

PM 22

9779-339

1/6/98

1/7



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

JAN 6 1998

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Steven E. Rogosheske
Senior Registration Specialist
Terra International, Inc.
600 Fourth Street, P.O. Box 6000
Sioux City, IA 51102-6000

Subject: Review of Labeling: Irrigation Equipment Restrictions
Terranil™ Cu
EPA Reg. No. 9779-339
Your Letter Dated July 9, 1997

Dear Mr. Rogosheske:

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 following condition:

Add the following or similar statements either under the **GENERAL INFORMATION** section or under **Tank Mix** section under **Peanut**:

"This product can be tank mixed with for use on in accordance with the more restrictive of label limitations and precautions. No label dosage rates should be exceeded. This product cannot be mixed with any product containing a label prohibition against such mixing. Do not tank mix with other chemicals unless prior use has proven compatibility."

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release of the product for shipment constitutes acceptance of these conditions. Please submit one copy of your final printed labeling before you release the product for shipment. A stamped copy is enclosed for your records.

Sincerely,

15/

Cynthia Giles-Parker
Product Manager (22)
Fungicide Branch
Registration Division (7505C)

Enclosure

2/7

R[®]

TERRANIL™ Cu

Flowable Agricultural Fungicide

ACTIVE INGREDIENTS

Chlorothalonil (tetrachloroisophthalonitrile)	24%
Copper Oxychloride	24%
INERT INGREDIENTS	52%
Total	100.0%

RECD EPA/OPP/DPD1
97 JUL 15 AM 1:08

KEEP OUT OF REACH OF CHILDREN

DANGER/PELIGRO

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 steady gentle stream of water for 15 minutes. Get medical attention.
- IF INHALED: Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.
- IF SWALLOWED: Call a physician or Poison Control Center. 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.

Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage.

PRECAUTIONARY STATEMENTS

DANGER
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Corrosive. Causes irreversible eye damage. Harmful if swallowed or absorbed through skin or inhaled. Do not get in eyes or on clothing. Avoid contact with skin. Avoid breathing spray mist.

Personal Protective Equipment:

Applicators and other handlers must wear long-sleeved shirt and long pants, waterproof gloves, shoes plus socks and protective eyewear. For exposures in enclosed areas use a respirator with either an organic vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G). For exposures outdoors use a dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C).

Discard clothing and 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.

When handlers use closed systems, enclosed cabs, or aircraft 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.

Read Additional PRECAUTIONARY STATEMENTS.

EPA Reg. No. 9779-339

ACCEPTED
with COMMENTS
In EPA Letter Dated
JAN 6 1998

EPA Est. No. 9779-AR13

Manufactured For
TERRA INTERNATIONAL, INC.
P.O. Box 6000, Sioux City, Iowa 51102-6000
Riverside Serves Agriculture. Agriculture Serves Everyone.

**Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended, for the pesticide
registered under EPA Reg. No.
9779-339**

NET CONTENTS
GALS

9/G23/6

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. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

This product is toxic to fish, aquatic invertebrates, and marine/estuarine organisms. Runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not apply when weather conditions favor drift from treated areas. Apply only to areas specified on the label. Do not contaminate water when disposing of equipment washwaters.

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 48 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 and protective eyewear.

STORAGE AND DISPOSAL

DO NOT CONTAMINATE WATER, FOOD, OR FEED BY STORAGE OR DISPOSAL

STORAGE

Store in a cool place. Protect from excessive heat.

DISPOSAL

Pesticide Disposal: Pesticide wastes are toxic. Improper disposal of excess pesticide, pesticide spray, or rinseate is a violation of Federal law. If these wastes cannot be disposed of by use 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.

Container Disposal: Do not reuse empty container. Triple rinse or equivalent. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

GENERAL INFORMATION

Terranil Cu is an excellent fungicide when used according to label directions for control of a broad spectrum of plant diseases. Terranil Cu can be used effectively in dilute or concentrate sprays. Thorough, uniform coverage is essential for disease control. Do not combine Terranil Cu in the spray tank with pesticides, surfactants or fertilizers, unless prior use has shown the combination physically compatible, effective and noninjurious to your conditions of use.

