STATE OF HAWAII
Department of Agriculture
ACCEPTED
LICENSE NO.
9786.194

Dow AgroSciences

Dithane® DF

Rainshield®

Fungicide

Group	M3	FUNGICIDE

Active Ingredients
mancozeb: A coordination product of zinc ion and manganese ethylene bisdithiocarbamate 75.0%
In which the ingredients are:
Manganese^{++}.....15.00%
Zinc^{++}.....1.9%
Ethylene bisdithiocarbamate ion ($C_4H_6N_2S_4$) 58.1%
Other Ingredients 25.0%
Total.....100.0%

Keep Out of Reach of Children

CAUTION

EPA Reg. No. 62719-402 900-015601 / 00328683

Made in Colombia

®Trademark of Dow AgroSciences LLC

Produced for
Dow AgroSciences LLC
9330 Zionsville Road
Indianapolis, IN 46268

Precautionary Statements

Hazards to Humans and Domestic Animals

CAUTION

First Aid

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.

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 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 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.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-992-5994 day or night, for emergency treatment information.

Harmful If Absorbed Through Skin • Causes Moderate Eye Irritation • Prolonged or Frequently Repeated Skin Contact May Cause Allergic Reactions in Some Individuals

Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are nitrile rubber, natural rubber, or butyl rubber. 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
- long pants
- shoes and socks
- chemical-resistant gloves made of any waterproof material

See engineering controls for additional requirements

User Safety 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

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 Engineering Controls: Human flagging is prohibited. Flagging to support aerial application is limited to use of the Global Positioning System (GPS) or mechanical flaggers.

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 intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate.

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
Read all Directions for Use carefully before applying.

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

Agricultural Use Requirements (Cont.)

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.

Professional applications to golf courses, industrial (office park), and municipal lawns and ornamentals 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 by storage and 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.

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: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available, or dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

General Use Information

Dithane® DF Rainshield® fungicide is a broad-spectrum protectant fungicide labeled for use on outdoor or greenhouse grown crops. 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.

Use Rate Determination

- Carefully read, understand, and follow label use rates and restrictions.
- When two pesticides are tank mixed, the more restrictive label conditions apply.
- Do not tank mix with any product which contains a prohibition on tank mixing.
- Under low disease conditions, minimum label rates per application can be used while maximum label rates and the minimum interval may be used for severe or threatening disease conditions.
- **For proper application, determine the number of acres to be treated, the required label use rate and the volume 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 Dithane 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 after Dithane 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

Dithane 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 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 Inversions
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 regarding application of mancozeb. Where states have more stringent regulations, they must be observed.

Equipment
All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers or surrogates.

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

Application

Ground
Thorough coverage foliar sprays generally result in optimum disease control. To achieve good coverage use proper spray pressure, volume of spray mixture 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. Each aircraft should be prechecked 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, 2 to 3 gallons of spray per acre are generally optimum; orchards and vineyards can be handled with spray volumes of 5 gallons per acre. Some 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, the spray boom should be positioned in 5 to 10 feet above the crop canopy.

Flagging: Swaths should be marked at the end of the field with permanent flags. Swaths should be measured accurately with a chain or other device except when rows can be accurately counted.

Chemigation Use Directions

Sprinkler Irrigation

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

General Requirements

- Apply Dithane 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 Dithane 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 Dithane DF required for the treatment area.
- Add the required amount of Dithane 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 Dithane 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 Dithane DF required for the treatment area.

- Add the required amount of Dithane 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 Dithane 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 Dithane DF solution has cleared the last sprinkler head.

Disease Monitoring

Dithane DF 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 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.

Restrictions

Users must carefully read, understand, and follow all use restrictions prior to using Dithane DF.

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.

