



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

November 23, 2020

Alexis Bromley  
UPL NA, Inc.  
630 Freedom Business Center, Suite 402  
King of Prussia, PA 19406

Subject: Notification per PRN 98-10 – Addition of optional referral statement  
Product Name: Penncozeb 4FL Flowable Fungicide  
EPA Registration Number: 70506-194  
Application Date: 03/30/2020  
Decision Number: 562646

Dear Ms. Bromley:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 for the above referenced product. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10.

The label submitted with the application has been stamped “Notification” and will be placed in our records.

Should you wish to add/retain a reference to the company’s website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product’s label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA’s Office of Enforcement and Compliance.

If you have any questions, please contact Stephanie Suarez at 703-347-8221 or by email at [Suarez.Stephanie@epa.gov](mailto:Suarez.Stephanie@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Sandip" followed by a flourish.

Sandip Chattopadhyay, Acting PM 21  
Fungicide Branch  
Registration Division (7505P)

Enclosure

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*[note regarding optional text: UPL reserves the right to list some, all, or none of the applicable specific crop names on its commercial label according to what crops the product is marketed for]*

[OPTIONAL REFERRAL STATEMENTS FOR COMMERCIAL PACKAGING:  
 See attached booklet on back for additional Precautionary Statements and complete Directions For Use. See inside for complete Precautionary Statements and Directions For Use. See containers inside for additional Precautionary Statements and complete Directions for Use.]

**PENNCOZEB® 4FL  
 FLOWABLE FUNGICIDE**

**A 37% Coordination Product of Manganese and Zinc and Ethylenebisdithiocarbamate**

**ACTIVE INGREDIENT**

Mancozeb: 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 4.0 lbs. active ingredient per gallon.**

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 swallowed	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>• Do not give anything to an unconscious person.</li> </ul>
If inhaled	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
If on skin or clothing	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
If in eyes	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing the eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>

**NOTIFICATION**

70506-194

The applicant has certified that no changes, other than those reported to the Agency have been made to the labeling. The Agency acknowledges this notification by letter dated:

11/23/2020

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Have the product container or label with you when calling a poison control center or doctor, or going for treatment. Contact the Rocky Mountain Poison and Drug Safety at 1-866-673-6671 for emergency medical treatment information.

**FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure,  
or accident, call CHEMTREC at 1-800-424-9300.**

EPA Registration No. 70506-194

EPA Establishment No. \_\_\_\_\_

UPL NA Inc.

630 Freedom Business Center, Suite 402

King of Prussia, PA 19406

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

Harmful if swallowed, inhaled or absorbed through skin. Avoid contact with skin, eyes or clothing. Avoid breathing spray (dust, vapor or spray mist). Remove contaminated clothing and wash clothing before reuse.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Some materials that are chemical-resistant to this product are natural rubber and polyethylene.

Mixers, loaders, applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes and socks
- Chemical-resistant gloves made of any waterproof material (except pilots, groundboom applicators, airblast applicators, and seed-treatment handlers who are bagging the treated seed or sewing bags containing treated seed)

In addition mixers/loaders supporting chemigation applications to turf on sod farms must wear a minimum of a NIOSH-approved particulate filtering facepiece respirator with any N, R or P filter; OR a NIOSH-approved elastomeric particulate respirator with any N, R, or P filter; OR a NIOSH-approved powered air-purifying respirator with an HE filter.

For lettuce (head and leaf) and Peppers- aerial applicator on lettuce (head and leaf) and peppers requires that occupational handlers performing mixing/loading operations observe the additional mitigation measure of wearing a minimum of a NIOSH-approved particulate filtering facepiece respirator with any N, R, or P filter; OR a NIOSH-approved elastomeric particulate respirator with any N, R, or P filter; OR a NIOSH-approved powered air-purifying respirator with an HE filter.

For potato seedpiece treatment- When opening the container or loading/pouring the treated seed/seed pieces, wear long-sleeved shirt, long pants, shoes, socks, chemical-resistant gloves and a respirator with a minimum of a NIOSH-approved particulate filtering facepiece respirator with any N, R, or P filter; OR a NIOSH-approved elastomeric particulate respirator with any N, R, or P filter; OR a NIOSH-approved powered air-purifying respirator with an HE filter.

See Engineering Controls for additional requirements.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

**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.

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Human flagging is prohibited. Flagging to support aerial application is limited to use of the Global Positioning System (GPS) or mechanical flaggers. Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (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/PPE 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 aquatic organisms. 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 inter-tidal areas below the mean high water mark, except as specified for the labeled use on cranberries. Do not contaminate water when cleaning equipment or disposing of equipment washwater or rinsate.

#### DIRECTIONS FOR USE SHAKE WELL BEFORE USING

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.

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 you state or tribe, consult the agency responsible for pesticide regulation.

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PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water, is

- Coveralls
- Chemical-resistant gloves 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.

Do not enter or allow others to enter into treated areas until sprays have dried.

#### **PRODUCT USE INFORMATION**

Penncozeb 4FL is a broad-spectrum protectant fungicide labeled for outdoor 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 retreatment 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):

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Label Use Rate Per Acre or 100 Gals.*	Fluid Ounces Penncozeb 4FL Required for:			
	10 Gals.	5 Gals.	2 Gals.	1 Gal.
0.8 qts	2.6	1.3	0.5	0.3
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
4.8 qts.	15.4	7.7	3.1	1.6

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 4FL 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 4FL 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 1/3 to 1/2 the desired final water volume.

**COMPATIBILITY**

Penncozeb 4FL 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. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

**SPRAY ADJUVANTS**

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

Place Penncozeb 4FL 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.

**SPRAY DRIFT MANAGEMENT**

A variety of factors including weather conditions (e.g. wind direction, wind speed, temperature, relative humidity) and method of application (e.g. ground, aerial, airblast, and chemigation) can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

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Do not apply at wind speeds greater than 15 mph  
If applying at wind speeds less than 3mph, the applicator must determine if a) conditions of temperature inversion exist, or b) stable atmospheric conditions exist at or below nozzle height. Do not make applications into areas of temperature inversions or stable atmospheric conditions. Applicators must follow all state and local pesticide drift requirements regarding application of mancozeb. Where states have more stringent regulations, they must be observed. All aerial and ground application equipments must be properly maintained and calibrated using appropriate carriers and surrogates.

*Additional requirements for aerial applications:*

The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter. Release spray at the lowest height consistent with efficacy and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety.

When applications are made with a crosswind, the swath must be displaced downwind. The applicator must compensate for this displacement at the up and downwind edge of the application area by adjusting the path of the aircraft upwind.

*Additional requirements for groundboom application:*

Do not apply with a nozzle height greater than 4 feet above the crop canopy.

**CHEMIGATION USE DIRECTIONS**

**Sprinkler Irrigation**

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

Apply Penncozeb 4FL 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 non-uniform 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 4FL 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



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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 4FL required to treat area.
- Add the required amount of Penncozeb 4FL 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 4FL 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 4FL required to treat area.
- Add the required amount of Penncozeb 4FL 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

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equipment and used for the time interval established during calibration.

- Inject Penncozeb 4FL 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 4FL solution has cleared the last sprinkler head.

### DISEASE MONITORING

Penncozeb 4FL 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 specified 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 must carefully read, understand, and follow all use restrictions prior to using Penncozeb 4FL.

### 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.

### APPLICATION INSTRUCTIONS

**Ground** - Thorough coverage of the targeted crop generally results in optimum disease protection. To achieve good coverage, use proper spray pressure, gallons 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. Do not apply with a nozzle height greater than 4 feet above the crop canopy.

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**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 pre-checked for droplet size, uniformity of spray pattern, swath width, and spray volume. During aerial application, human flaggers are prohibited.

**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 optimal; orchards and vineyards can be handled with spray volume of 10 gallons per acre. The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter. Release spray at the lowest height consistent with efficacy and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety.

When applications are made with a crosswind, the swath must be displaced downwind, the applicator must compensate for this displacement at the up and downwind edge of the application area by adjusting the path of the aircraft upwind.

