

## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Mr. Luis Castro  
Manager, Product Registration  
Cerexagri, Inc.,  
630 Freedom Business Center, Suite 402  
King of Prussia, PA 19406

JUL 21 2003

Dear Mr. Castro:

SUBJECT: Penncozeb 4F Fungicide  
EPA Registration Number 4581-394  
Your Submission of March 25, 2003

*m. Waller*

4581-394

The amendment referred to above, submitted in connection with registration under section (3) of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) is acceptable provided that you make the following changes:

**Precautionary Statements:**

Change the existing Precautionary Statements text to the following: Causes moderate eye irritation. Harmful if swallowed, inhaled or absorbed through skin. Avoid contact with skin, eyes or clothing. Avoid breathing (dust, vapor or spray mist). \* Remove contaminated clothing and wash clothing before reuse.

**Personal Protective Equipment:**

In the fifth bullet under "Mixers and Loaders must wear" delete "when cleaning equipment, mixing or loading."

**Application Rate Table -Fruit:**

- In the "Grapes" row, change the first sentence in the "Remarks" column to read "Apply in sufficient water to provide thorough coverage starting when the new shoots are 1/2 to 1 1/2 inches long."
- In the "Diseases Controlled" column of the "Papayas" row, correct the spelling for "Phytophthora".

**Application Rate Table -Vegetables:**

In the "Diseases Controlled" column of the "Corn" row, correct the spelling for "Helminthosporium".

**Application Rate Table -Field Crops:**

In the "Diseases Controlled" column of the "Corn" row, correct the spelling for "Helminthosporium".

**Application Rate Table -Seed Treatment:**

In the "Restrictions" column, correct the parentheses surrounding "Must not be used for food, feed or oil purposes".

**Turf Tolerance Table:**

In the "Crop " column make sure "Assorted" is spelled correctly.

**Storage and Disposal:**

Change the heading "Storage" to "Pesticide Storage".

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

If you have any questions, please contact Lisa Jones of my staff by phone at (703) 308-9424 or by e-mail at [jones.lisa@epa.gov](mailto:jones.lisa@epa.gov).

Sincerely,



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

Enclosure: Stamped label

CONCURRENCES							
SYMBOL ▶	7505C						
SURNAME ▶	Lisa Jones						
DATE ▶	Jun 24, 2003						

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# PENNCOZEB<sup>®</sup> 4F

## FLOWABLE FUNGICIDE

A 37% Coordination Product of Manganese and Zinc and  
Ethylenebisdithiocarbamate

### ACTIVE INGREDIENT

A coordination product of zinc and manganese ethylene

bisdithiocarbamate.....	37.0%*
Manganese++ .....	7.4%
Zinc++ .....	0.9%
Ethylene bisdithiocarbamate ion (C <sub>4</sub> H <sub>6</sub> N <sub>2</sub> S <sub>4</sub> )-- .....	28.7%
OTHER INGREDIENTS .....	63.0%
TOTAL.....	100.0%

\*Equivalent to 4 lbs. active ingredient per gallon.

EPA REG. NO. 4581-394

EPA Establishment No. 33910-HL-01

Cerexagri, Inc.

Net Contents:

630 Freedom Business Center, Suite 402  
King of Prussia, PA 19406

### KEEP OUT OF REACH OF CHILDREN CAUTION

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

#### FIRST AID

If inhaled

- Move person to fresh air.
- If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.
- Call a poison control center or doctor for treatment advice.

If on skin or clothing

ACCEPTED

with COMMENTS

In EPA Letter Dated:

JUL 21 2003

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act,  
as amended, for the pesticide  
registered under EPA Reg. No.  
4581-394

*m. Waller*

1501-204

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment advice.

**If in eyes**

- Hold eye open and rinse slowly and gently with water for 15-20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing the eye.
- Call a poison control center or doctor for treatment advice.

**If swallowed**

- Call a poison control center or doctor immediately for treatment advice.
- Have person sip a glass of water if able to swallow.
- Do not induce vomiting unless told to do so by the poison control center or doctor.
- Do not give anything by mouth to an unconscious person.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

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

**Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling. Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling. Harmful if inhaled. Avoid breathing dust. Remove contaminated clothing and wash clothing before reuse. Avoid contact with skin or clothing. Wash thoroughly with soap and water after handling.**

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

**Applicators and other handlers (other than mixers or loaders) must wear:**

- Coveralls over long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks

**Mixers and Loaders must wear:**

- Coveralls over long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks
- Protective eyewear when mixing or loading
- Chemical-resistant apron when cleaning equipment, mixing or loading

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.