Pome Fruits

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	Dithane DF Rate per Application (lb/acre)	Remarks (Also Refer to Directions for Use)	Restrictions
apples crabapples pears quince	fabrea leaf spot rusts scab	6.0†	**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. Do not combine or integrate the prebloom application schedule with the post-bloom "extended application" schedule.	Do not apply more than 6 lb (4.5 lb active ingredient) per acre per application. Do not apply after bloom. Do not apply more than 24 lb (18 lb active ingredient) per acre per year. Do not graze livestock in treated areas.

Crop (Cont.)	Diseases Controlled	Dithane DF Rate per Application (lb/acre)	Remarks (Also Refer to Directions for Use)	Restrictions
apples crabapples pears quince	fabrea leaf spot rusts scab	3.0†	**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. Do not combine or integrate the prebloom application schedule with the post-bloom "extended application" schedule.	Do not apply more than 3. lb (2.25 lb active ingredient) per acre per application. Do not apply within 77 days of harvest. Do not apply more than 21 lb (15.75 lb active ingredient) per acre per year. Do not graze livestock in treated areas.

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

Fruits

Crop	Diseases Controlled	Dithane DF Rate per Application (lb/acre)	Remarks (Also Refer to Directions for Use)	Restrictions
bananas (including plaintain)	sigatoka	2 to 3	Apply when leaves first appear and repeat every 14- to 21-days or as required. Use sufficient water to provide adequate coverage. The addition of a Latron surfactant to spray solutions will improve performance.	Do not apply more than 30 lb (22.5 lb active ingredient per acre per growing cycle. Applications can be made up to the day of harvest
cranberries	fruit rot	3 to 6	Start applications at early-bloom and repeat at 7- to 10-day intervals as required.	Do not apply within 30 days of harvest. Do not apply more than 18 lb (13.5 lb active ingredient) per acre per season.

Crop (Cont.)	Diseases Controlled	Dithane DF Rate per Application (lb/acre)	Remarks (Also Refer to Directions for Use)	Restrictions
grapes	black rot bunch rot phomopsis downy mildew	1.5 to 2.5 West of the Rocky Mountains 1.5 to 4 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.	In California, do not apply after bloom. In other areas, do not apply within 66 days of harvest. West of the Rocky Mountains, do not apply more than 7.5 lb (5.6 lb active ingredient) per acre per season. East of the Rocky Mountains, do not apply more than 24 lb (18 lb active ingredient) per acre per season.

papayas	anthracnose phytophthora fruit rot	2 to 2.5	Use minimum 50 gallons water per acre. Start applications at flowering and continue at 14- to 21-day intervals. Direct spray to crown and blossom area.	Do not apply more than 37 lb (28 lb active ingredient) per acre per year. Applications may be made up to the day of harvest. Do not make more than 14 applications per year.
plantain	Refer to bananas			

Vegetables

Crop	Diseases Controlled	Dithane DF Rate per Application (lb/acre)	Remarks (Also Refer to Directions for Use)	Restrictions
asparagus	cercospora leaf spot rust	2	Start applications when rust 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 8 lb (6 lb active ingredient) per acre per season. 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 helminthosporium leaf blight	1.5	Use sufficient water for thorough coverage. Start applications when disease first appears and repeat at 4- to 7-day intervals.	Do not apply within 7 days of harvest. Do not feed treated forage to livestock.
			East of the Mississippi River, Arkansas and Louisiana, do not apply more than 22.5 lb (17 lb active ingredient) per acre per crop. West of the Mississippi River, (except Arkansas and Louisiana), do not apply more than 7.5 lb (5.6 lb active ingredient) per acre per crop. Field and Field Corn for Hybrid Seed Production: Do not apply within 40 days of harvest. Do not apply more than 15 lbs (11.25 lbs active) per acre per crop.	