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CROPS	DISEASES	Rate Per Application Qts./A.	DIRECTIONS	RESTRICTIONS
Apples Crabapples Pears Quince	Fabraea Leaf Spot Fly Speck Rusts- including Cedar Apple Rust Quince Rust Scab Sooty Blotch	4.8 qts/A  (4.8 lbs ai/A)	Pre-Bloom/Bloom Use: Begin applications at ¼ to ½ inch green tip and continue on a 7- to 10-day schedule through bloom.	Do not apply more than 19.2 qts. (19.2 lbs. active ingredient) per acre per year. Do not apply after bloom. Do not graze livestock in treated areas. Maximum number of applications per year is 4. PHI: 77 days
		2.4 qts/A  (2.4 lbs ai/A)	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 ½ inch green tip and continue applications on a 7- to 10-day schedule through the second cover spray. Apply in a minimum of 50 gallons of water per acre.	Do not apply more than 16.8 qts.(16.8 lbs. active ingredient) per acre per year. Do not graze livestock in treated areas. Maximum number of applications per year is 4. PHI: 77 days

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CROPS	DISEASES	Rate Per Application Qts./A.	DIRECTIONS	RESTRICTIONS
	Fire Blight		The addition of Penncozeb 4FL to copper fungicides will suppress the disease incidence in orchards where fire blight ( <i>Erwinia amylovora</i> ) has become resistant to streptomycin. Use the full label rate of copper and follow the application instructions on the copper fungicide label. Apply in a minimum of 50 gallons of water per acre.	
FOR POME FRUITS Use either the "Pre-Bloom/Bloom Use" or "Extended Application" schedules DO NOT COMBINE OR INTEGRATE THE TWO TREATMENT SCHEDULES. It is recommended that this product be used in an Integrated Pest Management (IPM) program				
Bananas (Plantain)	Sigatoka	1.6 to 2.4 qts/A  (1.6 to 2.4 lbs ai/A)	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 ingredient) per acre per growing cycle. Maximum number of applications per season is 10.  PHI: 0 days
Cranberries	Fruit Rot	2.4 to 4.8 qts/A  (2.4 to 4.8 lbs ai/A)	Start applications at early bloom and repeat at 7- to 10- day intervals as required.	Do not apply more than 14.4 qts. (14.4 lbs. active ingredient) per acre per season. Maximum number of applications per season is 3.  PHI: 30 days

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CROPS	DISEASES	Rate Per Application Qts./A.	DIRECTIONS	RESTRICTIONS
Grapes	Black Rot Bunch Rot Phomopsis (Deadarm) Downy Mildew	1.2 to 2.0 qts/A  (1.2 to 2.0 lbs ai/A) West of the Rocky Mountains	Apply in sufficient water to provide thorough coverage starting when new shoots are ½ to 1½ 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.	<b>In California</b> , do not apply after bloom. In other areas, do not apply within 66 days of harvest. <b>West of the Rocky Mountains</b> do not apply more than 6 qts. (6 lbs. active ingredient) per acre per season. Maximum number of applications per season is 3.
		1.2 to 3.2 qts/A  (1.2 to 3.2 lbs ai/A) East of the Rocky Mountains		<b>East of the Rocky Mountains</b> do not apply more than 19.2 qts. (19.2 lbs. active ingredient) per acre per season. Maximum number of applications per season is 6. PHI: 66 days
Papayas	Anthracnose Phytophthora Fruit Rot Black Spot Cercospora	1.2 to 2.0 qts/A  (1.2 to 2.0 lbs ai/A)	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 ingredient) per growing cycle. Maximum number of applications per season is 14. PHI: 14 days
Large Tropical Fruit:  Canistel Mamey Sapote Mango	Anthracnose Black spot (Cercospora) Phytophthora Fruit Rot	1.6 to 2.0 qts/A  (1.6 to 2.0 lbs ai/A)	Start applications at flowering and continue at 14- to 21- day intervals. Direct spray to crown and blossom area. Use 20 to 100 gallons water per acre.	Do not apply more than 28 qts. (28 lbs. active ingredient) per acre per year. Maximum number of applications per year is 14.

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CROPS	DISEASES	Rate Per Application Qts./A.	DIRECTIONS	RESTRICTIONS
Sapodilla Star Apple (Caimito) White Sapote				PHI: 0 days
Small Tropical Fruit:  Atemoya Cherimoya Custard Apple Sugar Apple Sweetsop	Anthracnose	1.6 to 1.8 qts/A  (1.6 to 1.8 lbs ai/A)	Begin applications at flowering and continue at a 7-day retreatment interval.  Applications made with aerial equipment must be made in a minimum spray volume of 10 gallons per acre.	Do not apply more than 25.2 qts. (25.2 lbs. active ingredient) per acre per year. Maximum number of applications per year is 14.  PHI: 0 days

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CROPS	DISEASES	Rate Per Application Qts./A.	DIRECTIONS	RESTRICTIONS
Asparagus	Cercospora Leaf Spot Rust	1.6 qts/A  (1.6 lbs ai/A)	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 ingredient) per acre per season.  PHI Arizona and California: 120 days PHI All Other States: 180 days Maximum number of applications per season is 4.
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 qts/A  (0.8 to 1.2 lbs ai/A)	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.	<b>East of the Mississippi River, Arkansas and Louisiana</b> , do not apply more than 18 qts. (18 lbs. active ingredient) per acre per crop.  <b>West of the Mississippi River</b> (except Arkansas and Louisiana), do not apply more than 6 qts. (6 lbs. active ingredient) per acre per crop.  Do not feed treated forage to livestock.  PHI: 7 days



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CROPS	DISEASES	Rate Per Application Qts./A.	DIRECTIONS	RESTRICTIONS
Cucurbit Crop Group:  Chayote Chinese Waxgourd Citron Melon Cucumber Gherkin Gourd, edible <i>Momordica</i> spp. Muskmelon Pumpkin Squash, summer Squash, winter Water-melon	Alternaria Leaf Spot Anthracnose Cercospora Leaf Spot Downy Mildew Gummy Stem Blight Microdochium Blight† Scab	1.6 to 2.4 qts/A  (1.6 to 2.4 lbs ai/A)	Start applications when the 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.  For aerial applications, the minimum spray volume is 2 gallons per acre.  Some cantaloupe varieties (i.e. Harvest Queen, Gold Star, Super Star, Sweet and Early, and Satcoy) are sensitive to Penncozeb 4FL fungicide. Consult State Cooperative Extension Service Specialist prior to use.	Do not apply more than 19.2 qts. (19.2 lbs active ingredient) per acre per year.   PHI: 5 days  †Not approved for this pest in California. Maximum number of applications per year is 8.
Fennel	Early Blight Late Blight	1.6 qts/A  (1.6 lbs ai/A)	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 ingredient) per acre per crop. PHI: 14 days
Ginseng	Alternaria Blight	1.5 qts/A  (1.5 lbs ai/A)	Start applications when disease first threatens and repeat every 7-10 days as needed.  In Wisconsin, apply with ground equipment and a minimum of 80 gallons of water per acre.	Do not apply more than 18 qts. (18 lbs. active ingredient) per acre per year.  PHI: 30 days  Maximum number of applications per year is 12.

