

PM 25 100-642

WPS  
10/15

WPS  
(Booklet Front Panel)

Cotoran® 4L

Herbicide

For preemergence and postemergence  
weed control in cotton

Cotoran 4L contains 4 lbs. active  
ingredient per gallon.

Use entire contents at one time.

Active Ingredient:

Fluometuron: 1,1-dimethyl-3-  
( $\alpha,\alpha,\alpha$ -trifluoro-m-  
tolyl) urea.....

41.7%

Inert Ingredients:

58.3%

Total:

100.0%

2 1/2 Gallons

U.S. Standard Measure

Keep Out of Reach of Children.

Caution

See additional precautionary statements  
and directions for use inside booklet.

Cotoran® trademark of Ciba-Geigy for fluometuron

EPA Reg. No. 100-642

EPA Est. 32761-MO-3

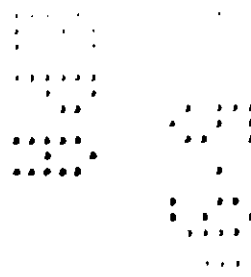
Ciba Plant Protection  
Ciba-Geigy Corporation  
Greensboro, North Carolina 27419

CGA 33L14E 073

Ciba-Geigy

ACCEPTED  
DEC 12 1994

Under the Federal Insecticide, Fungicide, and Rodenticide Act, this product is registered under EPA Reg. No. 100-642



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DIRECTIONS FOR USE AND CONDITIONS OF SALE AND WARRANTY

IMPORTANT: Read the entire Directions for Use and the Conditions of Sale and Warranty before using this product. If terms are not acceptable, return the unopened product container at once.

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Conditions of Sale and Warranty

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The Directions for Use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application all of which are beyond the control of Ciba-Geigy or the Seller. All such risks shall be assumed by the Buyer.

Ciba-Geigy warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the Directions for Use subject to the inherent risks referred to above. Ciba-Geigy makes no other express or implied warranty of Fitness or Merchantability or any other express or implied warranty. In no case shall Ciba-Geigy or the Seller be liable for consequential, special, or indirect damages resulting from the use or handling of this product. Ciba-Geigy and the Seller offer this product, and the Buyer and user accept it, subject to the foregoing Conditions of Sale and Warranty, which may be varied only by agreement in writing signed by a duly authorized representative of Ciba-Geigy.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

**AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for 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. Exception:** if the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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, such as barrier laminate or butyl rubber or nitrile rubber or neoprene rubber or polyvinyl chloride (PVC) or viton
- Shoes plus socks

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FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN CROP INJURY, POOR WEED CONTROL, AND/OR ILLEGAL RESIDUES.

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

General Information

Cotoran 4L is effective for both annual grass and annual broad-leaf weed control in cotton.

Weed Control

Cotoran 4L applied according to directions will selectively control annual weeds in cotton, such as:

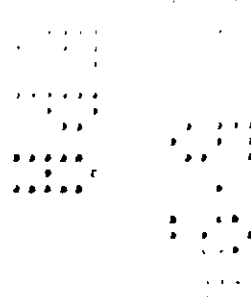
Annual Grass Weeds

- |               |                                   |
|---------------|-----------------------------------|
| Barnyardgrass | Foxtail                           |
| Crabgrass     | Goosegrass                        |
| Crowfootgrass | Ryegrass                          |
| Fall panicum  | Signalgrass ( <u>Brachiaria</u> ) |

Annual Broadleaf Weeds

- |                       |                        |
|-----------------------|------------------------|
| Buttonweed            | Prickly sida (teaweed) |
| Cocklebur             | Purshlane              |
| Florida pusley        | Ragweed                |
| Groundcherry (Wright) | Sesbania               |
| Jimsonweed            | Sicklepod              |
| Lambsquarters         | Smartweed              |
| Morningglory          | Tumbleweed             |
| Pigweed               |                        |

Cotoran 4L at rates up to 4 pts. per acre in cotton is not effective for the control of established perennial weeds, such as johnsongrass from rhizomes.



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Application Procedures

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Mixing Instructions

(1) Fill spray tank 1/2 to 3/4 full with clean water or nitrogen solution. (2) Start agitation. (3) Pour Cotoran 4L directly from the container into the partially filled spray tank. (4) If Cotoran 4L is to be tank mixed with another herbicide, add that product after the Cotoran 4L is thoroughly mixed in the partially filled spray tank. (5) Add the rest of the water or nitrogen solution. (6) Provide agitation during mixing and application to maintain a uniform suspension.

