



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

OFFICE OF  
CHEMICAL SAFETY AND  
POLLUTION PREVENTION

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

JUN 15 2010

Subject: Label Amendment (container handling, incorporate CA directions, tank mix)  
DuPont Staple LX Herbicide  
EPA Reg. No. 352-613  
Application Dated May 3, 2010

Dear Mr. Cain:

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is acceptable, provided you make the following changes:

1. It is suggested that the resistance-management grouping symbols be placed on the front panel of the label as described in PR Notice 2001-5.
2. Change the Environmental Hazards phrase to "equipment washwater **or rinsate**."
3. On page 2, change the text to read "STAPLE LX must be used only in accordance with the **directions** on this label or in separate published DuPont **directions**."
4. On page 3, change the heading from "GENERAL USE PRECAUTIONS" to "**USE RESTRICTIONS**".
5. On page 4, change the heading from "PREEMERGENCE USE PRECAUTIONS" to "**PREEMERGENCE USE RESTRICTIONS**".

A stamped copy of your label is enclosed for your records. This label supercedes all previously accepted labels. You must submit one (1) copy of the final printed label before you release the product for shipment. Products shipped after eighteen (18) months from the date of this letter or the next printing of the label, whichever occurs first, must bear the new revised label. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA §6(e). Your release for shipment of the product constitutes acceptance of these conditions.

Sincerely,

*Jim Tompkins for*

Jim Tompkins  
Product Manager 25  
Herbicide Branch  
Registration Division (7505P)



H-

2/16

# DuPont™ Staple® LX

herbicide

## DRAFT LABEL

### DUPONT™ STAPLE® LX HIGHLIGHTS

- STAPLE® LX provides control of a wide range of broadleaf weeds in cotton.
- STAPLE® LX can be used preemergence in all states excluding California. Postemergence (over the top) and post-directed sprays can be used in all states.
- Preemergence applications must be applied by ground equipment.
- Post emergence applications may be applied by ground or aerial equipment (except Arizona and California).
- Post emergence applications may be made any time from emergence up to 60 days before harvest.
- Always include a surfactant for control of emerged weeds.
- STAPLE® LX may be tank mixed with most herbicides (except "Dual" over the top), insecticides (except malathion), and PGR's.
- Consult label text for complete instructions. Always read and follow label instructions.

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# DuPont™ Staple® LX

herbicide

For Use on Cotton in the States of AL, AR, AZ, CA, FL, GA, KS, LA, MO, MS, NC, NM, OK, PR, SC, TN, TX, & VA.

| <i>Active Ingredient</i>  | <i>By Weight</i> |
|---|------------------|
| Pyrithiobac sodium  |                  |
| Sodium 2-chloro-6-[(4,6-dimethoxy<br>pyrimidin-2-yl)thio]benzoate | 33.6%            |
| <i>Other Ingredients</i>  | 66.4%            |
| TOTAL   | 100.0%           |

Equivalent to 3.2 lb ai per gal

EPA Reg. No. 352-613      EPA Est. No. \_\_\_\_\_

Nonrefillable Container

Net: \_\_\_\_\_

OR

Refillable Container

Net: \_\_\_\_\_

ACCEPTED  
with COMMENTS  
in EPA Letter Dated

JUN 15 2010

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

352-613

**KEEP OUT OF REACH OF CHILDREN**

**CAUTION!**

**FIRST AID**

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-441-3637 for medical emergencies involving this product.

**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS AND DOMESTIC  
ANIMALS**

**CAUTION!**

**PERSONAL PROTECTIVE EQUIPMENT  
(PPE)**

**Applicators and other handlers must wear:**

Long-sleeved shirt and long pants.

Shoes plus socks.

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

**Engineering Control Statement:** When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**USER SAFETY RECOMMENDATIONS**

**USERS SHOULD:** Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

**ENVIRONMENTAL HAZARDS**

This product is highly toxic to nontarget plants adjacent to area of application. Do not apply this product or allow it to drift to areas where endangered or desired plant species exist.

Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate.

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**PRODUCT INFORMATION**

DuPont™ STAPLE® LX may be applied preemergence (except in California), postemergence or post-directed to cotton and weeds by ground application equipment. STAPLE® LX may also be applied postemergence to cotton and weeds by aerial equipment (except in Arizona and California).

If STAPLE® LX is used in a tank mixture with other herbicides, read and follow all use instructions, warnings and precautions on companion herbicide labels.

**BIOLOGICAL INFORMATION**

STAPLE® LX is absorbed by weed foliage following postemergence application. Thorough coverage of target weed species, including the weed terminals or growing points, is required to obtain best results. When using a banded spray application, the band spray area must be of sufficient width to ensure thorough coverage of target weeds.

Growth of susceptible weeds is rapidly inhibited. Growing points and leaves of susceptible weeds appear yellow in 5-10 days. Death of leaf tissue and growing points will follow in some species, while others remain green but stunted and non-competitive. Susceptible weeds are controlled in 14-28 days.

Do not apply STAPLE® LX on any crops other than cotton. Most crops other than cotton are sensitive to STAPLE® LX. All direct and indirect contact (such as drift) to crops other than cotton or land not scheduled to be planted to cotton in the current growing season must be avoided.

**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.

**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 in your State responsible for pesticide regulation.

STAPLE® LX must be used only in accordance with the recommendations on this label or in separate published DuPont recommendations.

DuPont will not be responsible for losses or damages resulting from the use of this product in any manner not specifically instructed by this label. User assumes all risk associated with such non-labeled use.

**AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 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 Category A (such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber) ≥14 mils.
- Shoes plus socks.

## APPLICATION INFORMATION

### ENVIRONMENTAL CONDITIONS FOR OPTIMUM PERFORMANCE

**Weather:** Conditions which are conducive to healthy, actively growing weeds optimize DuPont™ STAPLE® LX postemergence weed control performance. Ideal conditions include warm soil temperatures (70 Deg. F or more) and adequate soil moisture before, during and immediately after application.

