

83472-4

1/20/2011

1/24

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



OFFICE OF
CHEMICAL SAFETY AND
POLLUTION PREVENTION

Peter Alvitre
Plant Protectants, LLC
35801 RD 132
Visalia, CA 93292

JAN 20 2011

Dear Mr. Alvitre:

SUBJECT: Manco-Phyte DF
EPA Registration Number 83472-4
Your submission of January 13, 2011
OPPIN decision number 441770

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

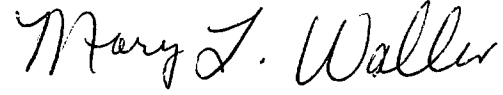
1. On Page 9, under the heading Foliar Applications, change the heading "Where EBDC Products are Used Allow . . ." to "Where EBDC Products Used Allow . . ."
2. On Page 10, under the heading Foliar Applications, change the heading "Where EBDC Products are Used Allow . . ." to "Where EBDC Products Used Allow . . ."

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 Assurance. As an alternative, you may refer consumers to the company's phone number or e-mail.

Additionally, we have verified that the storage stability and corrosion characteristic product chemistry requirements have been satisfied. In future submissions, please use font 11 points or larger throughout the label for all text. Please submit one copy of your final printed labeling before the product is released for shipment.

A stamped copy of the label is enclosed for your records. If you have any questions, please contact Lisa Jones on my team at (703) 308-9424 or jones.lisa@epa.gov.

Sincerely yours,



Mary L. Waller
Product Manager (21)
Fungicide Branch
Registration Division (7504P)

Enclosure: Stamped label

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Manco-Phite DF Fungicide

Active Ingredients

mancozeb: A coordination product of zinc ion and manganese ethylene bisdithiocarbamate.....	50.02%
In which the ingredients are:	
Manganese++	10.00%
Zinc++	1.26%
Ethylene bisdithiocarbamate ion (C ₄ H ₆ N ₂ S ₄)	38.74%
Mono- and di-potassium Phosphite.....	31.00%
Other Ingredients	18.98%
Total	100.00%

EPA Reg. No. 83472-4
EPA Est. No.

Net Contents: _____ [pounds] [lbs.] [kilograms] [kgs]

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

See [Back] [Side] [Other] Panel for Precautionary Statements

**ACCEPTED
with COMMENTS
In EPA Letter Dated:**

1/20/2011

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

83472-4

First Aid

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

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

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

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

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-424-9300 day or night, for emergency treatment information.

Precautionary Statements

Hazards to Humans and Domestic Animals.

CAUTION

Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for Category A on an EPA chemical resistance category selection chart.

Mixers, Loaders, Applicators and other handlers must wear:

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

User Safety Requirements

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

Engineering Controls

Enclosed cockpits: 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) (4-6)].

Mechanical flagging: Human flagging is prohibited. Flagging to support aerial application is limited to use of Global Positioning Systems (GPS) or mechanical flaggers.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- 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, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash waters or disposing of wastes. For seed treatment products- cover or incorporate spilled treated seed.

Notice: Read the entire label. Use only according to label directions. **Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies elsewhere on this label**

If you wish to obtain additional product information, visit our website at www.plantprotectants.com.

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
- 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.
 Applications to golf courses, industrial (office park) and municipal lawns are not within the scope of the Worker Protection Standard.

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

Storage and Disposal
 Do not contaminate water, food or feed during storage or disposal.
Pesticide Storage: Keep away from fire and sparks. Store in a cool, dry, well ventilated area. Do not allow stored product to become wet or overheated in storage; decomposition, impaired activity, or fire may result. Keep container closed when not in use.
 Do not stack pallets of containers more than three pallets high. Provide access aisle for each two rows. Decomposition produces a foul odor; if observed, check for hot containers and immediately remove to open areas for disposal.
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:
[For rigid containers smaller than 5 gallons:]
 [Container Handling: Nonrefillable container. Do not reuse or refill this container. 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.
 Triple rinse or pressure rinse container (or equivalent) promptly after emptying.
 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 1/4 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.
 Pressure rinse as follows: 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 the flow begins to drip.]
[For containers 5 gallons or larger in size:]
 [Nonrefillable container. Do not reuse or refill this container. 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. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

Triple rinse as follows:

Empty the remaining contents into application equipment or a mix tank.