#### **ENGINEERING CONTROLS STATEMENTS**

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.

Human flaggers must be in enclosed cabs

The enclosed cabs must be used 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.
- 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 pesticide is toxic to fish. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. For terrestrial uses, do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark except as specified for the labeled use on cranberries. Do not contaminate water when disposing of equipment washwaters or disposing of wastes. For Seed Treatment Products - cover or incorporate spilled treated seed.

### **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.**

**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**
- **Chemical-resistant gloves made of any waterproof material**
- **Shoes plus socks**

#### **NON-AGRICULTURAL USE REQUIREMENTS**

**The requirements in this box apply to uses of this product that are not within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.**

Commercial seed treatment and professional applications to lawn grasses, golf courses, industrial (office park), municipal and residential lawns are not within the scope of the Worker Protection Standard.

- Keep unprotected persons out of treated area until sprays have dried.

## GENERAL USE INFORMATION

Penncozeb 4F is a broad-spectrum protectant fungicide recommended for outdoor or greenhouse-grown crops. Optimum disease control is achieved when the fungicide is applied in a regularly scheduled preventive spray program. The addition of an agricultural surfactant will improve fungicide performance by providing a more uniform spray deposit, increased foliar redistribution, and improved fungicide retention during periods of wet weather.

## USE RATE DETERMINATION

Carefully read, understand, and follow label use rates and restrictions.

Under low disease conditions, minimum label rates per application can be used while maximum label rates and the minimum interval should be used for severe or threatening disease conditions.

If only a portion of the container's contents are to be used, thoroughly shake the container prior to measuring. When small quantities of spray solution are being prepared for use in hand or power sprayers, the following conversion table should be followed (rates are based on dilute thorough coverage sprays):

Recommended Label Use Rate Per Acre or 100 Gals.*	Fluid Ounces Penncozeb 4F Required for:			
	10 Gals.	5 Gals.	2 Gals.	1 Gal.
0.8 qts	2.6	1.4	0.5	0.25
1.0 qts.	3.2	1.6	0.7	0.35
1.2 qts.	3.8	1.9	0.9	0.4
1.6 qts.	5.1	2.6	1.0	0.5
2.0 qts.	6.4	3.2	1.3	0.6
2.4 qts.	8.0	4.0	1.6	0.8
3.2 qts.	10.3	5.1	2.1	1.0

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4.8 qts.	15.4	7.7	3.1	1.6
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1 cup = 8 fluid ounces or 237 milliliters

1 fluid ounce = 2 tablespoons or 30 milliliters

1 tablespoon = 3 teaspoons or 15 milliliters

\* Dilute thorough coverage sprays

## MIXING

Add Penncozeb 4F slowly to water in the spray tank with agitation, or premix thoroughly in a nurse tank for concentrate or aircraft sprayers. Continuous agitation is required to keep the product in suspension. Add other fungicides, insecticides, growth regulators, micronutrients, and spray adjuvants after Penncozeb 4F has been placed into suspension.

When preparing spray solutions for use in a hand sprayer, premix as a slurry in a small container, and then add to sprayer containing  $\frac{1}{3}$  to  $\frac{1}{2}$  the desired final water volume.

## COMPATIBILITY

Penncozeb 4F is compatible with most commonly used agricultural fungicides, insecticides, and growth regulators. When preparing tank mixes, user should consult spray compatibility charts or State Cooperative Extension Service Specialists prior to actual use.

## SPRAY ADJUVANTS

The addition of agricultural surfactants to Penncozeb 4F sprays will improve initial spray deposits, fungicide redistribution and weatherability.

Place Penncozeb 4F into suspension prior to adding an adjuvant to the spray mixture. Read and carefully observe the precautionary statements and all other information appearing on both product labels prior to spray preparation.

## APPLICATION

### Ground

Thorough coverage of the targeted crop generally results in optimum disease protection. To achieve good coverage, use proper spray pressure, gallonage per acre, nozzles, nozzle spacing, and tractor speed. Consult spray nozzle and accessory catalogues for specific information on proper equipment calibration.



Use 20 to 100 gallons per acre for ground application equipment.

