



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

MAR 30 2001

Charles S. Baer  
E.I. du Pont de Nemours and Company  
Dupont Crop Protection  
Walker's Mill, Barley Mill Plaza  
P.O. Box 80038  
Wilmington, DE 19880-0038

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

Subject: DuPont Curzate 60DF  
EPA Reg. No. 352-592  
Your Submission Dated December 14, 2000

Dear Dr. Baer:

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, is acceptable subject to the comments below.

There has been a recent change in the Worker Protection Standard (WPS) labeling regarding the use of the term "waterproof gloves". Under Personal Protective Equipment, add "Some materials that are chemical resistant to this product are listed below. If you want more options, follow the instructions for Category A on an EPA chemical resistance category selection chart." Change "waterproof gloves" to "chemical-resistant gloves made of any waterproof material" in the PPE statement and in the Agricultural Use Requirements box.

A stamped copy of the labeling is enclosed for your records. Please submit one (1) copy of your final printed labeling before you release the product for shipment.

If you have any questions, please contact Summer Gardner-Jenkins of my staff at (703) 308-9353.

Sincerely,

A handwritten signature in cursive script that reads "Mary L. Waller".

Mary L. Waller  
Product Manager, Team 21  
Fungicide Branch  
Registration Division (7505C)

Enclosure



Recycled/Recyclable  
Printed with Soy/Canola Ink on paper that  
contains at least 50% recycled fiber



# Curzate<sup>®</sup> 60DF

## fungicide

ACCEPTED  
with COMMENTS  
In EPA Letter Dated

MAR 30 2001

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.  
352-592

### Dry Flowable

Active Ingredients	By Weight
Cymoxanil	60%
Inert Ingredients	40%
TOTAL	100%

EPA Reg. No. 352-592

EPA EST. NO. 34302-CL-1

### PRECAUTIONARY STATEMENTS (continued)

#### PERSONAL PROTECTIVE EQUIPMENT

##### Applicators and other handlers must wear:

- Long-sleeved shirt and long pants.
- Shoes plus socks.

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.

During aerial application, human flaggers must be in enclosed cabs.

#### ENGINEERING CONTROL STATEMENTS

When handlers use enclosed cabs or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR part 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 personal protective equipment immediately after handling this product.

#### ENVIRONMENTAL HAZARDS

This product is toxic to fish and aquatic invertebrates. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. 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 cleaning equipment or disposing of equipment washwaters.

### 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.)

#### PRECAUTIONARY STATEMENTS

##### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**WARNING! MAY BE FATAL IF SWALLOWED:** Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco.

#### STATEMENT OF PRACTICAL TREATMENT

**IF SWALLOWED:** Call a physician or poison control center. Drink one or two glasses of water and induce vomiting by touching back of throat with finger. If person is unconscious, do not give anything by mouth and do not induce vomiting.

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

(continued in next column)

## 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 12 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 over long-sleeved shirt and long pants.
- Waterproof gloves.
- Shoes plus socks.

DuPont CURZATE® 60 DF should be used only in accordance with recommendations on this label or in separately published DuPont recommendations or supplemental labels.

DuPont will not be responsible for losses or damages resulting from the use of this product in any manner not specifically recommended by DuPont.

Do not formulate this product into other end-use products without written permission from DuPont.

### GENERAL INFORMATION

CURZATE® 60DF is a locally systemic fungicide recommended in all states for use as a spray, for the control of late blight (*Phytophthora infestans*) on potatoes.

Apply as a spray with ground, air or chemigation equipment, except as otherwise directed, using sufficient water to obtain thorough coverage of plants. Use only in commercial or farm plantings. Not for use in home plantings nor once any commercial crop is turned into U-Pick, Pick Your Own or similar operation.

### INTEGRATED PEST MANAGEMENT

DuPont recommends the use of Integrated Pest Management (IPM) programs to control pests. This product may 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 blight forecasting models reach locally determined action levels. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop or site systems in your area.