Fill the container 1/4 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 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 or disposal. Repeat this procedure two more times.

Pressure rinse as follows: 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 the flow begins to drip.]

Read all Directions for Use carefully before applying.

Product Use Information

Manco-Phite™ DF is a dry flowable fungicide containing mancozeb, a coordination product of zinc ion and manganese ethylene-bisdithiocarbamate and mono- and di-potassium phosphite. With two active ingredients, Manco-Phite DF provides broad-spectrum control of many important plant diseases. Optimum disease control is achieved when the fungicide is applied in a regularly scheduled preventative 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.

Make applications prior to disease development in conjunction with good cultural management practices. Do not exceed the use rates or apply more frequently than the specified interval or plant injury can occur. Do not apply to plants that are dormant or heat or moisture stressed. To avoid undesirable copper phytotoxicity, do not make foliar applications to plants treated with copper-based compounds at less than 20 day intervals except as specifically directed in the crop recommendation sections or as instructed to do so by your crop consultant. Allow foliage to dry completely after application. Do not apply when conditions favor wet tissue for prolonged periods (>4 hours).

Use Rate Determination

- Carefully read, understand, and follow label use rates and restrictions.
- When two pesticides are tank mixed, the more restrictive labeling of tank mix partners applies.
- Do not tank mix with any product which contains a prohibition on tank mixing.
- Under low disease conditions, use minimum label rates per application and use maximum label rates and the minimum retreatment interval for severe disease conditions.
- For proper application, determine the number of acres to be treated, the recommended label use

rate and the gallonage to be applied per acre. Prepare only the amount of spray solution required to treat the measured acreage. Careful calibration of spray equipment is recommended prior to use.

- When applied by hand sprayers, 1 pound Manco-Phite DF per 100 gallons per acre is equivalent to 1 level tablespoon per gallon spray solution.

Mixing Procedures

Slowly place into spray tank as it is being filled or thoroughly premix in a nurse tank for concentrate or aircraft sprayers. Add other co-applied fungicides, insecticides, growth regulators, micronutrients, and spray adjuvants after Manco-Phite DF 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

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

Spray Adjuvants

The addition of agricultural surfactants to Manco-Phite DF sprays will improve initial spray deposits, fungicide redistribution and weatherability. For dilute applications by ground equipment, use a nonionic surfactant that resists re-wetting and removal by rain. For concentrate and low volume sprays applied by aircraft or ground equipment use a spreader-sticker.

Place Manco-Phite DF 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, chemigation) can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

Wind Speed: Do not apply at wind speeds greater than 15 mph.

Temperature Inversion: If applying at wind speeds less than 3 mph, 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.

Other State and Local Requirements: Applicators must follow all state and local pesticide drift requirements.

Equipment: Ensure aerial and ground application equipment is properly maintained and calibrated.

Additional Requirements for Aerial Applications:

1. The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.
2. 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.
3. 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 Ground Boom Applications:

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

Application Instructions

Ground

Use sufficient water to provide thorough coverage: use 20 to 100 gallons per acre finished spray by ground unless otherwise directed in the specific crop use instructions. Thorough coverage foliar sprays generally result in optimum disease control. To achieve good coverage use proper spray pressure, gallonage per acre, nozzles (generally hollow cone), disc (generally D-5 to D-7), nozzle spacing, and tractor speed. Consult spray nozzle and accessory catalogues for specific information on proper equipment calibration.

Hand Sprayers

Thoroughly spray plant foliage until runoff.

Aerial

A uniform initial spray deposit over the crop canopy generally results in optimum disease control. Precheck each aircraft for droplet size, uniformity of spray pattern, swath width, and spray volume. During aerial application, human flaggers are prohibited.