#### **Hand Sprayers**

Thoroughly spray plant foliage until runoff.

#### **Aerial**

A uniform spray deposit over the crop canopy generally results in optimum disease protection. Each aircraft should be prechecked for droplet size, uniformity of spray pattern, swath width, and spray volume. During aerial application, human flaggers are prohibited unless in totally enclosed vehicles.

**Spray Volume** - Aerial applications are to be made in a minimum of two (2) gallons of water per acre. On vegetable and field crops, 2 to 3 gallons of spray per acre are generally optimum; orchards and vineyards can be handled with spray volume of 10 gallons per acre.

### **CHEMIGATION USE DIRECTIONS**

#### **Sprinkler Irrigation**

Penncozeb 4F must be applied on a regular protectant fungicide schedule, not an irrigation schedule. If irrigation cycles are less frequent than recommended Penncozeb 4F application intervals, ground or aerial applications must supplement chemigation applications to achieve adequate disease control.

Apply Penncozeb 4F only through sprinkler irrigation systems including center-pivot, lateral move, end tow, side (wheel) roll, traveler, solid set, or hand move irrigation systems. Do not apply product through any other type of irrigation system.

Lack of fungicidal 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.

Before applying Penncozeb 4F through sprinkler irrigation equipment, the chemigation system must meet the following specifications:

- 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 a 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 (RPZ), backflow preventer 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.
- Systems not connected to a public water supply must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located in the irrigation pipeline to prevent water source contamination from back flow.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 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.
- 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.
- 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.
- Do not apply when wind speed favors drift beyond the area intended for treatment.

**Center-pivot, Lateral Move, End Tow, and Traveler Irrigation Equipment:** (Use only with electric or oil hydraulic drive systems which provide a uniform water distribution.)

- Determine size of area to be treated.

- Determine the time required to apply no more than 1/4 inch water (6,750 gallons water per acre) over the area to be treated when the system and injection equipment are operated at normal pressures recommended by the equipment manufacturer. Run system at 80 to 95% of manufacturer=s rated capacity.
- Using only water, determine the injection pump output when operated at normal line pressure.
- Determine the amount of Penncozeb 4F required to treat area.
- Add the required amount of Penncozeb 4F and sufficient water to meet the injection time requirements of the solution tank.
- Maintain constant solution tank agitation during the injection period.
- Stop injection equipment after treatment is completed. Continue to operate the system until Penncozeb 4F solution has cleared the sprinkler head.

#### **Solid-set, Side (wheel) Roll, and Hand Move Irrigation Equipment:**

- Determine acreage covered by sprinkler.
- Fill injector solution tank with water and adjust flow rate to use contents over a 10 - to 30-minute interval.
- Determine the amount of Penncozeb 4F required to treat area.
- Add the required amount of Penncozeb 4F into the same quantity of water used to calibrate the injection equipment.
- Maintain constant solution tank agitation during the injection period.
- Operate system at normal pressures recommended by the manufacturer of the injection equipment and used for the time interval established during calibration.
- Inject Penncozeb 4F at the end of the irrigation cycle or as a separate application to maximize foliar fungicide retention.
- Stop injection equipment after treatment is completed. Continue to operate the system until Penncozeb 4F solution has cleared the last sprinkler head.

#### **DISEASE MONITORING**

Penncozeb 4F is a broad-spectrum, protectant fungicide. If not applied on a routine protectant spray schedule, crops should be scouted on a weekly basis. Fungicide application should be made, at the recommended label use rate and spray schedule, at the first sign of disease, report of disease in the area, or during environmental conditions favorable for disease development.

#### **RESTRICTIONS**

Users should carefully read, understand, and follow all use restrictions prior to using Penncozeb 4F.

## Foliar Applications

### **Where EBDC Products Used Allow the Same Maximum Poundage of Active Ingredient Per Acre Per Season.**

If more than one product containing an EBDC-active ingredient (maneb, mancozeb or metiram) is used on a crop during the same growing season and the EBDC products used allow the same maximum poundage of active ingredient per acre per season, then the total poundage of all such EBDC products used must not exceed any of the specified individual EBDC product maximum seasonal poundage of active ingredient allowed per acre.