Crop (Cont.)	Diseases Controlled	Dithane DF Rate per Application (lb/acre)	Remarks (Also Refer to Directions for Use)	Restrictions
cucumbers	anthracnose cercospora leaf spot downy mildew gummy stem blight microdochium blight † scab	2 to 3	Start applications when plants are in the two-leaf stage and repeat at 7- to 10-day intervals. Use sufficient water and direct spray to provide thorough coverage of both upper and lower leaf surfaces.	Do not apply within 5 days of harvest. Do not apply more than 24 lb (18 lb active ingredient) per acre per crop.
gourds, edible	Refer to summer squash			
melons cantaloupes casaba crenshaw honeydew	alternaria leaf spot anthracnose downy mildew gummy stem blight	2 to 3	Start applications when plants are in the two-leaf stage and repeat at 7- to 10-day intervals. Use sufficient water and direct spray to provide thorough coverage of both upper and lower leaf surfaces.	Do not apply within 5 days of harvest. Do not apply more than 24 lb (18 lb active ingredient) per acre per crop.

	microdochium blight †		Some cantaloupe varieties (i.e.: Harvest Queen, Gold Star, Super Star, Sweet and Early, and Saticoy) are sensitive to Dithane DF. Consult State Cooperative Extension Service Specialist prior to use.	
onions (dry bulb) garlic shallots	botrytis leaf blight downy mildew neck rot purple blotch rust	3	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.	Do not apply within 7 days of harvest. Do not apply more than 30 lb (22.5 lb active ingredient) per acre per crop. Do not apply to exposed bulb
onions (furrow drench)	damping-off seed rots seedling blights smut		Apply 3 lb per acre as a furrow drench at time of planting onion seeds. Use 75 to 125 gallons water per acre.	Do not use more than 3 lb (2.25 lb active ingredient) per acre (29,000 linear feet of furrow) with an 18 inch row spacing. Do not use in California.

Crop (Cont.)	Diseases Controlled	Dithane DF Rate per Application (lb/acre)	Remarks (Also Refer to Directions for Use)	Restrictions
potatoes	early blight late blight	1 to 2	Begin applications when plants are 4 to 6 inches high by applying 0.5 to 1.0 lb/acre. As the vines increase in size, apply 1.5 to 2.0 lb/acre at 5- to 10-day intervals or apply 0.75 to 1.0 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.	Do not apply more than 15 lb (11.2 lb active ingredient) per acre per crop. 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.

potato (seedpiece (treatment)	fusarium decay late blight seedborne common scab rhizoctonia shoot blight sliver scurf	See Remarks	Dip whole or cut potato tubers in 1.25 lb Dithane DF per 50 gallons of water. Place treated tubers in a clean container following treatment and plant as soon as possible. Spread treated seedpieces in a cool place if held before planting.	Do not use treated seed potatoes for food or feed purposes. 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 fungicide 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 (Cont.)	Diseases Controlled	Dithane DF Rate per Application (lb/acre)	Remarks (Also Refer to Directions for Use)	Restrictions
squash, summer (including edible gourd)	anthracnose downy mildew microdochium blight †	2 to 3	Start applications when plants are in the two-leaf stage and repeat at 7- to 10-day intervals. Use sufficient water and direct spray to provide thorough coverage of both upper and lower leaf surfaces.	Do not apply within 5 days of harvest. Do not apply more than 24 lb (18 lb active ingredient) per acre per crop.
tomatoes	anthracnose early blight gray leaf spot late blight leaf mold septoria leaf spot	0.75-1.0 West of the Mississippi River 0.75 to 1.5 East of the Mississippi River	Start application when seedlings emerge or transplants are set. Repeat at 3 to 7day intervals throughout the season.	Do not apply within 5 days of harvest. West of the Mississippi River, do not apply more than 8.5 lb (6.4 lb active ingredient) per acre per crop. East of the Mississippi River,

				do not apply more than 22.4 lb (16.8 lb active ingredient) per acre per crop.
	bacterial speck and spot	1.5 to 2 West of the Mississippi River 1.5 to 3 East of the Mississippi River	Start application when seedlings emerge or transplants are set, Repeat at 7- to 10-day intervals throughout the season.	East of the Mississippi River, do not apply more than 22.4 lb (16.8 lb active ingredient) per acre per crop. West of the Mississippi River, do not apply more than 8.5 lb (6.4 lb active ingredient) per acre per crop.