Nozzle selection: Hollow cone brass nozzles with a D-series orifice disc and core (whirlplate) are recommended. Nozzles should point straight down or slightly backward.

Swath width: For most field and vegetable crops, swaths just beyond the wingspan of 36 to 40 feet for light aircraft and up to 45 feet for heavier aircraft are suggested. Optimum swath for helicopters is usually 5 to 10 feet beyond normal boom length.

Spray volume: Aerial applications are to be made in a minimum of two (2) gallons of water per acre. On vegetable and field crops, use 2 to 3 gallons of spray; on orchards and vineyards use 5-10 gallons of spray per acre. Tall or dense foliage crops requiring greater penetration to the lower leaf surface will require higher spray volumes. Do not use less than 5 gallons per acre in California.

Altitude: For most crops, position the spray boom 5 to 10 feet above the crop canopy.

Flagging: Mark swaths at the end of the field with permanent flags. Measure swaths accurately with a chain or other device except when rows can be accurately counted.

Chemigation Use Directions

Sprinkler Irrigation

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

General Requirements

- Apply Manco-Phite DF only through sprinkler irrigation systems including center-pivot, lateral move, end tow, side (wheel) roll, traveler, solid set, or hand move irrigations systems. Do not apply product through any other type of irrigation system.
- Lack of fungicidal effectiveness or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.
- If you have questions about calibration, you should contact State Extension Service specialist, 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 system are in place.
- A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Specific Chemigation Equipment Requirements

Before applying Manco-Phite DF through sprinkler irrigation equipment, the chemigation system must meet the following specifications:

- Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- Chemigation systems connected to public water systems must contain a functional reduced-pressure zone (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.
- The irrigation line or water pump must include a functional pressure switch that 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.
- 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 the size of the 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 Manco-Phite DF required for the treatment area.
- Add the required amount of Manco-Phite DF 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 Manco-Phite DF 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 Manco-Phite DF required for the treatment area.
- Add the required amount of Manco-Phite DF into the same quantity of water used to calibrate the injection equipment.
- Maintain constant solution tank agitation during the injection period.
- Operate system at normal pressures recommended by the manufacturer of the injection equipment and used for the time interval established during calibration.
- Inject Manco-Phite DF 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 Manco-Phite DF solution has cleared the last sprinkler head.

Disease Monitoring

Manco-Phite DF is a broad-spectrum, protectant fungicide. If not applied on a routine protectant spray schedule, crops should be scouted on a weekly basis. Apply fungicide at the required 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.

Foliar Applications

Where EBDC Products are 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 anyone of the specified individual EBDC product maximum seasonal poundage of active ingredient allowed per acre.

Where EBDC Products are 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.

Pome Fruits

Not intended for use on fruit trees by homeowners. Use either the "Pre-Bloom/Bloom Use" or "Extended Application" schedule.

Do not combine or integrate the two treatment schedules. It is recommended that this product be used in an Integrated Pest Management Program (IPM).

Crop	Diseases Controlled	Manco-Phite DF Rate per Application (lb/acre)	Remarks (Also Refer to Directions for Use)	Restrictions ¹
Apples Crabapples Pears Quince	Fabrea leaf spot Flayspeck Rusts Scab Sootyblotch	9.0*	Pre-Bloom/Bloom Use: Begin applications at 1/4- to 1/2-inch green tip and continue on a 7- to 10-day schedule through bloom. Use a minimum of 50 gallons spray volume per acre.	<ul style="list-style-type: none"> Do not apply more than 9.0 lb Manco-Phite DF (4.5 lb ai (mancozeb)) per acre per application. Do not apply after bloom. Do not apply more than 36 lb Manco-Phite DF (18.0 lb ai (mancozeb)) per acre per year. Do not graze livestock in treated areas.
		4.5*	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 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. Use a minimum of 50 gallons spray volume per acre.	<ul style="list-style-type: none"> Do not apply more than 4.5 lb Manco-Phite DF (2.25 lb ai (mancozeb)) per acre per application. Do not apply within 77 days of harvest. Do not apply more than 31.5 lb Manco-Phite DF (15.75 lb ai (mancozeb)) per acre per year. Do not graze livestock in treated areas.
	Fire Blight Suppression		Commence from flowering for Fire Blight Suppression in combination with registered antibiotics.	

