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FEB - 8 1988

Ms. Karen Stumpf
Ciba-Geigy Corporation
Agricultural Division
P.O. Box 18300
Greensboro, NC 27419

Dear Ms. Stumpf:

Subject: RIDOMIL/BRAVO 81 FUNGICIDE
EPA Registration No. 100-658
Your Letter Dated August 18, 1987

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable subject to the comment listed below. Five copies of the finished labeling must be submitted. A stamped copy is enclosed for your records.

- The label must stipulate a 21-day PHI for green onions treated in accordance with the directions appearing on the Ridomil/Bravo 81 amended label.

Sincerely yours,

Lois A. Rossi
Product Manager (21)
Fungicide-Herbicide Branch
Registration Division (TS-767C)

Enclosure

10871:I:DeLuise:R-3:KENCO:1/29/88:2/9/88:rw:VO:ET .CB

CONCURRENCES

SYMBOL								
SURNAME								
DATE								

Ridomil®/Bravo® 81W

Fungicide

For the control of certain diseases in broccoli, cabbage, cauliflower, cucurbit vegetables, onions, potatoes and tomatoes.

ACCEPTED
with COMMENTS
in EPA Letter Brief

FEB 8 1988

Approved for use on the following crops:
Broccoli, Cabbage, Cauliflower, Cucurbit vegetables,
Onions, Potatoes, Tomatoes.
EPA Reg. No. 100-658

Active Ingredients:

Metalaxyl: N-(2,6-dimethylphenyl)- N-(methoxyacetyl)alanine methyl ester	9.0%
Chlorothalonil: Tetrachloroisophthalonitrile.....	72.0%
Inert Ingredients:	19.0%
Total:	100.0%

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Ridomil/Bravo 81W is a wettable powder.

Keep Out of Reach of Children

DANGER/PELIGRO

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

Statement of Practical Treatment

If in eyes: flush with plenty of water and get medical attention.

If swallowed: induce vomiting by touching back of throat with finger. Drink promptly a large quantity of milk, egg whites, or gelatin solution. If none of these are available, drink large quantities of water. Avoid alcohol. Call a physician or Poison Control Center. Do not induce vomiting or give anything by mouth to an unconscious person.

If inhaled: remove victim to fresh air. If not breathing give artificial respiration, preferably mouth to mouth. Get medical attention immediately.

Continued ... 2

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

Note to Physician

If swallowed, probable mucosal damage may contraindicate the use of gastric lavage.

If in eyes, specialized ophthalmologic attention may be required.

See additional precautionary statements on back of bag.

See directions for use on back of bag.

EPA Reg. No. 100-658

Five Pounds
Net Weight

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.

FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN POOR DISEASE CONTROL, CROP INJURY, AND/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 Statements

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 the treated area or in an area about to be treated with this product. Oral warnings must be given which 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 the back of 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: "DANGER. Area treated with Ridomil/Bravo 81W on (date of application). Do not enter without appropriate protective clothing until sprays have dried. Flush eyes or skin with plenty of water. Call a physician if irritation persists. Remove contaminated clothing and wash before reuse."

General Information

Ridomil/Bravo 81W contains 9% of the active ingredient metalaxyl and 72% of the active ingredient chlorothalonil. Metalaxyl is a systemic fungicide that provides control of downy mildew and late blight diseases of selected crops. Chlorothalonil is a broad-spectrum protectant fungicide that controls many diseases of vegetables.

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/Bravo 81W 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/Bravo 81W 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.

Mixing Instructions

Ridomil/Bravo 81W is an effective fungicide when used according to label directions for control of a broad spectrum of plant diseases. Thorough, uniform coverage is essential for disease control. Ridomil/Bravo 81W should be added slowly into the spray tank during filling. With concentrate sprays, premix the required amount of Ridomil/Bravo 81W with water in a clean container and add to the spray tank as follows: 1) Add 1/4 - 1/2 of the required amount of water to the spray tank, 2) Add the proper amount of Ridomil/Bravo 81W, then add the rest of the water, 3) Use a pump with capacity to maintain 35-40 psi at nozzles, and provide sufficient agitation in tank to keep the mixture in suspension. Do this by recirculating 20 gal/min/100 gal. tank size through correctly positioned sparger tubes or jets.

Use screens to protect the pump and to prevent nozzles from clogging. Screens placed on the suction side of the pump should

be 16-mesh or coarser. Do not place a screen in the recirculation line. Use 50-mesh or coarser screens between the pump and boom, and where required, at the nozzles. Check nozzle manufacturer's recommendations.

