

PM 21 4581-358  
**ACCEPTED**  
 APR 16 1997  
 Under the Federal Insecticide,  
 Fungicide, and Rodenticide Act,  
 as amended, for the pesticide  
 registered under  
 EPA Reg. No. 4581-358

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APPD1

# PENNCOZEB® 80WP FUNGICIDE

An 80% Coordination Product of Manganese and Zinc and Ethylenebisdithiocarbamate

**ACTIVE INGREDIENT:**

A coordination product of zinc ion and manganese ethylene bisdithiocarbamate

bisdithiocarbamate	80.0%
Manganese++	16.0%
Zinc++	2.0%
Ethylenebisdithiocarbamate ion (C <sub>4</sub> H <sub>6</sub> N <sub>2</sub> S <sub>4</sub> )	62.0%

**INERT INGREDIENTS:**

TOTAL	20.0%
	100.0%

EPA Registration No. 4581-358

EPA Establishment No. 33910-HL-01

**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.)

**STATEMENT OF PRACTICAL TREATMENT**

**IF SWALLOWED**, call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

**IF ON SKIN**, wash with plenty of soap and water. Get medical attention.

**IF IN EYES**, flush eyes with plenty of water. Call a physician if irritation persists.

Net Contents \_\_\_\_\_

Elf Atochem North America, Inc.  
 Agchem Division  
 2000 Market Street  
 Philadelphia, PA 19103

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

May cause irritation of eyes. Harmful if swallowed, inhaled, or absorbed through skin. Avoid contact with eyes, skin, or clothing.

**PERSONAL PROTECTIVE EQUIPMENT**

Applicators and other handlers must wear:

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

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**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. 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.

**CHEMICAL HAZARDS**

Do not allow to become wet during storage. This may lead to certain chemical changes which will reduce the effectiveness of the product as a fungicide and create vapors which may be flammable. Keep container closed when not in use.

**GENERAL INFORMATION**

PENNCOZEB 80WP is a wettable powder containing a coordination product of zinc ion and manganese ethylenebisdithiocarbamate, and is recommended for use as a spray for the control of many important plant diseases.

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### 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
- Waterproof gloves
- Shoes plus socks

### INSTRUCTIONS FOR APPLICATION

FOR AIR APPLICATION use at the rate indicated in sufficient water for thorough coverage, a minimum of 2 gallons per acre for field crops and 10 gallons per acre for orchard crops.

Use a Spreader Sticker at rate of 4 fl. oz. per 100 gallons spray if needed. Add product slowly to water in the spray tank with agitation, or premix thoroughly in separate holding tank for concentrate or aircraft sprayers. Continuous agitation is required to keep the product in suspension.

When dosage ranges are given, use the higher rate and shorter intervals under severe disease pressure, but do not exceed the maximum rate or apply more frequently than the minimum interval given in the directions for that crop.

### Maximum Seasonal Poundage When Used In Conjunction With One or More Other EBDC Products

#### 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 one 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 which have registered seed treatment uses.

**FIELD CROPS**

CROPS	DISEASES	RATE LBS/ACRE	DIRECTIONS
Field Corn, and Corn Grown for Seed	Common Rust Gray Leaf Spot Helminthosporium Leaf Blight	1.0-1.5	Start application at the onset of disease and repeat as needed. Do not apply more than 12 lbs. active ingredient per season (15 lbs. product.) Do not apply within 40 days of harvest.
Cotton	Rust	1.5-2.0	Start applications at the onset of disease. Apply as needed. Do not apply more than 6.4 lbs. active ingredient per season (8.0 lbs. product). Do not apply within 60 days of harvest (or after boll opening).
Peanuts	Cercospora Leaf Spot Rust	1.0-2.0	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 lbs. active ingredient (16 lbs. product) per acre per season. Do not apply within 14 days of harvest.
Sugarbeets	Cercospora Leaf Spot Rust	1.5-2.0	Begin applications when disease first threatens and repeat at 7-10 day intervals. Do not apply more than 11.2 lbs. active ingredient (14 lbs. product) per acre per season. Do not apply within 14 days of harvest.

