

DEC 31 1996

John H. Cain
E.I. du Pont de Nemours & Co., Inc
Barley Mill Plaza, Walker's Mill
P.O. Box 80038
Wilmington, DE 19880-0038

Dear Mr. Cain:

Subject: Revised Labeling
DuPont Staple Herbicide
EPA Registration No. 352-576
Your Submission Dated December 5, 1996

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

1. Make the labeling changes listed below before you release the product for shipment bearing the amended labeling:

a. Reformat the label to make clear that the remainder of the label from SOLUBLE PACKET HANDLING PRECAUTIONS to the IMPORTANT PRECAUTIONS are applicable to both Application Information sections i.e. U.S. (except California) and California. As submitted, these sections appear to be limited to California application.

b. Update the table of contents to reflect the label changes and new page numbers.

2. Submit one (1) copy of your final printed labeling before you release the product for shipment.

2 of 14

A stamped copy of the label is enclosed for your records.

Sincerely yours,

JW

for

Philip V. Errico
Acting Product Manager (22)
Fungicide-Herbicide Branch
Registration Division (7505C)

Enclosure



ACCEPTED
with COMMENTS
In EPA Letter Dated

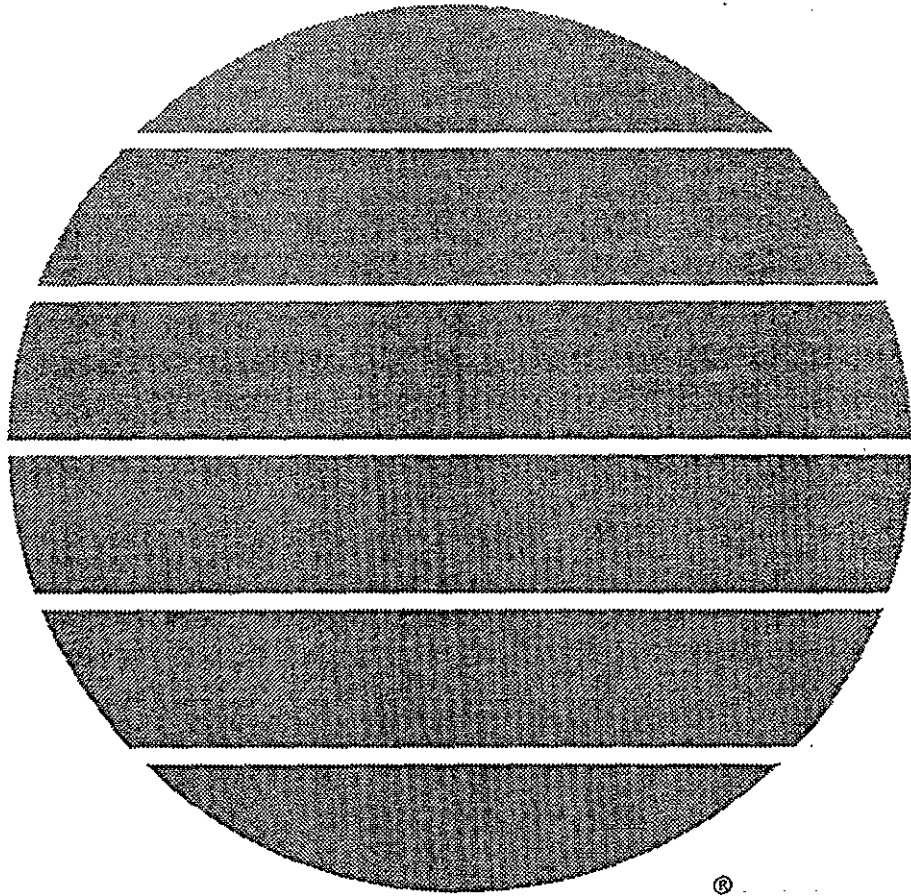
DEC 31 1996

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

352-576

Staple®

herbicide



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REC'D EPA, RPP/DPD1

"..... A Growing Partnership With Nature"

STAPLE HIGHLIGHTS

- STAPLE is packaged in premeasured 6 ounce soluble packets.
- One soluble packet will treat 5 acres broadcast at the 1.2 oz/A rate.
- Apply STAPLE postemergent to young actively growing weeds.
- Staple may be applied by ground or aerial (except California) application only.
- Do not apply within 60 days of harvest.
- Always read and follow the label.

