

PM 21 100-629 10F12

Ridomil® MZ58

Fungicide

For control of certain diseases of potatoes, tomatoes, onions, cucumbers, melons, and squash

ACCEPTED
OCT 6 1987
Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 100-629

Five Lbs.
Net Weight

Active Ingredients:

Metalaxyl: N-(2,6-dimethylphenyl)-N-(methoxyacetyl) alanine methyl ester	10.0%
Zinc ion and manganese ethylene bisdithiocarbamate,*	48.0%
a coordination product of	
manganese ⁺⁺	9.6%
zinc ⁺⁺	1.2%
ethylene bisdithiocarbamate ion	37.2%

Inert Ingredients:	42.0%
Total:	100.0%

*Same as the active ingredient found in Dithane® M-45 and Manzate® 200.

Ridomil MZ58 is a wettable powder

Keep Out of Reach of Children.

WARNING

AVISO

PRECAUCIÓN AL USUARIO: Si usted no lee inglés, no use este producto hasta que la etiqueta haya sido explicado ampliamente.

See additional precautionary statements on back of bag.

See Directions For Use on panel at right.

EPA Reg. No. 100-629

EPA Est. No. 8590-PA-1

CIBA-GEIGY

DIRECTIONS FOR USE AND CONDITIONS OF SALE AND WARRANTY

IMPORTANT: Read the entire Directions for Use and the Conditions of Sale and Warranty before using this product.

Conditions of Sale and Warranty

The Directions for Use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application all of which are beyond the control of CIBA-GEIGY or the Seller. All such risks shall be assumed by the Buyer.

CIBA-GEIGY warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the Directions for Use subject to the inherent risks referred to above. CIBA-GEIGY makes no other express or implied warranty of Fitness or Merchantability or any other express or implied warranty. In no case shall CIBA-GEIGY or the Seller be liable for consequential, special, or indirect damages resulting from the use or handling of this product. CIBA-GEIGY and the Seller offer this product, and the Buyer and user accept it, subject to the foregoing Conditions of Sale and Warranty, which may be varied only by agreement in writing signed by a duly authorized representative of CIBA-GEIGY.

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 such a manner as to directly or through drift expose workers or other persons, except those knowingly involved in the application. The area being treated must be vacated by unprotected persons.

FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN POOR DISEASE CONTROL, CROP INJURY, OR ILLEGAL RESIDUES.

Do not enter treated areas without protective clothing until sprays have dried.

Because certain states may require more restrictive reentry intervals for various crops treated with this product, consult your State Department of Agriculture for further information.

Written or oral warnings must be given to workers who are expected to be in a treated area or in an area about to be treated with this product. Oral warnings must inform workers of areas or fields that may not be entered without specific protective clothing until sprays have dried, and appropriate actions to take in case of accidental exposure, as described under Precautionary Statements on this label. When oral warnings are given, warnings shall be given in a language customarily understood by workers. Oral warnings must be given if there is reason to believe that written warnings cannot be understood by workers. Written warnings must include the following information: "WARNING. Area treated with Ridomil MZ58 on (date of application). Do not enter without appropriate protective clothing until sprays have dried. In case of accidental eye exposure, flush eyes with plenty of water. Get medical attention. In case of contact with skin, wash thoroughly with soap and water. Call physician if irritation occurs. Remove and wash contaminated clothing before reuse."

General Information

Ridomil MZ58 contains 10% of the active ingredient metalaxyl, and 48% of the active ingredient mancozeb. Metalaxyl is a systemic fungicide for use on selected crops to control diseases caused by members of the Phycomycete family of fungi. Mancozeb is effective against a wide range of fungal pathogens.

Note: Metalaxyl is a systemic fungicide having a specific mode of action and could be subject to development of resistant strains of fungi. Development of resistance cannot be predicted. Therefore, CIBA-GEIGY cannot assume liability for crop damage resulting from resistant strains of fungi. If treatment is not effective following the use of Ridomil MZ58 as recommended, a resistant strain of fungi may be present. If the treatment is ineffective due to the presence of a metalaxyl resistant strain of fungi, neither Ridomil MZ58 nor any other fungicide with similar action will effectively control that disease. Consideration should then be given to the prompt use of other types of suitable fungicides. Consult with your State Agricultural Experiment Station or Extension Service Specialist for guidance in your particular crop and disease control situation. Do not use Ridomil MZ58 for disease control in greenhouse crops.