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Wheat Barley Oats Rye	Helminthosporium Leaf Spot Septoria Leaf Spot Septoria Glume Blotch Leaf Rust Tan Spot	1.0-2.0	Start application at onset of disease or when plants are in tillering to jointing stage and repeat at 7- to 10-day intervals. Do not make more than 3 applications in one season. Do not apply more than 4.8 lbs. active ingredient (6.0 lbs. product) per acre per crop. Do not apply within 26 days of harvest. Do not graze livestock in treated areas prior to harvest. Do not apply after heading (around 10.5 Feekes).
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**VEGETABLE CROPS**

CROPS	DISEASES	RATE LBS/ACRE	DIRECTIONS
Asparagus	Rust Cercospora Leaf Spot	2.0	Begin applications when rust first appears and repeat at 10 day intervals as needed. Use only on ferns after spears have been harvested. Do not apply more than 6.4 lbs. active ingredient (8 lbs. product) per acre per season. Do not apply within 180 days of harvest. (In California and Arizona, the PHI is 120 days).
Sweet Corn, Popcorn, Sweet Corn used for seed production	Common Rust Gray Leaf Spot Helminthosporium Leaf Blight	1.0-1.5	<b>East of the Mississippi</b> (including Arkansas and Louisiana) Apply in sufficient water for thorough coverage. Start applications when disease first appears and repeat at 4-7 day intervals. Do not apply within 7 days of harvest. Do not feed treated forage (plant stalk and leaves) to livestock. Do not apply more than 18 lbs. active ingredient (22.5 lbs. product) per acre per crop.
		1.0-1.5	<b>West of the Mississippi</b> (except Arkansas & Louisiana) Apply in sufficient water for thorough coverage. Start applications when disease first appears and repeat at 4-7 day intervals. Do not apply within 7 days of harvest. Do not feed treated forage (plant stalk and leaves) to livestock. Do not apply more than 6.0 lbs. active ingredient (7.5 lbs. product) per acre per crop.

Cucumbers	Alternaria ( <i>Macrosporium</i> ) Leaf Spot Angular Leaf Spot Anthracnose Downy Mildew Pythium Fruit Rot	1.5-3.0	Begin when disease threatens or plants begin to run. Spray on a 7-10 day interval using higher rate and/or shorter intervals under severe disease pressure. Do not apply more than 19.2 lbs. active ingredient (24 lbs. product) per acre per season. Do not apply within 5 days of harvest.
Fennel	Early Blight Late Blight	1.5-2.0	Apply when disease threatens. Make applications as needed on a 7-10 day interval. Do not use more than 12.8 lbs. active ingredient per season (16 lbs. product). Do not apply within 14 days of harvest.
Melons including: cantaloupes, casabas, crenshaws, honeydews, watermelons	Alternaria Leaf Spot Anthracnose Cercospora Leaf Spot Downy Mildew Gummy Stem Blight	2.0-3.0	Apply as soon as plants begin to run or when disease threatens. Spray on a 7-10 day interval as necessary using higher rate and/or shorter intervals under severe disease pressure. Do not apply more than 19.2 lbs. active ingredient (24 lbs. product) per acre per season. Do not apply within 5 days of harvest.
Onions (Dry Bulb)	Botrytis Leaf Blight Downy Mildew Neck Rot Purple Blotch	2.0-3.0	Begin applications when diseases are first reported in the area. Repeat at 7 day intervals throughout the season. Do not apply within 7 days of harvest; do not apply to exposed bulbs. Do not apply more than 24.0 lbs. active ingredient (30 lbs. product) per acre per crop.
Onions (Furrow Drench)	Smut	3.0	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 lbs. active ingredient (3.0 lbs. product) per 29,000 linear feet of row (18 inch spacing). Do not use in California.

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Potatoes	Early Blight Late Blight	1.0-2.0	Begin applications when plants are 4-6 inches high, and repeat at 5-10 day intervals, (more frequently under severe disease conditions) throughout the season. Do not apply more than 11.2 lbs. active ingredient (14 lbs. product) per acre per crop. Do not apply within 14 days of harvest in Arkansas, Arizona, Georgia, Hawaii, Iowa, Kentucky, Louisiana, Mississippi, New Mexico, Oklahoma, South Carolina, Tennessee, West Virginia and Wyoming, and within 3 days elsewhere. <b>It is recommended that this product be used within an Integrated Pest Management Program. Vine kill should occur 14 days before harvest.</b>
Potato Tuber Treatment	Fusarium Seed Piece Decay		Dip whole or cut seed pieces in mixture of 1 1/4 lbs. of product per 50 gallons of water, drain and plant immediately. If seed pieces are to be held before planting, spread out to dry in a cool place. Do not use treated seed pieces for food or feed purposes.
Squash (Summer)	Anthracoese Downy Mildew	2.0-3.0	Begin when plants start to run. Spray on a 7-10 day interval as needed using higher rate and/or shorter intervals under severe disease pressure. Do not apply more than 19.2 lbs. active ingredient (24 lbs. product) per acre per season. Do not apply within 5 days of harvest.