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Staple®

herbicide

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

Soluble Powder

<i>Active Ingredient</i>	<i>By Weight</i>
Pyrithiobac sodium	
Sodium 2-chloro-6-[(4,6-dimethoxy pyrimidin-2-yl)thio]benzoate	85%
<i>Inert Ingredients</i>	15%
TOTAL	100%

EPA Reg. No. 352-576
U.S. Patent No. 4,932,999

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KEEP OUT OF REACH OF CHILDREN

WARNING

AVISO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand this label, find someone to explain it to you in detail.)

STATEMENT OF PRACTICAL TREATMENT

IF IN EYES: Hold eyelids open and flush with a steady, gentle stream of water for 15 minutes. Get medical attention.

IF SWALLOWED: Call a doctor or get medical attention. Do not induce vomiting. Drink promptly a large quantity of milk, egg whites, gelatin solution, or if these are not available, drink large quantities of water. Avoid alcohol.

IF ON SKIN: Wash with plenty of soap and water. Get medical attention.

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

PRECAUTIONARY STATEMENTS

HAZARD TO HUMANS AND DOMESTIC ANIMALS

WARNING! Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Harmful if swallowed. Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing.

PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants.
- Waterproof gloves.
- Shoes plus socks.
- Protective eyewear.

Discard clothing or other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. 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.

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 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.

IMPORTANT

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.

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.

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 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.
- Waterproof gloves.
- Shoes plus socks.
- Protective eyewear.

Do not apply this product through any type of irrigation system. DuPont will not be responsible for losses or damages resulting from the use of this product in any manner not specifically recommended by DuPont.

**APPLICATION INFORMATION -
U.S. (except California)**

GENERAL INFORMATION

DuPont STAPLE Herbicide is a water soluble powder formulation packaged in premeasured soluble packets that rapidly dissolve in water.

STAPLE may be applied postemergence or post-directed to cotton and weeds by ground application equipment. STAPLE may also be applied postemergence to cotton and weeds by aerial equipment (except in California).

If STAPLE 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 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 should 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 on any crops other than cotton. Most crops other than cotton are sensitive to STAPLE. 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 should be avoided.

Integrated Pest Management

This product should be used as part of an Integrated Pest Management (IPM) program which can include biological, cultural, and genetic practices aimed at preventing economic pest damage. Application of this product should be based on IPM principles and practices including 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.

POSTEMERGENCE USE

Application should be made postemergence (over-the-top) or as a post-directed spray to cotton (begin at first true leaf 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.

Note: STAPLE 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 treatments. To reduce the potential for increased cotton sensitivity, allow cotton plants to recover from stress conditions prior to postemergence applications of STAPLE.

NOTE:

Pima cotton

Foliar injury to Pima cotton varieties from postemergence applications of STAPLE can be more severe than that occasionally observed on upland cotton varieties (see NOTE: under POSTEMERGENCE USE section of label).

Consequently, DuPont is not responsible for any crop injury arising from the use of STAPLE on Pima cotton varieties.

APPLICATION RATES

Apply STAPLE at 1.2 oz product / A for control of the weeds listed in "Weeds Controlled" section. To aid control under arid growing conditions or adverse conditions such as excessive moisture stress or where weed infestations are severe, STAPLE may be applied at up to 1.8 oz product/A.

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, 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% V/V with all postemergence applications.

Note: For additional information on adjuvants, refer to the DuPont bulletin "Approved Adjuvants for Use With DuPont Row Crop and Cereal Herbicides".

Do not apply more than 2.4 oz of STAPLE per acre per year.

New Mexico and W. Texas (broadly defined as West of Highway 83): Do not apply more than 1.5 oz product per acre per year.

Note: In the areas of West Texas where continuous cotton is grown, a maximum rate of 1.8 oz product per acre per year may be applied

Note: On sand or loamy sand soil types with less than 1% OM, confine in-season applications of STAPLE 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.

TIMING

STAPLE may be used as a postemergence application to young, actively growing weeds.

APPLICATION RECOMMENDATIONS

Application should be made by ground or aerial equipment (except California) only.

Postemergence applications should be made 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).

Foliar absorption is the primary means of uptake from postemergence applications of STAPLE. 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.

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 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.

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

The combined use rate from all applications of STAPLE cannot exceed 2.4 oz per acre per year.

SPRAY EQUIPMENT - VOLUMES

Ground Application - Apply uniformly by ground with a properly calibrated low pressure (20-40 psi) boom or cultivator mounted sprayer equipped with flat fan nozzles. 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 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.