### **Where EBDC Products Used Allow Different Maximum Poundage of Active Ingredient Per Acre Per Season**

If more than one product containing an EBDC-active ingredient is used on a crop during the same growing season and the EBDC products used allow different maximum poundage of active ingredient per acre per season, then the total poundage of all such EBDC products used must not exceed the lowest specified individual EBDC product maximum seasonal poundage of active ingredient allowed per acre.

## Seed Treatment

In addition to the maximum number of foliar applications permitted by the formula stated above, a single application for seed treatment may be made on crops that have registered seed treatment uses.

## POMEFRUIT

Not intended for use on fruit trees by homeowners. Use either the "Pre-Bloom/Bloom Use" or "Extended Application" schedule. DO NOT COMBINE OR INTEGRATE THE TWO TREATMENT SCHEDULES. It is recommended that this product be used in an Integrated Pest Management program (IPM).

Crop	Diseases Controlled	Rate Penncozeb 4F Per Application Qts./A.	Remarks (Also Refer to Directions For Use)	Restrictions
Apples Crab-apples Pears Quince	Fabrea Leaf Spot Scab Rusts- including Cedar Apple Rust Quince Rust Fly Speck Sooty Blotch	4.8*  (1.2 qts. per 100 gal in a dilute spray)	Pre-Bloom/Bloom Use: Begin applications at 1/4 to 2 inch green tip and continue on a 7- to 10-day schedule through bloom.	Do not apply more than 4.8 qts. (4.8 lbs. Active) per acre per application. Do not apply after bloom. Do not apply more than 19.2 qts. (19.2 lbs. Active) per acre per year. Do not graze livestock in treated areas.
		2.4*  (0.6 qts. per 100 gal in a dilute spray)	Extended Application Schedule for Use in Tank Mixtures with Systemic Fungicides: For implementation of IPM programs, applications based on tree-row volume, or for use as a resistance management tool, begin applications at 1/4 to 2 inch green tip and continue applications on a 7- to 10-day schedule through the second cover spray or to within 77 days of harvest.	Do not apply more than 2.4 qts. (2.4 lbs. active) per acre per application. Do not apply within 77 days of harvest. Do not apply more than 16.8 qts. (16.8 lbs. active) per acre pr year. Do not graze livestock in treated areas.  Apply in a minimum of 50 gallons of water per acre.

\*Maximum per acre use rate based on thorough coverage dilute sprays.

## FRUIT

Crop	Diseases Controlled	Rate Penncozeb 4F Per Application Qts./A.	Remarks (Also Refer to Directions For Use)	Restrictions
Bananas, including plantains	Sigatoka	1.6 to 2.4	Apply when leaves first appear and repeat every 14 to 21 days or as required. Use sufficient water to provide adequate coverage. A spreader sticker may be used for better coverage and weatherability.	Do not apply more than 24 qts. (24 lbs. active) per acre per growing cycle. Applications can be made up on the day of harvest.

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Crop	Diseases Controlled	Rate Penncozeb 4F Per Application Qts./A.	Remarks (Also Refer to Directions For Use)	Restrictions
Cranberries	Fruit rot	2.4 to 4.8	Start applications at early bloom and repeat at 7- to 10- day intervals as required.	Do not apply within 30 days of harvest. Do not apply more than 14.4 qts. (14.4 lbs. active) per acre per season.
Grapes	Black Rot Bunch Rot Phomopsis  (Deadarm) Downy Mildew	1.2 to 2 West of the Rocky Mountains  1.2 to 3.2 East of the Rocky Mountains  (0.3 to 0.8 qts. per 100 gal in a dilute spray)	Apply in sufficient water to provide thorough coverage starting when new shoots are 2 to 12 inches long. Repeat when shoots are 3 to 5 inches long, when shoots are 8 to 10 inches long, and then at 7- to 10-day intervals until fruit is set or 66 days before harvest. For late season control of black rot, deadarm and downy mildew, the use of other approved and recommended fungicides is suggested.	In California, do not apply after bloom. In other areas, do not apply within 66 days of harvest. West of the Rocky Mountains, do not apply more than 6 qts. (6 lbs. active) per acre per season. East of the Rocky Mountains, do not apply more than 19.2 qts. (19.2 lbs. active) per acre per season.
Papayas	Anthrax nose Phytophthora a Fruit Rot Black spot Cercospora	1.2 to 2	Use 20 to 100 gallons water per acre. Start applications at flowering and continue at 14- to 21-day intervals. Direct spray to crown and blossom area. A spreader sticker may be used for better coverage and weatherability.	Do not apply more than 28 qts. (28 lbs. active) per growing cycle. Applications may be made up to the day of harvest.