Crop (Cont.)	Diseases Controlled	Dithane 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 † scab	2 to 3	Start applications when plants are in the two-leaf stage and repeat at 7- to 10-day intervals. Use sufficient water and direct spray to provide thorough coverage of both upper and lower leaf surfaces.	Do not apply within 5 days of harvest. Do not apply more than 24 lb (18 lb active ingredient) per acre per crop.

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

Field Crops

Crop	Diseases Controlled	Dithane DF Rate per Application (lb/acre)	Remarks (Also Refer to Directions for Use)	Restrictions
barley	Refer to wheat			PHI: Do not apply after Feekes Growth Stage 10.5 (typically 35-45 days), but no less than 26 days before harvest
hybrid seed corn	common corn rust helminthosporium leaf blight	1.5	Start applications when disease symptoms first appear and, depending on severity of infection, continue on a 4- to 7-day interval.	Do not apply more than 15 lb (11.25 lb active ingredient) per acre per crop. Do not feed treated forage for livestock Do not apply within 40 days of harvest

Crop (Cont.)	Diseases Controlled	Dithane DF Rate per Application (lb/acre)	Remarks (Also Refer To Directions For Use)	Restrictions
oats	Refer to wheat			
peanuts	cercospora leaf spot rust	1 to 2	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.	Do not apply within 14 days of harvest. Do not use more than 16 lb (12 lb active ingredient) per acre per crop. Do not feed treated vines to livestock.
rye	Refer to wheat			PHI: Do not apply after Feekes Growth Stage 10.5 (typically 35-45 days), but no less than 26 days before harvest

sugar beets	cercospora leaf spot	1.5 to 2	Start applications when disease first threatens and repeat every 7- to 10-days as needed. The addition of a Latron surfactant to spray solutions will improve performance.	Do not apply within 14 days of harvest. Do not apply more than 14 lb (10.5 lb active ingredient) per season. Do not feed treated sugar beet tops to livestock.
wheat	helminthosporium leaf spot leaf rust septoria glume blotch septoria leaf spot tan spot	2	Start applications at onset of disease or when plants are in the tillering to jointing stage and repeat at 7- to 10-day intervals. PHI: Do not apply after Feekes growth stage 10.5 (typically 35-45 days) but no less than 26 days before harvest. Do not graze livestock in treated areas prior to harvest. Do not apply more than 6 lbs (4.5 lbs active) per acre per crop.	Do not make more than three applications during the season.
triticale	Refer to wheat			

Miscellaneous

Crop	Diseases Controlled	Dithane DF Rate per Application	Remarks (Also Refer to Directions for Use)
asparagus crowns	crown rot	1 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	assorted molds endosepsis (fusarium)	4 lbs/100 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 to 2 lb per acre or 1 to 2 lb per 100 gal	Begin application in spring or early summer before infection occurs. Repeat after heavy rains. Make applications at 7 to 10 day intervals.
Douglas fir	Swiss needle cast		

Turf

For use on sod farms, golf courses, industrial and commercial lawns and other similar nonresidential areas.

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 23.2 lb of product per acre (17.4 lb ai/A) per application.
- Require a minimum of a 10 day interval between applications

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 23.2 lb of product per acre (17.4 lb ai/A) per application
- For cool season grasses; fairways - limit to a maximum of 4 applications per year at a maximum application rate of 23.2 lb of product per acre (17.4 lb ai/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 23.2 lb of product per acre (17.4 lb ai/A) per application
- For warm season grasses; fairways - limit to a maximum of 3 applications per year at a maximum application rate of 23.2 lb of product per acre (17.4 lb ai/A) per application
- Require a minimum of a 10 day interval between applications

All Other Turf:

- Limit to a maximum of 4 applications per year and a maximum application rate of 23.2 lb of product per acre (17.4 lb ai/A) per application
- Require a minimum of a 10 day interval between applications