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

Fruits

Crop	Diseases Controlled	Manco-Phite DF Rate per Application (lb/acre)	Remarks (Also Refer to Directions for Use)	Restrictions
Bananas	Sigatoka	3 to 4.5	Apply when leaves first appear and repeat every 14 to 21 days or as required. Use sufficient water to provide adequate coverage.	<ul style="list-style-type: none"> Do not apply more than 4.5 .0 lb Manco-Phite DF (2.25 lb ai (mancozeb)) per acre per application. Do not apply more than 45 lb Manco-Phite DF (22.5 lb ai (mancozeb)) per acre per year. Applications can be made up to the day of harvest.
Cranberries	Fruit rot	4.5 to 9	Start applications at early-bloom and repeat at 7- to 10-day intervals as required.	<ul style="list-style-type: none"> Do not apply more than 9.0 lb Manco-Phite DF (4.5 lb ai (mancozeb)) per acre per application. Do not apply within 30 days of harvest. Do not apply more than 27 lb Manco-Phite DF (13.5 lb ai (mancozeb)) per acre per year.
Grapes	Black rot Bunch rot Phomopsis Downy mildew	2.25 to 3.75 West of the Rocky Mountains 2.25 to 6 East of the Rocky Mountains	Apply in sufficient water to provide thorough coverage starting when new shoots are 1/2 to 1 1/2 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. For late season control of black rot, phomopsis and downy mildew, the use of other approved and recommended fungicides is suggested.	<ul style="list-style-type: none"> In California, do not apply after bloom. In other areas, do not apply within 66 days of harvest. <p>West of the Rocky Mountains:</p> <ul style="list-style-type: none"> Do not apply more than 3.75 lb Manco-Phite DF (1.88 lb active (mancozeb)) per acre per application. Do not apply more than 11.25 lb Manco-Phite DF (5.6 lb ai (mancozeb)) per acre per year. <p>East of the Rocky Mountains:</p> <ul style="list-style-type: none"> Do not apply more than 6 lb Manco-Phite DF (3.0 lb ai (mancozeb)) per acre per application. Do not apply more than 36 lb Manco-Phite DF (18 lb ai (mancozeb)) per acre per year.
Papayas	Anthracnose Blackspot Phytophthora fruit rot Cercospora	3 to 3.75	Start applications at flowering and continue at 14- to 21-day intervals. Direct spray to crown and blossom area. Apply in a minimum of 50 gallons spray volume per acre	<ul style="list-style-type: none"> Do not apply more than 3.75 lb Manco-Phite DF (1.88 lb ai (mancozeb)) per acre per application. Do not apply more than 56 lb Manco-Phite DF (28 lb ai (mancozeb)) per acre per year. Do not make more than 14 applications per year. Applications may be made up to the day of harvest.
Plantains	Refer to Bananas			