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CROPS	DISEASES	Rate Per Application Qts./A.	DIRECTIONS	RESTRICTIONS
Lettuce (head and leaf)	Downy Mildew	1.2 to 1.6 qts/A  (1.2 to 1.6 lbs ai/A)	Begin applications when disease appears and reapply on a 7 to 10-day treatment schedule.	<b>In California</b> , do not apply more than 6.4 qts (6.4 lbs active ingredient) per acre per year.  <b>In states other than California</b> , do not apply more than 9.6 qts (9.6 lbs active ingredient) per acre per year. For all states: minimum retreatment interval is 7 days.  Do not apply this product with a U-boom device.  PHI in California: 14 days PHI in All Other States: 14 days for leaf lettuce; 10 days for head lettuce.
Melons : Cantaloupe Casaba Crenshaw Honeydew (Watermelon: refer to Cucurbit Crop Group)	Alternaria Leaf Spot Anthracnose Cercospora Leaf Spot Downy Mildew Gummy Stem Blight	1.2 to 2.4 qts/A  (1.2 to 2.4 lbs ai/A)	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. 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 more than 19.2 qts. (19.2 lbs. active ingredient) per acre per crop. PHI: 5 days
Onions (dry bulb) Garlic	Botrytis Leaf Blight Downy Mildew	1.6 to 2.4 qts/A  (1.6 to 2.4 lbs)	Follow a protective spray schedule starting when diseases are first	Do not apply more than 24 qts. (24 lbs. active ingredient) per

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CROPS	DISEASES	Rate Per Application Qts./A.	DIRECTIONS	RESTRICTIONS
Shallots	Neck Rot Purple Blotch Rust	ai/A)	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.	acre per crop.  Do not apply to exposed bulbs.  PHI: 7 days
Onions (furrow drench)	Damping-off Seed Rots Seedling Blights Smut	2.4 qts/A  (2.4 lbs ai/A)	Apply 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 ingredient) per acre (29,000 linear feet of furrow) with an 18-inch row spacing. Not for use in CA
Pepper	Anthrachnose Early Blight Phomopsis Blight or Fruit Rot	West of the Mississippi: 1.2 to 1.6 qts/A  (1.2 to 1.6 lbs ai/A)  East of the Mississippi: 1.2 to 2.4 qts/A  (1.2 to 2.4 lbs ai/A)	Begin application when disease appears and reapply on a 7 to 10-day spray schedule.	<b>West of the Mississippi River,</b> do not apply more than 9.6 qts (9.6 lbs active ingredient) per acre per year.  <b>East of the Mississippi River,</b> do not apply more than 14.4 qts (14.4 lbs active ingredient) per acre per year  Minimum retreatment interval is 7 days.  Do not apply this product with a U-boom device  PHI: 7 days

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CROPS	DISEASES	Rate Per Application Qts./A.	DIRECTIONS	RESTRICTIONS
Potatoes	Early Blight Late Blight	0.4 to 1.6 qts/A  (0.4 to 1.6 lbs ai/A)	Begin applications when plants are 4 to 6 inches high by applying 0.4 to 0.8 qts. /A. As the vines increase in size, apply 0.6 to 0.8 qts/A at 3 to 5 day intervals; or apply 1.2 to 1.6 qts. /A at 5 to 10 day intervals. 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 ingredient) per acre per crop.  PHI Connecticut, Delaware, Florida, Maine, Massachusetts, Michigan, New Hampshire, New York, Ohio, Pennsylvania, Rhode Island, Vermont and Wisconsin: 3 days PHI All Other States: 14 days
Tomatoes	Anthracnose Early Blight Gray Leaf Mold Gray Leaf Spot Late Blight Septoria Leaf Spot	<b>East of the Mississippi River</b>  0.6 to 2.4 qts/A  (0.6 to 2.4 lbs ai/A)	<b>East of the Mississippi</b> Start applications when seedlings emerge or transplants are set. Repeat applications of 0.6 to 1.2 qts/A at 3- to 7- day intervals, or at 1.2 to 2.4 qts/A at 7- to 10- day intervals throughout the season. A spreader sticker may be used for better coverage and weatherability.	<b>East of the Mississippi River,</b> do not apply more than 16.8 qts. (16.8 lbs. active ingredient) per acre per crop.  PHI: 5 days
		<b>West of the Mississippi River</b>  0.6 to 1.6 qts/A	<b>West of the Mississippi</b> Start applications when seedlings emerge or transplants are set. Repeat applications of	<b>West of the Mississippi River,</b> do not apply more than 6.4 qts. (6.4 lbs. active ingredient) per acre per crop.

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		(0.6 to 1.6 lbs ai/A)	0.6 to 0.8 qts/A at 3- to 7- day intervals, or at 1.2 to 1.6 qts/A at 7- to 10- day intervals throughout the season. A spreader sticker may be used for better coverage and weatherability.	PHI: 5 days
	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 4FL. Follow the application intervals specified on the copper fungicide label.	
Walnut	Walnut Blight ( <i>Xanthomonas campestris</i> pv. <i>Juglandis</i> )	1.8 qts./A (1.8 lbs ai/A)	Apply by ground in a minimum of 100 gallons water per acre, or by air in a minimum of 10 gallons water per acre. Begin applications at early pre-bloom prior to or when catkins are partially expanded. Make additional applications during bloom and early nutlet stage, or as needed if frequent rainfall occurs.	Do not apply through any irrigation system.  The reapplication interval is 7-10 days.  Do not apply more than 18 quarts (18 lbs active ingredient) per acre per use season.  This product must be tank mixed with a fixed copper product (such as Cuprofix Ultra 40 Disperss, EPA Reg. No. 70506-201) which is registered for use on walnuts.  PHI: 75 days  Maximum number of applications per season is 10.

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CROPS	DISEASES	Rate Per Application Qts./A.	DIRECTIONS	RESTRICTIONS
Broccoli	Alternaria Leaf Spot Downy Mildew	1.2 to 1.6 qts/A  (1.2 to 1.6 lbs ai/A)	In plant beds or direct-seeded fields, apply 7 to 10 days after planting or earlier if disease is present. If field applications, apply as soon as disease is present and repeat applications at 7- to 10-day intervals.	Do not apply more than 9.6 qts (9.6 lbs active ingredient) per acre per crop.  Do not apply this product with a U-boom device.  Minimum retreatment interval is 7 days.  PHI: 7 days

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CROPS	DISEASES	Rate Per Application Qts. /A.	DIRECTIONS	RESTRICTIONS
Corn, field and hybrid seed corn	Common Corn Rust Gray Leaf Spot Helminthosporium Leaf Blight	0.8 to 1.2 qts/A (0.8 to 1.2 lbs ai/A)	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 ingredient) per acre per season.  PHI: 40 days
Peanuts	Cercospora Leaf Spot Rust	0.8 to 1.6 qts/A (0.8 to 1.6 lbs ai/A)	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 more than 12.8 qts. (12.8 lbs. active ingredient) per acre per crop. Do not feed treated vines to livestock. PHI: 14 days
Peanuts (tank-mix with Thiophanate-Methyl fungicide)	Ascochyta Web Blotch Cercospora Leaf Spot Limb Rot Rust	1.2 qts/A. (1.2 lbs ai/A) Penncozeb 4FL plus Thiophanate-Methyl fungicide	Begin applications when disease first appears and repeat at 7- to 14-day intervals, using shorter interval during humid weather.	Do not apply more than 12.8 qts. (12.8 lbs. active ingredient ) per acre per crop. Do not feed treated vines to livestock. PHI: 14 days

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CROPS	DISEASES	Rate Per Application Qts. /A.	DIRECTIONS	RESTRICTIONS
Sugar Beets	Cercospora Leaf Spot Rust	1.2 to 1.6 qts/A  (1.2 to 1.6 lbs ai/A)	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 more than 11.2 qts. (11.2 lbs. active ingredient) per acre per crop per season. Do not feed treated tops to livestock. PHI: 14 days
Cereals Wheat, Triticale, Barley, Oats, Rye	Helmintho- sporium Leaf Spot Leaf Rust Septoria Glume Blotch Septoria Leaf Spot Tan Spot Scab*	0.8 to 1.6 qts/A  (0.8 to 1.6 lbs ai/A)	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 apply more than 4.8 qts (4.8 lbs active ingredient) per acre per crop per season. Maximum number of applications per season is 3. Do not apply after Feekes' growth stage 10.5 or heading and within PHI. Do not graze livestock in treated areas prior to harvest. PHI in California: 46 days. PHI All Other States: 26 days *Scab control on wheat only in California

**SEED TREATMENT-**

Seeds to be treated should be cleaned and well-cured prior to treatment. Penncozeb 4FL 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. **USE RESTRICTION:** When using formulations that do not contain dye, to comply with 40 CFR 153.155, all seed treated with an economic poison must be colored to distinguish and prevent subsequent inadvertent use as a food for man or feed for animals.