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

ENVIRONMENTAL CONDITIONS FOR OPTIMUM PERFORMANCE

WEATHER: Conditions which are conducive to healthy, actively growing weeds optimize STAPLE 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 off the weed foliage and result in reduced weed control. A minimum of 4 hours are needed to allow STAPLE to be absorbed by weed foliage.

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WEEDS CONTROLLED

Common Name	Scientific Name	Height or Diameter (inches)
Citronmelon	<i>Citrullus lanatus</i>	1-4
Cocklebur, common	<i>Xanthium strumarium</i>	1-4
Cocklebur, common	(AZ, NM, OK, TX only)*	1-3
Coffee senna	<i>Cassia occidentalis</i>	1-4
Cowpea	<i>Vigna sinensis</i>	1-4
Dayflower	<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>	1-4
smallflower	<i>Jacquemontia tamnifolia</i>	1-4
threelobe	<i>Ipomoea triloba</i>	1-2
woolly	<i>Ipomoea hirsutula</i>	1-2
Mustard, black	<i>Brassica nigrum</i>	1-2
Nightshade, black	<i>Solanum nigrum</i>	1-2
hairy	<i>Solanum sarrachoides</i>	1-2
Pigweed, palmer	<i>Amaranthus palmeri</i>	1-4
redroot	<i>Amaranthus retroflexus</i>	1-4
smooth	<i>Amaranthus hybridus</i>	1-4
spiny	<i>Amaranthus spinosus</i>	1-2
tumble	<i>Amaranthus albus</i>	1-4
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 pensylvanicum</i>	1-4
Smellmelon	<i>Cucumis melo</i>	1-4
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>	1-4
Wild radish	<i>Raphanus raphanistrum</i>	1-2

Suppression

Common Name	Scientific Name	Height or Diameter (inches)
Puncturevine	<i>Tribulus terrestris</i>	1-2
Purslane, common	<i>Portulaca oleracea</i>	1-2
Sicklepod	<i>Cassia obtusifolia</i>	0.5-2
Yellow nutsedge	<i>Cyperus esculentus</i>	2-4

* AZ, NM, OK and TX: To aid control under arid growing conditions STAPLE may be applied in a single application at up to 1.8 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 cotyledon to two leaf stage of weed growth.

Note: In areas of West Texas where continuous cotton is grown, a maximum rate of 1.8 oz product per acre per year may be applied.

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

SPECIFIC WEED PROBLEMS

Sicklepod and Yellow nutsedge: STAPLE will provide partial control (growth suppression) of sicklepod and yellow nutsedge when applied alone at the sizes indicated. For best results, STAPLE should 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). Treatments of STAPLE + MSMA should 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 recommended to prevent application of STAPLE + MSMA over the top of cotton. Applications of STAPLE + MSMA to sicklepod larger than 2 inches or yellow nutsedge larger than 4 inches will only provide partial control (growth suppression).

TANK MIXTURES

STAPLE plus MSMA or DSMA

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

Note: Certain weeds such as black and hairy nightshade, and wright groundcherry have shown antagonism (reduced weed control) from tank mixtures of STAPLE plus MSMA. Only add MSMA or DSMA to spray tank after the water soluble bag of Staple has dissolved. Adding MSMA or DSMA to the spray tank first may prevent or delay the dissolution of the water soluble bag causing filters and or nozzles to plug.

STAPLE plus ASSURE II: Johnsongrass

STAPLE may be tank mixed with Assure II for additional early postemergence control of johnsongrass in cotton. Refer to Assure II label for johnsongrass control rates and timing of application.

Tank mixes of STAPLE with other post grass herbicides can result in antagonism and partial control of 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.

STAPLE plus Insecticides*

STAPLE may be tank mixed with most insecticides that are approved for use on cotton

Refer to companion insecticide label and follow the use directions which are most restrictive

Note Do not tank mix STAPLE with Malathion containing insecticides (such as Cythion RTU or Cythion ULV) that are approved for use on cotton as crop injury may result.

To avoid crop injury apply Malathion containing insecticides at least 24 Hours before or after the application of STAPLE.

