

PU 11  
100-1  
P. 1015

M. Wayne S. Stumpf  
Ciba-Geigy Corporation  
P.O. Box 1800  
Greensboro, North Carolina 27419

JAN 9 1990

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Re: M. S. Stumpf:

Subject: Altered Labeling  
Kloril H750 Fungicide  
EPA Registration No. 100-025  
Your submission dated December 15, 1989

The Agency has reviewed your submission and has determined that the proposed labeling changes are acceptable. The Agency has approved the proposed labeling changes, and the label is acceptable with the following conditions:

2. The label is a microprint in the protective clothing recommendations listed under "worker safety" and "applicator safety" and "precautionary statements". The label is required to include the following information:

1. The label is a microprint in the protective clothing recommendations.

Sincerely,

**BEST AVAILABLE COPY**

Susan T. Lewis  
Product Manager (21)  
Fungicide-Herbicide Branch  
Registration Division (H7505C)

H7505C:J.Fairfax:jf:1/8/90  
Enclosure

CONCURRENCES							
SYMBOL							
SURNAME							
DATE							

**NEW**

**WATER SOLUBLE POUCH**

# Ridomil MZ<sup>®</sup> 58

## Fungicide

For control  
of certain  
diseases of  
onions,  
potatoes  
and  
tomatoes

**Five  
Pounds  
Net Weight**

Active ingredient  
Metalaxyl (2-E-dimethyl-  
phenyl-1-methylthioacetil)  
alanine methyl ester 10.0%  
A coordination product of  
zinc ion and manganese  
ethylene bisdithio-  
carbamate\* 48.0%  
in which the ingredients are:  
Manganese 24.0%  
Zinc 24.0%  
Ethylene bisdithio-  
carbamate 100%  
(C<sub>2</sub>H<sub>4</sub>N<sub>2</sub>S<sub>2</sub>)  
Inert ingredients 42.0%

\*Some of the active ingredient  
found in Dithione M-45 and  
Manzate 200.

Keep Out of Reach of Children.

## WARNING/AVISO

PRECAUCION AL USUARIO: Si usted no ha  
indicado lo contrario, este producto ha sido clasifi-  
cado para su uso en el hogar.  
Etiquetas han sido explicadas ampliamente.  
See additional precautionary statements on the  
label and container.

This outer protective container contains  
Ridomil MZ in an inner water-soluble  
pouch. Entire inner pouch and contents must be  
in water. After opening container, im-  
mediately submerge entire inner protective  
pouch into the partially filled sprayer or  
tank. Do not handle the pouch or contents  
at all to moisture, since this will cause the  
product to become unusable.

EPA Reg. No. 100-629/EPA Est. No. 32711-MO-3

See directions for use on panel at right.

100-629  
EPA Est. No. 32711-MO-3  
JAN 19 1966

# 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. If terms are not acceptable, return the unopened product container at once.

**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.

**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 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.

**Reentry and Worker Protection Statements**

Do not enter treated areas without protective clothing until sprays have dried. After sprays have dried, do not enter or allow entry into treated areas until the 24-hour reentry interval has expired unless wearing the personal protective equipment listed on this label. 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. Do not apply this product in such a manner as to directly or through drift expose workers or other persons. The area being treated must be vacated by unprotected persons.

Written oral warnings must be given to workers who are exposed to drift in a treated area from an area about to be treated with this product. Oral warnings must be given for the following reasons: to advise that written warnings cannot be understood by workers. Written oral warnings are given. Warnings shall be given in a language customarily understood by workers. Written oral warnings must include the following information:

**WARNING**

(Insert area or field description) treated with Ridomil MZ58 Fungicide on (insert date of application). Do not enter treated areas without protective clothing until sprays have dried. After sprays have dried, do not enter or allow entry into treated areas until the 24-hour reentry interval has expired unless wearing the personal protective equipment listed on this label. In case of accidental exposure, call a doctor (physician), clinic or hospital immediately. Explain that the victim has been exposed to Ridomil MZ58 and describe his condition. For further information, see the Statement of Practical Treatment, immediately.