Tomatoes	Anthracnose Early Blight Late Blight Gray Leaf Mold Gray Leaf Spot Septoria Leaf Spot	0.75-3.0	<b>East of the Mississippi</b> Begin applications when seedlings emerge or transplants are set. Repeat applications of 0.6- 1.2 lbs active ingredient per acre (0.75-1.5 lbs product) at 3-7 day intervals, or 1.2-2.4 lbs active ingredient per acre (1.5-3.0 lbs product) at 7-10 day intervals throughout the season. Do not apply within 5 days of harvest. Do not apply more than 16.8 lbs. active ingredient (21 lbs. product) per acre per crop.
		0.75-2.0	<b>West of the Mississippi</b> Begin applications when seedlings emerge or transplants are set. Repeat applications of 0.6- 0.8 lbs active ingredient per acre (0.75-1.0 lbs product) at 3-7 day intervals, or 1.2-1.6 lbs active ingredient per acre (1.5-2.0 lbs product) at 7-10 day intervals throughout the season. Do not apply more than 6.4 lbs. active ingredient (8 lbs. product) per acre per season. Do not apply within 5 days of harvest.



## FRUIT CROPS

CROPS	DISEASES	RATE LBS/ACRE	DIRECTIONS
<p><b>FOR POME FRUITS</b>            Use either the "Pre-Bloom" or "Extended Application" schedules  <b>DO NOT COMBINE OR INTEGRATE THE TWO TREATMENT SCHEDULES.</b></p>			
Apples Crabapples Pears Quince	Rusts (including Cedar apple) Fabraea Leaf Spot Flyspeck Scab Sooty Blotch	6.0 or (1.5 lbs per 100 gal. in a dilute spray)       3.0 or (0.75 lbs. per 100 gal. in a dilute spray)	<p><b>PRE-BLOOM:</b> Begin applications at 1/4 to 1/2 inch green tip and continue on a 7- to 10-day application schedule through bloom. Do not apply more than 19.2 lbs. active ingredient (24 lbs. product) per acre per year. Do not graze livestock in treated areas.</p> <p><b>EXTENDED APPLICATION OR TANK MIX:</b> 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 1/2 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 within 77 days of harvest. Do not apply more than 16.8 lbs. active ingredient (21 lbs. product) per acre per year. Do not graze livestock in treated areas. <b>It is recommended that this product be used in an Integrated Pest Management Program.</b></p>
Bananas	Sigatoka	2.0-3.0	Apply when leaves first appear and repeat as needed on a 14-21 day interval. Do not apply more than 24 lbs. active ingredient (30 lbs. product) per acre per season. May be applied up to the day of harvest.
Cranberries	Fruit Rot	3.0-6.0	Begin applications at mid-bloom and repeat at 7-10 day intervals. Do not apply within 30 days of harvest. Do not apply more than 14.4 lbs. active ingredient (18 lbs. product) per acre per season.

Grapes	Black Rot Bunch Rot Deadarm Downy Mildew	1.5-4.0 or (0.375-1.0 lbs. per 100 gal. in a dilute spray)	<b>East of the Rocky Mountains</b> Apply when shoots are 1/2 to 1 1/2 inches long. Continue at 7-10 day intervals. Do not apply within 66 days of harvest. Do not apply more than 19.2 lbs. active ingredient (24 lbs. product) per acre per season.
		1.5-2.5 or (0.375-0.625 lbs. per 100 gal. in a dilute spray)	<b>West of the Rocky Mountains</b> Apply when shoots are 1/2 to 1 1/2 inches long. Continue at 7-10 day intervals. Do not apply within 66 days of harvest. Do not apply more than 6.0 lbs. active ingredient (7.5 lbs. product).  <b>California</b> —Do not apply after bloom.
Papayas	Anthracnose Phytophthora Fruit Rot Black Spot (Cercospora)	1.5-2.5 or (0.375- 0.625 lbs. per 100 gal. in a dilute spray)	Apply first when disease pressure threatens and continue on a 14-21 day interval. Do not apply more than 28 lbs. active ingredient (35 lbs. product) per acre per season. Applications can be made up to the day of harvest.