To determine compatibility, add two teaspoons of Cotoran 4L to one pint of nitrogen solution (equals 4 pts. in 25 gals.; if using other application rates, adjust compatibility test amounts proportionally). Stir or shake thoroughly. Let stand 5 minutes. If it remains mixed or can be remixed readily, the mixture is compatible and can be used. If Cotoran 4L settles out when mixed with a nitrogen solution, a suspensibility agent, such as Unite®, Compex®, or equivalent at 1-3 pts. per 100 gals. fertilizer, may improve compatibility. Add 1/8-3/8 teaspoon of Unite to the compatibility test to determine its effectiveness.

Equipment

Thoroughly clean sprayer prior to use. Do not use a sprayer contaminated with 2,4-D or other materials as crop damage or sprayer clogging may result.

Use properly calibrated conventional spray equipment that will apply spray uniformly and has hydraulic or mechanical agitation, except in California or Arizona where only mechanical agitators are recommended. Screens in nozzles, in suction, and in-line strainers should be no finer than 50-mesh. Use a pump with capacity to maintain 35-40 psi at the nozzles. If hydraulic agitation is used, the pump should also provide sufficient agitation in the tank to keep the mixture in suspension. Avoid leaving spray mixture in tank without constant agitation. If bypass agitation is used, it should terminate at the bottom of the tank to minimize foaming. Wash sprayer thoroughly with clean water immediately after use.

Apply in a minimum of 10 gals. per acre for preplant incorporated or preemergence applications, or apply in a minimum of 20 gals. per acre for postemergence application.

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Band Treatment

For band treatment, calculate the amount of Cotoran 4L needed by the formula:

$$\frac{\text{band width in inches}}{\text{row width in inches}} \times \text{broadcast rate per acre} = \text{amount needed per acre of field}$$

Cotton

Cotoran 4L may be applied as a preemergence treatment to the surface of the soil, or lightly incorporated immediately after planting, or as a directed, semi-directed, or over-the-top postemergence application. For preemergence treatment only, Cotoran 4L may be tank-mixed with most liquid nitrogen fertilizers. Cotoran 4L may be combined with other herbicides in cotton as directed in the section, "Combinations."

Cotoran 4L is most effective when used as follows:

1st Application: Preemergence broadcast. See Preemergence Treatment below.

2nd Application: Postemergence, directed, semi-directed, or over-the-top when cotton is 3-6 inches high. See Postemergence Treatments below.

3rd Application: If needed, postemergence, directed, or semi-directed, at lay-by (last normal cultivation), using no more than 2 pts. per acre.

Preemergence Treatment

Apply Cotoran 4L at a rate of 2-4 pts. per acre. On light silt and sandy soils, low in organic matter, use the lower rate.

Cotoran 4L may be applied to the surface of the soil, or lightly incorporated into the soil, after planting cotton.

Preplant Incorporated Use (Arizona, California, and New Mexico)

Cotoran 4L may be applied preplant as a broadcast spray at 3.2 pts. per acre after the beds for preplant irrigation have been formed. Apply before the beds are dragged off (using a bed shaper set to remove 1-2 inches from beds) in preparation for planting. Furrow irrigation should precede the application and planting should follow as soon as possible. Plant into untreated soil after drag-off and return treated soil to the beds when furrows are reformed. Do not allow furrow irrigation water to pond over the beds.

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Postemergence Treatments

Cotoran 4L may be applied postemergence to cotton but pre-emergence to weeds, or postemergence to both cotton and weeds. Cotoran 4L should be applied at rates of 2-4 pts. per acre. Apply as a directed, semi-directed, or over-the-top spray. Cotoran 4L may be applied to cotton plants at any stage of growth from 3 inches high to lay-by. Use the higher rate when applying postemergence to weeds; weeds should be 2 inches high or less. Use of a surfactant that is approved by FDA for use on food and feed crops and is compatible with Cotoran 4L when applied to cotton may enhance the postemergence herbicidal activity of Cotoran 4L. The surfactant rate should not exceed 0.5% of the carrier volume (1 pt. per 25 gals. of water).

Precaution: Rainfall that is sufficient to germinate seeds or for growing crops is adequate to activate the herbicidal activity of Cotoran 4L; where dry weather conditions prevail, the herbicidal activity of Cotoran 4L may be delayed or reduced. Cultivate if weeds develop.