To assure compatibility of Ridomil/Bravo 81W with other products it is being mixed with, i.e., pesticides, surfactants, or fertilizers, pour the products into a 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 should be considered compatible.

Application Instructions

Apply Ridomil/Bravo 81W in sufficient water to obtain adequate coverage of foliage. Gallonage needed will vary with crop and amount of plant growth. Apply in a minimum of 20 gals./A for dilute sprays and 5 gals./A for concentrate ground sprays and aerial applications.

To avoid spray drift, do not apply under windy conditions. Avoid spray overlap, as crop injury may result.

Preharvest Intervals

Unless otherwise stated in the directions for use for a specific crop, there is no preharvest interval.

Cole Crops (Broccoli, Cabbage, and Cauliflower)*

*Broccoli, Chinese broccoli (gai lan, white flowering broccoli), cabbage, Chinese cabbage (bok choy and napa) and cauliflower only.

Ridomil/Bravo 81W, when used as a foliar application in a preventive disease control program, provides effective control of downy mildew and Alternaria leaf spot.

Downy Mildew: Apply 1 1/2 - 2 lbs./A. 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 the higher rate under severe disease pressure.

Alternaria Leaf Spot: Apply 1 1/2-2 lbs./A. Begin applications when conditions are favorable for disease, but before infection, and continue at 14-day intervals until threat of disease is over. Under severe disease pressure, use other effective EPA-registered fungicides according to label directions between the Ridomil/Bravo 81W sprays.

Notes: 1) Do not apply 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/Bravo 81W per crop.

Cucurbit Vegetables*

*Cucumber, cantaloupe, casaba, crenshaw, honeydew melon, honey balls, muskmelon, Persian melon, watermelon, pumpkin, summer squash, winter squash and cucurbit hybrids only.

Ridomil/Bravo 81W, when used as a foliar spray in a preventive disease control program, provides effective control of many diseases of cucurbit vegetables.

Downy Mildew: Apply 1 1/2 - 2 lbs./A. 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 the higher rate under severe disease pressure.

Anthracnose, Cercospora Leaf Spot, Gummy Stem Blight, Leaf Blight and Scab: Apply 2-3 lbs./A. Begin applications when conditions are favorable for disease, but before infection, and continue at 10-14-day intervals. Under severe disease pressure, alternate Ridomil/Bravo 81W sprays with other effective EPA-registered fungicides every 7 days.

Note: To minimize the potential for resistance, do not make more than 4 applications of Ridomil/Bravo 81W per crop.

Onions (Dry Bulb, Seed and Green Onions)

Ridomil/Bravo 81W, when used as a foliar spray in a preventive disease control program, provides effective control of downy mildew, Botrytis leaf blight and purple blotch.

Downy Mildew: Apply 1 1/2 - 2 lbs./A. 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 compatible spreader-sticker at rates recommended on the product label. Use the higher rate under severe disease pressure.

Botrytis Leaf Blight (Blast) and Purple Blotch: Apply 2 lbs./A on a 14-day schedule and apply other effective EPA-registered fungicides between the Ridomil/Bravo 81W sprays; or apply 2 lbs./A of Ridomil/Bravo 81W on a 7-day schedule.

Notes: 1) Do not apply to sweet Spanish onions if they have received or will receive additional chlorothalonil applications and 2) Do not apply to dry bulb onions within 7 days of harvest or to green onions within 14 days of harvest or illegal residues may result. 3) Do not make more than 3 applications to green onions per season. If more than 14 days remain after 3 applications of Ridomil/Bravo 81W, it is recommended that another EPA-registered fungicide which does not contain chlorothalonil be used. 4) To minimize the potential for resistance, do not make more than 4 applications of Ridomil/Bravo 81W to dry bulb or seed onions.

Potatoes

Ridomil/Bravo 81W, when used as a foliar spray in a preventive disease control program, provides effective control of late blight, early blight and Botrytis vine rot. Two to three applications will also provide control of tuber rot in the field caused by Phytophthora spp. and storage rot caused by Pythium and Phytophthora spp.

Late Blight: Apply 1 1/2 - 2 lbs./A. Begin applications when conditions are favorable for disease, but before infection, and continue at 14-day intervals until threat of disease is over. Use the higher rate under severe disease pressure.

Tuber Rot and Storage Rot (Phytophthora and Pythium spp.): Apply 2 lbs./A. Make one application at flowering and another 14 days later. If the field has a history of tuber rot or if foliar late blight is present, make a third application 14 days after the second.