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 rate 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 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 Dithane 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	Dithane 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)	4		Do not graze treated areas. Do not use on grasses intended for grazing, such as range or pasture grasses. Do not feed clippings to livestock. Do not use on grasses grown for seed.
	copper spot fusarium blight red thread slime mold	4 to 8		
	algae	6		
	dollar spot	6 to 8		

Crop	Diseases Controlled	Dithane DF Rate per Application (oz/1000 sq ft)	Remarks (Also Refer to Directions for Use)	Restrictions
assorted grasses (Cont.)	rhizoctonia brown patch	4	Apply on a 10 day spray schedule.	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.
	pythium blight	8	Apply at 10-day intervals	
	fusarium snow mold	6 to 8	Apply at 2 to 6 week intervals during winter.	
	gray leaf spot	8	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. To the extent permitted by law, otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies.

Warranty Disclaimer

Dow AgroSciences 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. To the extent permitted by law, Dow AgroSciences 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. Crop 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 temperatures, 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 Dow AgroSciences or the seller. To the extent permitted by law, all such risks shall be assumed by buyer.

Limitation of Remedies

To the extent permitted by 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 Dow AgroSciences' 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 permitted by law, Dow AgroSciences shall not be liable for losses or damages resulting from handling or use of this product unless Dow AgroSciences is promptly notified of such loss or damage in writing. To the extent permitted by law, in no case shall Dow AgroSciences be liable for consequential or incidental damages or losses.

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

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EPA accepted 03/26/09

Dow AgroSciences

Dithane® DF

RAIN SHIELD®

Fungicide

Group	M3	FUNGICIDE

Active Ingredients
mancozeb: A coordination product of zinc ion and manganese ethylene bisdithiocarbamate 75.0%
In which the ingredients are:
Manganese[a] 15.0%
Zinc[a] 1.9%
Ethylene bisdithiocarbamate ion ($C_4H_4N_2S_2$) 58.1%
Other Ingredients 25.0%
Total 100.0%

Keep Out of Reach of Children

CAUTION

First Aid

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.
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 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 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.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-992-5994 day or night, for emergency treatment information.

Precautionary Statements

Hazards to Humans and Domestic Animals

Harmful If Absorbed Through Skin • Causes Moderate Eye Irritation • Prolonged or Frequently Repeated Skin Contact May Cause Allergic Reactions in Some Individuals

Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are nitrile rubber, natural rubber, or butyl rubber. 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
- long pants
- shoes and socks
- chemical-resistant gloves made of any waterproof material

See engineering controls for additional requirements

User Safety 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

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 Engineering Controls: Human flagging is prohibited. Flagging to support aerial application is limited to use of the Global Positioning System (GPS) or mechanical flaggers.

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 intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. Refer to the label booklet under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

Storage and Disposal

Do not contaminate water, food or feed by storage and 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.
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: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available, or dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Refer to label booklet for Directions for Use.

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 at end of label booklet. If terms are unacceptable, return at once unopened.**

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

EPA Reg. No. 62719-402 EPA Est. 67545-AZ-001

Made in Colombia

[a]Trademark of Dow AgroSciences LLC

Produced for
Dow AgroSciences LLC
9330 Zionsville Road
Indianapolis, IN 46268

4 x 12 lb

00173913

RAIN SHIELD®

Dow AgroSciences

Dithane® DF

Fungicide 4 x 12 lb

Dow AgroSciences

Dithane® DF

Fungicide 4 x 12 lb

00173913

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Group	M3	FUNGICIDE

Active Ingredients
mancozeb: A coordination product of zinc ion and manganese ethylene bisdithiocarbamate 75.0%
In which the ingredients are:
Manganese^{++}.....15.0%
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Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are nitrile rubber, natural rubber, or butyl rubber. 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
- long pants
- shoes and socks
- chemical-resistant gloves made of any waterproof material

See engineering controls for additional requirements

User Safety Requirements

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RAIN SHIELD™

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. Refer to the label booklet under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

Storage and Disposal

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