Do not make more than three applications of Cotoran 4L to the same crops or field in any one year. Do not plant crops other than cotton within 6 months of the last application of Cotoran 4L or injury may result.

The use of Cotoran 4L as a preemergence or early postemergence application, following the use of a systemic insecticide at planting, may result in injury to cotton.

West Texas only: Do not use Cotoran 4L on sandy, loamy sand, or fine sandy loam soils. Do not use Cotoran 4L on cotton planted in furrows.

Arkansas, Louisiana, and Mississippi only: Use 1.6 pts. of Cotoran 4L per acre on sandy loam soils low in organic matter.

Arizona, California, and New Mexico only: Cotton, corn, and grain sorghum can be planted the next spring. Do not plant treated areas to other crops until one year after last application. Do not use on sandy or coarse-textured soil of less than 1% organic matter.

Note: Do not apply within 60 days of harvest. Do not feed foliage from treated cotton plants or gin trash to livestock.

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Combinations

Dual@ 8E: Use in a tank mixture with Cotoran 4L preemergence in cotton for control of all weeds as listed on both labels. This combination will also control spotted spurge, hyssop spurge, nodding spurge, and prostrate spurge. Apply to the soil surface at planting or after planting, but before weeds or crop emerge, using the appropriate rates from the table below.

Cotoran 4L + Dual 8E - Cotton (AR, LA, MS, Eastern OK, TN, Bootheel of MO, and Gulf Coast, Rio Grande Valley and Eastern TX)

	Broadcast Rates Per Acre	
Soil Texture	Cotoran 4L	Dual 8E
Sand, loamy sand	DO NOT USE	
Sandy loam*	2 pts.	1.25-1.5 pts.
Loam, silt, silt loam	2-3.2 pts.	1.5-2 pts.
Silty clay loam, sandy clay loam, silty clay, sandy clay, clay loam, clay	3.2-4 pts.	2 pts.

\*Use on sandy loam soils only in eastern OK and Gulf Coast, Rio Grande Valley, and eastern TX.

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**Precautions:** 1) Do not apply Cotoran 4L + Dual 8E on sand or loamy sand soils or in areas where water is likely to "pond" over the bed, or crop injury may occur. 2) Do not apply broadcast to furrow-planted cotton. 3) The use of Cotoran 4L following the use of a systemic insecticide at planting may result in crop injury. 4) Do not use on Taloka silt loam, or crop injury may occur.

Refer to the Dual 8E label for further instructions, precautions, and limitations.

**Note:** Do not feed treated forage or gin trash to livestock, or graze treated areas.

**Rotational Crops:** Refer to the crop rotation instructions for Cotoran 4L alone on this label and for Dual 8E alone on the Dual 8E label.

**Treflan® EC:** Use in a tank mixture with Cotoran 4L (all areas except Arizona and California) or before an overlay with Cotoran 4L in cotton for control of all weeds listed on both labels.

For the tank mixture, follow soil preparation and incorporation procedures for Treflan EC. Apply Cotoran 4L + Treflan EC tank mix at rates specified below in a minimum of 15 gals. of water per acre.

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Cotoran 4L + Treflan EC Tank Mixture - Cotton (All areas except Arizona and California)

Soil Texture	Broadcast Rates Per Acre	
	Cotoran 4L	Treflan EC
Sand, loamy sand, sandy loam	2 pts.	1 pt.
Loam, silty clay loam*, silt loam, silt, sandy clay loam*	3.2 pts.	1.5 pts.
Clay, clay loam, silty clay loam*, silty clay, sandy clay, sandy clay loam*	4 pts.	2 pts.

\*Silty clay loam and sandy clay loam are transitional soils. If these soils are predominantly sand or silt, they are usually classified as medium-textured soils. If predominantly clay, they are classified as fine-textured soils.

For the overlay, apply Cotoran 4L as a preemergence soil surface treatment as recommended on this label at 2-4 pts. per acre after a preplant soil incorporated treatment of Treflan EC. Apply Treflan EC as recommended on its label at 1-2.5 pts. per acre.