Vegetables

Crop	Diseases Controlled	Manco-Phite DF Rate per Application (lb/acre)	Remarks (Also Refer to Directions for Use)	Restrictions
Asparagus	Cercospora leaf spot Rust	3.0	Start applications when rust first appears and repeat at 10-day intervals. Four applications are usually sufficient.	<ul style="list-style-type: none"> Apply only on asparagus ferns after spears have been harvested. Do not apply more than 3 lb Manco-Phite DF (1.5 lb ai (mancozeb)) per acre per application. Do not apply more than 12 lb Manco-Phite DF (6.0 lb ai (mancozeb)) per acre per year. Do not apply within 120 days of harvest in California and Arizona, or within 180 days in all other states.
Corn (Sweet corn for fresh use or processing; popcorn; and sweet corn for seed production, including hybrid seed)	Common rust Gray Leaf Spot Helminthosporium leaf blight	2.25	Use sufficient water for thorough coverage. Start applications when disease first appears and repeat at 4- to 7-day intervals.	<ul style="list-style-type: none"> Do not apply within 7 days of harvest. Do not feed treated forage to livestock. Do not apply more than 2.25 lb Manco-Phite DF (1.125 lb ai (mancozeb)) per acre per application. East of the Mississippi River, Arkansas and Louisiana, do not apply more than 34 lb Manco-Phite DF (17 lb ai (mancozeb)) per acre per year. West of the Mississippi River, (except Arkansas and Louisiana), do not apply more than 11.25 lb Manco-Phite DF (5.6 lb ai (mancozeb)) per acre per year. Field and Field Corn for Hybrid Seed Production: Do not apply within 40 days of harvest. Do not apply more than 22.5 lb Manco-Phite DF (11.25 lb ai (mancoze)) per acre per year.
Cucumbers	Alternaria leaf spot (Macrosporium) Anthracnose Cercospora leaf spot Downy mildew Gummy stem blight Microdochium blight ¹ Scab	2.25 to 4.5	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.	<ul style="list-style-type: none"> Do not apply within 5 days of harvest. Do not apply more than 4.5 lb Manco-Phite DF (2.25 lb ai (mancozeb)) per acre per application. Do not apply more than 36 lb Manco-Phite DF (18 lb ai (mancozeb)) per acre per year.

Crop	Diseases Controlled	Manco-Phite DF Rate per Application (lb/acre)	Remarks (Also Refer to Directions for Use)	Restrictions
Gourds, edible	Refer to Summer Squash			
Melons Cantaloupes Casaba Crenshaw Honeydew	Alternaria leaf spot Anthracnose Cercospora leaf spot Downy mildew Gummy stem blight Microdochium blight ¹	3 to 4.5	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 Manco-Phite DF. Consult State Cooperative Extension Service Specialist prior to use.	<ul style="list-style-type: none"> Do not apply within 5 days of harvest. Do not apply more than 4.5 lb Manco-Phite DF (2.25 lb ai (mancozeb)) per acre per application. Do not apply more than 36 lb Manco-Phite DF (18 lb ai) per acre per year.
Onions (dry bulb) Garlic Shallots	Botrytis leaf blight Downy mildew Neck rot Purple blotch Rust	4.5	Follow a protective spray schedule starting when diseases are first reported in the area and repeat at 7-day intervals throughout the season. Do not allow spray or drift to contact bulbs after lifting from soil. Use a minimum of 10 gallons spray volume per acre by air and 30 gallons per acre by ground.	<ul style="list-style-type: none"> Do not apply within 7 days of harvest. Do not apply more than 4.5 lb Manco-Phite DF (2.25 lb ai (mancozeb)) per acre per application. Do not apply more than 45 lb Manco-Phite DF (22.5 lb ai (mancozeb)) per acre per year. Do not apply to exposed bulb.

¹ Not approved for use on this pest species in California.