Seed Bag Label Requirements



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The Federal Seed Act requires that containers containing treated seeds shall be labeled with the following statements: This seed has been treated with mancozeb fungicide.

Do not use treated seed for feed, food or oil purposes.

The US Environmental Protection Agency requires the following statements on containers containing seed treated with mancozeb:

- When opening this bag or loading/pouring the treated seed/seed pieces, wear long-sleeved shirt, long pants, shoes, socks, chemical-resistant gloves, and a NIOSH-approved particulate filtering facepiece respirator with any N, R, or P filter; OR a NIOSH-approved elastomeric particulate respirator with any N, R, or P filter; OR a NIOSH-approved powered air-purifying respirator with an HE filter. After the seeds/seedpieces have been planted, do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 24 hours. Exception: Once the seeds are planted in soil or other planting media, the Worker Protection Standard allows workers to enter the treated area without restriction if there will be no worker contact with the soil media subsurface.
- Treated seeds exposed on soil surface may be hazardous to wildlife. Cover or collect treated seeds spilled during loading and planting.
  - Store treated seed away from food and feedstuffs.
  - Dispose of all excess treated seed by burying seed away from bodies of water.
  - Dispose of seed packaging or containers in accordance with local requirements.
  - Excess treated seed may be used for ethanol production only if (1) by-products are not used for livestock feed and (2) no measurable residues of pesticide remain in ethanol by-products that are used in agronomic practice." Do not allow children, pets or livestock to have access to treated seeds.

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**SEED TREATMENT**

CROP	DISEASES	Rate Penncozeb 4FL Per Application		REMARKS
		Fl. Oz. /Bu.	Fl. Oz./100 lbs.	
Corn (field)	Damping-off Seed Rots Seedling blights	2.4 to 4.8 fl oz/BU	4.3 to 8.6 fl oz/100 LBS	
Cotton (acid delinted) (reginned)	Damping-off Seedling Blights		4.8 fl oz/100 LBS	
	Damping-off Seedling Blight		9.6 fl oz/100 LBS	
Flax	Damping-off Seed Rots Seedling Blights	3.2 to 6.4 fl oz/BU	5.7 to 11.3 fl oz/100 LBS	
Peanuts (shelled)	Damping-off Seed Rots Seedling Blights	3.2 to 6.4 fl oz/BU	12.8 to 25.6 fl oz/100 LBS	
Potato Seedpiece Treatment	Fusarium Decay Late Blight Seedborne Common Scab Rhizoctonia Shoot Blight Silver Scurf		1.6 to 2.5 fl oz/100 LBS.	Do not use treated seed potatoes for food or feed purposes.
Rice	Damping-off Seed Rots Seedling Blights		3.2 to 6.4 fl oz/100 LBS	Apply before, during or after soaking in water.
Safflower	Seedborne Rust (Puccinia carthami)		3.2 fl oz/100 LBS	
Sorghum	Covered Kernel Smut Damping-off Seed Rots Seedling Blights	2.4 to 4.0 fl oz/BU	4.3 to 7.2 fl oz/100 LBS	

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CROP	DISEASES	Rate Penncozeb 4FL Per Application		REMARKS
		Fl. Oz. /Bu.	Fl. Oz./100 lbs.	
Tomatoes	Damping-off Seed Rots Seedling Blights		12.8 fl oz/100 LBS	

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**MISCELLANEOUS**

CROP	DISEASES	Rate Penncozeb 4FL Per Application Qts. /A.	REMARKS (Also Refer to Directions For Use)
Asparagus crowns (planting stock)	Crown Rot	0.8 qts. per 100 gals.	Place loosely packed crowns into 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. Not registered for this use in California.
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 trees.
Christmas Trees (Conifer)	Lophodermium Needle Cast Pine Gall Rust Scirrhia Brown Spot	1.6 qts. To 3.2 qts.	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		

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**TURF - COMMERCIAL SOD FARMS - Not for residential use.**

Do not apply by air to sod farms.  
There is a minimum of a 10-day interval between applications.

Start applications when grass greens-up in spring or when disease first appears, and repeat at a minimum of 10 to 14 day intervals or until disease threat is past. When conditions are especially favorable for disease development, apply maximum fungicide use rate on a 10-day spray schedule. Apply in sufficient water to provide adequate coverage. Harvesting of treated turf is prohibited until 120 hours (5-days) following application. There is a limit of 4 applications per year and a maximum rate of 17.4 lbs active ingredient/A (17.4 qts Penncozeb 4FL) per application.

**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 4FL 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.

In addition mixers/loaders supporting chemigation applications to turf on sod farms must wear a minimum of a NIOSH-approved particulate filtering facepiece respirator with any N, R, or P filter; OR a NIOSH-approved elastomeric particulate respirator with any N, R, or P filter; OR a NIOSH-approved powered air-purifying respirator with an HE filter.

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CROP	DISEASES	RATE PER APPLI-CATION	REMARKS	RESTRICTIONS
		Fluid Ounces /1000 sq. ft.		
Assorted Grasses	Helmintho-sporium Melting-out Rust (Leaf, Stem Stripe)	6.4 fl oz		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 fl oz.		
	Algae	9.6 fl oz.		
	Dollar Spot	9.6 to 12.8 fl oz.		
	Rhizoctonia Brown Patch	6.4 fl oz.	Apply on a 7-day spray schedule.	
	Pythium Blight	12.8 fl oz.	Apply at 5-day intervals, or more frequently, if conditions are especially favorable for disease development.	
	Fusarium Snow Mold	9.6 to 12.8 fl oz.	Apply at 2- to 6-week intervals during winter.	

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**GRASSES – TURF USE**  
**Not for residential use.**

**RESTRICTIONS:**

- Do not apply by air to golf courses.
- Do not apply by chemigation application to golf courses.
- Do not apply to residential turf or athletic fields.
- Limit to a maximum of 4 applications per year and a maximum application rate of 17.4 lb ai/A per application for turf except golf course turf.
- The minimum retreatment interval is 10 days between applications.

**Golf Courses**

When treating golf greens, always treat aprons and approaches. There is a minimum of a 10-day interval between applications.

**Cool Season grasses; greens, tees and aprons:** Maximum of 5 applications per year at a maximum application rate of 17.4lbs active ingredient/A (4.35 gallons Penncozeb 4FL) per application.

**Cool Season grasses; fairways:** Maximum of 4 applications per year at a maximum application rate of 17.4lbs active ingredient/A (4.35 gallons Penncozeb 4FL) per application.

**Warm Season Grasses; greens, tees, and aprons:** Maximum of 4 applications per year at a maximum application rate of 17.4lbs active ingredient/A (4.35 gallons Penncozeb 4FL) per application.

**Warm Season Grasses; fairways:** Maximum of 3 applications per year at a maximum application rate of 17.4lbs active ingredient/A (4.35 gallons Penncozeb 4FL) per application.

**All Other Turf**

There is a maximum of 4 applications per year with a maximum application rate of 17.4 lbs active ingredient/A (4.35 gallons Penncozeb 4FL) per application. There is a minimum of a 10-day interval between applications.

CROP	DISEASES	Rate Penncozeb 4FL Per Application	REMARKS	RESTRICTIONS
		Fluid Ounces/1000 sq.ft.		
Golf course turf, industrial turf or municipal turf use. NOT FOR RESIDENTIAL OR ATHELETIC FIELD TURF USE.	Algae	9.6 fl oz.	Begin when algae begin to appear and repeat on a 10 day interval.	Do not use on grasses grown for seed.
	Copper Spot, Fusarium Blight (F. Roseum), Red Thread, Slime Molds	6.4-12.8 fl oz.	Begin when grass greens up in spring and repeat on a 10 to 14 day interval	Do not use on grasses intended for grazing, such as range or pasture grasses.
		9.6-12.8 fl oz.	Use during favorable disease conditions repeating applications on a 10 day spray schedule.	Do not graze treated areas or feed clippings to livestock.