Do not make applications when weather conditions favor drift from target area. Avoid spray overlap as crop injury may result.

Mixing Instructions

Add one-half to three-fourths of the required amount of water to the spray tank, add the proper amount of Ridomil MZ58, then add the rest of the water. Provide sufficient agitation during mixing and application to maintain a uniform suspension.

Amount of water needed per acre will vary according to the amount of plant growth. For dilute ground applications, the water volume will vary from 20-150 gals./A. For aerial applications, 3-10 gals. of water/A are generally needed. To minimize the potential of drift from target area, applications at wind speeds greater than 10 mph are not recommended.

Ridomil MZ58 is usually compatible with Bravo®, Dithane M-22, Dithane M-45, D·z·n®, Difolatan®, Manzate, and Manzate 200.

To assure the compatibility of Ridomil MZ58 with these and other products, pour the products into a small container of water in

the correct proportions. After thorough mixing, let stand for five minutes. If the combination remains mixed, or can be remixed readily, the mixture is compatible.

Application Through Irrigation Systems

Ridomil MZ58 alone or in combination with other fungicides which are registered for sprinkler irrigation may be applied through irrigation systems.

Apply this product only through center pivot, solid set or moving wheel irrigation systems. Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Operating Instructions:

1. The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water-source contamination from backflow.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. 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.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

- 6. 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.
- 7. Do not apply when wind speed favors drift beyond the area intended for treatment.

Application Instructions

Ridomil MZ58 must be applied on the schedule specified in the specific crop use recommendations, not according to the irrigation schedule. If irrigation schedules are used, ground or aerial applications must supplement chemigation applications to achieve adequate disease control.

With the exception of potatoes, Ridomil MZ58 has not been sufficiently tested to assure consistent product performance for all labeled uses when applied through chemigation systems. The following calibration and application techniques are provided for user reference, but do not constitute a warranty of fitness for application through sprinkler irrigation equipment. Users should check with state and local regulatory agencies for potential use restrictions before applying any agricultural chemical through sprinkler irrigation equipment.

Center-Pivot Irrigation Equipment (Use only with drive systems which provide uniform water distribution)

- 1. Determine the size of the area to be treated.
- 2. Determine the time required to apply 1/4 inch water over the area to be treated when the system and injection equipment is operated at normal pressures recommended by the equipment manufacturer. Run the system at 80-95% of the manufacturer's rated capacity.
- 3. Using water, determine the injection pump output when operated at normal line pressure.
- 4. Determine the amount of Ridomil MZ58 required to treat the area covered by the irrigation system.
- 5. Add the required amount of Ridomil MZ58 and sufficient water to meet the injection time requirements to the solution tank.
- 6. Maintain constant solution tank agitation during the injection period.

7. Stop injection equipment after treatment is completed. Continue to operate the system until the Ridomil MZ58 solution has cleared the sprinkler head.

Solid Set and Moving Wheel Irrigation Equipment:

1. Determine the acreage covered by the sprinklers.
2. Fill injector solution tank with water and adjust flow rate to use the contents over a 20 to 30 minute interval.
3. Determine the amount of Ridomil MZ58 required to treat the area covered by the irrigation system.
4. Add the required amount of Ridomil MZ58 into the same quantity of water used to calibrate the injection period.
5. Operate system at the same pressure and time interval established during the calibration.
6. Inject Ridomil MZ58 at the end of the irrigation cycle or as a separate application to maximize retention of the fungicide by the foliage.
7. Stop injection equipment after treatment is completed. Continue to operate the system under the Ridomil MZ58 solution has cleared the last sprinkler head.

IMPORTANT

Do not allow Ridomil MZ58 to become wet or overheated during storage. This may lead to chemical changes which will impair the fungicidal effectiveness of Ridomil MZ58 and may also generate flammable vapors. Keep bag closed when not in use.

Cucumbers, Melons, and Squash

Ridomil MZ58 provides effective control of downy mildew caused by Pseudoperonospora cubensis when used as a foliar spray in a preventative disease control program.

Apply 1 1/2-2 lbs. Ridomil MZ58 per acre in sufficient water to obtain thorough coverage. Begin applications when conditions are favorable for disease, but before infection, and continue at 14-day intervals until the threat of disease is over. Under heavy disease pressure, use the higher rate of Ridomil MZ58.