Crop	Diseases Controlled	Manco-Phite DF Rate per Application (lb/acre)	Remarks (Also Refer to Directions for Use)	Restrictions
Onions (furrow drench)	Damping-off Seed rots Seedling blights Smut	4.5	Apply 4.5 lb Manco-Phite DF per acre as a furrow drench at time of planting onion seeds. Use 75 to 125 gallons water per acre.	<ul style="list-style-type: none"> Do not use more than 4.5 lb Manco-Phite DF (2.25 lb ai (mancozeb)) per acre (29,000 linear feet of furrow) with 18-inch row spacing. Do not use in California.
Potatoes	Early blight Late blight	1.5 to 3	Begin applications when plants are 4 to 6 inches high by applying 0.75 to 1.5 lb/acre. As the vines increase in size, apply 2.25 to 3 lb/acre at 5- to 10-day intervals or apply 1.1 to 1.5 lb/acre at 3- to 5-day intervals. It is recommended that this product be used within an Integrated Pest Management Program. Also, vine-kill should occur 14 days before harvest.	<ul style="list-style-type: none"> Do not apply more than 3 lb Manco-Phite DF (1.5 lb ai (mancozeb)) per acre per application. Do not apply more than 22.4 lb Manco-Phite DF (11.2 lb ai (mancozeb)) per acre per year. Do not apply within 3 days of harvest in Connecticut, Florida, Maine, Massachusetts, New Hampshire, New York, Ohio, Pennsylvania, Vermont and Wisconsin and at least 14 days elsewhere.
Seed Piece (treatment)	Fusarium decay Late blight Seedborne common scab Rhizoctonia shoot blight Sliver scurf	See "Remarks"	Dip whole or cut potato tubers in 1.88 lb Manco-Phite DF per 50 gallons of water. Place treated tubers in a clean container following treatment and plant as soon as possible. Spread treated seed pieces in a cool place if held before planting.	<ul style="list-style-type: none"> Do not use treated seed potatoes for food or feed purposes. Seed-pieces that have been treated with this product that are then packaged or bagged for future use must be colored with an EPA-approved dye to impart an un-natural color and must contain the following labeling on the outside of the seed-piece package or bag: "Treated Seed Pieces: Seed pieces have been treated with the fungicides, mono- and di-potassium phosphate and mancozeb. When opening this bag or loading/pouring the treated seed-pieces, wear long-sleeved shirt, long pants, shoes, socks, chemical resistant gloves, and a NIOSH-approved respirator with a dust/mist filter with MSHA/NIOSH approval number prefix TC-21C or any R, P, or HE filter. Do not use for food, feed or oil purposes. After the seed-pieces 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 seed-pieces 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."

Crop	Diseases Controlled	Manco-Phite DF Rate per Application (lb/acre)	Remarks (Also Refer to Directions for Use)	Restrictions
Squash, summer (including edible gourd)	Anthracnose Downy mildew Microdochium blight ¹	3.0 to 4.5	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.	<ul style="list-style-type: none"> Do not apply within 5 days of harvest. Do not apply more than 4.5 lb Manco-Phite DF (2.25 lb ai (mancozeb)) per acre per application. Do not apply more than 36 lb Manco-Phite DF (18 lb ai (mancozeb)) per acre per year.
Tomatoes	Anthracnose Early blight Gray leaf spot Late blight Leaf mold Septoria leaf spot	1.1 to 1.5 West of the Mississippi River 1.1 to 2.25 East of the Mississippi River	Start applications when seedlings emerge or transplants are set and repeat at 7- to 10-day intervals throughout the season.	<ul style="list-style-type: none"> Do not apply within 5 days of harvest. <p>West of the Mississippi River:</p> <ul style="list-style-type: none"> Do not apply more than 1.5 lb Manco-Phite DF (0.75 lb ai (mancozeb)) per acre per application. Do not apply more than 12.8 lb Manco-Phite DF (6.4 lb ai (mancozeb)) per acre per year. <p>East of the Mississippi River:</p> <ul style="list-style-type: none"> Do not apply more than 2.25 lb Manco-Phite DF (1.1 lb ai (mancozeb)) per acre per application. Do not apply more than 33.6 lb Manco-Phite DF (16.8 lb ai (mancozeb)) per acre per year.
Tomatoes	Bacterial speck and spot	2.25 to 3 West of the Mississippi River 2.25 to 4.5 East of the Mississippi River	Start applications when seedlings emerge or transplants are set and repeat at 7- to 10-day intervals throughout the season.	<ul style="list-style-type: none"> Do not apply within 5 days of harvest. <p>East of the Mississippi River:</p> <ul style="list-style-type: none"> Do not apply more than 4.5 lb Manco-Phite DF (2.25 lb ai (mancozeb)) per acre per application. Do not apply more than 33.6 lb Manco-Phite DF (16.8 lb ai (mancozeb)) per acre per year. <p>West of the Mississippi River:</p> <ul style="list-style-type: none"> Do not apply more than 3 lb Manco-Phite DF (1.5 lb ai (mancozeb)) per acre per application. Do not apply more than 12.8 lb Manco-Phite DF (6.4 lb ai (mancozeb)) per acre per year.