## VEGETABLES

Crop	Diseases Controlled	Rate Penncozeb 4F Per Application Qts./A.	Remarks (Also Refer to Directions For Use)	Restrictions
Asparagus	Cercospora Leaf Spot Rust	1.6	Start applications when disease first appears and repeat at 10-day intervals. Four applications are usually sufficient.	Apply only on asparagus ferns after spears have been harvested.  Do not apply more than 6.4 qts. (6.4 lbs. active) per acre per season.  Do not apply within 120 days of harvest in California and Arizona, or within 180 days in all other states.

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Crop	Diseases Controlled	Rate Penncozeb 4F Per Application Qts./A.	Remarks (Also Refer to Directions For Use)	Restrictions
Corn (sweet corn for fresh use or  processing; popcorn; and sweet corn for seed production, including hybrid seed)	Common Rust Helminthosporium Leaf Blight Gray Leaf Spot	0.8 to 1.2	Use sufficient water for thorough coverage. Start applications when disease first appears and repeat at 4- to 7-day intervals.  A spreader sticker may be used for better coverage and weatherability.	Do not apply within 7 days of harvest.  East of the Mississippi River, Arkansas and Louisiana, do not apply more than 18 qts. (18 lbs. active) per acre per crop.  West of the Mississippi River (except Arkansas and Louisiana), do not apply more than 6 qts. (6lbs. active) per acre per crop.  Do not feed treated forage to livestock.
Cucumbers	Alternaria Anthracnose Cercospora Leaf Spot Downy Mildew Gummy Stem Blight Scab Pythium Fruit Rot	1.2 to 2.4	Start applications when plants are in the two-leaf stage and repeat at 7- to 10-day intervals. Use sufficient water and direct spray to provide thorough coverage of both upper and lower leaf surfaces.	Do not apply within 5 days of harvest.  Do not apply more than 19.2 qts. (19.2 lbs. active) per acre per crop.
Fennel	Early Blight Late Blight	1.6	Start applications when disease first appears and repeat applications every 7 to 10 days.	Do not apply more than 12.8 qts. (12.8 lbs. active) per acre per crop.  Do not apply within 14 days of harvest.
Melons Cantaloupe Casaba Crenshaw Honeydew Muskmelon	Alternaria Leaf Spot Anthracnose Downy Mildew Gummy Stem Blight Cercospora Leaf Spot	1.2 to 2.4	Start applications when plants are in the two-leaf stage and repeat at 7- 10-day intervals. Use sufficient water and direct spray to provide thorough coverage of both upper and lower leaf surfaces.  Some cantaloupe varieties (i.e., Harvest Queen, Gold Star, Super Star, Sweet and Early, and Saticoy) are sensitive to mancozeb. Consult State Cooperative Extension Service Specialist Prior to use.	Do not apply within 5 days of harvest.  Do not apply more than 19.2 qts. (19.2 lbs. active) per acre per crop.

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Onions (dry bulb) Garlic Shallots	Botrytis Leaf Blight Downy Mildew Neck Rot Purple Blotch	1.6 to 2.4	Follow a protective spray schedule starting when diseases are first reported in the area and repeat at 7-day intervals throughout the season.  A spreader sticker may be used for better coverage and weatherability.  Do not allow spray or drift to contact bulbs after lifting from soil.	Do not apply within 7 days of harvest.  Do not apply more than 24 qts. (24 lbs. active) per acre per crop.  Do not apply to exposed bulbs.
Onions (furrow drench)	Damping-off Seed Rots Seedling Blights Smut	2.4	Apply 2.4 qts. per acre as a furrow drench at time of planting onion seeds.  Use 75 to 125 gallons of water per acre.	Do not use more than 2.4 qts. (2.4 lbs. active) per acre (29,000 linear feet of furrow) with an 18-inch row spacing.
Potatoes	Early Blight Late Blight	0.4 to 1.6	Begin applications when plants are 4 to 6 inches high by applying 0.4 to 0.8 qts./acre. As the vines increase in size, apply 1.2 to 1.6 qts./acre at 5- to 10-day intervals or 0.6 to 0.8 qts./acre at 3- to 5-day intervals. Do not apply more than 11.2 qts./acre per crop. A spreader sticker may be used for better coverage and weatherability.  It is recommended that this product be used within an Integrated Pest Management Program. Also, vine kill should occur 14 days before harvest.	Do not apply more than 11.2 qts. (11.2 lbs. active) per acre per crop.  Do not apply within 3 days of harvest, in Connecticut, Delaware, Florida, Maine, Massachusetts, Michigan, New Hampshire, New York, Ohio, Pennsylvania, Rhode Island, Vermont and Wisconsin and at least 14 days elsewhere.
Potato Seedpiece (treatment)	Fusarium Decay Seedborne Common Scab		Dip whole or cut potato seedpieces in 1qt. Penncozeb 4F per 50 gallons of water. Place treated seedpieces in a clean container following treatment and plant as soon as possible. Spread treated seedpieces in a cool place if held before planting.	Do not use treated seed potatoes for food or feed purposes.
Squash, summer (including edible gourds)	Downy Mildew Anthracnose	1.6 to 2.4	Start applications when plants are in the two-leaf stage and repeat at 7- to 10-day intervals. Use sufficient water and direct spray to provide thorough coverage of both upper and lower leaf surfaces.	Do not apply within 5 days of harvest. Do not apply more than 19.2 qts. (19.2 lbs. active) per acre per crop.