**Rainfastness:** Rainfall immediately after treatment may wash STAPLE® LX off the weed foliage and result in reduced weed control. A minimum of 4 hours is needed to allow STAPLE® LX to be absorbed by weed foliage.

### SPRAY VOLUMES

**Ground Application** - Apply uniformly by ground with a properly calibrated low pressure (20-40 psi) stabilized boom or cultivator mounted sprayer with appropriate nozzles for the intended application method. Use a minimum of 10 gal. water per acre. Under heavy weed pressure or dense crop foliage, increase minimum spray volume to 20-40 gal. per acre.

**Aerial Application (except Arizona and California)** - Use orifice discs, cores and nozzle types and arrangements that will provide for optimum spray distribution and maximum coverage at a minimum of 3 GPA. Do not apply during inversion conditions, when winds are gusty, or when other conditions will favor poor coverage and/or drift.

### SEQUENTIAL APPLICATIONS

Annual broadleaf weeds may have more than one flush of emerging seedlings. Also, regrowth of treated annual weeds may occur due to application being made to weeds under stress from adverse growing conditions. To control weeds under these conditions, a sequential application of STAPLE® LX may be necessary.

If a respray of treated annual weeds is necessary, allow the weeds to begin to regrow prior to making a second application of STAPLE® LX.

When using STAPLE® LX in sequential treatment program, allow a minimum of 7 days between applications.

### GENERAL USE PRECAUTIONS

- Do not exceed 2.1 fl oz/A preemergence.
- Do not exceed 3.8 fl oz/A in a single postemergence application.
- Do not exceed 5.1 fl oz per acre per year.
- In West Texas (broadly defined as West of Highway 83), do not apply more than 3.2 fluid ounces total per acre per year. Where continuous cotton is grown, do not apply more than 5.1 fluid ounces total per acre per year.
- Do not apply this product through any type of irrigation system.
- Do not apply to irrigated land where tail water will be used to irrigate crops other than cotton.
- Do not apply within 60 days of harvest.

### TANK MIX PRECAUTIONS

This product can be mixed with pesticide products labeled for use on cotton in accordance with the most restrictive of label limitations. Read all label precautions for tank mix partners prior to use. Follow all manufacturers label instructions for the companion product. If these instructions conflict with this label, do not tank mix with STAPLE® LX.

Since formulations may be changed and new ones introduced, it is suggested that users premix a small quantity of a desired tank mix and observe for possible adverse changes (settling out, flocculation, etc.). Avoid mixtures of several materials and very concentrated spray mixtures.

Do not tank mix STAPLE® LX with metolachlor herbicides (such as "Dual Magnum") as a postemergence treatment over the top of cotton as crop injury may result.

Do not tank mix STAPLE® LX with malathion-containing insecticides (such as "Cythion" RTU or "Cythion" ULV) as crop injury may result. To avoid crop injury, apply malathion-containing insecticides at least 24 hours before or after application of STAPLE® LX.

### PIMA COTTON PRECAUTION

Foliar injury to Pima cotton varieties from postemergence applications of STAPLE® LX can be more severe than that occasionally observed on upland cotton varieties (see NOTE: under POSTEMERGENCE USE section of label). Any of the plant stress conditions mentioned in the POSTEMERGENCE USE Note paragraph may further increase the severity of the injury to Pima varieties. Consequently, DuPont is not responsible for any crop injury arising from the use of STAPLE® LX on Pima cotton varieties.

### PREEMERGENCE USE (excluding California)

STAPLE® LX may be applied preemergence in cotton to aid in the control of many problem weeds (except in California).

STAPLE® LX is absorbed by weed roots following a preemergence application. Susceptible weeds may germinate and emerge, but growth is rapidly inhibited. Death of leaf tissue and growing points will follow in some species while others remain green but stunted and non-competitive.

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

The amount of rainfall required to activate STAPLE® LX preemergence treatments depends on the amount of soil moisture available when rainfall is received. Several rainfalls of 0.25 inch or less are not as effective as one rainfall or supplemental irrigation of 0.5-1 inch for activation.

**Note:** Temporary leaf yellowing and/or stunting may occur following a preemergence treatment. Plant stresses from seedling diseases, cool soil temperatures (60° F or less), thrips injury or excessive soil moisture may increase the sensitivity of

cotton to injury from preemergence treatments of DuPont™ STAPLE® LX.

### **PREEMERGENCE USE PRECAUTIONS**

- Do not use on cotton planted in furrows.
- Do not use on soils with less than 0.5% organic matter (OM).
- Do not use on coarse soils such as sands or loamy sands.
- Do not apply more than one preemergence application per year.
- Do not apply STAPLE® LX preemergence by aerial application.

### **WEEDS CONTROLLED OR SUPPRESSED**

STAPLE® LX may be applied preemergence in cotton (including glyphosate ("Roundup" Ready), glufosinate ("LibertyLink"), and bromoxynil (BXN) tolerant varieties) for the CONTROL of pigweed (redroot, smooth), prickly sida, spotted spurge, spurred anoda & velvetleaf, and SUPPRESSION of annual morningglory (cypressvine, entireleaf, ivyleaf, pitted, purple, red/scarlet, sharppod/cotton, small flower, three-lobed, woolly), lambsquarters, smartweed (ladythumb, pennsylvania), jimsonweed, coffee senna, palmer pigweed, lanceleaf sage, barnyardgrass, broadleaf signalgrass, goosegrass, fall panicum, giant foxtail, seedling johnsongrass & large crabgrass.

### **APPLICATION RATES**

STAPLE® LX may be applied preemergence at the rates of 1.3 - 2.1 fl oz product/A. Use the higher rate of STAPLE® LX for harder to control weeds and/or in fields where high weed infestation levels are known to occur (see Specific Weed Problems section).

All rates are broadcast. Use proportionately less for band application.

### **PREEMERGENCE COMBINATIONS**

For improved control of weeds, such as, prairie sunflower, lanceleaf sage and annual morningglory (entireleaf, ivyleaf, pitted, red morningglory, sharppod), STAPLE® LX may be applied preemergence in combination with diuron ("Karmex"). See "TANK MIX PRECAUTIONS" on page 3 for additional information.

