or preemergence at 12 ounces of product per acre to any soil texture with 1/2 to 3% organic matter as directed on this label. Follow the "Lorox Plus" preplant incorporated or preemergence reduced rate with a postemergence application of "Classic" Herbicide at its labeled rate when weeds are small and actively growing (Usually 14-28 days after preplant incorporated or preemergence application of "Lorox Plus" reduced rate.)

For grass weed control "Lorox Plus" can be tank mixed with grass herbicides such as "Dual", "Lasso", "Sonalan", "Trellan", "Prowl", or "Surflan". Consult labels for rates and use instructions for these products.



## "Lorox Plus" plus Preview<sup>®</sup> Herbicide Tank Mix for the States of IA, IL, IN, MI and OH.

A tank mix, at reduced rates, of "Lorox Plus" and "Preview" Herbicide is recommended for weed control in soybeans in the states of Iowa, Illinois, Indiana, Michigan and Ohio. This tank mix will control those weeds listed on this label.

Apply the "Lorox Plus" and "Preview" tank mixture as a preplant incorporated (1-2 inches) or preemergence treatment. Follow the "Lorox Plus" label for incorporation guidelines and equipment recommendations. Make a single application using 10-40 gallons of water per acre by ground equipment only. **DO NOT APPLY "LOROX PLUS" BY AIR.**

Choose the proper rates from the rate table below.

**Important:** Read and follow all use precautions, restrictions and recropping guidelines on the "Lorox" Plus and "Preview" product labels.

<b>"Lorox Plus" plus "Preview" Rate Table</b>		
Soil Texture Description *	Ounces Product Per Acre	
	"Lorox Plus"	"Preview"
<b>Coarse:</b> Loamy sand, Sandy loam	6	3
<b>Medium:</b> Loam, Silty loam, Silt	7	3.5
<b>Fine:</b> Silty clay loam, Clay loam, Clay	8	4
* Do not apply to soil with less than 1/2% or more than 3 1/2% organic matter. Do not apply "Lorox Plus" to soils with pH greater than 6.8.		

### ROTATIONAL CROP GUIDELINES

Crops that can be planted after using "Lorox Plus" are listed below. Choice of rotational crop is determined by time interval elapsed since last application

Crops	Time Interval in Months Before Replanting
Soybeans	anytime
Wheat, Barley, Oats, Rye	4
Field Corn *	10
Alfalfa	10
Clover	12
Sorghum	10
Tobacco (transplant)	10
Tomato (transplant)	10
<b>All Other Crops require a successful Field Bioassay**</b>	

\* The term "FIELD CORN" is defined to include only that corn grown for grain or silage, popcorn, and seed corn relative to the "Rotational Crop Guidelines" section of the label, but because seed corn inbred lines may vary in their sensitivity to trace amounts of herbicide carryover Du Pont cannot warrant that seed corn can be recropped without damage or yield loss. Users are advised to seek the advice of their seed corn company agronomist regarding inbred sensitivity to herbicides prior to planting any inbred lines.

\*\* Field Bioassay - The season before planting any crop not listed above, a successful field bioassay must be completed. The field bioassay will detect small quantities of "Lorox Plus" which can remain in the soil and injure rotational crops. A successful field bioassay means growing to maturity a test strip of the crop(s) intended for production the following year. The test strip should cross the whole field including knolls and low areas.

Combination Treatment: When recommended tank mix combinations are used, consult the product label for replanting and recropping instructions and observe the directions that are the most restrictive.

### SPRAYER CLEANUP

To avoid subsequent injury to desirable crops, thoroughly clean all mixing and spray equipment immediately following applications of "Lorox" Plus as follows:

1. Drain tank; thoroughly hose down the interior surfaces of the tank, then flush tank, boom, and hoses with clean water for a minimum of 5 minutes.
2. Partially fill the tank with water and add one of the cleaning agents listed below. Complete filling the tank with water, then flush the cleaning solution through the boom, hoses, and nozzles. Add water to completely fill the tank and allow to agitate or recirculate for at least 15 minutes. Again, flush the boom, hoses and nozzles, and drain the tank.
3. Repeat Step 2.
4. Remove the nozzles and screens and clean separately in a bucket containing water and the cleaning agent
5. Thoroughly rinse the tank with clean water for a minimum of 5 minutes, flushing water through the boom and hoses