ROTATIONAL CROP RESTRICTIONS

These crops may be planted after treatment with STAPLE

CROP†	INTERVAL (MONTHS)
Cotton*	Anytime
Winter/spring, wheat	4
Peanuts	10
Rice	9
Soybeans	10
Corn, field #	9
Corn, field IR (imidazilipone resistant)	9
Sorghum, grain	‡
Tobacco (transplant)	10
All other crops**	Field Bioassay

Arizona only (all crops listed in the main table above plus)

- Field corn, sweet corn cantaloupe 10
- Watermelon, grain sorghum 10

NOTE Where drip irrigated cotton is grown rotate only to cotton

Southeast US (NC, SC GA, N FL S AL) only

(all crops listed in the main table above plus)

Cabbage	12
Turnips	12
Collards	12
Watermelon	12
Cantaloupe	12
Sweet corn	12
Pepper	12
Tomato	12
Onions	++

++ Do not rotate to Onions in the fall or spring crop season following a STAPLE 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 co ton 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 should cross the entire field including knolls and low areas

† In AZ 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 STAPLE 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 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 application

‡ Do not rotate to grain sorghum in the season following a STAPLE 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 the above outlined area has received a minimum of 25 inches of rainfall following a STAPLE application

For the Rio Grande Valley of Texas, do not rotate to corn or grain sorghum in the fall crop season following a STAPLE application

APPLICATION INFORMATION - CALIFORNIA

GENERAL INFORMATION

DuPont STAPLE Herbicide is a water soluble powder formulation packaged in premeasured soluble packets that rapidly dissolve in water.

STAPLE may be applied postemergence (over-the-top) or post-directed to cotton and weeds by ground application equipment.

If STAPLE 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 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.

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 on any crops other than cotton. Most crops other than cotton are sensitive to STAPLE. 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 should be avoided.

Integrated Pest Management

This product should be used as part of an Integrated Pest Management (IPM) program which can include biological, cultural, and genetic practices aimed at preventing economic pest damage. Application of this product should be based on IPM principles and practices including 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.

Postemergence Band Use

Make application as a band spray over the cotton seed row at 8 - 10 inches wide (not to exceed 10 inches in width). Application may be made over-the-top or post-directed to cotton anytime after the first visible true leaf stage. Weeds should 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 applied and the environmental conditions at the time of and following application. Regrowth of susceptible weeds may occur if these conditions are not met.

Note: STAPLE may cause temporary leaf yellowing, bronzing and/or leaf crinkling when applied as a postemergence application. Plant stresses from seedling diseases, insects, e.g., 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 treatments.

To reduce the potential for increased cotton sensitivity, allow cotton plants to recover from stress conditions prior to postemergence applications of STAPLE.

NOTE:

Pima cotton

Foliar injury to Pima cotton varieties from postemergence applications of STAPLE can be more severe than that occasionally observed on upland cotton varieties (see NOTE under POSTEMERGENCE USE section of label).

Consequently, DuPont is not responsible for any crop injury arising from the use of STAPLE on Pima cotton varieties.

APPLICATION RATES

Apply STAPLE at 1.2 - 1.8 oz product per acre as a single application. Use the higher rates of STAPLE to aid control under arid growing conditions or adverse conditions such as excessive moisture stress or where weed infestations are severe.

Add a nonionic surfactant, cleared for application to growing crops, at the rate of 0.25 - 0.5% V / V with all postemergence applications. For additional information on adjuvants, refer to the DuPont bulletin "Approved Adjuvants for Use With DuPont Row Crop and Cereal Herbicides".

Do not apply more than 2.4 oz of STAPLE per acre per year.

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 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.

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

The combined use rate for all applications of STAPLE cannot exceed 2.4 oz per acre per year.

Add a nonionic surfactant, cleared for application to growing crops, at the rate of 0.25 - 0.5% V/V with all postemergence applications.

Note: For additional information on adjuvants, refer to the DuPont bulletin "Approved Adjuvants for Use With DuPont Row Crop and Cereal Herbicides".

TIMING

STAPLE may be used as a postemergence application to young, actively growing weeds.

APPLICATION RECOMMENDATIONS

Application should be made by ground equipment only. Apply STAPLE 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. Application should be made to the same number of rows as planted to avoid row width variations.

Postemergence applications should be made to young, actively growing weeds. 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).

Foliar absorption is the primary means of uptake from postemergence applications of STAPLE. 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.

- 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.

WEEDS CONTROLLED

Common Name	Scientific Name	Height or Diameter (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 nigra</i>	1-2
Pigweed		
palmer	<i>Amaranthus palmeri</i>	1-4
redroot	<i>Amaranthus retroflexus</i>	1-4
smooth	<i>Amaranthus hybridus</i>	1-4
spiny	<i>Amaranthus spinosus</i>	1-2
tumble	<i>Amaranthus albus</i>	1-4
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

Suppression

Common Name	Scientific Name	Height or Diameter (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 may be applied in a single application at up to 1.8 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 cotyledon to two leaf stage of weed growth.