Oral warnings must include the same information that is in the written warnings.

**Worker Safety Rules:** Keep all unprotected persons, children, livestock and pets away from treated area or where there is danger of drift. Do not rub eyes or mouth with hands. See Statement of Practical Treatment.

**Personal Protective Equipment:** For Mixers, Loaders, Applicators, and Early Reentry Workers.

**HANDLE THIS PRODUCT ONLY WHEN WEARING THE FOLLOWING PROTECTIVE CLOTHING AND EQUIPMENT:** long sleeved shirt and long pants or overall that covers all parts of the body except the head, hands, and feet; chemical resistant gloves, shoes, socks and gaiters for a full shield. During mixing and loading, a chemical resistant apron must also be worn.

During application from a tractor with a completely enclosed cab with positive pressure filtration or aerially with an enclosed cockpit, a long sleeved shirt and long pants may be worn in place of the above protective clothing. Chemical resistant gloves must be available in the cab or cockpit and worn while eating.

**IMPORTANT!** Before removing gloves, wash them with soap and water. Always wash hands, face and arms with soap and water before eating, smoking or drinking. Always wash hands and arms with soap and water before using the toilet.

After work take off all clothes and shoes. Shower using soap and water. Wear only clean clothes. Do not use contaminated clothing. Wash protective clothing and protective equipment with soap and water after each use. Personal clothing worn during use must be laundered separately from household articles. Clothing and protective equipment heavily contaminated or drenched with mancozeb must be destroyed according to state and local regulations.

**HEAVILY CONTAMINATED OR DRENCHED CLOTHING CANNOT BE ADEQUATELY DECONTAMINATED.**

During aerial application, human flaggers are prohibited unless in totally enclosed vehicles.

**General Information**

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

Note: Metazalyil 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 metazalyil resistant strain of fungi, neither Ridomil MZ58 nor any other fungicide with similar action will effectively control that disease. Consultation 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**

Prepare no more spray mixture than is needed for the immediate operation. Thoroughly clean spray equipment before using this product. Vigorous agitation is necessary to maintain tank mix uniformity. Maintain a maximum of agitation throughout the spraying operation. Flush spray tank thoroughly with water daily after use and dispose of pesticide rinseate by application to an already treated area.

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 Alone:** Add 1/2 of the required amount of water to the spray or mixing tank. With the agitator running, drop the required number of unopened soluble bags of Ridomil MZ58 into the tank. Continue agitation while adding the remainder of water and during application to maintain a uniform suspension.

**Ridomil MZ58 - Tank Mixtures:** Ridomil MZ58 is usually compatible with Bravo-4, Ethane M-22, Dithane M-45, Diz-in-5, Dibratan-4, Manzate and Manzate 200. Add 1/2 of the required amount of water to the spray or mixing tank. With the agitator running, drop the required number of unopened soluble bags of Ridomil MZ58 into the tank. Then add the required amount of the other products recommended for tank mixture. Continue agitation while adding the remainder of the water and during application to maintain a uniform suspension.

Note: Do not spray directly downwind of the spray tank. Do not spray directly into the eyes.