Notes: (1) To minimize the potential for resistance, do not make more than 4 applications of Ridomil MZ58 per crop. (2) If downy mildew continues to be a problem after making 4 applications of Ridomil MZ58, use other fungicides registered for downy mildew control. (3) Do not make the last application within 5 days of harvest or illegal residues may result.

Onions (Dry Bulb and Seed Onions)

Ridomil MZ58 provides effective control of downy mildew caused by Peronospora destructor when used as a foliar spray in a preventative disease control program.

Apply 1 1/2-2 lbs. Ridomil MZ58 per acre in sufficient water to obtain thorough coverage. Begin applications when conditions are favorable for disease, but before infection, and continue at 14-day intervals until the threat of disease is over. Use a suitable spreader-sticker at rates recommended on the product label. Under heavy disease pressure, use the higher rate of Ridomil MZ58.

Notes: (1) To minimize the potential for resistance, do not make more than 4 applications of Ridomil MZ58 per crop. (2) If downy mildew continues to be a problem after making 4 applications of Ridomil MZ58, use other fungicides registered for downy mildew control. (3) Do not make the last application within 7 days of harvest, or illegal residues may result.

Potatoes

Ridomil MZ58, when used as a foliar application in a preventative disease control program, will provide effective control of late blight and tuber rot caused by Phytophthora infestans, Pythium leak caused by Pythium spp, and pink rot caused by Phytophthora ethroseptica. Make applications of Ridomil MZ58 in sufficient water to obtain thorough coverage for ground applications and in a minimum of 3 gals. of water per acre for aerial applications.

Late Blight: Apply 1 1/2-2 lbs. Ridomil MZ58 per acre. Begin applications when conditions are favorable for disease, but before infection, and continue at 14-day intervals until the threat of disease is over. Under heavy disease pressure, use the higher rate of Ridomil MZ58.

Tuber Rot, Pythium Leak and Pink Rot: Apply 2 lbs. Ridomil MZ58 per acre. Make the first application at flowering and another one 14 days later. If the field has a history of tuber disease problems, make a third application 14 days after the second application.

Note: If applications of Ridomil MZ58 are being made for late blight control that correspond to the timing of applications for tuber disease control, additional applications for tuber disease control are not needed.

For supplemental control of early blight, add 0.8 lb. of Manzate 200 80W, Dithane M-45 80W, Manzate 80W or Dithane M-22 80W to

the Ridomil MZ58 spray or make an additional application of any registered early blight fungicide between each Ridomil MZ58 spray. Where early blight disease pressure is heavy, use early blight fungicides according to product use directions, and use Ridomil MZ58 only when late blight threatens. Do not apply more than 0.8 lb. per acre per application of Manzate 200 80W, Dithane M-45 80W, Manzate 80W, or Dithane M-22 80W in combination with Ridomil MZ58.

Notes: (1) Do not apply Ridomil MZ58 within 7 days of harvest or illegal residues may result. (2) To minimize the potential for resistance, do not make more than 4 applications of Ridomil MZ58 per crop. (3) If late blight is still a problem after making 4 applications of Ridomil MZ58, use other fungicides registered for late blight control. (4) Do not tank mix with amobam or Polyram®.

Tomatoes

Ridomil MZ58, when used as a foliar application in a preventative disease control program, will provide effective control of late blight caused by Phytophthora infestans.

Apply 1 1/2-2 lbs. Ridomil MZ58 per acre as a foliar spray in sufficient water to provide thorough coverage. Begin applications when conditions are favorable for disease, but before infection, and continue at 14-day intervals until the threat of disease is over. Under heavy disease pressure, use the higher rate of Ridomil MZ58.

Note: When conditions are favorable for development of diseases other than late blight, any registered fungicides which control those diseases may be applied according to their label directions. When making applications of Manzate 200, Dithane M-45, Manzate, or Dithane M-22, 1 1/2 lbs./A of Ridomil MZ58 may be added to the spray mix every 14 days for control of late blight. Do not apply more than 2 lbs. per acre per application of Dithane M-45 80W, Manzate 200 80W, Dithane M-22 80W, or Manzate 80W in combination with Ridomil MZ58. Observe all precautions and restrictions that appear on the labels of other products applied with Ridomil MZ58.

Notes: (1) Do not apply Ridomil MZ58 within 5 days of harvest or illegal residues may result. (2) To minimize the potential for resistance, do not make more than 4 applications of Ridomil MZ58 per crop. (3) If late blight continues to be a problem after making 4 applications of Ridomil MZ58, use other fungicides registered for late blight control. (4) Do not tank mix with amobam, Polyram, nabam, thiram, zineb, or ziram.