## VEGETABLES (CONT'D)

Crop	Diseases Controlled	Rate Penncozeb 4F Per Application Qts./A.	Remarks (Also Refer to Directions For Use)	Restrictions
Tomatoes	Anthracnose Early Blight Gray Leaf Spot Late Blight Gray Leaf Mold Septoria Leaf Spot	0.6 to 2.4 East of the Mississippi River  0.6 to 1.6 West of the Mississippi River	<p>East of the Mississippi Start applications when seedlings emerge or transplants are set. Repeat applications of 0.6- 1.2 lbs active ingredient per acre (0.6- 1.2 qts product) at 3- to 7- day intervals, or at 1.2-2.4 lbs. active ingredient per acre (1.2-2.4 qts product) at 7- to 10- day intervals throughout the season.</p> <p>West of the Mississippi Start applications when seedlings emerge or transplants are set. Repeat applications of 0.6- 0.8 lbs active ingredient per acre (0.6- 0.8 qts product) at 3- to 7- day intervals, or at 1.2-1.6 lbs. active ingredient per acre (1.2-1.6 qts product) at 7- to 10- day intervals throughout the season.</p> <p>A spreader sticker may be used for better coverage and weatherability.</p>	<p>Do not apply within 5 days of harvest.</p> <p>East of the Mississippi River, do not apply more than 16.8 qts. (16.8 lbs. active) per acre per crop.</p> <p>West of the Mississippi River, do not apply more than 6.4 qts. (6.4 lbs. active) per acre per crop.</p>
	Bacterial Speck and Spot		Use of a full rate of a fixed copper fungicide in tank mix combination with a half to full rate of Penncozeb 4F. Follow the application intervals recommended on the copper fungicide label.	
Water-melons	Alternaria Leaf Spot Anthracnose Cercospora Leaf Spot Downy Mildew Gummy Stem Blight Scab	1.6 to 2.4	Start applications when plants are in the two-leaf stage and repeat at 7- to 10-day intervals. Use sufficient water and direct spray to provide thorough coverage of both upper and lower leaf surfaces.	<p>Do not apply within 5 days of harvest.</p> <p>Do not apply more than 19.2 qts. (19.2 lbs. active) per acre per crop.</p>