### **STAPLE® LX + "Karmex", "Direx"**

**Medium Soils** (sandy loam, loam, silt loam, silt): Apply STAPLE® LX at 1.3 - 2.1 fluid ounces per acre plus diuron at 0.5 to 1 pound a.i. per acre.

**Fine Soils** (sandy clay loam, clay loam, silty clay loam, sandy clay): Apply STAPLE® LX at 1.3 - 2.1 fluid ounces per acre plus diuron at 0.75 to 1.25 pound a.i. per acre.

- Do not use on soils with less than 1% organic matter when tank mixing with diuron.
- Do not use soil applied organophosphate insecticides where diuron will be applied preemergence. Refer to the specific diuron labels for further application information and use restrictions.

**Note:** A second application of STAPLE® LX may be applied postemergence if needed for extended weed control. See the

POSTEMERGENCE USE section of this label for further application information and use restrictions.

### **PREEMERGENCE/POSTEMERGENCE PROGRAMS**

A program of STAPLE® LX at 1.3 - 2.1 fl oz /A plus "Cotoran" applied preemergence followed by STAPLE® LX early postemergence is suggested for improved control of bristly starbur, coffee senna, common ragweed, Florida beggarweed, hemp sesbania, jimsonweed, ladythumb smartweed, lambsquarter, annual morningglory (cypressvine, entireleaf, ivyleaf, pitted, purple, red/scarlet, sharppod/cotton, smallflower) Pennsylvania smartweed, pigweed (redroot, smooth, spiny), prickly sida, spotted spurge, spurred anoda, velvetleaf and for suppression of palmer pigweed.

**Specific Weed Problems** (Sicklepod, Wild Poinsettia, Yellow Nutsedge): For improved control of the above weeds and other labeled weeds that often occur in high populations and/or have multiple seasonal flushes, a program of STAPLE® LX at 1.7 - 2.1 fl oz /A plus "Cotoran" applied preemergence followed by a postemergence application of STAPLE® LX alone or in combination with MSMA or DSMA is suggested.

Refer to the **POSTEMERGENCE USE** section of this label for use rates, application timings and restrictions.

### **POSTEMERGENCE USE**

#### **POSTEMERGENCE BAND USE (California)**

Application must be made by ground equipment only. Apply STAPLE® LX as a postemergence band (over-the-top) or as a post-directed band spray over the cotton seed row at 8 - 10 inches wide (not to exceed 10 inches in width). Applications may be made over the top when cotton is at the first visible true leaf stage through 6 inches in height, or post-directed when cotton is up to 10 inches in height. For optimum control, weeds need to be young and actively growing. The degree of control and duration of effect are dependent on the sensitivity and size of the target weed, coverage, rate of STAPLE® LX applied and the environmental conditions at the time of and following application. Regrowth of susceptible weeds may occur if these conditions are not met. Application must be made to the same number of rows as planted to avoid row width variations.

Control may be reduced if application is made following a cultivation, i.e., dirt clods blocking the spray, dust covered weeds, weeds injured by cultivation equipment, or to weeds under stress due to severe environmental conditions such as drought, excessive soil moisture or cool soil or air temperatures (60° F or less).

- Do not cultivate within 5 days after application.
- After a minimum of 5 days after application, a cultivation that moves soil to the crop and covers small treated weeds can improve efficacy.
- Do not sprinkler irrigate cotton within 48 hours after application.

**POSTEMERGENCE USE (U.S. excluding CA)**

Application may be made postemergence (over-the-top) or as a post-directed spray to cotton (begin at cotyledon stage) and actively growing weeds. The degree of control and duration of effect are dependent on sensitivity and size of target weed and environmental conditions at time of and following application.

Application may be made by ground or aerial equipment (except Arizona). In Arizona, apply DuPont™ STAPLE® LX by ground equipment only.

For optimum control, apply to young, actively growing weeds. Control may be reduced if application is made to weeds under stress due to severe environmental conditions such as drought, excessive soil moisture or cool soil or air temperatures (60° F or less).

**POSTEMERGENCE USE (All States)**

Foliar absorption is the primary means of uptake from postemergence applications of STAPLE® LX. Therefore, select a spray volume, delivery system and uniform spray pattern that will insure thorough coverage of the target weed species (including the growing point) to obtain best results. Increase spray volume as weed density and size increases. Avoid overlapping, and shut off spray booms while starting, turning, slowing or stopping, or injury to the crop may result.

**Note:** STAPLE® LX may cause temporary leaf yellowing, bronzing and/or leaf crinkling when applied as a postemergence application. Plant stresses from seedling diseases, insects (thrips injury), blowing sand (sand blasting), hail injury, cool soil or air temperatures (60° F or less), extreme temperature variations and lack of or excessive soil moisture just prior to or soon after treatment may increase the sensitivity of cotton to injury from STAPLE® LX treatments. To reduce the potential for increased cotton sensitivity, allow cotton plants to recover from stress conditions (approximately 2 days) prior to postemergence applications of STAPLE® LX.

**APPLICATION RATES**

Apply STAPLE® LX at 2.6 to 3.8 fl oz product/A for control of the weeds listed in "Weeds Controlled" section. Use the higher rate for arid growing conditions or where weed infestations are severe.

**All rates are broadcast. Use proportionately less for band applications.**

**Note:** In New Mexico and W. Texas (broadly defined as West of Highway 83) on sand or loamy sand soil types with less than 1% OM, confine in-season applications of STAPLE® LX to a band of no more than one-third the row width. If replanting back to cotton is necessary, replant outside the original treated band.

**SPRAY ADDITIVES**

Add a nonionic surfactant cleared for application to growing crops, at the rate of 0.25% V/V with all postemergence applications.

For the states of AZ, CA, KS, NM, OK and TX, add a nonionic surfactant cleared for application to growing crops, at the rate of 0.25-0.5% V/V or a crop oil concentrate cleared for application to growing crops, at the rate of 1-2% V/V with all postemergence applications. Under arid conditions, a crop oil concentrate is the adjuvant of choice.