Do not combine Terranil Cu with Dipel 4L, Latron AG-98, or Latron B-1956 as phytotoxicity may result from the combination when applied to some crops on this label. Dipel is a registered trademark of Abbott Laboratories. Latron AG-98 and Latron B-1956 are trademarks of Rohm & Haas Company.

Slowly invert container several times to assure uniform mixture. The required amount of Terranil Cu should be added slowly into the spray tank during filling. With concentrate sprays, pre-mix the required amount of Terranil Cu in a clean container and add to the spray tank as it is being filled. Keep agitator running when filling spray tank and during spray operations. Do not use on greenhouse grown crops.

Dosage rates on this label indicate pints of Terranil Cu per acre unless otherwise stated. Under conditions favoring disease development, the high rate specified and shortest application interval should be used. Applications should be made in sufficient water to obtain adequate coverage of foliage. Gallonage to be used will vary with crop and amount of plant growth. Spray volume usually will range from 20 to 150 gallons (approximately 80 to 600 liters) per acre for dilute sprays and 5 to 10 gallons (approximately 20 to 40 liters) per acre for concentrate ground sprays and aircraft applications. Both ground and aircraft methods of application are recommended unless specific directions for ground application only are given for a crop. Application through sprinkler irrigation systems is not recommended unless specific directions are given for a crop. See application and calibration instructions below.

APPLICATION AND CALIBRATION TECHNIQUES FOR SPRINKLER IRRIGATION

Apply this product only through the following types of irrigation systems. Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water. Do not apply this product through any irrigation system using aluminum parts or components as damage to the system may occur. If you have questions about calibration, you should contact State Experiment Station 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.

- A. Center Pivot, Traveler, Big Gun, Motorized Lateral Move, ~~End-Tow, and Side (Wheel) Roll~~ Irrigation Equipment: Operate system and injection equipment at normal pressures recommended by the manufacturer of injection equipment used. Fill tank of injection equipment with water. Operate system for one complete circle for center pivot or one complete run for the other recommended equipment, measuring time required, amount of water injected, and acreage contained in circle or run. Mix recommended amount of Terranil Cu for acreage to be covered into same amount of water used during calibration and inject into system continuously for one revolution or run, but continue to operate irrigation system until Terranil Cu has been cleared from last sprinkler head. Spray mixture in the chemical supply tank must be agitated at all times, otherwise settling and uneven application may occur.
- B. Solid Set and Hand Move Irrigation Equipment: Determine acreage covered by sprinkler. Fill tank of injection equipment with water and adjust flow to use contents over a thirty to forty-five minute period. Mix desired amount of Terranil Cu for acreage to be covered into quantity of water used during calibration and operate entire system at normal pressures recommended by the manufacturer of injection equipment used for amount of time established during calibration. Provide constant mechanical agitation in the mix tank to insure that Terranil Cu will remain in suspension during the injection cycle. Terranil Cu can be injected at the beginning or end of the irrigation cycle or as a separate application. Stop injection equipment after treatment is completed and continue to operate irrigation system until the product is cleared from last sprinkler head.

SAFETY DEVICES

(1) The systems designated above 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) All pesticide injection pipelines 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.

SYSTEMS CONNECTED TO PUBLIC WATER SOURCES

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.

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. 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.

For additional instructions on safety precautions, refer to statements (2), (3), (4), (6), and (7) in the section on SAFETY DEVICES.

POSTING INSTRUCTIONS

Posting must conform to the following requirements: Treated areas shall be posted with signs at all usual points of entry and along likely routes of approach from the listed sensitive areas. When there are no usual points of entry, signs must be posted in the corners of the treated areas and in any other location affording maximum visibility to sensitive areas. The printed side of the sign should face away from the treated area toward the sensitive area. The signs shall be printed in English. Signs must be posted prior to application and must remain posted until foliage has dried and soil surface water has disappeared. Signs may remain in place indefinitely as long as they are composed of material to prevent deterioration and maintain legibility for the duration of the posting period.