**MISCELLANEOUS**

CROPS	DISEASES	RATE LBS/ACRE	COMMENTS
Christmas Trees (Conifer)	Lophodermium needle cast Pine gall rust Scirrhia brown spot	1.5 lbs. Per 100 gals. dilute spray	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		

**CHEMIGATION**

**NOT FOR THIS USE IN CALIFORNIA**

**GENERAL INSTRUCTIONS**

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

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

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

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.

Do not connect chemigation system to any public water system. Public water system means a system for the provision of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.

**SYSTEM REQUIREMENTS**

Systems utilizing a pressurized water and pesticide injection system must meet the following requirements:

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

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.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

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.

**INSTRUCTIONS FOR SPRINKLER (OVERHEAD) IRRIGATION:**

Observe the requirements in the System Requirements section.

Do not apply when wind speed favors drift beyond the area intended for treatment. Apply PENNCOZEB 80WP only through systems containing anti-syphon and check valves designed to prevent water source contamination or overflow of the mix tank and containing interlocking controls between the metering device and the water pump to insure simultaneous shut-off.

Maintain a gentle continuous agitation in mix tank during mixing and application to assure a uniform suspension.

Greater accuracy in calibration and distribution will be achieved by injecting a larger volume of a more dilute suspension per unit time.

Application of more than recommended quantities of irrigation water per acre may result in decreased product performance.

Do not apply when wind speed favors drift, when system connections or fittings leak, when nozzles do not provide uniform distribution or when lines containing the product cannot be flushed and must be dismantled and drained. In a center pivot system, block the nozzle set nearest the well/pivot/injection unit to prevent spray being applied to this area.

Where sprinkler distribution patterns do not overlap sufficiently, unacceptable disease

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control may result.

Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water.

PENNCOZEB 80WP may be applied in conjunction with chemically neutral liquid fertilizers. Application in conjunction with highly alkaline fertilizers, such as aqueous ammonia, may cause a degradation of the pesticide, resulting in reduced performance and should be avoided.

Check local restrictions and requirements regarding sprinkler irrigation applications, as they may vary from state to state.

**SPRAY PREPARATION:**

Remove scale, pesticide residues, and other foreign matter from the chemical tank and entire injector system. Flush with clean water.

Prepare a suspension of PENNCOZEB 80WP in a mix tank. Fill the tank with 1/2 or 3/4 the desired amount of water. Start mechanical or hydraulic agitation. Slowly add the required amount of PENNCOZEB 80WP and then the remaining volume of water.

**APPLICATION INSTRUCTIONS:**

Set sprinkler system to deliver 0.1 to 1.25 inches of water per acre. Volumes of water higher than this may reduce efficacy. Start sprinkler and then uniformly inject the suspension of PENNCOZEB 80WP into the irrigation water line so as to deliver the desired rate per acre. The suspension of PENNCOZEB 80WP should be injected with a positive displacement pump into the main line ahead of a right angle turn to insure adequate mixing.

**NOTE:** When treatment with PENNCOZEB 80WP has been completed, do not irrigate the treated area for 24 to 48 hours to prevent washing the chemical off the crop.

**STORAGE AND DISPOSAL**

**Storage Instructions:** Store in the original container in a dry area. If allowed to become wet the product will deteriorate and represent a fire hazard. Keep away from sources of ignition (e.g. sparks and open flame). Close bag when not in use. Do not store in a manner where cross-contamination with other pesticides, fertilizers, food or feed could occur. If spilled during storage or handling sweep up spillage and dispose of in accordance with the Pesticide Disposal Instructions listed below.

**Pesticide Disposal Instructions:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

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

**WARRANTY AND DISCLAIMER**

Elf Atochem North America 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. ELF ATOCHEM MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY. IN NO CASE SHALL ELF ATOCHEM 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. Elf Atochem and seller offer this product and the buyer and user accept it subject to the foregoing conditions of sale and warranty which may be varied only by agreement in writing signed by a duly authorized representative of Elf Atochem.