**TIMING**

STAPLE® LX may be used as a postemergence (over-the-top) or post-directed application to young, actively growing weeds.

**WEEDS CONTROLLED (California) Height or Diameter**

| Common Name            | Scientific Name                | (inches) |
|------------------------|--------------------------------|----------|
| Cocklebur, common      | <i>Xanthium strumarium</i>     | 1-4      |
| Goosefoot, nettleleaf  | <i>Chenopodium murale</i>      | 1-2      |
| Nightshade             |                                |          |
| black                  | <i>Solanum nigrum</i>          | 1-2      |
| hairy                  | <i>Solanum sarrachoides</i>    | 1-2      |
| Knotweed, silversheath | <i>Polygonum argyrocoleon</i>  | 1-2      |
| Mustard, black         | <i>Brassica nigrum</i>         | 1-2      |
| Pigweed                |                                |          |
| palmer                 | <i>Amaranthus palmeri</i>      | 1-2      |
| redroot                | <i>Amaranthus retroflexus</i>  | 1-2      |
| smooth                 | <i>Amaranthus hybridus</i>     | 1-2      |
| spiny                  | <i>Amaranthus spinosus</i>     | 1-2      |
| Rocket, London         | <i>Sisymbrium irio</i>         | 1-2      |
| Shepherd's-purse       | <i>Capsella bursa-pastoris</i> | 1-2      |
| Sunflower              |                                |          |
| common                 | <i>Helianthus annuus</i>       | 1-4      |
| Velvetleaf             | <i>Abutilon theophrasti</i>    | 1-4      |
| Watermelon (volunteer) | <i>Citrullus vulgaris</i>      | 1-2      |

**WEEDS SUPPRESSED (California) Height or Diameter**

| Common Name          | Scientific Name            | (inches) |
|----------------------|----------------------------|----------|
| Groundcherry, wright | <i>Physalis wrightii</i>   | 1-2      |
| Morningglory, *      |                            |          |
| entireleaf           | <i>Ipomoea hederacea</i>   | 1-4      |
| ivyleaf              | <i>Ipomoea hederacea</i>   | 1-4      |
| Puncturevine         | <i>Tribulus terrestris</i> | 1-2      |
| Purslane, common     | <i>Portulaca oleracea</i>  | 1-3      |

\* To aid control under arid growing conditions STAPLE® LX may be applied in a single application at up to 3.8 fl oz per acre. Include a nonionic surfactant at 0.5% V/V or crop oil concentrate at 1% V/V. For best activity, treat at the one to two leaf stage of weed growth.



**WEEDS CONTROLLED**

(Excluding California)

Height or

Diameter

| Common Name               | Scientific Name                 | (inches) |
|---------------------------|---------------------------------|----------|
| Citronmelon               | <i>Citrullus lanatus</i>        | 1-4      |
| Cocklebur, common†        | <i>Xanthium strumarium</i>      | 1-4      |
| Cocklebur, common         | (AZ, KS, NM, OK, TX only)       | 1-3      |
| Coffee senna              | <i>Cassia occidentalis</i>      | 1-4      |
| Cowpea                    | <i>Vigna sinensis</i>           | 1-4      |
| Dayflower, common/asiatic | <i>Commelina communis</i>       | 1-3      |
| Devils claw               | <i>Proboscidea louisianica</i>  | 1-2      |
| Dock, curly               | <i>Rumex crispus</i>            | 1-4      |
| Florida beggarweed        | <i>Desmodium tortuosum</i>      | 1-4      |
| Goosefoot, nettleleaf     | <i>Chenopodium murale</i>       | 1-2      |
| Groundcherry, wright      | <i>Physalis wrightii</i>        | 1-2      |
| Jimsonweed                | <i>Datura stramonium</i>        | 1-4      |
| Knotweed, silversheath    | <i>Polygonum argyrocoleon</i>   | 1-2      |
| Ladysthumb                | <i>Polygonum persicaria</i>     | 1-4      |
| Morningglory,             |                                 |          |
| cypressvine               | <i>Ipomoea quamoclit</i>        | 1-4      |
| entireleaf                | <i>Ipomoea hederacea</i>        | 1-4      |
| ivyleaf                   | <i>Ipomoea hederacea</i>        | 1-4      |
| pitted                    | <i>Ipomoea lacunosa</i>         | 1-3      |
| purple                    | <i>Ipomoea turbinata</i>        | 1-4      |
| red/scarlet               | <i>Ipomoea coccinea</i>         | 1-3      |
| sharppod/cotton           | <i>Ipomoea trichocarpa</i>      | 1-3      |
| (seedling)                |                                 |          |
| smallflower               | <i>Jacquemontia tamnifolia</i>  | 1-4      |
| threelobe                 | <i>Ipomoea triloba</i>          | 1-3      |
| woolly                    | <i>Ipomoea hirsutula</i>        | 1-3      |
| Mustard, black            | <i>Brassica nigrum</i>          | 1-2      |
| Nightshade                |                                 |          |
| black                     | <i>Solanum nigrum</i>           | 1-2      |
| hairy                     | <i>Solanum sarrachoides</i>     | 1-2      |
| Pigweed                   |                                 |          |
| redroot                   | <i>Amaranthus retroflexus</i>   | 1-2      |
| smooth                    | <i>Amaranthus hybridus</i>      | 1-2      |
| spiny                     | <i>Amaranthus spinosus</i>      | 1-2      |
| tumble                    | <i>Amaranthus albus</i>         | 1-2      |
| Redweed                   | <i>Melochia corchorifolia</i>   | 1-4      |
| Rocket, London            | <i>Sisymbrium irio</i>          | 1-2      |
| Sage, lanceleaf           | <i>Salvia reflexa</i>           | 0.25-0.5 |
| Sesbania, hemp***         | <i>Sesbania exaltata</i>        | 1-4      |
| Shepherd's-purse          | <i>Capsella bursa-pastoris</i>  | 1-2      |
| Sida, prickly             | <i>Sida spinosa</i>             | 0.25-1   |
| Smartweed, Pennsylvania   | <i>Polygonum pennsylvanicum</i> | 1-4      |
| Smellmelon                | <i>Cucumis melo</i>             | 1-3      |
| Spiderflower, spiny       | <i>Cleome spinosa</i>           | 1-4      |
| Spurred anoda             | <i>Anoda cristata</i>           | 1-4      |
| Starbur, bristly          | <i>Acanthospermum hispidum</i>  | 1-2      |
| Sunflower                 |                                 |          |
| common                    | <i>Helianthus annuus</i>        | 1-4      |
| prairie                   | <i>Helianthus petiolaris</i>    | 1-3      |
| Thistle, Russian          | <i>Salsola iberica</i>          | 1-2      |
| Velvetleaf                | <i>Abutilon theophrasti</i>     | 1-4      |
| Waterhemp, common         | <i>Amaranthus tamariscinus</i>  | 1-4      |
| Watermelon (volunteer)    | <i>Citrullus vulgaris</i>       | 1-2      |
| Wild poinsettia           | <i>Euphorbia heterophylla</i>   | 1-2      |
| Wild radish               | <i>Raphanus raphanistrum</i>    | 1-2      |