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## FIELD CROPS

Crop	Diseases Controlled	Rate Penncozeb 4F Per Application Qts./A.	Remarks (Also Refer to Directions For Use)	Restrictions
Corn, field and hybrid seed corn	Common Corn Rust Helminthosporium Leaf Blight Gray Leaf Spot	0.8 to 1.2	Start applications when disease symptoms first appear and, depending on severity of infection, continue on a 4- to 14-day schedule. A spreader sticker may be used for better coverage and weatherability.	Do not apply more than 12 qts. (12 lbs. active) per acre per season.  Do not apply within 40 days of harvest.
Cotton	Rust Alternaria Leaf Spot	1.2 to 1.6	Start applications when disease appears and repeat at 10- to 14-day intervals until disease threat is past.	Do not apply more than 6.4 qts. (6.4 lbs. active) per season. Do not apply after bolls open. Do not apply within 45 days of harvest. Do not graze livestock in treated areas or feed gin trash to livestock.
Peanuts	Cercospora Leaf Spot Rust	0.8 to 1.6	Start applications when disease first appears or is reported in area. Repeat sprays at 7- to 14-day intervals, using shorter interval during humid weather.	Do not apply within 14 days of harvest. Do not use more than 12.8 qts. (12.8 lbs. active) per acre per crop. Do not feed treated vines to livestock.
Peanuts (tank-mix with Topsin M)	Cercospora Leaf Spot Rust Ascochyta Web Blotch Limb Rot	1.2 qt. Penncozeb 4F plus 4-8 oz. Topsin <sup>7</sup> M 70WSB Fungicide	Begin applications when disease first appears and repeat at 7- to 14-day intervals, using shorter interval during humid weather.	Do not feed treated vines to livestock. Do not use more than 12.8 qts. Penncozeb 4F (12.8 lbs. active) per acre per crop. Do not apply within 14 days of harvest.
Sugar beets	Cercospora Leaf Spot Rust	1.2 to 1.6	Start applications when disease first threatens and repeat every 7 to 10 days as needed. A spreader sticker may be used for better coverage and weatherability.	Do not apply within 14 days of harvest. Do not apply more than 11.2 qts. (11.2 lbs. active) per acre per crop per season. Do not feed treated tops to livestock.
Wheat, including Triticale, Barley, Oats, Rye	Helminthosporium Leaf Spot Leaf Rust Septoria Glume Blotch Septoria Leaf Spot Tan Spot Scab	0.8 to 1.6	Start applications at onset of disease or when plants are in the tillering to jointing stage and repeat at 7- to 10-day intervals. A spreader sticker may be used for better coverage and weatherability.	Do not make more than three applications during the season. Do not apply after Feekes= growth stage 10.5 or heading, but not less than 26 days of harvest. Do not graze livestock in treated areas prior to harvest.

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**SEED TREATMENT** - Seeds to be treated should be cleaned and well-cured prior to treatment. Penncozeb 4F may be applied to dry seed with conventional slurry or mist seed treating equipment or as a planter-box application. For best results, the seed must be completely and uniformly covered with fungicide. For commercial seed treatments, an EPA approved dye must be added to Penncozeb 4F which will impart an unnatural color to the seed.

Crop	Diseases Controlled	Rate Penncozeb 4F Per Application		Remarks (Also Refer to Directions For Use)	Restrictions
		Fl. Oz./Bu.	Fl. Oz./100 lbs.		
Corn (field)	Damping-off Seed Rots Seedling blights	2.4 to 4.8	4.3 to 8.6		Commercially treated seed must be labeled, A Must not be used for food, feed, or oil purposes.®
Cotton (acid delinted)	Damping-off Seedling Blights		4.8		
(reginned )	Damping-off Seedling Blight		9.6		
Flax	Damping-off Seed Rots Seedling Blights	3.2 to 6.4	5.7 to 11.3		
Peanuts (shelled)	Damping-off Seed Rots Seedling Blights	3.2 to 6.4	12.8 to 25.6		
Rice	Damping-off Seed Rots Seedling Blights		3.2 to 6.4	Apply before, during or after soaking in water.	
Safflower	Seedborne Rust (Puccinia carthami)		3.2		
Sorghum	Covered Kernel Smut Damping-off Seed Rots Seedling Blights	2.4 to 4.0	4.3 to 7.2		
Tomatoes	Damping-off Seed Rots Seedling Blights		12.8		