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CROP	DISEASES	Rate Penncozeb 4FL Per Application Fluid Ounces/1000 sq.ft.	REMARKS	RESTRICTIONS
	Gray Leaf Spot (Pyricularia grisea)	9-12.8 fl oz.	Begin at first sign of disease; and repeat at 10day intervals or more often during favorable disease conditions.	
	Dollar Spot (Sclerotinia)	9.6-12.8 fl oz.	Begin when grass greens up in spring and repeat at 10 to 14 day intervals	
		12.8 fl oz.	Use during favorable disease conditions repeating applications on a 10 day spray schedule	
	Pink (Fusarium) Snow Mold	9.6-12.8 fl oz.	During winter apply before first snowfall and repeat on a 14 to 42 day interval.	
	Leaf Spot (Helminthosporium spp.), Rhizoctonia Brown Patch	6.4 fl oz.	Begin when disease appears and repeat at 10 day intervals.	
		9.6-12.8 fl oz.	Use during favorable disease conditions and repeat at 10 day intervals	



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CROP	DISEASES	Rate Penncozeb 4FL Per Application Fluid	REMARKS	RESTRICTIONS
		Ounces/1000 sq.ft.		
	Pythium Blight	12.8 fl oz.	Begin at first sign of disease. Repeat at intervals of 10 days or more often during favorable disease conditions.	Do not use on grasses grown for seed.  Do not use on grasses intended for grazing, such as range or pasture grasses.
	Leaf Rust, Stem Rust, Stripe Rust	6.4 fl oz.	Begin when disease first appears and repeat at 10 day intervals	Do not graze treated areas or feed clippings to livestock.

**INFORMATION FOR TURF & ORNAMENTAL USES**

PENNCOZEB 4FL FLOWABLE FUNGICIDE is a flowable containing a coordination product of zinc ion and manganese ethylenebisdithiocarbamate and may be used as a spray for the control of many important plant diseases. When used according to directions, it provides very high fungicidal activity and can be safely used on both turf grasses and certain ornamentals.

PENNCOZEB 4FL FLOWABLE FUNGICIDE is a broad-spectrum protectant fungicide which provides control of most common turf grass diseases and it is also effective in controlling many fungal diseases of certain ornamentals.

Diseases of turf grass and ornamentals can attack suddenly and unexpectedly causing severe damage and may even result in total loss of large areas of valuable turf grass and ornamental plants. The use of a regular protective spray program will minimize the risk of disease damage and can generally be accomplished with lower rates and less frequent fungicide applications. Once diseases have become established, higher rates of fungicide and more frequent applications are required to bring them under control. Follow a regular protective program for maximum product performance.

**INSTRUCTIONS FOR APPLICATION FOR TURF & ORNAMENTAL USES**

The Directions for Use of this product given on this label reflect cumulative inputs from both field use experience and product testing programs. However, it is impossible to test this product on all ornamental plant species and cultivars. Eliminating all risks of usage associated with this product is not possible. Plant injury, non-performance, or other unanticipated results could occur due to use that is inconsistent with label directions or specific environmental conditions, as noted on the label. Abnormal environmental conditions such as excessive rain, storms or drought), use of other treatments, improper application techniques as well as many other factors that Cerexagri cannot control may result in lack of efficacy or compromise the performance of this

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product. All such risks are borne by the buyer.

Before treating any ornamental plant for prevention of infection from a listed pathogen, a preliminary trial is suggested on a small scale before a full treatment is applied. Wait 5-7 days after treatment to evaluate results.

To mix: Slowly add PENNCOZEB 4FL FLOWABLE FUNGICIDE into half-filled spray tank while the agitator is running to form a well-mixed suspension. If tank-mixing with other materials, add soluble materials (those that form a true solution) first. Then add emulsifiable concentrates (those that form an emulsion in water) in that order after the PENNCOZEB 4FL FLOWABLE FUNGICIDE. Wettable powder products may be mixed at the same time as PENNCOZEB 4FL FLOWABLE FUNGICIDE. PENNCOZEB 4FL FLOWABLE FUNGICIDE is compatible with most commonly used pesticides. Read and observe the most restrictive precautionary statements and other information appearing on product labels used in mixtures.

For aerial application: Use at rate indicated in sufficient water for thorough coverage or a minimum of 2 gallons per acre. Use a spreader-sticker at label-specified rates for the desired use as needed. Add product slowly to water in the spray tank with agitation or premix thoroughly in separate holding tank for concentrate or aircraft sprayers. Follow similar mixing order instructions as stated above for best results. Continuous agitation is required to keep the product in suspension.

**HORTICULTURAL APPLICATIONS**  
**FIELD, NURSERY, GREENHOUSE and LANDSCAPE**

**Not for this use in California**

**Intended only for use by professional applicators on fruit trees.**

**Use Directions:** PENNCOZEB 4FL FLOWABLE FUNGICIDE provides excellent protective activity and is most effective when applied prior to infection periods.

Apply 1.2 qts PENNCOZEB 4FL per 100 gallons of water in full coverage sprays. To improve performance, add 2 - 4 oz of an effective spreader-sticker per 100 gallons of spray. Begin spraying when plants are growing, well leafed out or at first sign of disease. Apply at 7-10 day intervals throughout the season. Contact your State Extension Service for additional information

**Cut Flowers and Greenhouse Grown Ornamentals:** limited to 20 applications per year. Do not use for food or feed purposes. Intended for use by professional applicators. Not for use in residential greenhouses.

CROP	DISEASES	REMARKS
<b>ORNAMENTALS COMMERCIAL AND HOMEGARDEN USE</b>		Refer to Use Instructions except when more specific directions are given for individual crops and diseases.
Abutilon	Alternaria, Cercospora, Cladosporium, Colletotrichum, Puccinia	
African Violet	Alternaria, Botrytis Blight	

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CROP	DISEASES	REMARKS
Ageratum	Alternaria, Sclerotium, Rhizoctonia, Puccinia, Botrytis Blight Rust	
Aglaonema	Alternaria	
Almond (ornamental)	Botrytis, Cladosporium, Coryneum, Gloeosporium, Monilinia, Leaf Spot	
Alyssum	Leaf Spot, Microsphaera alni	
Andromeda	Exobasidium, Rhytisma, Venturia	
Anthurium	Anthrachnose, Spadix Rot, Colletotrichum, Gloeosporium	
Apple (ornamental) – <i>Malus</i> sp	Fabraea Leaf Spot, Rust, Scab, Alternaria, Cephalosporium, Colletotrichum, Coryneum, Elsinoe, Fusarium, Gloeosporium, Gymnosporangium, Helminthosporium, Leptosphaeria, Monilinia, Monochaetia, Mycoshaerella, Pestalotia, Venturia	
Arborvitae	Cercospora Blight, Alternaria, Botrytis, Coryneum, Lophodermium, Mycosphaerella, Pestalotia	
Areca Palm	Leaf Spot	
Ash	Cercospora, Cylindrosporium, Gloeosporium, Puccinia, Rhizoctonia, Sphaeropsis	
Ash, white	Anthrachnose, Cylindrosporium Leaf Spot	
Ash, mountain	Entomosporium Leaf Spot, Guignardia Leaf Blotch, Gymnosporangium	

