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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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APR 1 1994

Abraham J. Tobia, Ph.D.  
BASF Corporation  
P.O. Box 13528  
Research Triangle Park, NC 27709-3528

Dear Dr. Tobia:

Subject: Label Amendment  
Ronilan DF  
EPA Registration Number 7969-85  
Your Submission Dated September 19, 1993

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable. A stamped copy is enclosed for your records. Please submit three (3) copies of final printed labeling for our records.

This acceptance of your label does not relieve you of any obligation to comply with the Worker Protection Standard (WPS). Under the WPS labeling regulations at 40 CFR part 156, subpart K, § 156.200(c)(3), you are prohibited from distributing or selling any product within the scope of the WPS requirements after April 21, 1994, without amended labeling accepted by the Agency.

Sincerely Yours,

Steve Robbins *SR*  
Acting Product Manager (21)  
Fungicide-Herbicide Branch  
Registration Division (7505C)

Enclosure

CONCURRENCES							
SYMBOL	7505C						
SURNAME	Robbins						
DATE	4/11/94						

# Ronilan® DF

## Fungicide

A water dispersible, granule powder containing:

### Active Ingredient

Vinclozolin: [3-(3,5-dichlorophenyl)-5-ethenyl-5-methyl-2,4-oxazolidinedione] ..... 50%

Inert Ingredients ..... 50%

TOTAL ..... 100%

ACCEPTED  
with COMMENTS  
In EPA Letter Dated  
APR 1 1994

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.  
7969-85

EPA Reg. No. 7969-85

**KEEP OUT OF REACH OF CHILDREN.**

**BEST AVAILABLE COPY**

## CAUTION

### Precautionary Statements

#### Hazards to humans and domestic animals.

Harmful if swallowed, inhaled or absorbed through skin. Causes eye irritation. Do not get on skin, in eyes or on clothing. When applying this product wear goggles or face shield, coveralls or tightly woven long trousers and long sleeved shirt. When mixing or loading or when adjusting, repairing or cleaning equipment wear chemical resistant gloves extending above the wrist, a chemical resistant apron, long trousers and long sleeved shirt. Avoid breathing vapor or spray mist. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before re-use.

Application with airblast equipment must be from an enclosed tractor cab or applicator must wear a protective suit of one or two pieces that covers all parts of the body except the head, hands and feet. Wear chemical resistant gloves, chemical resistant shoes, shoe coverings, or boots, a chemical resistant hat, and a pesticide mask or respirator jointly approved by the Mine Safety and Health Administration (MSHA) and the National Institute for Occupational Safety and Health (NIOSH) wash thoroughly with soap and water after handling or use of this product and wash contaminated clothing and protective equipment thoroughly before re-use.

### Statement of Practical Treatment

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. **If on skin:** Wash with plenty of soap and water. Get medical attention. **If inhaled:** Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention. **If in eyes:** Flush with plenty of water. Call a physician.

### Environmental Hazards

This product is toxic to fish. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

Net Contents 5 Lbs.

**BASF Corporation**

PO Box 13528 Research Triangle Park, North Carolina 27709-3528

**Specimen Label**

## Re-entry and Workers' Protection Statements

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

Because certain states may require more restrictive re-entry intervals for various crops treated with the 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 be given 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. 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: "CAUTION. Area treated with Ronilan fungicide on (date of application). Do not enter without appropriate protective clothing until sprays have dried. If contacted, flush eyes immediately with water for 15 minutes. Get medical attention.

In case of contact with skin or clothing, remove contaminated clothing, wash skin thoroughly with soap and water. Call physician if irritation occurs. Wash contaminated clothing before reuse."

## Directions for Use

It is a violation of Federal law to use this product in a manner consistent with its labeling.

## Storage and Disposal

**Storage:** Do not contaminate water, food or feed by storage or 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 disposal:** Completely empty bag into application equipment. Then 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.

## In Case of Emergency

In case of large-scale spillage regarding this product, call:

**CHEMTREC 800-424-9300**  
**BASF Corp 800-832-HELP**

In case of medical emergency regarding this product, call:

1. Your local doctor for immediate treatment
2. Your local poison control center (hospital)
3. BASF Corp 800-832-HELP

All applicable directions, restrictions, precautions and conditions of sale and warranty are to be followed.

This labeling must be in the possession of the user at the time of application.