**WEEDS SUPPRESSED††**

(Excluding California)

Height or

Diameter

| Common Name       | Scientific Name            | (inches) |
|-------------------|----------------------------|----------|
| Pigweed, palmer†* | <i>Amaranthus palmeri</i>  | 1-2      |
| Puncturevine      | <i>Tribulus terrestris</i> | 1-2      |
| Purple nutsedge   | <i>Cyperus rotundus</i>    | 2-4      |
| Purslane, common  | <i>Portulaca oleracea</i>  | 1-2      |
| Sicklepod         | <i>Cassia obtusifolia</i>  | 0.5-2    |
| Yellow nutsedge   | <i>Cyperus esculentus</i>  | 2-4      |

† Naturally occurring biotypes of this weed resistant to DuPont™ STAPLE® LX are known to exist. STAPLE® LX will not control these biotypes. See Information in Resistance section.

†† Weed suppression is a visual reduction in weed competition (reduced population and/or vigor) as compared to an untreated check. The degree of control will vary with the rate used, size of weeds, crop competition, and environmental conditions.

\* In AL, AZ, FL and GA only, Palmer Pigweed is controlled at the height of 1-2 inches.

\*\*\* Effective control may require sequential applications of STAPLE® LX as cotyledon to one-leaf stage plants are more difficult to control.

**POSTEMERGENCE COMBINATIONS**

STAPLE® LX may be tank mixed with other suitable registered herbicides to control weeds in addition to those listed.

STAPLE® LX can also be mixed with other suitable registered PGR's and insecticides labeled for use on cotton.

See "TANK MIX PRECAUTIONS" on page 3 for additional information.

**STAPLE® LX plus DuPont™ ASSURE® II: Johnsongrass**

STAPLE® LX may be tank mixed with ASSURE® II for additional early postemergence control of johnsongrass in cotton. This tank mix will also control many other grass species. Refer to ASSURE® II label for rates and timing of application. (Note: ASSURE® II is not labeled for use in the state of California.)

Tank mixes of STAPLE® LX with other post grass herbicides can result in antagonism and partial control of rhizome johnsongrass or annual grasses. To avoid poor control of rhizome johnsongrass or annual grasses apply other post grass herbicides at least 3 days prior to the application of STAPLE® LX.

**STAPLE® LX plus MSMA**

STAPLE® LX may be tank mixed with MSMA and applied POST-DIRECTED for improved control of certain broadleaf weeds and suppression of sedges. Refer to MSMA label for information on weeds, weed sizes, application conditions and use restrictions (follow label guidelines that are most restrictive).

- Treatments of STAPLE® LX + MSMA must be made only as a post-directed application using two nozzles per row set to provide complete coverage of the weeds while avoiding application over the top or to the growing point of the cotton plant.
- The use of gauge wheels or shielded sprayer equipment is suggested to prevent application of STAPLE® LX + MSMA over the top of cotton.
- Certain weeds such as black and hairy nightshade, palmer amaranth, and wright groundcherry have shown antagonism (reduced weed control) from tank mixtures of STAPLE® LX plus MSMA.

**Sicklepod and Yellow nutsedge:** STAPLE® LX will provide partial control (growth suppression) of sicklepod and yellow nutsedge when applied alone at the sizes indicated. For best results, STAPLE® LX needs to be applied as a post-directed application in combination with MSMA at 2 2/3 pints / A (2 lbs ai/A at 6 lbs ai /gal). Applications of STAPLE® LX + MSMA to sicklepod larger than 2 inches or yellow nutsedge larger than 4 inches will only provide partial control (growth suppression).

**STAPLE® LX plus "Ignite" ("LibertyLink" Cotton)**

A tank mixture of STAPLE® LX at 1.3 - 1.9 fluid ounces per acre plus "Ignite" (glufosinate) or "Ignite" 280 SL herbicides may be applied as a postemergence treatment in "LibertyLink" cotton. See "Ignite" and "Ignite" 280 SL herbicide labels for

specific postemergence instructions for weeds, weed sizes and "Ignite" rates.

The addition of DuPont™ STAPLE® LX to labeled postemergence rates of "Ignite" or "Ignite" 280 SL herbicides in "LibertyLink" cotton will provide residual CONTROL of prickly sida, pigweed (redroot, smooth), spotted spurge, velvetleaf and spurred anoda as well as SUPPRESSION of annual morningglory (cypressvine, entireleaf, ivyleaf, purple, red/scarlet, sharppod/cotton, smallflower, three-lobed, woolly), lambsquarters, smartweed (ladysthumb, Pennsylvania), jimsonweed, coffee senna, palmer pigweed, lanceleaf sage, barnyardgrass, broadleaf signalgrass, goosegrass, fall panicum, giant foxtail, seedling johnsongrass, and large crabgrass. Rainfall (0.5 - 1 inch) following the postemergence application is required for residual control.