ENVIRONMENTAL CONDITIONS FOR OPTIMUM PERFORMANCE

WEATHER: Conditions which are conducive to healthy, actively growing weeds optimize STAPLE 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 off the weed foliage and result in reduced weed control. A minimum of 4 hours are needed to allow STAPLE to be absorbed by weed foliage.

SPRAY EQUIPMENT - VOLUMES

Ground Application - Apply uniformly by ground with a properly calibrated low pressure (20-40 psi) stabilized boom equipped with either Even flat fan, Twinjet³, or under leaf banding nozzles. Use 10-40 GPA with ground spray equipment.

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

TANK MIXTURES

STAPLE plus MSMA

STAPLE 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).

Note: Certain weeds such as black and hairy nightshade, and wright groundcherry have shown antagonism (reduced weed control) from tank mixtures of STAPLE plus MSMA. Only add MSMA to spray tank after the water soluble bag of STAPLE has dissolved. Adding MSMA to the spray tank first may prevent or delay the dissolution of the water soluble bag causing filters and or nozzles to plug.

STAPLE plus Post Grass Herbicides

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

STAPLE plus Insecticides:

STAPLE may be tank mixed with most insecticides that are approved for use on cotton.

Refer to companion insecticide label and follow the use directions which are most restrictive.

Note: Do not tank mix STAPLE with malathion containing insecticides (such as Cythion¹ RTU or "Cythion" ULV) that are approved for use on cotton, as crop injury may result.

To avoid crop injury, apply malathion containing insecticides at least 24 hours before or after an application of STAPLE.

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ROTATIONAL CROP RESTRICTIONS

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:

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 should 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.

SOLUBLE PACKET

HANDLING PRECAUTIONS

Exposure to moisture or excessive handling of the soluble packets can cause them to break open.

Do not handle the soluble packets with wet hands or place them on wet surfaces.

Protect unused soluble packets by immediately resealing them in the original barrier bag.

The outer, barrier bag is NOT soluble in water. Do not place it in the spray tank.

SPRAYER PREPARATION

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

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 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 must be added first to the spray tank followed by tank mix partner, if used, then the adjuvant.

Use spray preparation of STAPLE within 24 hours 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 Cleanup Section for more information.

SPRAYER CLEANUP

Spray equipment must be clean and free of previous pesticide deposits before applying STAPLE and properly cleaned out after applying STAPLE. Using the cleanup procedures specified on the label of the previously used product, clean all application equipment before applying STAPLE. If no cleanup procedure is provided, use the procedure that follows. Immediately following applications of STAPLE 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 (>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.

INFORMATION ON RESISTANT WEEDS

When herbicides with the same mode of action are used repeatedly over several years to control the same weed species in the same field, naturally-occurring resistant weed biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that field. These resistant weed biotypes may not be adequately controlled. Cultural practices such as tillage, preventing weed escapes from going to seed, and using herbicides with different modes of action within and between crop seasons can aid in delaying the proliferation and possible dominance of herbicide resistant weed biotypes.

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IMPORTANT PRECAUTIONS

Pima cotton

Foliar injury to Pima cotton varieties from postemergence applications of STAPLE can be more severe than that occasionally observed on upland cotton varieties (see NOTE under POSTEMERGENCE USE section of label).

Consequently, DuPont is not responsible for any crop injury arising from the use of STAPLE on Pima cotton varieties.

- Do not tank mix with Dual² herbicide as a postemergence treatment as crop injury may result.
- Do not apply to irrigated land where tail water will be used to irrigate crops other than cotton.
- Do not exceed 1.8 oz/A in a single application.
- Do not exceed 2.4 oz/A per year.
- Do not feed cotton gin by-products (trash) to livestock.
- Do not apply within 60 days of harvest.

STORAGE AND DISPOSAL

Storage: Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food or feed in storage.

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

Container Disposal: Do not reuse the outer box or the resealable plastic bag. When all water-soluble packets are used, the outer packaging should be clean and may be disposed of in a sanitary landfill or by incineration, or if allowed by state and local authorities, by open burning. If burned, stay out of smoke. If the resealable plastic bag contacts the formulated product in any way, the bag must be triple-rinsed with clean water. Add the rinsate to the spray tank and dispose of the outer wrap as described above.

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- (1) American Cyanamid Company
- (2) Ciba-Geigy Corp.
- (3) Spraying Systems Co.

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NET WEIGHT 6 oz per soluble bag.

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