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## MISCELLANEOUS

Crop	Diseases Controlled	Rate Penncozeb 4F Per Application Qts./A.	Remarks (Also Refer to Directions For Use)
Aspara- gus crowns (planting stock)	Crown Rot	0.8 qts. per 100 gals.	Place loosely packed crowns into a burlap bag and soak, with gentle agitation, in the fungicide solution for 5 minutes. Remove bag, drain well, and plant crowns as soon as possible.  A tank large enough to hold a single burlap bag will treat 2 bags of crowns. Clean dipping suspension should then be prepared in a clean tank. Dirty crowns should be pre-washed to remove excess soil.
Caprifig	Assorted Molds Endosepsis (Fusarium)	0.8 qts. per 25 gals.	Prepare mamme figs by making a shallow cut through the eye and then hand dividing to avoid wasp injury. Submerge mamme figs in the fungicide suspension for a minimum of 15 minutes.  The fungicide suspension should be stirred frequently to prevent settling out. Fresh dipping solution should be used after treating 4 or 5 batches of figs. After treatment, figs should be drained prior to placement in
Christ- mas Trees (Conifer)	Lophodermium Needle Cast Pine Gall Rust Scirrhia Brown Spot	1.6 qts. To 3.2 qts. per acre	Begin application in spring or early summer before infection occurs. Repeat after heavy rains and at two-week intervals as long as needed.
Douglas Fir	Swiss Needle Cast		
Pine- apple	Phytophthora Heart Rot	2.6 qts. per 10 gals.	Dip planting material in fungicide solution prior to planting. Stir solution frequently to prevent settling out.  A new solution should be prepared when at least two-thirds of the volume has been used or sooner if soil from plant material has noticeably discolored the solution. Depending on the cleanliness and size of planting stock, up to 100 gallons of fungicide solution should be used to treat the propagative materials used to plant one acre.

threat is past. When conditions are especially favorable for disease development, apply maximum fungicide use rate on a 7-day spray schedule. Apply in sufficient water to provide adequate coverage.

**TURF TOLERANCE** - Treated turfgrass should be maintained in a vigorous growing condition. Turfgrass under stress will not respond to fungicide treatments as well as well-maintained turfgrass. Turfgrass tolerance to this product has been found to be acceptable, however, this product and tank mixtures with other products have not been tested on all varieties of every turfgrass species or under all possible growing conditions. If user is unfamiliar with the performance of Penncozeb 4F or tank mixtures, under user growing conditions, a limited area of turfgrass should be treated prior to initiating large-scale applications. The user should always exercise reasonable judgment and caution when using this product.

Crop	Diseases Controlled	Rate Penncozeb 4F Per Application	Remarks (Also Refer to Directions For Use)	Restrictions
		Fl. Oz./1000 sq. ft.		
Assorted Grasses	Helminthosporium Melting-out Rust (Leaf, Stem Stripe)	6.4		Do not graze treated areas.  Do not use on grasses intended for grazing, such as range or pasture grasses.  Do not feed clippings to livestock.  Do not use on grasses grown for seed.
	Copper Spot Fusarium Blight Red Thread Slime Mold	6.4 to 12.8		
	Algae	9.6		
	Dollar Spot	9.6 to 12.8		
	Rhizoctonia Brown Patch	6.4	Apply on a 7-day spray schedule.	
	Pythium Blight	12.8	Apply at 5-day Intervals, or more frequently, if conditions are especially favorable for disease development.	
	Fusarium Snow Mold	9.6 to 12.8	Apply at 2- to 6-week intervals during winter.	

## STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

**STORAGE:** Keep from freezing. Store in a cool, well-ventilated area, but not below 32°F. Do not allow to become overheated in storage. This may bring on chemical changes which will impair the fungicidal effectiveness of Penncozeb 4F. Keep container closed when not in use.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product may be disposed of on-site or at an approved waste disposal facility.

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#### **CONTAINER DISPOSAL**

**Plastic Containers** - Triple rinse (or equivalent). Then puncture and dispose of in a sanitary landfill, by incineration, or, if allowed by State and local authorities by burning. If burned, stay out of smoke.

**Bulk Containers** - Drain thoroughly and return to specified destination for cleaning and reuse.

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED :** Dike and contain the spill. Transfer liquid and solid diking material to separate containers for recovery or disposal. Flush contaminated area with a large amount of water to a chemical or sanitary sewer containing a settling pit. Remove contaminated clothing and wash affected skin areas with soap and water. Wash clothing before reuse. Keep the solids out of the municipal sewers and open bodies of water. Refer to Precautionary Statements.

#### **WARRANTY AND DISCLAIMER**

Cerexagri, Inc. warrants that this material 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 risks referred to therein. CEREXAGRI MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY. IN NO CASE SHALL CEREXAGRI OR SELLER BE LIABLE FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS, BUSINESS REPUTATION, OR CUSTOMERS; LABOR COST; OR OTHER EXPENSES INCURRED IN PLANTING OR HARVESTING.

Cerexagri and seller offer this product and the buyer and user accept it subject to the foregoing conditions of sale and warranty which be varied only by agreement in writing signed by a duly authorized representative of Cerexagri.