Tank mixtures of STAPLE® LX plus "Ignite" or "Ignite" 280 SL herbicides must be applied broadcast in a minimum of 15 gallons of water per acre by ground and 10 gallons of water per acre by air.

### **STAPLE® LX plus Glyphosate (Glyphosate Tolerant Cotton - including "Roundup" Ready Flex Cotton)**

A tank mixture of STAPLE® LX at 1.3 - 3.8 fluid ounces plus glyphosate at 24 - 32 ounces per acre may be applied as an early postemergence treatment in glyphosate tolerant cotton for improved control of hemp sesbania, morningglory (entireleaf, ivyleaf, pitted, scarlet/red), cutleaf evening primrose, prickly sida and palmer pigweed.

The addition of STAPLE® LX to a glyphosate only program will provide residual CONTROL of prickly sida, pigweed (redroot, smooth), spotted spurge, velvetleaf and spurred anoda and SUPPRESSION of annual morningglory (cypressvine, entireleaf, ivyleaf, pitted, purple, red/scarlet, sharppod/cotton, smallflower, three-lobed, woolly), lambsquarters, smartweed (ladysthumb, Pennsylvania), jimsonweed, coffee senna, palmer pigweed, lanceleaf sage, barnyardgrass, broadleaf signalgrass, goosegrass, fall panicum, giant foxtail, seedling johnsongrass and large crabgrass. Rainfall (0.5-1 inch) following the postemergence application is required for residual control.

Glyphosate rates are based on 4 pounds active ingredient per gallon formulation. For other glyphosate formulations, rates must be adjusted proportionally to the active ingredient content of the formulation.

STAPLE® LX plus glyphosate may be applied postemergence (over-the-top) to glyphosate tolerant cotton through the 4th true leaf stage of growth (when 5th true leaf is the size of a quarter or less).

STAPLE® LX plus glyphosate may be applied using precision post-directed or hooded sprayers to glyphosate tolerant cotton through layby. When making post-directed applications, be especially careful to minimize contact of the spray with cotton leaves. Any single application must not exceed 3.8 fluid ounces of STAPLE® LX or 32 ounces of glyphosate. No more than two post-directed applications may be made from the fifth leaf stage through layby. Do not exceed a seasonal total of 5.1 fluid ounces of STAPLE® LX per acre. All applications must be 10 days

apart and cotton must have at least two nodes of incremental growth between applications.

For STAPLE® LX plus glyphosate applications over the top of "Roundup" Ready Flex cotton after the fourth leaf, use only glyphosate formulations that are labeled for over the top applications on "Roundup" Ready Flex cotton. STAPLE® LX plus glyphosate may be applied postemergence (over-the-top) to "Roundup" Ready Flex cotton until 60 days before harvest. STAPLE® LX plus glyphosate may also be applied using post-directed or hooded sprayers to "Roundup" Ready Flex cotton. When making post-directed applications to "Roundup" Ready Flex cotton, it is no longer necessary to minimize contact of the spray with cotton leaves. Emphasis must be placed on obtaining maximum contact with weed foliage. Any single application must not exceed 3.8 fluid ounces of STAPLE® LX or 32 ounces of glyphosate. When sequential applications of STAPLE® LX are applied, do not exceed a seasonal total of 5.1 fluid ounces of STAPLE® LX per acre.

Under hard water conditions, always add an appropriate rate of either a spray grade ammonium sulfate (AMS) or a water conditioner (such as Helena's "Quest" or Loveland's "Choice") to the spray water prior to adding the glyphosate.

Refer to the glyphosate formulation label for further application information and use restrictions. Follow the label guidelines that are the most restrictive.

**Note:** No antagonism has been observed to annual grass species from this tank mixture.

### **Reduced Rate Sequential Applications (Glyphosate Tolerant Cotton)**

Two applications of STAPLE® LX herbicide at 0.8 - 1.3 fluid ounces per acre plus glyphosate at 16 - 32 ounces per acre (4 pounds active ingredient per gallon formulation) are required for the control of the weeds listed in the Weeds Controlled section of this label. Use the higher rates for adverse growing conditions, heavy weed infestations, or if additional residual control is desired.

Applications must be made postemergence (over-the-top) to glyphosate tolerant cotton from the cotyledon stage until the four leaf (node) stage of cotton development (until the fifth leaf stage reaches the size of a quarter). After the four leaf stage of growth through layby, apply the STAPLE® LX plus glyphosate tank mix as a post-directed application. For best results, make the initial application while weeds are small and actively growing. The applications must be made at least 10 days apart.

Refer to the label of the glyphosate formulation being used for any adjuvant instructions.

Do not exceed a total of 4 quarts of glyphosate (4 pounds per gallon formulation) per acre per season of in-crop use.

### **ARIZONA ONLY**

A tank mix of STAPLE® LX at 1.7 - 3.8 fluid ounces per acre plus either "Roundup" UltraMax 5L at 26 ounces per acre, "Roundup" WeatherMax at 22 fluid ounces per acre, or "Roundup" PowerMax at 22 fluid ounces per acre may be applied as a postemergence (over-the-top) treatment in glyphosate tolerant cotton for improved weed control of ground-

cherry, morningglory, pigweed, puncturevine, purslane and nutsedge. Apply uniformly by ground application in a minimum of 5 - 20 gallons of water per acre.

### Salvage Treatments (Glyphosate Tolerant Cotton)

Where weeds threaten to cause loss of the crop, DuPont™ STAPLE® LX may be applied from cotyledon stage through layby at 1.7 - 3.8 fluid ounces per acre plus "Roundup" Ultra Max 5L up to 40 ounces per acre or "Roundup" WeatherMax up to 32 ounces per acre. Apply this treatment either as an over-the-top application or as a post-directed application sprayed higher on the cotton plants and over the weeds. If at the timing of the salvage treatment the weeds are larger than specified in this label, only partial control may be achieved.

**Note:** Crop tolerance of "Roundup" Ready cotton has not been fully tested at this application rate. Salvage treatments are expected to result in significant boll loss, delayed maturity and/or yield loss and are the sole responsibility of the grower. No more than two salvage treatments can be used per growing season.