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CROP	DISEASES	REMARKS
Aster	Leaf Spot, Alternaria, Ascochyta, Botrytis, Colletotrichum, Fusarium, Phomopsis, Phyllosticta, Puccinia, Ramularia, Rhizoctonia, Septoria, Uromyces	
Aster, perennial	Puccinia Rusts	
Aucuba, japonica	Alternaria Leaf Spot, Anthracnose, Cercospora, Gloeosporium, Phomopsis, Phyllosticta	
Azalea	Cylindrocladium Rot Petal Blight Phytophthora Twig and Bud Blight Alternaria, Botrytis, Cladosporium, Colletotrichum, Cylindrocladium, Ovulinia	Apply in full coverage spray 2 to 3 times a week, while flowers are opening. Direct spray into flowers and thoroughly spray ground under plants thoroughly.
Baby's Breath	Botrytis, Rhizoctonia	
Basswood	Cercospora, Phyllosticta	
Begonia	Botrytis Blight, Gloeosporium, Cercospora, Rhizoctonia	
Birch	Cylindrosporium, Gloeosporium, Glomerella, Melampsorium, Taphrina	
Bougainvillea	Leaf Spot, Colletotrichum	
Boxwood	Leaf Spot, Fusarium, Volutella	
Buckeye	Cercospora, Glomerella, Guignardia, Monochaetia, Phyllosticta, Septoria, Taphrina	
Buffalo Berry	Cylindrosporium Leaf Spot, Puccinia, Rhizoctonia, Septoria	
Camellia	Petal Blight, Botrytis, Cercospora, Elsinoe, Exobasidium, Glomerella, Pestalotia, Phomopsis, Phyllosticta	Apply in full coverage spray 2 to 3 times a week, while flowers are opening. Direct spray into flowers and thoroughly spray ground under plants thoroughly.

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CROP	DISEASES	REMARKS
Carnation	Rust Septoria Leaf Spot, Alternaria, Botrytis, Cladosporium, Colletotrichum, Fusarium, Helminthosporium, Stemphylium, Uromyces	
Catalpa	Alternaria, Cercospora, Gloeosporium, Phomopsis, Rhizoctonia	
Cedar, Red	Cercospora Blight, Phomopsis Blight, Lophodermium, Gymnosporangium	
Cherry, ornamental	Alternaria, Cercospora, Cladosporium, Coccomyces, Coryneum, Fusicladium, Monilinia, Phomopsis, Phyllosticta, Taphrina	
Chinese Evergreen	Colletotrichum, Gloeosporium	
Christmas Cactus	Alternaria, Cercospora, Colletotrichum, Fusarium, Phomopsis	
Chrysanthemum	Ascochyta Blight, Botrytis Petal Spot, Rust, Alternaria, Bipolaris, Cercospora, Cylindrosporium, Helminthosporium, Phyllosticta, Septoria, Stemphylium	Apply in full coverage spray. Apply twice weekly during the blooming season.
Cockscomb (Celosia)	Alternaria Leaf Spot, Cercospora	
Coleus	Alternaria, Cercospora	
Columbine	Ascochyta, Botrytis, Cercospora, Puccinia, Rhizoctonia, Septoria	
Conifers (Christmas Trees)	Lophodermium NeedleCast, Pine Gall Rust, Scirrhia Brown Spot	Begin application in spring or early summer before infection occurs. Repeat after heavy rains and at two-week intervals as long as needed.
Cordyline	Cercospora Leaf Spot	
Cotoneaster	Cercospora, Phyllosticta, Venturia	

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CROP	DISEASES	REMARKS
Crabapple (ornamental)	Cedar Apple Rust, Scab, Sphaeropsis Leaf Spot, Gymnosporangium, Marssonina, Phyllosticta, Septoria, Venturia	
Crepe Myrtle	Cercospora, Phomopsis, Phyllosticta	
Croton	Gloeosporium	
Cuphea (Mexican heather)	Gloeosporium, Rhizoctonia	
Cyclamen	Botrytis, Cladosporium, Fusarium, Glomerella, Phyllosticta, Ramularia	
Cypress, Arizona	Cercospora Blight Monochaetia Canker, Coryneum, Fusarium, Gymnosporangium, Lophodermium, Pestalotia, Phomopsis	
Dahlia	Botrytis Blight, Alternaria, Fusarium, Rhizoctonia	
Daisy	Botrytis, Cercospora, Whetzelia	
Daisy, Shasta	Cylindrosporium, Fusarium, Septoria	
Daisy, Transvall	Alternaria, Botrytis, Gloeosporium	
Daylily	Alternaria, Botrytis, Cercospora, Colletotrichum, Elsinnoe, Phyllosticta, Septoria	
Delphinium	Botrytis Blight, Ascochyta, Cercospora, Diaporthe, Fusarium, Phyllosticta, Puccinia, Ramularia, Septoria, Volutella	
Dieffenbachia	Leptosphaeria Brown Spot, Cephalosporium, Colletotrichum, Gloeosporium, Glomerella	

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CROP	DISEASES	REMARKS
Dogwood, flowering	Anthrachnose Elsinoe Leaf Spot Septoria Leaf Spot, Ascochyta, Botrytis, Cercospora, Colletotrichum, Phyllosticta	Apply when buds begin to open, when bracts have fallen, 4 weeks later, and again in late summer after flower buds for next season have formed.
Dracaena	Fusarium Leaf Spot, Alternaria, Cercospora, Colletotrichum, Phyllosticta	
Dusty Miller	Fusarium, Puccinia	
Elm	Black Leaf Spot, Botryosphaeria, Cephalosporium, Cercospora, Coryeum, Cylindrosporium, Fusarium, Gloeosporium, Monochaetia, Mycosphaerella, Phomopsis, Phyllosticta, Rhizoctonia, Sphaeropsis, Taphrina	
Euonymus	Anthrachnose, Cercospora, Colletotrichum, Gloeosporium, Marssonina, Ramularia, Septoria, Whetzelinia	
Fatsia	Anthrachnose, Alternaria, Cercospora, Colletotrichum, Phyllosticta	
Ferns	Rhizoctonia Blight, Botrytis, Cercospora, Curvularia, Cylindrosporium, Glomerella, Phyllosticta, Taphrina	Begin spraying when plants are growing, well leafed out or at first sign of disease. Apply at 7-10 day intervals throughout the season. Contact your State Extension Service for additional information
	Anthrachnose	Apply at 7-10 day intervals as needed through chemigation or air blast spray to thoroughly wet the entire plant canopy. PENNCOZEB 4FL may be tank mixed with other systemic products as recommended by the local extension services for enhanced control.

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CROP	DISEASES	REMARKS
Ficus	Cercospora Leaf Spot, Alternaria, Ascochyta, Cephalosporium, Cladosporium, Colletotrichum, Fusarium, Gloeosporium, Glomerella, Mycosphaerella, Phomopsis, Stemphylium	
Fig (ornamental)	Cylindrocladium Leaf Spot	
Fir (Abies)	Cephalosporium, Lophodermium, Melampsora, Phomopsis, Sphaeropsis	
Fir, Douglas	Swiss Needle Cast, Phaeocryptopus	
Fir, Frasier	Swiss Needle Cast, Phaeocryptopus	
Firethorn	Fusicladium Scab, Fusarium, Rhizoctonia	
Fittonia	Rhizoctonia	
Four-O'clock	Cercospora, Rhizoctonia	
Fuchsia	Botrytis Blight, Rust, Phomopsis, Septoria	
Garden Balsam	Alternaria, Botrytis, Cercospora	
Gardenia	Alternaria, Botrytis, Diaporthe, Mycosphaerella, Pestalotia, Phomopsis, Phyllosticta, Rhizoctonia	
Geranium	Rust, Alternaria, Ascochyta, Bipolaris, Botrytis, Cercospora, Cylindrosporium, Helminthosporium, Puccinia, Ramularia, Rhizoctonia, Septoria, Uromyces, Venturia	
Gladiolus	Curvularia Leaf Spot, Botrytis Blossom Blight, Alternaria, Cladosporium, Rhizoctonia, Septoria, Stemphylium	On flower spikes, use at 1½ pints per 100 gallons. Make weekly applications starting before diseases appear and increase to 2 or 3 applications per week during periods of heavy disease and during rainy weather. Do not exceed 0.6qts per 100 gal on flower spikes.