## General Information

Ronilan is a contact fungicide for the control of *Botrytis* fruit rot (gray mold) of strawberries and raspberries, *Sclerotinia* 'drop' watery soft rot), and *Rhizoctonia* (bottle neck rot) of lettuce, brown rot blossom and twig blight, and fruit brown rot and shot hole on stone fruit, *Sclerotinia* watery soft rot, *Sclerotium* white rot *Botrytis* neck rot and *Botrytis* leaf blight, and purple blotch of onions. A chemical barrier of Ronilan

must be established and maintained to achieve effective disease control. For diseases which infect above ground plant parts (such as fruit rots and leaf blights caused by *Botrytis*), thorough spray coverage of the plant parts to be protected is essential.

For diseases which infect plant parts at the soil surface or below ground (such as white rot on onions), thorough spray coverage of the soil and stem base is essential. Refer to the following sections for specific information. If other diseases are a problem an additional fungicide will be needed. The repeated exclusive use of Ronilan, as is the case with the exclusive use of other fungicides, may result in the buildup of resistant strains of *Botrytis* and loss of disease control. A spray program alternating other fungicides with Ronilan may delay the buildup of resistant strains. If treatment becomes ineffective due to the presence of a strain of *Botrytis* resistant to Ronilan, then prompt use of other fungicides is necessary to maintain disease control.

**Mixing instructions:** Partially fill the spray tank with clean water and begin agitation. Add the required amount of Ronilan to the tank and fill tank to the total volume required. Maintain agitation

to keep the material in suspension and apply with properly calibrated spray equipment. Ronilan is physically compatible with most pesticides used in a tank mix. To assure compatibility of Ronilan with other products, add correct proportions in a small container with water. Mix thoroughly and let the mixture stand for five minutes. The mixture is compatible if the combination remains mixed, or can be readily remixed.

## Strawberries

### Time and Rate of Application for States Other Than California

Thorough spray coverage of the blossoms and developing fruit is essential. For full season control of *Botrytis* disease, the following spray program is recommended. The first application should be made no later than 10% primary bloom at rates indicated (see table). The interval between subsequent applications will vary according to weather conditions and resultant disease pressure. A rate of 1½ pounds product per acre is generally recommended. A one pound product per acre rate of Ronilan fungicide should be used only when low disease pressure can be predicted. A two pounds

product per acre rate should be used when the foliage is dense and/or disease pressure is high. If a heavy rainfall occurs any time during this spray program or if a wet period (light rain, fog or dew) lasting more than 24 hours occurs, immediate re-treatment is necessary at a rate of 1½ to 2 pounds product per acre as soon as conditions will allow the spray to dry on the plants.

### Time and Rate of Application for California

Thorough spray coverage of blossoms and developing fruit is essential for good disease control. For full season control of *Botrytis* disease, fungicides may need to be applied at 7- to 14-day intervals throughout the product cycle. When using Ronilan, the first application should be made no later than 10% primary bloom. If conditions favorable for high disease pressure persist after the first application, a second application should be made 7 to 9 days after the first. To reduce the hazard of resistance developing, further use of Ronilan should be reserved for periods of high disease pressure and/or highest economic return. A rate of 1½ pounds product per acre is generally recommended. A 2 pounds product per acre rate should be used when foliage is

dense and disease pressure is high. Make no more than a total of four applications of Ronilan per season.

### Method of Application

**Ground equipment:** Application of Ronilan should be made in not less than 100 gallons of spray solution per acre to obtain thorough coverage of the developing fruit.

An operating pressure of 60-150 psi is recommended to obtain adequate penetration of the spray through the canopy. Cone-type nozzles are recommended. Spray booms with at least 3 nozzles per row (1 over row: 2 side drops) are recommended.

**Air Equipment:** Application of Ronilan should be made in not less than 20 gallons of spray solution per acre. Thorough spray coverage of the developing fruit is essential.

### Restrictions and Limitations for Strawberries

Do not apply more than a total of 12 pounds of product per acre in one season, except in California where the total is restricted to 8 pounds in no more than four applications. Ronilan does not control *Rhizopus* rot of strawberries in the field or in storage. There may be a

### Application Rates for Strawberries in States Other than California

Moisture Conditions	Spray* Interval (Days)	Rate (Pounds Product/A)	
		1st Year Plants or Sparse Foliage	Dense Foliage
Frequent natural moisture (intermittent rain, fog, dew) or when using sprinkler irrigation (high disease pressure)	7-9	1½	1½-2
Limited natural moisture or infrequent sprinkler irrigation (low disease pressure)	10-14	1	1½-2

\*Use spray interval throughout the bearing cycle.