Crop	Diseases Controlled	Manco-Phite DF Rate per Application (lb/acre)	Remarks (Also Refer to Directions for Use)	Restrictions
Watermelons	Alternaria leaf spot Anthracnose Cercospora leaf spot Downy mildew Gummy stem blight Microdochium blight ¹ Scab	3.0 to 4.5	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.	<ul style="list-style-type: none"> • Do not apply within 5 days of harvest. • Do not apply more than 4.5 lb Manco-Phite DF (2.25 lb ai (mancozeb)) per acre per application. • Do not apply more than 36 lb Manco-Phite DF (18 lb ai (mancozeb)) per acre per year.
Sugar beets	Cercospora leaf spot Rust	2.25 to 3	Start applications when disease first threatens and repeat every 7- to 10-days as needed.	<ul style="list-style-type: none"> • Do not apply within 14 days of harvest. • Do not apply more than 3 lb Manco-Phite DF (1.5 lb ai (mancozeb)) per acre per application. • Do not apply more than 21 lb Manco-Phite DF (10.5 lb ai (mancozeb)) per acre per year. • Do not feed treated sugar beet tops to livestock.
Peanuts	Cercospora leaf spot Rust	1.5 to 3	Start applications when disease first appears or is reported in area. Repeat sprays at 7- to 14-day intervals. Reduce sprays to a 7 day interval during humid weather.	<ul style="list-style-type: none"> • Do not apply within 14 days of harvest. • Do not apply more than 3 lb Manco-Phite DF (1.5 lb ai (mancozeb)) per acre per application. • Do not use more than 24 lb Manco-Phite DF (12 lb ai (mancozeb)) per acre per year. • Do not feed treated vines to livestock.

¹ Not approved for use on this pest species in California.

Field Crops

Crop	Diseases Controlled	Manco-Phite DF Rate per Application (lb/acre)	Remarks (Also Refer to Directions for Use)	Restrictions
Barley	Refer to Wheat			
Hybrid seed corn	Common corn rust Helminthosporium leaf blight Gray leaf spot	2.25	Start applications when disease symptoms first appear and, depending on severity of infection, continue on a 4- to 7-day schedule.	<ul style="list-style-type: none"> • Do not apply more than 2.25 lb Manco-Phite DF (1.125 lb ai (mancozeb)) per acre per application. • Do not apply more than 22.5 lb Manco-Phite DF (11.25 lb ai (mancozeb)) per acre per year. • Do not apply within 40 days of harvest.
Oats	Refer to Wheat			
Rye	Refer to Wheat			
Wheat	Helminthosporium leaf spot Leaf rust Septoria glume blotch Septoria leaf spot Tan spot	3	Start applications at onset of disease or when plants are in the tillering to jointing stage and repeat at 7- to 10-day intervals.	<ul style="list-style-type: none"> • Do not make more than three applications during the season. • Do not apply more than 3 lb Manco-Phite DF (1.5 lb ai (mancozeb)) per acre per application. • Do not apply after Feekes growth stage 10.5 (typically 35-45 days) but not less than 26 days before harvest. • Do not graze livestock in treated areas prior to harvest. • Do not apply more than 9 lb Manco-Phite DF (4.5 lb ai (mancozeb)) per acre per year.
Triticale	Refer to Wheat			

Miscellaneous

Crop	Diseases Controlled	Manco-Phite DF Rate per Application	Remarks (Also Refer to Directions For Use)
Asparagus crowns	Crown rot	1.5 lb per 100 gal	Place loosely packed crowns into a burlap bag and soak, with gentle agitation, in the fungicide solution for 5 minutes. Remove bag, drain well, and plant crowns as soon as possible. A tank large enough to hold a single burlap bag will treat 2 bags of crowns. Clean dipping suspension should then be prepared in a clean tank. Dirty crowns should be pre-washed to remove excess soil.
Caprifig (Non-Food Use)	Assorted molds Endosepsis (Fusarium)	1.5 lb per 25 gal	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	1.5 to 3 lb per acre	Begin application in spring or early summer before infection occurs. Repeat after heavy rains and at two-week intervals as long as needed.
Douglas Fir	Swiss needle cast		

Turf

Commercial Sod Farms, golf courses, industrial and commercial lawns and other similar nonresidential areas. [Not for Use by Homeowners].