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Gloxinia	Botrytis Blight, Colletotrichum	
Gold Dust Tree	Gloeosporium, Glomerella, Pestalotia, Phyllosticta	
Gomphrena	Cercospora	
Gypsophila	Botrytis Blight, Rhizoctonia	
Hawthorn	Cedar Apple Rust, Fabraea Leaf Spot, Frogeye Leaf Spot, Hawthorn Rust, Scab, Cercospora, Cylindrosporium, Gymnosporangium, Monilinia, Mycosphaerella, Phyllosticta, Septoria, Venturia	
Hemlock, Eastern (Tsuga)	Botrytis, Cylindrosporium, Melampsora, Rhizoctonia	
Hibiscus	Alternaria, Cercospora, Colletotrichum, Fusarium, Phyllosticta	
Hickory	Gnomonia Leaf Spot, Cercospora, Cladosporium, Elsinoe, Fusarium, Mycosphaerella, Pestalotia, Phyllosticta, Septoria	
Holly	Purple Spot, Phyllosticta	
Hollyhock	Anthrachnose, Cercospora Leaf Spot Puccinia Rust, Alternaria, Ascochyta, Colletotrichum, Septoria	
Honeysuckle	Herpobasidium Blight, Alternaria, Cercospora, Gloeosporium, Phyllosticta	
Horsechestnut	Alternaria Leaf Spot, Guignardia Leaf, Blotch, See Buckeye	

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CROP	DISEASES	REMARKS
Hydrangea	Botrytis Blight, Cercospora Leaf Spot, Ascochyta, Colletotrichum, Phyllosticta, Rhizoctonia, Septoria	
Impatiens	Botrytis Blight, Cercospora, Phyllosticta, Rhizoctonia, Septoria	
Indian Hawthorn	Entomosporium	
Iris	Didymellina Leaf Spot, Mycoshaerella Leaf Spot, Mystrosporium Ink Spot, Ascochyta, Botrytis, Cladosporium, Fusarium, Kabatiella, Phyllosticta, Puccinia, Rhizoctonia	
Ivy	Cladosporium, Colletotrichum, Glomerella, Phyllosticta, Ramularia, Rhizoctonia, Sphaeropsis	
Jade Plant	Gloeosporium, Phomopsis	
Juniper	Phomopsis Blight, Cercospora, Coryneum, Gymnosporangium, Lophodermium, Pestalotia, Stigmina	
Kalanchoe	Cercospora, Stemphylium	
Larkspur	Rust, See Delphinium	
Laurel, Cherry	Alternaria, Cercospora, Coccomyces, Monilinia, Phyllosticta, Septoria	
Laurel, Mountain	Cercospora Leaf Spot, Petal Blight, Mycosphaerella, Pestalotia, Phomopsis, Rhytisma, Septoria	Apply in full coverage spray 2 to 3 times a week, while flowers are opening. Direct spray into flowers and spray ground under plants thoroughly.
Lavender, Cotton	Septoria	
Ligustrum	Cercospora Leaf Spot	
Lilac	Botrytis, Cercospora, Cladosporium, Cylindrocladium, Gloeosporium	

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CROP	DISEASES	REMARKS
Lily	Botrytis Blight, Cercospora, Cladosporium, Colletotrichum, Fusarium, Puccinia, Ramularia, Rhizoctonia	
Liriope	Alternaria, Cercospora, Colletotrichum, Leptothyrium	
Lobelia	Botrytis, Cercospora, Puccinia, Rhizoctonia, Septoria	
Loquat	Colletotrichum, Fusicladium, Pestalotia, Phyllosticta, Septoria	
Magnolia	Gloeosporium Leaf Spot, Alternaria, Cercospora, Cladosporium, Colletotrichum, Glomerella, Rhizoctonia	
Mahonia	Cercospora, Cylindrocladium, Gloeosporium, Leptosphaeria, Phomopsis, Phyllosticta, Puccinia	
Maple	Alternaria Leaf Spot Phyllosticta Leaf Spot, Cercospora, Ciborinia, Fusarium, Marssonina, Monochaetia, Phopsis, Rhizoctonia, Rhytisma, Septoria, Sphaeropsis, Taphrina, Venturia	Do not use on Sugar maples intended for the production of maple syrup.
Myrtle	Cercospora, Glomerella, Pestalotia	
Nannyberry	Botrytis, Cercospora, Cladosporium, Helminthosporium, Monochaetia, Phomopsis, Phyllosticta, Ramularia	
Narcissus	Botrytis Blight (fire), Smoulder, Sclerotinia	
Nasturtium	Botrytis, Cercospora, Puccinia	
Nephthytis	Cephalosporium	
Nicotiana	Alternaria	
Nierembergia	Botrytis	

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CROP	DISEASES	REMARKS
Oak	Actinopelte Leaf Spot, Taphrina, Leaf Blister, Cephalosporium, Cercospora, Cladosporium, Cronartium, Elsinoe, Fusarium, Gloeosporium, Gnomonia, Marssonina, Phyllosticta, Septoria, Venturia	
Orchids	Botrytis Blossom Blight, Cercospora, Fusicladium, Mycosphaerella, Phyllosticta, Puccinia, Septoria	
Osmanthus	Alternaria, Cercospora, Colletotrichum, Phyllosticta	
Oxalis	Rust	
Palm, Areca	Alternaria, Cercospora, Colletotrichum, Phomopsis, Phyllosticta, Septoria	
Palm, Arenga	Cercospora, Colletotrichum, Cylindrocladium, Pestalotia, Phoma, Stigmina	
Palm, Cabbage	Fusarium, Gloeosporium, Pestalotia, Stigmina	
Palm, Coconut	Pestalotia	
Palm, Date	Alternaria, Fusarium, Helminthosporium, Pestalotia	
Palm, King	Alternaria, Fusarium, Helminthosporium, Pestalotia, Phomopsis	
Palm, Phoenix	Alternaria, Cercospora, Fusarium, Gloeosporium, Pestalotia, Phomopsis, Stigmina	
Palm, Queen	Glomerella, Septoria	
Palm, Royal	Alternaria, Cercospora, Colletotrichum, Helminthosporium	

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CROP	DISEASES	REMARKS
Palm, Washington	Cercospora, Colletotrichum, Cylindrocladium, Pestalotia, Phoma, Stigmia	
Pansy	Anthrachnose, Alternaria, Botrytis, Cercospora, Colletotrichum, Peronospora, Phyllosticta, Ramularia, Rhizoctonia	
Peach	Cercospora, Cladosporium, Coryneum, Fusarium, Glomerella, Monilinia, Mycosphaerella, Phomopsis, Phyllosticta, Taphrina	
Pear (ornamental)	Fabraea Leaf Spot, Rust, Scab, Alternaria, Botrytis, Cercospora, Cladosporium, Coryneum, Elsinoe, Fusarium, Glomerella, Gymnosporangium, Helminthosporium, Monilinia, Mycosphaerella, Phomopsis, Phyllosticta, Venturia	
Peony	Phythopthora Blight, Botrytis Blight, Alternaria, Cercospora, Cladosporium, Gloeosporium, Phyllosticta, Septoria	Apply in early spring and early fall, drenching soil around plants as well as the foliage. Promptly destroy all infected plant parts.
Peperomia	Cercospora Leaf Spot, Colletotrichum, Gloeosporium, Rhizoctonia	
Petunia	Botrytis Blight, Cercospora, Puccinia, Rhizoctonia, Stemphylium	
Philodendron	Dactylaria Leaf Spot Phytophthora Leaf Spot, Colletotrichum, Gloeosporium	