### Application Rates for Strawberries in California

Moisture Conditions	Spray* Interval (Days)	Rate (Pounds Product/A)	
		1st Year Plants or Sparse Foliage	Dense Foliage
Frequent natural moisture (intermittent rain, fog, dew) or when using sprinkler irrigation (high disease pressure)	7-9	1½	2

\*Make no more than four (4) applications per season.

competitive relationship between *Botrytis* and *Rhizopus* incidence such that control of *Botrytis* may result in an increase of *Rhizopus* rot in stored fruit. *Rhizopus* rot becomes a problem as a result of certain climatic conditions (such as prolonged warm, humid periods) and cultural practices (such as high nitrogen fertilization which may lead to the production of softer fruit). If conditions are conducive for *Rhizopus* development, including those described above, do not use Ronilan.

Do not use Ronilan as a plant dip, as injury will occur. Do not apply this product through any type of irrigation system.

Do not use any spray adjuvants/additives in combination with Ronilan on strawberries.

### Rotational Crop Restrictions for Strawberries in States Other than California

Lettuce (all types) and dry bulb onions may be planted after strawberries.

Any rotational crops may be planted 20 days after treatment that does not exceed 3 pounds active ingredient per acre (6 pounds product per acre).

Leafy vegetables may be planted 6 months after treatment that does not exceed 6 pounds active ingredient per acre (12 pounds product per acre).

Cucurbits may be planted 2 months after treatment that does not exceed 6 pounds active ingredient per acre (12 pounds product per acre).

Corn may be planted 2 months after treatment that does not exceed 6 pounds active ingredient per acre (12 pounds product per acre), provided only the corn grain is used for food and/or feed purposes.

Other grain crops may be planted 9 months after treatment that does not exceed 6 pounds active ingredient per acre (12 pounds product per acre).

Any rotational crops may be planted 20 days after treatment that does not exceed 3 pounds active ingredient per acre (6 pounds product per acre).

## **Rotational Crop Restrictions for Strawberries in California**

Lettuce (all types) and dry bulb onions may be planted after strawberries. Any rotational crops may be planted 20 days after treatment that does not exceed 3 pounds active ingredient per acre (6 pounds product per acre).

Leafy vegetables may be planted 6 months after treatment that does not exceed 4 pounds active ingredient per acre (8 pounds product per acre).

Cucurbits may be planted 2 months after treatment that does not exceed 4 pounds active ingredient per acre (8 pounds product per acre).

Corn may be planted 2 months after treatment that does not exceed 4 pounds active ingredient per acre (8 pounds product per acre), provided only the corn grain is used for food and/or feed purposes.

Other grain crops may be planted 9 months after treatment that does not exceed 4 pounds active ingredient per acre (8 pounds product per acre).

Any rotational crops may be planted 20 days after treatment that does not exceed 3 pounds active ingredient per acre (6 pounds product per acre).

## **Lettuce (all types)**

### **Time and rate of application**

For control of *Sclerotinia* "drop" and *Rhizoctonia* "bottom rot," up to three applications may be made under certain conditions in one season as specified in the rate table. Thorough spray coverage of plant parts to be protected is essential for effective disease control. Do not disturb soil after application.

### **Method of application**

Application of Ronilan fungicide should be made in not less than 100 gallons of spray solution per acre (broadcast basis) to obtain thorough coverage of the lower leaves, plant stem and bed surface. An operating pressure of 50-100 psi is recommended. Use cone or flat fan nozzles. Flood type nozzles should not be used. To apply Ronilan to one-row beds, spray booms should have at least 2 nozzles per row. For two-row beds use three nozzles or more per bed.

**Application Rates for Lettuce (All Types)**

Application	Timing	Rate (Pounds Product/A)	
		*Low Disease Pressure	*High Disease Pressure
First	<p><b>Direct Seeded Lettuce</b> Application should be made immediately (within 2 days) after thinning.</p> <p><b>Transplanted Lettuce</b> Application should be made 7-10 days after transplanting.</p>	1	1½-2
Second	Application should be made 14 days after first spray if cool, wet conditions (which favor disease) occur for periods lasting 48 hours or more.		
Third	<b>Direct Seeded Lettuce Only</b> Application should be made 14 days after second spray if conditions favoring disease occur.		
*Based on previous history of disease infestation in the field or adjacent fields.			