Early Blight and Botrytis Vine Rot: Apply 1 1/2 - 2 lbs./A. Begin applications when plants are six inches high or when conditions are favorable for disease, but before infection, and continue at 14-day intervals until the threat of disease is over. Under severe disease pressure, use 1 1/2 lbs./A on a 7-day schedule or use other effective EPA-registered fungicides between the Ridomil/Bravo 81W sprays.

Notes: 1) Do not apply 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/Bravo 81W per crop.

Tomatoes

Ridomil/Bravo 81W, when used as a foliar spray in a preventive disease control program, provides effective control of several tomato diseases.

Late Blight and Fruit Rot Caused by Phytophthora spp: Apply 1 1/2 - 2 lbs./A. Begin applications when conditions are favorable for disease, but before infection, and continue at 14-day intervals until threat of disease is over. Use the higher rate under severe disease pressure.

Early Blight, Gray Leaf Spot, Gray Leaf Mold, and Septoria Leaf Spot: Apply 2 lbs./A. Begin applications when conditions are favorable for disease, but before infection, and continue at 14-day intervals. Under severe disease pressure, use other effective EPA-registered fungicides between the Ridomil/Bravo 81W sprays.

Anthracnose, Alternaria Fruit Rot (Black Mold), Rhizoctonia Fruit Rot and Botrytis Gray Mold: Apply 2-3 lbs./A. Begin applications when conditions are favorable for disease, but before infection, and continue at 10-14 day intervals. Under severe disease pressure, use other effective EPA-registered fungicides between the Ridomil/Bravo 81W sprays.

Note: To minimize the potential for resistance, do not make more than 4 applications of Ridomil/Bravo 81W per crop.

Rotation (Plant Back) Restrictions

<u>Rotation Crop</u>	<u>Planting Time From Last Application of Ridomil/Bravo 81W</u>
Apples*	-0- days
Asparagus	12 months
Avocadoes*	-0- days
Broccoli	-0- days
Citrus*	-0- days
Corn	9 months
Cabbage	-0- days
Celery	18 months
Cauliflower	-0- days
Carrots	9 months
Cranberry*	-0- days
Brussels Sprouts	18 months
Eggplant	12 months
Mint	18 months
Grass Grown for Seed	-0- days
Shallots	18 months
Garlic	18 months
Papaya*	-0- days
Peppers	12 months
Potatoes	-0- days
Cotton	-0- days
Cucurbit Vegetables**	-0- days
Other Cucurbit Vegetables	12 months
Deciduous Fruits and Nuts*	-0- days
Hops	12 months
Head Lettuce	12 months
Dry Beans	-0- days
Snap Beans	-0- days
Peas	12 months
Onions (Bulb, Green and Seed)	-0- days
Peanuts	-0- days
Pineapples	12 months
Raspberries	12 months
Soybeans	-0- days
Spinach	12 months
Tobacco	12 months
Tomatoes	-0- days
Wheat	12 months
Root Crops	12 months
Crops <u>Not For</u> Food or Feed	-0- days
All Other Crops <u>For</u> Food or Feed	18 months

*These crops may be planted immediately following last application of Ridomil/Bravo 81W, provided they will not bear harvestable fruit within 12 months.

**Cucurbit vegetables including cucumbers; cantaloupes, casabas, crenshaws, honeydew melons, honey balls, muskmelons. Persian melons, and their hybrids; watermelon, watermelon hybrids; pumpkins; summer and winter squash.

Storage and Disposal

Pesticide

Store in a dry place. Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited. Wastes resulting from the use of this pesticide are acutely hazardous. 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

Completely empty bag into application equipment. Dispose of empty bag in a sanitary landfill, by incineration or, if allowed by state and local authorities, by burning. Stay out of smoke from burning bags.

For minor spills, leaks, 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

DANGER

Corrosive. Causes irreversible eye damage. May be fatal if swallowed or inhaled. Harmful if absorbed through skin. Do not get in eyes, on skin, or on clothing. Wear goggles or face shield when handling this product. Do not breathe spray mist. Wear a mask or a jointly approved pesticide respirator (by the Mining Enforcement and Mining Administration and the National Institute for Occupational Safety and Health) when handling this product. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco. Remove contaminated clothing and wash before reuse.

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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 area. Do not contaminate water when cleaning equipment or disposing of wastes.

Ridomil® trademark of CIBA-GEIGY Corporation for metalaxyl
Bravo® trademark of Fermenta Plant Protection Company for
chlorothalonil

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Agricultural Division
CIBA-GEIGY Corporation
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RDML/BRAVOF3

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