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CROP	DISEASES	REMARKS
Phlox	Leaf Spot, Ascochyta, Botrytis, Cercospora, Colletotrichum, Phyllosticta, Puccinia, Septoria, Ramularia, Stemphylium, Volutella	
Photinia (Red Tip)	Entomosporium Leaf Spot, Cercospora, Gloeosporium, Gymnosporangium, Lophodermium, Pestalotia, Phyllosticta, Septoria	
Pieris	Alternaria, Pestalotia, Phyllosticta, Rhytisma	
Pilea	Alternaria, Botrytis, Cercospora, Colletotrichum, Helminthosporium, Phyllosticta	
Pine	Alternaria, Botrytis, Cronartium, Fusarium, Lophodermium, Monochaetia, Rhizoctonia, Septoria, Sirococcus	
Pine, Australia	Cyclaneusma Needle Cast	
Pine, Norfolk Island	Botrytis, Colletotrichum, Cronartium, Cylindrocladium, Fusarium, Lophodermium, Pestalotia, Rhizoctonia, Septoria, Sirococcus	
Pine Scotch	Cyclaneusma Needle Cast, Gall Rust	
Pittosporium	Alternaria Leaf Spot, Cercospora, Gnomonia, Mycosphaerella, Phyllosticta, Rhizoctonia, Septoria	
Plane Tree	Cercospora, Gnomonia, Phyllosticta, Septoria	
Pleomele	Fusarium Leaf Spot	
Plum, Ornamental	Botrytis, Cercospora, Cladosporium, Coccoomyces, Coryneum, Monilinia, Phyllosticta, Taphrina	

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CROP	DISEASES	REMARKS
Poinsettia	Sphaceloma Scab, Botrytis, Cercospora, Fusarium, Uromyces	Do not exceed 1.2qts per 100 gallons.
Poplar	Rust, Cercospora, Ciborinia, Colletotrichum, Cylindrocladium, Fusarium, Marssonina, melampsora, Mycosphaerella, Phyllosticta, Septoria, Stigmina, Taphrina, Venturia	
Portulaca	Rhizoctonia	
Pothos	Rhizoctonia	
Prayer Plant	Alternaria, Drechslera, Glomerella, Puccinia	
Primrose	Botrytis Blight, Alternaria, Colletotrichum, Mycosphaerella, Puccinia, Ramularia, Uromyces	
Privet	Cercospora, Glomerella, Phomopsis, Phyllosticta, Ramularia	
Protea	Botrytis Blight	
Pyracantha	Botrytis, Cercospora, Diplodia, Phomopsis, Phyllosticta, Sphaeropsis	
Quince, Flowering	Cercospora, Fabraea, Gymnosporangium, Septobasidium	
Quince – ornamental	Fabraea Leaf Spot, Rust, Scab	
Red Cedar, Western (Thuja)	Keithia or Didymascella	
Red Tip	See Photinia	
Redwood, Sequoia	Botrytis, Cercospora, Mycosphaerella, Pestalotia, Phomopsis	

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CROP	DISEASES	REMARKS
Rhododendron	Cercospora Leaf Spot, Discosia Leaf Spot Petal Blight, Alternaria, Coryneum, Gloeosporium, Glomerella, Guignardia, Lophodermium, Mycosphaerella, Pestalotia, Phomopsis, Rhizoctonia, Septoria, Venturia	Apply in full coverage spray at 7-10 day intervals, while flowers are opening. Direct spray into flowers and thoroughly spray ground under bushes.
Rose	Black Spot, Cercospora Leaf Spot, Rust, Alternaria, Bipolaris, Botryosphaeria, Cladosporium, Cylindrocladium, Diplocarpon, Elsinoe, Gloeosporium, Helminthosporium, Leptosphaeria, Monochaetia, Mycosphaerella, Peronospora, Phyllosticta, Septoria	
Rosemary	Rhizoctonia, Aerial Blight	
Russian Olive	Cercospora, Colletotrichum	
Sage	Cercospora, Peronospora, Puccinia, Ramularia, Rhizoctonia	
Salvia	Cercospora, Puccinia	
Santolina	Botrytis	
Senecio	Cercospora, Gloeosporium, Phyllosticta, Puccinia, Ramularia, Septoria	
Schefflera	Alternaria Blight	
Skunk bush, sumac	Cylindrosporium Leaf Spot	
Snake plant	Fusarium, Gloeosporium	



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CROP	DISEASES	REMARKS
Snapdragons	Rust, Alternaria, Bipolaris, Botrytis, Cercospora, Colletotrichum, Drechslera, Fusarium, Helminthosporium, Peronospora, Phyllosticta, Puccinia, Rhizoctonia	
Spathaphylum	Myrothecium Leaf Spot, Alternaria	
Spindle tree	See Euonymus	
Spirea	Cylindrosporium	
Spruce	Ascochyta, Botrytis, Cladosporium, Lophodermium, Rhizoctonia	
Spurge	Cercospora, Melampsora, Puccinia	
Statice	Cercospora Frogeye, Alternaria, Ascochyta, Botrytis, Cercospora, Colletotrichum, Rhizoctonia, Uromyces	
Strawflower	Rust, Fusarium	
Sumac	Cercospora, Cladosporium, Fusarium, Phyllosticta, Septoria, Taphrina	
Sunflower, Ornamental	Alternaria, Puccinia	
Syngonium	Cephalosporium Leaf Spot, Erwinia, Fusarium	
Thorn Apple	Rust	
Tulip	Botrytis Blight (fire)	
Venus Flytrap	Anthracoese, Colletotrichum	
Verbena	Alternaria, Ascochyta, Botrytis, Cercospora, Phyllosticta, Puccinia, Rhizoctonia, Septoria, Stemphylium	
Viburnum	Downy Mildew, Ramularia Leaf Spot, Botrytis, Cercospora, Cladosporium, Helminthosporium, Monochaetia, Phomopsis	

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CROP	DISEASES	REMARKS
Walnut	Anthrachnose, Cercospora, Cladosporium, Cylindrocladium, Cylindrosporium, Gnomonia	Do not use treated walnuts for food or feed purposes.
Willow	Ascochyta, Cercospora, Ciborinia, Cylindrosporium, Fusicladium, Gloeosporium, Marssonina, Melampsora, Phomopsis, Phyllosticta, Ramularia, Rhytisma, Septoria, Taphrina, Venturia	
Wisteria	Alternaria, Cercospora, Colletotrichum, Gloeosporium, Pestalotia	
Yucca	Cercospora, Cylindrosporium, Gloeosporium, Puccinia	
Zebra Plant	Alternaria, Cercospora, Colletotrichum	
Zinnia	Leaf Blight	

This product is not recommended for the treatment of Marigolds due to highly variable plant responses.

**Note:** The Directions for Use of this product given on this label reflect cumulative inputs from both field use experience and product testing programs. However, it is impossible to test this product on all ornamental plant species and cultivars. Eliminating all risks of usage associated with this product is not possible. Plant injury, non-performance, or other unanticipated results could occur due to use that is inconsistent with label directions or specific environmental conditions, as noted on the label. Abnormal environmental conditions such as excessive rain, storms or drought, use of other treatments, improper application techniques as well as many other factors that United Phosphorus, Inc. cannot control may result in lack of efficacy or compromise the performance of this product. To the extent consistent with applicable law all such risks are borne by the buyer.

Before treating any ornamental plant for prevention of infection from a listed pathogen, a preliminary trial is suggested on a small scale before a full treatment is applied. Wait 5-7 days after treatment to evaluate results.

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#### STORAGE AND DISPOSAL

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

**PESTICIDE 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 4FL. 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.

#### **CONTAINER HANDLING:**

Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying.

*[for containers less than 5 gallons]* Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

*[For containers greater than 5 gallons]* Triple rinse (or pressure rinse) as follows:

Triple Rinse: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container back on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use and disposal. Repeat this procedure two more times. Then offer for recycling or reconditioning if available, if reconditioning if available, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities. Do not cut or weld metal containers.

Pressure rinse: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after flow begins to drip. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**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.

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**IMPORTANT INFORMATION  
READ BEFORE USING PRODUCT**

**CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY**

**NOTICE:** Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product reflect the opinion of experts based on field use and tests, and must be followed carefully. It is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of United Phosphorus, Inc. or Seller. Handling, storage, and use of the product by Buyer or User are beyond the control of United Phosphorus, Inc. and Seller. To the extent consistent with applicable law, all such risks shall be assumed by Buyer and User, and Buyer and User agree to hold United Phosphorus, Inc. and Seller harmless for any claims relating to such factors.

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