<p><u>Precaution:</u> Do not use the tank mix in Arizona and California. Do not apply the tank mix of Cotoran 4L + Treflan EC in liquid fertilizer. Refer to the Treflan EC label for directions, precautions, and limitations for use of that product, as well as the directions, precautions, and limitations on this Cotoran 4L label.</p>
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Prowl®: Apply Cotoran 4L as a preemergence surface treatment as recommended on this label at 2-4 pts. per acre after a preplant soil-incorporated treatment of Prowl for control of all weeds listed on both labels. Apply Prowl as recommended on its label at 1-3 pts. per acre. Refer to the Prowl label for directions, precautions, and limitations for use of that product.

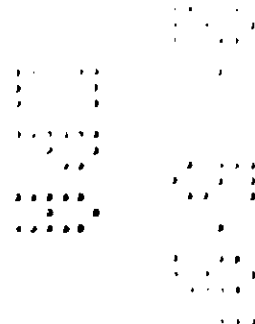
DSMA or MSMA: Cotoran 4L may be tank-mixed with DSMA or MSMA and applied as a directed spray to cotton from three inches high to first bloom. Use the broadcast rate of 2-4 pts. of Cotoran 4L per acre and the necessary amount of DSMA or MSMA plus 0.5% (1 pt. per 25 gals.) of a surfactant that is approved by FDA for use on food and feed crops and is compatible with Cotoran 4L + DSMA or Cotoran 4L + MSMA when applied to cotton. When using this mixture, do not allow spray to contact cotton foliage. Do not graze treated areas or feed treated forage or gin trash to livestock. Adhere strictly to the dosage, precautions and limitations of the labels of the products.

#### Storage and Disposal

Do not contaminate water, food, or feed by storage or disposal. Pesticide wastes may be toxic. Improper disposal of unused pesticide, spray mixture, or rinse water is a violation of federal law. If these wastes cannot be used according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance in proper disposal methods.

Triple rinse container (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or by incineration, or if allowed by state and local authorities, by burning. Stay out of smoke from burning jugs.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire or other emergency, call 1-800-888-8372 day or night.



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Precautionary Statements

Hazards to Humans and Domestic Animals

CAUTION

Harmful if swallowed, inhaled, or absorbed through the skin. Avoid contact with skin, eyes, or clothing. Avoid breathing spray mist.

First Aid: In case of contact with eyes, immediately flush with plenty of water. Get medical attention if irritation occurs. In case of contact with skin, wash thoroughly with soap and water. Get medical attention if irritation occurs. If swallowed, drink water and induce vomiting by placing fingers at back of throat. Immediately contact a physician, hospital, or local poison control center. In case of inhalation exposure, move from the contaminated area.

Note to Physician: If Cotoran 4L is ingested, lavage stomach or induce vomiting. A slurry of activated charcoal in water can be left in the stomach. Give a saline laxative and supportive therapy.

**Personal Protective Equipment (PPE):**

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for Category C on an EPA chemical resistance category selection chart.

**Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, such as barrier laminate or butyl rubber or nitrile rubber or neoprene rubber or polyvinyl chloride (PVC) or viton
- Shoes plus socks

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.

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**Engineering Control Statements:**

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

**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**

Do not apply directly to water or wetlands. Do not contaminate water by cleaning of equipment or disposal of wastes.

Cotoran® trademark of Ciba-Geigy for fluometuron

Compex® trademark of Kalo Agricultural Chemicals, Inc.

Dual® trademark of Ciba-Geigy for metolachlor

Prowl® trademark of American Cyanamid for pendimethalin

Treflan® trademark of Elanco Products for trifluralin

Unite® trademark of Hopkins Agricultural Chemical Co.

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Ciba Plant Protection  
Ciba-Geigy Corporation  
Greensboro, North Carolina 27419

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(Booklet Back Cover)

Cotoran® 4L

Herbicide

For preemergence and postemergence weed control in cotton

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Use entire contents at one time.

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41.7%

Inert Ingredients:

58.3%

Total:

100.0%

2 1/2 Gallons  
U.S. Standard Measure

Keep Out of Reach of Children.

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

Cotoran® trademark of Ciba-Geigy for fluometuron

EPA Reg. No. 100-642  
EPA Est. No. 32761-MO-3

) See label booklet for complete directions for use.

**AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to supplemental labeling under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

) Ciba Plant Protection  
Ciba-Geigy Corporation  
Greensboro, North Carolina 27419

CGA 33L14E 073

Ciba-Geigy

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Revised September 30, 1987  
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Revised July 20, 1993  
(WFS)

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