SHAUGHNESSEY NO. 13 REVIEW NO.

EEB BRANCH REVIEW

DATE: IN 8-17-83 OUT 10-17-83

FILE OR REG. NO. 7969-53

PETITION OR EXP. PERMIT NO.

DATE OF SUBMISSION 8-1-83

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RD REQUESTED COMPLETION DATE 10-28-83

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RD ACTION CODE/TYPE OF REVIEW 335/Amendment

TYPE PRODUCT(S): I, D, H, F, N, R, S Fungicide

DATA ACCESSION NO(S).

PRODUCT MANAGER NO. H. Jacoby (21)

PRODUCT NAME(S) Ronilan Fungicide 50W

COMPANY NAME BASF Wyandotte Corporation

SUBMISSION PURPOSE Proposed conditional registration of lettuce, raspberries, and onions

SHAUGHNESSEY NO.	CHEMICAL, & FORMULATION	% A.I.

Environmental Saftey Review
Fish and Wildlife

100.1 Pesticide Use

Ronilan™ is a contact fungicide for control of sclerotinia "drop" (watery soft rot) of lettuce, botrytis fruit rot of raspberries, and sclerotinia watery soft rot, sclerotium white rot, botrytis neck rots, and botrytis leaf blight of onions.

100.2 Formulation

3-(3,5-DIchlorophenyl)-5 Ethenyl
5-Methyl-2,4 Oxazolidinedione.....50%

Inert Ingredients 50%

100.3 Application Methods, Directions, Rate

Taken directly from the label.

LETTUCE

TIME AND RATE OF APPLICATION: For control of sclerotinia "drop", up to three applications may be made under certain conditions in one season as specified in the rate table. Do not disturb soil after application.
METHOD OF APPLICATION: Ground Equipment.
Application should be made with 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 3 nozzles or more per bed.

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 plant is essential.

RESTRICTIONS AND LIMITATIONS FOR LETTUCE

Do not apply Ronilan within 28 days of harvest.

APPLICATION RATE TALE - LETTUCE (ALL TYPES)

APPLICATION	TIMING	RATE LB. PRODUCT/ACRE		
		LOW* DISEASE PRESSURE	HIGH* DISEASE PRESSURE	HIGH* DISEASE PRESSURE
FIRST	Direct Seeded Lettuce- Application should be made immediately (within 2 days) after thinning. Transplanted Lettuce- Application should be made 7-10 days after transplanting.		1	14-2
SECOND	Application should be made 10-14 days after first spray if cool, wet conditions (which favor disease) occur for periods lasting 48 hours or more.			
THIRD	Direct Seeded Lettuce Only- Application should be made 10-14 days after second spray if conditions favoring disease occur.			

*Based on previous history of disease infestation in the field or adjacent fields.

RASPBERRIES

TIME AND RATE OF APPLICATION: For control of botrytis fruit rot, the following spray program is recommended. The first application should be made not later than 10% primary bloom. Timing of subsequent applications should be made as indicated below (see table) and will vary according to weather conditions and resultant disease pressure.

Apply Ronilan at rates ranging from 1 to 2 lbs. product/A. The 2 lb. rate will provide an added margin of control above lower rates and therefore should be used whenever disease pressure is predictably severe. Use the 1 1/2 lb. rate whenever disease pressure is predictably severe. Use the 1 1/2 lb. rate when disease pressure is expected to be moderate. The 1 lb. rate should only be used in newly established areas when disease pressure is expected to be low.

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

APPLICATION RATE TABLE - Raspberries

MOISTURE CONDITIONS	SPRAY INTERVAL* (DAYS)	RATE LBS. PRODUCT/A
Frequent natural moisture (intermettent rain, fog, dew) or when using sprinkler irrigation (high disease pressure).	7-9	1 1/2 - 2
Limited natural moisture or infrequent sprinkler	10-14	1 - 1 1/2

* Use spray interval throughout the bearing cycle.

METHOD OF APPLICATION: Ground Equipment. Applications of Ronilan should be made with no less than 100 gallons of spray solution per acre (Braodcast 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.

Air Equipment. Applications 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 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 spray will dry on the plants.

ONIONS

TIME AND RATE OF APPLICATION:

For control of sclerotina watery soft rot, sclerotium white rot, and botrytis neck rots, a combination of a soil treatment at planting (in furrow, soil drench or spray band over the row) and foliar treatments after crop emergence is needed. Botrytis leaf blight can be controlled only with foliar sprays. The following recommendations are made according to disease type.

APPLICATION RATE TABLE - ONIONS For sclerothinia watery soft rot, sclerotium white rot, and botrytis neck rots. A minimum program of 3 treatments is recommended.		
APPLICATION	TIMING	RATE, VOLUME AND SITE
FIRST	At planting	In furrow - 2 lb. product/A row sprayed into the furrow before closing OR Soil drench - 2 lb. product/A in 400 gallons of water/A applied in a 4-6" band over the row OR Spray band - 2 lb. product/A in 100 gallons of water/A applied in a 2-4" band over the row.
SECOND	4-6 weeks after crop emergence	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 spray reaches the stem and surrounding soil.
THIRD AND SUBSEQUENT	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 spray reaches the stem and surrounding soil.

*High disease pressure based on previous history of disease infestation in the field or adjacent fields.

APPLICATION RATE TABLE - ONIONS

For botrytis leaf blight. A minimum program of 2 foliar treatments is recommended.

APPLICATION	TIMING	RATE LB. PRODUCT/A*	
		LOW DISEASE PRESSURE	HIGH DISEASE PRESSURE
FIRST	4-6 weeks after crop emergence or as soon as disease starts to develop.	1 1/2	2
SECOND	2 weeks after first application.		
THIRD AND SUBSEQUENT	Up to 3 additional sprays should be applied if conditions occur which favor disease development (such as wet, humid, smoggy conditions).		

*Applications should be made with not less than 100 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.

RESTRICTIONS AND LIMITATIONS FOR ONIONS

Do not apply more than a total of 10 lbs. 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.

100.4 Target Organisms

See above

100.5 Precautionary Labeling

The proposed additions to the label for these uses does not include additional environmental warning statements.

101 Physical and Chemical Properties

See previous reviews. No new data submitted.

102. Behavior in the Environment

See previous reviews. No new data submitted.

103 Toxicological Properties

For specific data see previous reviews. In summary Ronilan is relatively non-toxic to both avian and mammalian species with LD_{50} for indicator species greater than 2000 mg/kg and LC_{50}s greater than 5000 ppm. LC_{50}s for aquatic species range from 4.0 ppm for Daphnia magna to 47.3 ppm for Bluegills.

Reproduction studies show that at exposure levels between 5 and 50 ppm avian reproduction may be affected.

104.0 Hazard Assessment

Ronilan is currently registered for stonefruits, head lettuce and strawberries, which equals approximately 2 million acres where this product can be used annually. The proposed amendments to this label, the addition of leaf lettuce, onions, and raspberries would increase acreage of potential use by approximately 150,000 acres (USDA Ag. Statistics 1980). This increase in potential use does not appear to be significant. Therefore, the proposed additional uses for Rolilan on onions, raspberries and leaf lettuce should not pose a significant increase in risk to nontarget organisms.

107.0 Conclusions

EEB has completed an incremental risk assessment of the proposed label amendments for Ronilan fungicide. Based upon the available data EEB concludes that the additional proposed uses do not provide for a significant increase in exposure or risk to non-target organisms.

10/20/83

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10.20-83

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