Do not exceed a total of 4 pounds of glyphosate ai per acre per season of in-crop use.

### ROTATIONAL CROP RESTRICTIONS

#### California

The rotational crops listed may be planted at the indicated intervals provided the fields are double disked or deep plowed prior to planting. These crops may be planted after treatment with STAPLE® LX:

| CROP              | INTERVAL (MONTHS) |
|-------------------|-------------------|
| Cotton*           | Anytime           |
| Tomatoes          | 8                 |
| Wheat             | 6                 |
| All other crops** | Field Bioassay    |

\* If initial seeding fails to produce a stand, cotton may be replanted into the treated area. Wherever possible, avoid disturbing original bed. If necessary to rework soil before replanting, use shallow cultivation. Do not rebed nor move soil into the original drill area. **Note:** Where "drip irrigated" cotton is grown, rotate only to cotton.

\*\* A minimum rotational interval of 10 months is required for all crops not listed above. Field bioassay results may require that this interval be extended. A successful field bioassay means growing to maturity a test strip of the crop(s) intended for production the following year. The test strip must cross the entire field including knolls and low areas.

**Note:** Shortening of the rotational intervals listed under the Rotational Crop Restrictions may result in crop injury.

#### U.S. except California

These crops may be planted after treatment with STAPLE® LX:

| CROP†   | INTERVAL (MONTHS) |
|---|-------------------|
| Cotton*   | Anytime           |
| Winter/spring, wheat  | 4                 |
| Peanuts   | 10                |
| Rice  | 9                 |
| Soybeans  | 10                |
| Corn, field #   | 9                 |
| Corn, field ##  | 10                |
| Corn, field IR (imidazilone resistant)                                | 9                 |
| Sorghum, grain  | ‡                 |
| Tobacco (transplant)  | 10                |
| All other crops**   | Field Bioassay    |
| <b>Arizona only - (all crops listed in the main table above plus)</b> |                   |
| Field corn, grain sorghum   | 10                |
| Watermelon, cantaloupe  | 10                |

**Note:** When rotating to either cantaloupe or watermelon in the spring season following cotton, use only a single application of STAPLE® LX at no more than 3.8 fluid ounces per acre.

**Note:** Where "drip irrigated" cotton is grown, rotate only to cotton.

#### Southeast US Only - (GA, NC, N.FL, SC, S.AL)

(all crops listed in the main table above plus)

|                  |    |
|------------------|----|
| Cabbage          | 12 |
| Cantaloupe       | 12 |
| Carrots          | 12 |
| Collards         | 12 |
| English Pea      | 12 |
| Mustard (greens) | 12 |
| Onions           | ++ |
| Peppers          | 12 |
| Snap bean        | 12 |
| Squash           | 12 |
| Sweet Corn       | 12 |
| Sweet Potato     | 12 |
| Tomato           | 12 |
| Turnips          | 12 |
| Watermelon       | 12 |

++ Do not rotate to Onions in the fall or spring crop season following a STAPLE® LX application.

\* If initial seeding fails to produce a stand, cotton may be replanted into the treated area. Wherever possible, avoid disturbing original bed. If necessary to rework soil before replanting, use shallow cultivation. Do not rebed nor move soil into the original drill area.

**Note:** New Mexico and W. Texas (broadly defined as west of highway 83) - On sand or loamy sand soils with less than 1% OM replant cotton outside the original treated band.

\*\* A minimum rotational interval of 10 months is required for all crops not listed above. Field bioassay results may require that this interval be extended. A successful field bioassay means growing to maturity a test strip of the crop(s) intended for production the following year. The test strip must cross the entire field including knolls and low areas.

- † In AZ, KS, NM, OK, and TX the rotational crops listed may be planted at the indicated intervals provided the fields are deep plowed prior to planting the rotational crop.
- # Field corn, corn grown for grain or silage, may be planted at the indicated interval provided DuPont™ STAPLE® LX is applied on a band (not to exceed 50% of the row width) and the fields have had a thorough soil mixing, for example, two diskings or a deep plowing, prior to planting. Otherwise, do not rotate to field corn in the season following a STAPLE® LX application.  
 Note: New Mexico and W. Texas (broadly defined as West of Highway 83) do not rotate to field corn the season following a STAPLE® LX application.
- ## Limited Geography--Field corn grown for grain or silage, only in the States of AL, AR, FL, GA, LA, MO, MS, NC, SC, TN, and VA, may be planted at the indicated interval provided all the STAPLE® LX applications made in cotton do not exceed a total of 3.8 fluid ounces broadcast per acre per season. No additional soil mixing (disking or plowing) will be required beyond that which is normally done with the various production systems, e.g. conventional tillage, minimum till, no-till, ridge till, etc.
- ‡ Do not rotate to grain sorghum in the season following a STAPLE® LX application.  
 For Southeast Texas, in an area broadly defined as east of route I-35 and south of route US 90, to include Uvalde, Medina and Bexar counties, grain sorghum may be planted after a 10 month interval provided that in the above outlined area has received a minimum of 25 inches of rainfall following a STAPLE® LX application and the fields have had a thorough soil mixing, for example two diskings or a deep plowing prior to planting.  
 For the Rio Grande Valley of Texas, do not rotate to corn or grain sorghum in the fall crop season following a STAPLE® LX application.

### REPLANTING TO COTTON

If initial seeding fails to produce a stand, cotton may be replanted in soil treated preemergence with STAPLE® LX. Whenever possible avoid disturbing the original seedbed. If it proves necessary to rework the soil before replanting, use shallow cultivation. Do not relist nor move soil into the original drill area. Plant cotton seed at least 1 inch deep. Do not retreat field with a second preemergence application of STAPLE® LX during the same year as injury may result. For tank mix applications, see the respective combination product label for further replanting information. Follow the label guidelines that are the most restrictive. **Note:** In New Mexico and W. Texas (broadly defined as West Highway 83) on sand or loamy sand soil types with less than 1% OM, replant outside the original treated band.