An IPM approach for preventing late blight:

- Plant healthy seed.
- Use a late blight forecasting model or scouting reports.
- Remove volunteer potatoes from non-potato fields.
- Eliminate potato cull piles.
- Establish and maintain good hills which create a natural soil barrier against spores washed down from potato foliage.
- Start early with a protectant program.
- If conditions are favorable for late blight when the rows start to close within the row, initiate CURZATE® 60DF.
- Vine kill infected fields completely with vine desiccant or sulfuric acid to eliminate disease.
- Allow at least 14 days between vine kill and harvest in order to reduce spore load and minimize spore contact with tubers at harvest.
- Minimize tuber damage during harvest.

This IPM approach based on CURZATE® 60DF is designed to prevent late blight infection. Due to the aggressive nature of the new strains of late blight no fungicide program will eradicate this disease once it is established.

### APPLICATION INFORMATION

#### Pesticide Handling

- Calibrate sprayers only with clean water away from the well site.
- Make scheduled checks of spray equipment.
- Ensure accurate measurement of pesticides by all operation employees.
- Mix only enough product for the job at hand.
- Avoid overfilling of spray tank.
- Do not discharge excess material on the soil at a single spot in the field/grove or mixing/loading station.
- Dilute and agitate excess solution and apply at labeled rates/uses.
- Avoid storage of pesticides near well sites.
- When triple rinsing the pesticide container, be sure to add the rinsate to the spray mix.

### MIXING INSTRUCTIONS

1. Fill the tank 1/4 to 1/3 full of water.
2. While agitating, add the required amount of DuPont CURZATE® 60DF.
3. Continue agitation until the CURZATE® 60DF is fully dispersed, at least 5 minutes.
4. Once the CURZATE® 60DF is fully dispersed, maintain agitation and continue filling tank with water. CURZATE® 60DF should be thoroughly mixed with water before adding any other material.
5. As the tank is filling, add tank mix partner(s), then add the necessary volume of any desired adjuvants. See tank mix partners labels for recommended adjuvants, CURZATE® 60DF does not require an adjuvant.
6. If the mixture is not continuously agitated, settling will occur. If settling occurs, thoroughly re-agitate before using.
7. Apply CURZATE® 60DF spray mixture within 12 hours of mixing to avoid product degradation.
8. If CURZATE® 60DF and a tank mix partner are to be applied in multiple loads, pre-slurry the CURZATE® 60DF in clean water prior to adding to the tank. This will prevent the tank mix partner from interfering with the dissolution of the CURZATE® 60DF.

### USE RATES AND APPLICATION TIMINGS

#### Seed Treatment

For seed treatment to suppress infection of emerging plant tissue by seed borne Phytophthora infestans. Apply CURZATE® 60DF at 0.25 - 1.0 oz per hundred weight of cut seed pieces.

CURZATE® 60DF must be combined with other fungicides which have registered seed treatment uses in potatoes.

Apply by thoroughly dipping the seed pieces in a concentrated slurry, or by mist seed treating equipment. For best results the seed piece must be completely and uniformly covered with fungicide. Thoroughly clean and sanitize cutting machines, knives, trays, tables, barrels, equipment trucks and planters before cutting and planting seed pieces.

Do not use treated seed pieces for food or feed purposes.

#### Foliar Applications

- Use CURZATE® 60DF at 3.2 oz per acre. Use only in combination with a protectant fungicide (such as products containing Mancozeb, Chlorothalonil, Triphenyltin hydroxide, Metiram).

DO NOT use CURZATE® 60DF alone.

- Late Blight Protection at Crop Emergence: Seed pieces contaminated with the late blight pathogen can produce plants with late blight symptoms which serve as local, within-field, sources of infection. To control late blight originating from infected seed pieces, apply CURZATE® 60DF at 3.2 oz per acre plus a protectant fungicide such as Chlorothalonil, Mancozeb or Metiram. Make the first application at 90-95% crop emergence (plants 3-6 inches tall) before infected seedlings can spread disease to other plants. Make a subsequent application 7 days later. Delaying the first application until after 90-95% crop emergence may result in a reduced level of late blight control. For best results, the CURZATE® 60DF treatment should be applied as a directed band spray with nozzles adjusted to obtain complete spray coverage. For band spray applications, reduce the broadcast rate per acre in proportion to the width of the spray band.

Additional applications of CURZATE® 60DF plus a protectant fungicide at 5 to 7 day intervals should be made when environmental conditions are favorable for disease development.