**Time and Rate of Application**

Depending on conditions which favor disease development, one to three applications should be made during bloom for control of brown rot blossom and twig blight. Repeated applications of Ronilan during the bloom period will provide suppression of shot hole disease. One pre-harvest application should be made for control of fruit brown rot (see table).

A rate of 1½ pounds product per acre is generally recommended. A one pound product per acre rate of Ronilan should be used only when low disease pressure can be predicted. Under high disease pressure or in conditions very favorable for disease development, use the higher treatment rates specified, multiple applications and shorter application intervals. For large mature trees, use the higher treatment rates specified.

Consistency of disease control with low recommended rates can be enhanced by 8-16 oz./100 gals. of a non-ionic high quality spreader-sticker in tank mix with Ronilan.

Add Ronilan to the tank prior to the addition of the spreader-sticker.

**Restrictions and Limitations for Lettuce**

Do not apply Ronilan within 28 days of harvest.

Do not use Ronilan as a plant dip, as injury may occur.

Do not apply this product through any type of irrigation system.

Do not apply more than 6 lbs of Ronilan per acre in one season on lettuce.

**Stone Fruit**

**General Information**

Ronilan fungicide is effective for the control of brown rot blossom and twig blight shot hole (*Stigmia carpophila*), and fruit brown rot of stone fruit including apricots, cherries, nectarines and peaches. Ronilan is a contact fungicide, therefore, thorough coverage of plant parts to be protected is essential for effective control.

### Method of Application

Rates of Ronilan per 100 gallons are based on an application of 400 gallons per acre of dilute spray. Refer to the Application Rates and Timing for Control of Brown Rot if other than 400 gallons per acre is applied. Apply Ronilan as a spray using sufficient water to obtain thorough coverage

**Ground Equipment:** Apply a minimum of 50 gallons per acre.

**Air Equipment:** Apply in a minimum of 15 gallons per acre. Aerial applications recommended for bloom and petal fall applications only.

**Mixing Instructions:** Maintain agitation to keep the material in suspension and apply with properly calibrated spray equipment.

Ronilan is physically compatible with most pesticides used in a tank mix on stone fruit. To assure compatibility of Ronilan with other products, add correct proportions in a small container with water. Mix thoroughly and let the mixture stand for five minutes. The mixture is compatible if the combination remains mixed, or can be readily remixed.

### Stone Fruit

Application Rates and Timing for Control of Brown Rot (*Monilinia* spp.) and Shot Hole (*Stigminia carpophila*)

Crop	Pounds Product* per		Timing
	100 Gallons	Acre	
Apricots Cherries Nectarines Peaches	0.25 to 0.5	1.0 to 2.0	<b>Brown rot blossom &amp; twig blight</b> Apply at early bloom Apricots - Red Bud Peaches & Nectarines - Pink bud Cherries - Early Popcorn Apply again at full bloom if conditions persist which favor disease development. Apply again at petal fall if conditions persist which favor disease development. Do not apply more than 3 bloom treatments. <b>Fruit brown rot</b> Apply when conditions favor disease development within 3 weeks of harvest. Do not apply more than 1 pre-harvest treatment. Do not apply within 14 days of harvest.
	Rates are based on 400 GPA  Do not exceed 2 lbs. product per acre per application		

\* See Timed Rate of Application heading

### Restrictions and Limitations for Stone Fruit

Do not apply Ronilan within 14 days of harvest.

Do not apply more than 2 pounds of Ronilan per acre per application.

Do not apply more than 8 pounds of Ronilan per acre per season (maximum of 6 pounds at bloom and 2 pounds pre-harvest).

Do not apply Ronilan during rain.

Apply when conditions will permit spray to dry on the plants.

Do not apply this product through any type of irrigation system.

Do not graze or feed cover crops from treated orchards to livestock.

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# Raspberries

## Time and Rate of Application

For control of *Botrytis* fruit rot, the following spray program is recommended. The first application should be made no later than 10% primary bloom. Timing of subsequent applications should be made as indicated (see table) and will vary according to weather conditions and resultant disease pressure.

Apply Ronilan at rates ranging from 1 to 2 pounds product/A.

The 2 pounds rate will provide an added margin of control above lower rates and, therefore, should be used whenever disease pressure is predictably severe. Use the 1½ pound rate when disease pressure is expected to be moderate. The 1 pound rate should only be used in newly established areas when disease pressure is expected to be low.