Plant Back Restrictions

<u>Crop</u>	<u>Planting Time From Last Application of of Ridomil MZ58</u>
Apples	-0- Days
Asparagus	-0- Days
Avocados	-0- Days
Broccoli	-0- Days
Cabbage	-0- Days
Cauliflower	-0- Days
Chinese Broccoli (gai lon, white flowering broccoli)	-0- Days
Chinese Cabbage (Bok choy and napa)	-0- Days
Citrus	-0- Days
Cotton	-0- Days
*Cucurbit Vegetables	-0- Days
Deciduous Fruits and Nuts	-0- Days
Hops	-0- Days
Head Lettuce	-0- Days
Spinach	-0- Days
**Legume Vegetables	-0- Days
Onions	-0- Days
Peanuts	-0- Days
Pineapples	-0- Days
Potatoes	-0- Days
Raspberries	-0- Days
Soybeans	-0- Days
Tobacco	-0- Days
Tomatoes	-0- Days
Wheat	14 Days
Corn	270 Days
Root Crops	270 Days
Crops <u>Not Intended</u> for Food or Feed	-0- Days
Other <u>Crops Intended</u> for Food or Feed	540 Days

*Cucurbit Vegetables: Includes balsam pear (bitter melon), Chinese waxgourd (Chinese preserving melon), citron melon, cucumber, gherkin, edible gourds, cantalope, casaba, crenshaw, honeydew melon, honey balls, mango melon, muskmelon, Persian melon, pumpkin, summer squash, winter squash, watermelon, and cucurbit hybrids.

**Legume Vegetables (Succulent or Dried): Includes field beans, French beans, kidney beans, lima beans, mung beans, navy beans, pinto beans, runner beans, snap beans, wax beans, broad beans (fava beans), chickpeas (garbanzo beans), lentils, garden peas, field peas, sugar peas, southern peas (blackeyed peas, crowder peas, cowpeas, catjang) and edible soybeans.

Storage and Disposal

Pesticide and Storage Disposal

Store in a dry place. Do not contaminate water, food or feed by storage, disposal, or cleaning of equipment. Open dumping is prohibited. Wastes resulting from the use of this product are acutely toxic. Improper disposal of unused pesticide, spray mixture, or rinsate is a violation of federal law. Pesticide, spray mixture, or rinsate that cannot be used according to label instructions must be disposed of according to federal, state or local procedures. For guidance in proper disposal methods, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office.

Container Disposal

Completely empty bag into application equipment. Dispose of empty bag in a sanitary landfill or by incineration, or by open burning, if allowed by state and local authorities. If burned, keep out of smoke.

For minor spills, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire or other emergency, call (919) 292-7100 day or night.

Precautionary Statements

Hazards to Humans and Domestic Animals

WARNING

Causes eye irritation. Do not get in eyes.

Harmful if swallowed, inhaled or absorbed through the skin. Avoid breathing dust or spray mist. Avoid contact with skin or clothing. Protective clothing (long pants, long sleeve shirt, gloves, hat, and boots) must be worn during mixing and loading. This product may cause allergic skin reaction in some individuals.

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First Aid: In case of contact, immediately flush eyes or skin with plenty of water. Get medical attention if irritation persists. If swallowed, drink large quantities of water and induce vomiting by placing finger in back of throat, and contact local poison control center. Avoid alcohol. Never give anything by mouth to an unconscious person. In case of inhalation exposure, move from the contaminated area.

Note to Physician: There is no specific antidote for Ridomil MZ58. Lavage stomach. Give a saline laxative and supportive therapy.

Environmental Hazards

This product is toxic to fish. Do not apply directly to water. Apply only as specified on this label. Do not apply when weather conditions favor drift from treated areas. Do not contaminate water by cleaning of equipment or disposal of wastes.

Ridomil® trademark of CIBA-GEIGY for metalaxyl
U.S. Patent No. 4,151,299

Bravo® trademark of SDS BioTech Corporation for chlorothalonil

Difolatan® trademark of Chevron Chemical Company for captafol

Dithane® trademark of Rohm and Haas Company for maneb/mancozeb

D·z·n® trademark of CIBA-GEIGY for diazinon

Manzate® trademark of E. I. duPont de Nemours & Company for maneb/mancozeb

Polyram® trademark of BASF Corporation for metiram

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CGA
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