Cymoxanil rapidly penetrates into the plant tissues. Cymoxanil is rainfast within 2 hours after application. See tank mix partners labels for rainfast information.

- Apply no more than 7 applications per crop. After 3-4 applications of CURZATE® 60DF it is recommended to switch to another fungicide program for 1-2 applications, then change back for the remaining number of CURZATE® 60DF applications allowed. Do not apply CURZATE® 60DF within 14 days of harvest.
- Utilize sufficient water to obtain thorough coverage:
  - Ground - Conventional - a minimum of 20 gals/acre
  - Air assisted - a minimum of 10 gals/acre
  - Aerial - a minimum of 5 gals/acre

### TANK MIXTURES

CURZATE® 60DF must be tank mixed with another registered protectant fungicide for use on potatoes.

CURZATE® 60DF can also be mixed with acceptable registered herbicides, and insecticides for use on potatoes.

Read and follow all manufacturer's label recommendations for the companion products. If those recommendations conflict with this label, do not tank mix the product with CURZATE 60 DF.

### REPLANTING

Do not replant treated areas to any crop within 30 days after treatment.

### CHEMIGATION

Apply CURZATE® 60DF only through sprinkler irrigation systems (such as center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set or hand move irrigation systems).

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.

If you have questions about calibration, you should contact State Extension Service Specialists, equipment manufacturers or other experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

#### Specific Instructions for Public Water Systems:

1. Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
2. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

- 3. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. ✓
- 4. The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. ✓
- 5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected. ✓
- 6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock. ✓
- 7. Do not apply when wind speed favors drift beyond the area intended for treatment. ✓

**Specific Instructions for Sprinkler Irrigation Systems:**

- 1. The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. ✓
- 2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. ✓
- 3. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. ✓
- 4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. ✓
- 5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected. ✓
- 6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock. ✓
- 7. Do not apply when wind speed favors drift beyond the area intended for treatment. ✓
- 8. Good agitation is required in the injection tank. ✓
- 9. In moving systems, apply specified dosage of DuPont CURZATE® 60DF as a continuous injection. In nonmoving systems inject CURZATE® 60DF for 15 to 30 minutes at end of cycle. Use the least amount of water possible consistent with uniform coverage. ✓
- 10. Mix the amount of CURZATE® 60DF needed for acreage to be treated into the quantity of water determined during prior calibration. For moving systems inject into the system continuously for one complete revolution of

the field. For nonmoving systems inject into system for the time established during calibration. ✓

- 11. Stop injection equipment after treatment is completed and continue to operate irrigation equipment until all CURZATE® 60DF is flushed from system. ✓

**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 AND HEIGHT**

- **Boom Length (aircraft)** - The boom length should not exceed 3/4 of the wing length, using shorter booms decreases drift potential. For helicopters use a boom length and position that prevents droplets from entering the rotor vortices. ✓
- **Boom Height (aircraft)** - Application more than 10 ft above the canopy increases the potential for spray drift. ✓
- **Boom Height (ground)** Setting the boom at the lowest height which provides uniform coverage reduces the exposure of droplets to evaporation and wind. 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 variable direction and 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 effect 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.

**SURFACE TEMPERATURE INVERSIONS**

Drift potential is high during a surface temperature inversion. Surface inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Surface 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 a surface 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.

**AIR ASSISTED (AIR BLAST) FIELD CROP SPRAYERS**

Air assisted field crop sprayers carry droplets to the target via a downward directed air stream. Some may reduce the potential for drift, but if a sprayer is unsuitable for the application and/or set up improperly, high drift potential can result. It is the responsibility of the applicator to determine that a sprayer is suitable for the intended application, is configured properly, and that drift is not occurring.

**Note:** Air assisted field sprayers can affect product performance by affecting spray coverage and canopy penetration. Consult the application equipment section of this label to determine if use of an air assisted sprayer is recommended.

**STORAGE AND DISPOSAL**

**STORAGE:** Keep container closed when not in use. Store product in original container only, away from other pesticides, fertilizer, food or feed.

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

**CONTAINER DISPOSAL:** Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

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

**D - 759 [MASTER] 121300**

**Net Wt. 4 lb**