## Application Rate Table for Raspberries

Moisture Conditions	Spray Interval* (Days)	Rate (Pounds Product/A)
Frequent natural moisture (intermittent rain, fog, dew) or when using sprinkler irrigation (high disease pressure)	7-9	1½-2
Limited natural moisture or infrequent sprinkler irrigation.	10-14	1-1½

\*Use spray interval throughout the bearing cycle.

If a heavy rainfall occurs anytime during this spray program or if a wet period (light rain, fog or dew) lasting more than 24 hours occurs, immediate re-treatment is necessary at a rate of 2 pounds product per acre as soon as conditions allow the spray to dry on the plants.

## Method of Application

### Ground Equipment:

Applications of Ronilan should be made with not less than 100 gallons of spray solution per acre (broadcast basis) to obtain thorough coverage of the developing fruit. An operating pressure of 50-100 psi is recommended. Direct spray nozzles toward the fruit bearing area of the canes.

## Restrictions and Limitations for Raspberries

Do not apply more than a total of 8 lbs. of Ronilan per acre in one crop season.

Do not apply Ronilan within 9 days of harvest.

Do not apply Ronilan during rain. Wait until conditions are such that the pray will dry on the plants.

Do not apply Ronilan through any type of irrigation system.

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## Onions (Dry Bulb Type)

### Time and Rate of Application

For control of *Sclerotinia* watery soft rot, *Sclerotium* white rot, and *Botrytis* neck rots, a combination of a soil treatment at planting (so drench or spray band over the row) and foliar treatment after crop emergence is needed. *Botrytis* leaf blight and purple

blotch (*Alternaria porri*) can be controlled only with foliar sprays. The following recommendations are made according to disease type (see tables).

### Restrictions and Limitations for Onions (dry bulb type)

Do not apply more than a total of 10 pounds of Ronilan per acre in one crop season.

Do not apply within 18 days of harvest.

Do not apply Ronilan during rain when controlling *Botrytis* leaf blight. Wait until conditions are such that the spray will dry on the plants.

Do not apply Ronilan through any type of irrigation system.

Do not apply Ronilan to direct-seeded onions before 4 weeks after emergence.

## Onions (dry bulb type)

Application rate table for *Sclerotinia* watery soft rot, *Sclerotium* white rot, and *Botrytis* neck rots

Application*	Timing	Rate, Volume and Site
First	At planting (for transplant only)  or  4-6 weeks after crop emergence (for direct-seeded)	Soil drench - 2 lbs product/A in 400 gallons of water/A applied in a 4-6" band over the row  or  Spray band - 2 lbs. product/A in 100 gallons of water/A applied in 2-4" band over the row.
Second	Up to 3 additional sprays should be applied if disease pressure is high**. If a minimum spray program of 3 sprays is followed, the third application should be made 4-6 weeks before harvest.	Foliar - 2 lbs. product/A in a minimum of 100 gallons of water/A directed at the stem base. Drop nozzles should be used to ensure that spray reaches the stem and surrounding soil.
<p>* A minimum program of 3 treatments is recommended.            ** High disease pressure based on previous history of disease infestation in the field or adjacent fields.</p>		

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### Onions (dry bulb type)

Application rate table for *Botrytis* leaf blight and purple blotch (*Alternaria porri*)\*

Application**	Timing	Rate (Pounds Product/A)	
		Low Disease Pressure	High Disease Pressure
First	4-6 weeks after crop emergence or as soon as disease starts to develop	1 ½	2
Second	2 weeks after first application	1 ½	2
Third and Subsequent	Up to 3 additional sprays should be applied if conditions occur which favor disease development (such as wet, humid, foggy conditions).**	1 ½	2

\* A minimum of 2 foliar treatments is recommended. Purple blotch control is achieved when disease pressure is low to moderate.  
 \*\* Applications should be made with not less than 20 gallons of spray solution per acre (broadcast basis) to obtain thorough coverage. Use cone or flat fan nozzles. Flood-type nozzles should not be used.

### 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 use of the product in a manner inconsistent with its labeling all of which are beyond the control of BASF

CORPORATION ("BASF") or the Seller. All such risks shall be assumed by the Buyer.

BASF 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. BASF MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY IN NO CASE SHALL BASF OR THE SELLER BE LIABLE FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE

OR HANDLING OF THIS PRODUCT BASF 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 BASF.

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September 23, 1993

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