All words shall consist of letters at least 2 1/2 inches tall, and all letters and the symbol shall be a color which sharply contrasts with their immediate background. At the top of the sign shall be the words KEEP OUT, followed by an octagonal stop sign symbol at least 8 inches in diameter containing the word STOP. Below the symbol shall be the words PESTICIDES IN IRRIGATION WATER.

5/7

CROP	DISEASES	RATE/ACRE	APPLICATION DIRECTIONS
Bean (Snap)	Rust	3 to 6.75 pints	Use in sufficient water to obtain adequate coverage. Begin applications during early bloom stage or when disease first threatens and repeat at weekly intervals or as necessary to maintain control. Do not apply within 7 days of harvest. Do not graze treated areas or feed treated plant parts to livestock.
	Botrytis blight (gray mold)	6.75 pints	
Beans (Dry) Navy, Pinto, Kidney, Lima, Blackeye	Rust, Anthracnose, Downy mildew, Cercospora leaf spot (blackeye only)	3 to 4.5 pints	Use in sufficient water to obtain adequate coverage. Begin applications during early bloom stage and repeat at 7 to 10 day intervals. For use only on beans harvested dry with pods removed. Do not apply within 6 weeks before harvest. Do not allow livestock to graze in treated areas or feed treated plant parts to livestock.
Carrot	Cercospora (early) blight, Alternaria (late) blight	3.4 to 4.5 pints	Use in sufficient water to obtain adequate coverage. Start applications when disease threatens and repeat at 7 to 10 day intervals or as necessary to maintain control. Terranil Cu may be applied through sprinkler irrigation equipment (solid set, portable wheel move, motorized lateral move, or center pivot systems only). See calibration directions preceding this section.
Celery	Cercospora (early) blight, Septoria (late) blight, Basal stalk rot (Rhizoctonia solani)	2.25 to 3.4 pints OR 4.5 To 6.75 pints	Use 2.25 to 3.4 pints per acre on a 3 to 5 day spray schedule or 4.5 to 6.75 pints per acre on a 7 day schedule. Start applications when transplants are set in the field. Apply in sufficient water to obtain adequate coverage. Terranil Cu may be applied through sprinkler irrigation equipment (solid set, portable wheel move, motorized lateral move, or center pivot systems only). See calibration directions preceding this section. Do not apply within 7 days of harvest.
	Pink rot (Suppression-7 day schedule)	6.75 pints	
	Early blight, Late blight	3.4 to 4.5 pints/ 100 gal.	
Cucurbits: Cucumber, Cantaloupe, Muskmelon, Honeydew melon, Squash, Pumpkin	Anthracnose, Downy mildew, Target spot	3.4 to 4.5 pints	Use in sufficient water to obtain adequate coverage. Begin application when plants are in first true leaf stage or when conditions are favorable for disease development. Repeat applications at 7 day intervals. Under severe disease conditions, shorten spray interval. Terranil Cu may be applied through sprinkler irrigation equipment (solid set, portable wheel move, or center pivot systems only). See calibration directions preceding this section. PRECAUTION: Certain varieties of melons may be sensitive to sunburn following applications of chlorothalonil during periods of high solar intensity.
	Cercospora leaf spot, Gummy stem blight (black rot), Alternaria leaf blight, Scab, Powdery mildew (Spaerotheca only)	4.5 to 6.75 pints	
	Cucumber belly rot (Rhizoctonia solani)	8¼ pints	
			Use in sufficient water to obtain runoff to soil surface. Make a single application when vines begin to form. Terranil Cu may be applied through sprinkler irrigation equipment as directed above.

6/17

CROP	DISEASES	RATE/ACRE	APPLICATION DIRECTIONS
Potato	Early blight, late blight, Botrytis vine rot	1.7 pints -then- 2.25 to 3.4 pints	<p>Begin applications at the low rate when vines are first exposed and leaf wetness occurs. Repeat applications at 7 to 10 day intervals.</p> <p>Begin applying the higher label rates at 5 to 10 day intervals when any one of the following events occurs:</p> <ul style="list-style-type: none"> • Vines close within the row; • Late blight forecasting measures 18 disease severity values (DSV); • When disease conditions are severe. <p>As vines close between rows increase water carrier volume to cover the denser canopy. Use the highest rate and shortest interval when plants are rapidly growing and disease conditions are severe. DO NOT apply more than 36 pints of Terranil Cu per acre during each growing season. DO NOT apply within 7 days of harvest.</p> <p>Terranil Cu may be applied through sprinkler irrigation equipment (solid set, portable wheel move, center pivot, or motorized lateral move systems only). Do not exceed a 10 day interval between applications when using this technique. Follow calibration and application directions preceding this section.</p>