**Application Through Irrigation Systems**

Ridomil MZ58 may be combined with other fungicides which are registered for sprinker application and 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 installed on the irrigation pipeline to prevent water source contamination from backflow.
2. The pesticide injection pipeline must contain a functional, automatic, back-closing check valve to prevent the flow of liquid back toward the injection pump.
3. The pesticide injection pipeline must also contain a functional, normally closed, manual shut-off valve located on the intake side of the pump and be connected to the system intake pipe to prevent fluid from being withdrawn from the supply tank when the irrigation system is not 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 compatible with pesticides and capable of being field fitted with a system meter.
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 pyraoxes, 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 sprinker irrigation equipment. Users should check with state and local regulatory agencies for potential use restrictions before applying any agricultural chemical through sprinker 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 1/2 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 number of Ridomil MZ58 soluble bags and sufficient water to meet the injection time requirements to the solution tank. (See Mixing Instructions section of this label.)
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 Flat and Blowing 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 number of Ridomil MZ58 soluble bags into the same quantity of water used to calibrate the injection period. (See Mixing Instructions section of this label.)
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 until the Ridomil MZ58 solution has cleared the last sprinkler head.

**IMPORTANT**

Do not allow Ridomil MZ58 to become wet or overheated during storage as this may lead to the soluble bag rupturing or to chemical changes which will impair the fungicidal effectiveness of Ridomil MZ58 and which may also generate flammable vapors.

**Onions (Dry Bulb and Seed Onions)**

Ridomil MZ58 provides effective control of downy mildew caused by *Perothozpora 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 apply to exposed bulbs. (4) Do not make the last application within 7 days of harvest or medical 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* rot caused by *Pythium* spp. and pink rot caused by *Phytophthora erosora*. 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 Lesk 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 medical 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 amoproam 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 80W or Dithane M-45 80W or Dithane M-22 80W, 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 amoproam, Polyram, napam, thiam, zineb, or ziram.

**Plant Back Restrictions**

Do not plant any crop which is not registered for use with metolaryt in metolaryt-treated soil for a period of 12 months.

Crop	Planting Time From Last Application Of Ridomil MZ58
Apples, Asparagus, Avocados	
Broccoli	
Cabbage, Cauliflower, Chinese broccoli, (aerial), white flowering broccoli, Chinese Cabbage (tight-heading varieties only), Citrus, Cotton, Cucurbit Vegetables*	
Deciduous Fruits and Nuts	
Head Lettuce, Nuts	30 Days
Legume Vegetables**	
Onion, Onion Bulb and Seed Only	
Peanuts, Pineapples, Potatoes	
Raspberries	
Soybeans, Spinach	
Tobacco, Tomatoes	
Wheat	
Corn	12 Months
Root Crops	
Crops Not Intended for Food or Feed	30 Days
Other Crops Intended for Food or Feed	12 Months

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

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

**Storage and Disposal**

**Storage** - Store in a cool, dry place. Do not store this product under wet conditions. Handle outer container carefully when stored at temperatures less than 50°F to avoid breakage of inner soluble bag.

**Pesticide Disposal**

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 toxic. Improper disposal of unused pesticide, spray mixture, or other side 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**

Do not reuse outer container. Dispose of empty outer container in a safe and proper way 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 1-800-868-8171, day or night.

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# Precautionary Statements

## Hazards to Humans and Domestic Animals

### WARNING

Harmful if swallowed, inhaled or absorbed through the skin. Causes eye irritation. Avoid breathing dust or spray mist. Avoid contact with eyes, 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. Wash thoroughly with soap and water after handling. Remove and wash contaminated clothing before reuse.

### Statement of Practical Treatment

If swallowed: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

If on skin: Wash with plenty of soap and water. Get medical attention.

If inhaled: Remove victim to fresh air. Get medical attention.

If in eyes: Flush eyes with plenty of water. Call a physician if irritation persists.

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

### Environmental Hazards

This product is toxic to fish. Do not apply directly to water or wetlands (swamps, bogs, marshes or potholes). Apply only as specified on the label. Do not apply when weather conditions favor drift from treated areas. Do not contaminate water when disposing of equipment wash waters.

Riodome® trademark of CIBA-GEIGY for metolazol  
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-2-m® trademark of CIBA-GEIGY for diazinon

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

Polyram® trademark of BASF Corporation for metiram

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Agricultural Division

CIBA-GEIGY Corporation

Greenwich, New York 12524

CGA 12524A

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