Restrictions:**Sod Farm Turf:**

- Harvesting of treated turf is prohibited until 5 days following application.
- Limit to a maximum of 4 applications per year and a maximum rate of 34.8 lb of product per acre (17.4 lb ai (mancozeb)/A) per application.
- Minimum interval between applications is 10 days.

Golf Courses:

- For cool season grasses; greens, tees and aprons - limit to a maximum of 5 applications per year at a maximum application rate of 34.8 lb of product per acre (17.4 lb ai (mancozeb)/A) per application.
- For cool season grasses; fairways - limit to a maximum of 4 applications per year at a maximum application rate of 34.8 lb of product per acre (17.4 lb ai (mancozeb)/A) per application.
- For warm season grasses; greens, tees and aprons - limit to a maximum of 4 applications per year at a maximum application rate of 34.8 lb of product per acre (17.4 lb ai (mancozeb)/A) per application.
- For warm season grasses; fairways - limit to a maximum of 3 applications per year at a maximum application rate of 34.8 lb of product per acre (17.4 lb ai (mancozeb)/A) per application.
- Minimum interval between applications is 10 days.

All Other Turf:

- Limit to a maximum of 4 applications per year and a maximum application rate of 34.8 lb of product per acre (17.4 lb ai (mancozeb)/A) per application.
- Minimum interval between applications is 10 days.

Start application when grass greens-up in spring or when disease first appears and repeat at 10 to 14 day intervals or until disease threat is past. When conditions are especially favorable for disease development, apply maximum fungicide use rates on a 10-day spray schedule. Apply in sufficient water to provide adequate coverage.

Turf Tolerance

Treated turfgrass should be maintained in a vigorous growing condition. Turfgrass under stress will not respond to fungicide treatments as well as wellmaintained 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 Manco-Phite DF or tank mixtures, under user growing conditions, a limited area of turfgrass should be treated prior to initiating large-scale applications. The user should always exercise reasonable judgment and caution when using this product.

Crop	Diseases Controlled	Manco-Phite DF Rate per Application (oz/1000 sq ft)	Remarks (Also Refer to Directions for Use)	Restrictions
Assorted grasses	Helminthosporium melting-out Rust (leaf, stem, stripe)	6		<ul style="list-style-type: none"> • 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 to 12		
	Algae	9		
	Dollar spot	9 to 12		
	Rhizoctonia brown patch	6	Apply on a 10-day spray schedule.	
	Pythium blight	12	Apply at 10-day intervals.	
	Fusarium snow mold	9 to 12	Apply at 2 to 6 week intervals during winter.	
	Gray leaf spot	12	Apply on a 14-day spray schedule when conditions are favorable for disease development.	

ATTENTION: This product contains Mancozeb and ETU, chemicals known to the State of California to cause cancer. ETU is also known to the State of California to cause birth defects or other reproductive harm.

Terms and Conditions of Use

If terms of the following Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. Otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitations of Remedies.

Warranty Disclaimer

Plant Protectants warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. Plant Protectants MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Plant injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperature, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Plant Protectants or the seller. All such risks shall be assumed by buyer.

Limitation of Remedies

To the extent consistent with applicable law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Plant Protectants' election, one of the following:

1. Refund of purchase price paid by buyer or user for product bought, or
2. Replacement of amount of product used

To the extent consistent with applicable law, Plant Protectants shall not be liable for losses or damages resulting from handling or use of this product unless Plant Protectants is promptly notified of such loss or damage in writing. In no case shall Plant Protectants be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer and Inherent Risks of Use above and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Plant Protectants or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

Manco-Phite is a trademark of Plant Protectants, LLC.

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