7/7

CROP	DISEASES	RATE PER ACRE	APPLICATION DIRECTIONS
Peanut	Cercospora (early) leaf spot, Cercosporidium (late) leaf spot	2.25 to 3.4 pints	Apply in sufficient water for coverage when leaf wetness first occurs or 30 to 40 days after planting. Repeat at 10 to 14 day intervals. When conditions favor late leaf spot or when rust or web blotch occur, apply 3.4 pints per acre at 10 day intervals for the remainder of the season. Do not apply within 14 days of harvest. Do not allow livestock to graze in treated areas. Do not feed hay or threshings from treated fields to livestock. Terranil Cu may be applied through sprinkler irrigation equipment. Use 3.4 pints per acre in solid set, portable wheel move, center, pivot, motorized lateral move, or traveling gun sprinkler irrigation equipment. See calibration directions preceding this section.
	Rust, Web blotch	3.4 pints	
	<p>Tank Mix With Folicur[®] Where Sclerotium stem rot (white mold) and Rhizoctonia limb rot are present, use Terranil Cu in a spray program with Folicur 3.6 F to discourage development of resistant strains of fungi. The first two (2) applications (at 10 to 14 day intervals) should be made with Terranil Cu at 3.4 pts/acre. Applications 3, 4, 5 and 6 (at 14-day intervals) should be Folicur 3.6 F and the last application with Terranil Cu again. To further discourage development of resistant strains of fungi—for applications 3, 4, 5 and 6, tank mix 2.25 pint per acre of Terranil Cu with Folicur 3.6 F at the recommended rate. See the Folicur 3.6 F label for specific use directions and rates. Do not apply any tank mixes containing Folicur 3.6 F through any type of irrigation system.</p> <p>Folicur[®] is a trademark of Bayer Co.</p>		
<p>Tank Mix with Tilt[®]: Terranil Cu may be used in combination with Tilt for early and late leaf spot control. Apply 2.25 pint Terranil Cu as a tank mixture with 2 fl. oz. of Tilt in a minimum of 20 gallons of water per acre with ground equipment, or a minimum of 5 gallons of water per acre by aerial applicaiton. Begin applications 35-40 days after planting, or at first appearance of disease, and continue applications on a 10-14 day schedule. Terranil Cu plus Tilt also may be used in State Agricultural Extension advisory (disease forecasting) programs which recommend application timing based on environmental factors favorable for disease development. Consult the Tilt label for specific use directions and restrictions.</p> <p>Tilt[®] is a trademark of Ciba-Geigy Corporation.</p>			
Tomato	FOLIAGE: (apply every 7 to 10 days): Early blight, Late blight, Gray leaf spot, Gray leaf mold, Septoria leaf spot, Target spot	3 to 4.5 pints	Apply in sufficient water to obtain adequate coverage. Begin applications when dew or rain occur and disease threatens. Use the highest rate and shortest interval specified when disease conditions are severe. Do not use with Copper-Count [®] N in concentrated spray suspensions. Terranil Cu may be applied through sprinkler irrigation equipment, (solid set or portable wheel move systems only). See calibration directions preceding this section. Copper-count [®] is a registered trademark of Mineral Research & Development Corporation.
	FRUIT: (apply every 7 to 14 days beginning at fruit set): Anthracnose, Alternaria fruit rot (black mold), Rhizoctonia fruit rot, Botrytis gray mold, Late blight fruit rot	4.5 to 6.75 pints	

NOTICE: Seller warrants that the product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use, but neither this warranty nor any other warranty of merchantability or fitness for a particular purpose, express or implied, extends to the use of this product contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to Seller, and Buyer assumes the risk of any such use.