### COTTON CROP FAILURE

In the event of a cotton crop failure where seasonal constraints do not allow replanting to cotton, pyriithiobac sodium tolerant soybeans, such as DuPont™ STS® soybeans may be used as a replant crop. Pyriithiobac sodium tolerant soybeans may be planted 30 days following the last STAPLE® LX application to the failed cotton crop. Where other herbicides have been used with or in conjunction with STAPLE® LX, refer to the other herbicide label(s) for any information or restrictions prior to replanting with STS® soybeans.

### ADDITIONAL USE PRECAUTIONS

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

- Do not apply, 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.
- Injury to or loss of adjacent sensitive crops and vegetation may result from failure to observe the following:
- Avoid all direct or indirect (such as spray drift) contact with crops other than cotton.
  - Carefully observe all sprayer cleanup instructions both prior to and after using this product, as spray tank residue may damage crops other than cotton.

### SPRAYER PREPARATION

It is important that spray equipment is clean and free of existing pesticide deposits before using STAPLE® LX. Follow the clean up procedures specified on the label of the product(s) previously used. If no clean up procedure is provided, follow this clean up procedure for all application equipment before using STAPLE® LX:

1. Thoroughly rinse sprayer, tanks, boom and hoses with clean water.
2. Partially fill tank with water and add ammonia (1 gal. of ammonia per 100 gal. of tank volume) or a tank cleaner. Complete filling the tank and flush the cleaning solution through the boom hoses. Let solution stand for 15 minutes while agitating/recirculating, and then drain the tank by flushing the hoses, booms and nozzles.
3. Thoroughly rinse the sprayer, tanks, boom and hoses with clean water.
4. Follow label directions on product(s) previously sprayed for disposal.

Mix the proper amount of STAPLE® LX into the necessary volume of water in the spray tank with the agitator running. Continuous agitation is required for a uniform suspension and application. STAPLE® LX must be added first to the spray tank followed by tank mix partner, if used, then the adjuvant.

Use spray preparation of STAPLE® LX and approved adjuvant within 7 days or product degradation may occur. If spray preparation is left standing without agitation, thoroughly agitate before using.

**PRECAUTION:** Do not use chlorine bleach with ammonia. See Sprayer Clean Up Section for more information.

### SPRAYER CLEAN UP

Spray equipment must be clean and free of previous pesticide deposits before applying STAPLE® LX and properly cleaned out after applying STAPLE® LX. Using the clean up procedures specified on the label of the previously used product, clean all application equipment before applying STAPLE® LX. If no clean up procedure is provided, use the procedure that follows. Immediately following applications of STAPLE® LX thoroughly clean all mixing and spray equipment according to the following instructions:

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. Loosen and physically remove any visible deposits.
  2. Fill the tank with clean water and add one gal. of household ammonia\* (3% active) for every 100 gal. of water. Flush the cleaning solution through the boom, hoses and nozzles. Add more water to completely fill the tank and allow to agitate/recirculate for at least 15 minutes. Again, flush the boom, hoses and nozzles with the cleaning solution, then drain the tank.
  3. Remove the nozzles and screens and clean separately in a bucket containing the cleaning agent and water.
  4. Repeat step 2.
  5. Thoroughly rinse the tank with clean water for a minimum of 5 minutes, flushing the water through the hoses and boom.
  6. Dispose of the rinsate on site or at an approved waste disposal facility.
- \* Equivalent amounts of an alternate-strength ammonia solution or DuPont approved cleaner can be used in the cleanout procedure. Carefully read and follow the individual cleaner instruction.

**PRECAUTION**

Do not use chlorine bleach with ammonia when cleaning out spray tanks. All traces of liquid fertilizer containing ammonia, ammonia nitrate or ammonium sulphate must be rinsed with water from the mixing and application equipment before adding any chlorine bleach solution. Failure to do so will release a gas with a musty chlorine odor which can cause eye, nose, throat and lung irritation.

Do not clean equipment in an enclosed area.

**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. 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 must 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 must 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.

### **SENSITIVE AREAS**

The pesticide must only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

### **DRIFT CONTROL ADDITIVES**

Drift control additives may be used with all spray equipment with the exception of controlled droplet applicators. When a drift control additive is used read and observe precautionary statements and all other information on the label. Preferred drift control additives have been certified by the Chemical Producers and Distributors Association (CPDA).

## **STORAGE AND DISPOSAL**

**Pesticide Storage:** Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Store in a cool, dry place.

**Pesticide Disposal:** Do not contaminate water, food, or feed by disposal. Waste resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

**Container Handling: Refer to the Net Contents section of this product's labeling for the applicable "Nonrefillable Container" or "Refillable Container" designation.**

### **Nonrefillable Rigid Plastic and Metal Containers (Capacity Equal to or Less Than 5 Gallons):**

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**Nonrefillable Rigid Plastic and Metal Containers (Capacity Greater Than 5 Gallons):** Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

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**Nonrefillable Rigid Plastic and Metal Containers, e.g., Intermediate Bulk Containers [IBC] (Size or Shape Too Large to be Tipped, Rolled or Turned Upside Down):** Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying the contents from this container into application equipment or mix tank and before final disposal using the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. For Metal Containers, offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**All Refillable Containers:** Refillable container.  
*Refilling Container:* Refill this container with DuPont™ STAPLE® LX containing pyriithiobac sodium only. Do not reuse this container for any other purpose. Cleaning before refilling is the responsibility of the refiller. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn out threads and closure devices. If damage is found, do not use container, contact DuPont at the number below for instructions. Check for leaks after refilling and before transporting. If leaks are found, do not reuse or transport container, contact DuPont at the number below for instructions. *Disposing of Container:* Do not reuse this container for any other purpose other than refilling (see preceding). Cleaning the container before final disposal is the responsibility of the person disposing of the container. To clean the container before final disposal, use the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if

available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.  
 Do not transport if container is damaged or leaking. If the container is damaged, leaking or obsolete, or in the event of a major spill, fire or other emergency, contact DuPont at 1-800-441-3637, day or night.

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