NOTE: Use any of the following cleaning agents. Carefully read and follow the individual cleaning agent instructions

1. One gallon of household ammonia (contains 3% active) per 100 gallons of water.
2. Nutra-Sol[7]
3. Loveland Tank and Equipment Clean[8]
4. Protank Cleaner[9]
5. Chem-Tank Cleaner and Neutralized[10]
6. Incode-Out[11]
7. Tank-Aid[12]

\*A steam cleaning of fiberglass or stainless steel aerial spray tanks is recommended prior to performing the above cleanup procedure to facilitate the removal of any caked deposits

## PRECAUTIONS

Do not apply "Lorox Plus" Herbicide to soils with a pH greater than 6.8.

- o CAUTION: Soil pH varies greatly, even within the same field. pH variations as much as 2 pH units are common. Composite soil samples taken across an entire field, such as those samples taken for soil fertility recommendations, may not detect areas of high pH (greater than pH 6.8). Sub-sampling areas likely to have pH values higher than the field average is recommended.

Soil pH may vary with soil type. Where different soil types are evident within a field, these types should be sampled separately.

Soil pH may vary due to conditions within a field. Such areas include, but are not limited to, areas bordered by limestone gravel roads, river bottoms subject to flooding, low areas in hardpan soils where evaporative ponds may occur, eroded hillsides, along drain tile lines, and areas where drainage ditch spoil has been spread. These areas should be sampled separately.

Soil pH may vary within the soil profile. For instance, fields in which lime has not been deeply incorporated may exhibit significantly higher pH values in the upper 3 inches of soil. Composite soil samples taken at a 6-8 inch depth may not reflect the elevated pH near the surface. In these cases shallow sampling, the upper 3 inches, is advised.

Determine soil pH by laboratory analysis using a 1:1 soil:water suspension.

- o Do not graze treated fields or harvest for forage or hay.
- o Use of "Lorox Plus" may affect rotational crops. Follow "ROTATIONAL CROP GUIDELINES."
- o Do not use on sand, muck, or peat soils, nor on soils with less than 1/2% organic matter, as crop injury may occur.
- o Do not apply "Lorox Plus" after the soybean crop has emerged.
- o If "Scepter"[3], "Pursuit"[3] or any product containing the active ingredients, imazaquin or imazethapyr (such as "Squadron"[3], "Partner"[3]) is applied the same year as "Lorox Plus", do not plant crops other than soybeans for at least 15 months from the last application. Crops listed in the "Lorox Plus" Rotational Crop Guidelines may be planted after 15 months; all other crops require a successful field bioassay.
- o Do not apply to land that has been or will be treated with "Glean", "Ally" or "Finesse" herbicides in the States of Nebraska, Kansas, North Dakota and South Dakota.

### STORAGE AND DISPOSAL

**Storage:** Store product in original container only, away from other pesticides, fertilizer, food or feed.

**Product 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.

NOTICE TO BUYER: Purchase of this material does not confer any rights under patents of countries outside of the United States.

### NOTICE OF WARRANTY

Du Pont warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for the purposes stated on such label only when used in accordance with the directions under normal conditions. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Du Pont. In no case shall Du Pont be liable for consequential, special or indirect damages resulting from the use or handling of this product. All such risks are assumed by the buyer. DU PONT MAKES NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

- 1 Registered Trademark of Monsanto Agricultural Products Co., St. Louis, MO
- 2 Registered Trademark of Ciba-Geigy Corp., Greensboro, NC
- 3 Registered Trademark of American Cyanamid Corp., Princeton, NJ
- 4 Registered Trademark of Elanco Products Co., Indianapolis, IN
- 5 Registered Trademark of Kalo Agricultural Chemicals Inc., Overland Park, KS
- 6 Registered Trademark of Witco Chemical Corp., Houston, TX
- 7 Compounded for Thomas G. Kilfoil Co., Inc., San Bruno, CA
- 8 Registered Trademark of Loveland Industries, Inc.
- 9 Manufactured for Genex/Land 'O Lakes Agronomy Co.
- 10 Manufactured by Farmbelt Chemicals, Inc.
- 11 Trademark of Precision Laboratories, Inc.
- 12 Manufactured for Cornbelt Chemical Co.

ACCEPTED  
with COMMENTS  
in EPA Letter Dated:

D-091190

OCT 22

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

352-543

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