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REVIEW NUMBER

ECOLOGICAL EFFECTS BRANCH REVIEW

DATE: IN 12-4-91 **OUT** 9/30/92

CASE # : 047624
SUBMISSION # : S407591
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LIST A, B, C, D

DATE OF SUBMISSION 9-18-91

DATE RECEIVED BY EFED 12-3-91

SRRD/RD REQUESTED COMPLETION DATE 3-26-92

EEB ESTIMATED COMPLETION DATE 3-26-92

SRRD/RD ACTION CODE/TYPE OF REVIEW 33-=NEW FFOD USE AMEND.

MRID #(S)

DP TYPE 001 SUBMISSION RELATED DATA PACKAGE

PRODUCT MANAGER, NO. SUSAN LEWIS, 21

PRODUCT NAME(S) RIDOMIL-2E

TYPE PRODUCT: I, D, H, F, N, R, S FUNGICIDE

COMPANY NAME CIBA-GEIGY

SUBMISSION PURPOSE ADD USE ON GINSENG

INCLUDE USE(S)

COMMON CHEMICAL NAME METALAXYL

EEB REVIEW

Chemical: Ridomil 2E

100 Submission Purpose and Label Information

100.1 Submission Purpose and Pesticide Use
Ciba-Geigy Corporation has requested an amendment to the label of Metalaxyl: Ridomil 2E to include the use of, and the directions for application to, Ginseng.

100.2 Formulation Information (taken from label):

Active Ingredient: Metalaxyl: N-((2,6-dimethylphenyll)-N-(methoxyacetyl) alanine methyl ester 25.1%

Inert Ingredients: 74.9%

100.3 Application Rate, Method, Directions

Application Rate and Directions

Ridomil 2E is usually used in conjunction, and supplemented, with Ridomil 5G. The application method is as follows: Apply Ridomil 2E at 3 pts per acre as a drench in 100-400 gallons of water uniformly to the soil surface in the spring before the plants begin growing. Apply metalaxyl 2E or 5G at .75 lb. a.i./A. Make additional applications of metalaxyl 5G only at monthly intervals at .5 lb a.i./A. Up to four supplemental applications may be made. The last application of metalaxyl 5G may be made at .75 lb. a.i./A. Note: to avoid illegal residues, (1) do not apply more than a total of three lbs. a.i. of metalaxyl 2E or 5G per acre of ginseng per growing season, and (2) do not harvest ginseng within nine days of a metalaxyl application. (3) Do not use metalaxyl 2E for any of the supplemental applications.

Application Method

Ridomil 2E is applied to the soil before early spring growth followed by applications of Ridomil 5G.

100.4 Target Organism Ridomil 2E is applied to control Phytophthora root rot in ginseng caused by Phytophthora cactorum.

100.5 Precautionary Labeling

"Hazards to Humans and Domestic Animals.

Do not apply directly to water or wetlands (swamps, bogs,

marshes, and potholes). Apply only as specified on this label. Do not apply when weather conditions favor drift from treated areas. Do not contaminate water when disposing of equipment wash waters."

101 Hazard Assessment

101.1 Discussion

Ridomil 2E is a liquid systemic fungicide that is currently registered for the control of Phytophthora and Pythium diseases of avocados, citrus, cotton, head lettuce, nonbearing deciduous fruits and nuts, peanuts, raspberries, soybeans, spinach, sugar beets and tomatoes. August 28, 1991 the EPA proposed a tolerance on ginseng at 3.0 ppm. Ciba-Geigy is now requesting amended registration of Ridomil 2E and 5G fungicides to add the use on ginseng.

Ginseng is grown mainly in Wisconsin; minor growth occurs in North Carolina and Virginia. The following counties in Wisconsin grow ginseng:

Adams	Oconio
Barron	Oneida
Buffalo	Outagamic
Chippewa	Pepin
Clark	Portage
Columbia	Price
Crawford	Racine
Duce	Rock
Douglas	Rusk
Dunn	St. Croix
Eau Claire	Sauk
Fond du Lae	Sawyer
Forest	Shawano
Green Lake	Sheboygan
Iowa	Taylor
Jackson	Trempealeau
Jefferson	Vernon
Juneau	Vilas
La Fayette	Walworth
Langlade	Washburn
Lincoln	Washington
Manitowic	Waukesha
Marathon	Waupaca
Marinette	Waushara
Marquette	Wood
Monroe	

101.2 Likelihood of Adverse Effects to Non-target Organisms

The Estimated Environmental Concentrations (EEC) for Ridomil 2E at a rate of .75 lbs. a.i./A are as follows:

Un-incorporated ground application
6 foot water = .0046 ppm
6 inch water = .0551 ppm

Ridomil 5G and Ridomil 2E at a rate of .75 lbs. a.i./A each, applied together at initial application:

Un-incorporated ground application
6 foot water = .0092 ppm
6 inch water = .1101 ppm

Terrestrial The following data was taken from previous EEB reviews:

Mallard	LD50 =	1466 mg/kg
Mallard	LC50 =	>10,000 ppm
Bobwhite	LC50 =	>10,000 ppm
Rat	LD50 =	669 mg/kg
Rabbit Dermal	LD50 =	>6000 ppm

Based on LD50, LC50 and EEC values it is not believed that non-target terrestrial organisms will be at risk due to the proposed use of Ridomil 2E on ginseng.

Aquatic

Data from previous EEB reviews found the following:

Rainbow trout	LC50 = >100 ppm
Bluegill sunfish	LC50 = >100 ppm
Daphnia magna	LC50 = 28 ppm

Based on the LC50 and EEC values it is not believed that non-target aquatic organisms will be at risk due to the proposed use of Ridomil 2E on ginseng.

101.3 Endangered Species Considerations

The proposed use does not raise any endangered/threatened species concerns.

101.4 Adequacy of the Toxicity Data

The existing data was adequate to assess hazards to nontarget species for this proposed use.

101.5 Adequacy of Labeling

Wetlands environmental hazard statement must be included on the label: "Do not apply directly to water, areas where surface water is present or to intertidal areas below the mean high water mark."

102 Conclusions

EEB has reviewed the proposed use of Ridomil 2E on ginseng. Based on the data and label information, it is believed that there will be no unnecessary risk to non-target organisms due to the proposed use.

Dana Lateulere, Biologist
EEB/EFED/OPP Date: 1/2/92

Ann Stavola, Section Head 5
EEB/EFED/OPP Date: 9/25/92

Doug Urban, Acting Branch Chief
EEB/EFED/OPP Date: 9/29/92

SECTION B

AMOUNT, TIMING AND FREQUENCY OF APPLICATION OF THE PESTICIDE METALAXYL TO GINSENG

General Information

Metalaxyl is a systemic fungicide for use on selected crops to control certain diseases caused by members of the Oomycete class of fungi. Other fungicides must be used to control diseases incited by other classes of fungi.

Ginseng

Metalaxyl applied to the soil before early spring growth followed by additional applications at monthly intervals will control Phytophthora root rot in ginseng caused by **Phytophthora cactorum**.

Apply metalaxyl 2E or 5G at 0.75 lb. a.i./A uniformly to the soil surface in the spring before the plants begin growing. Make additional applications of metalaxyl 5G only at monthly intervals at 0.5 lb. a.i./A. Up to four supplemental applications may be made. The last application of metalaxyl 5G may be made at 0.75 lb. a.i./A.

Notes: To avoid possible illegal residues, (1) Do not apply more than a total of three lbs. a.i. of metalaxyl 2E or 5G/A of ginseng/growing season, and (2) Do not harvest ginseng within nine days of a metalaxyl application. (3) Do not use metalaxyl 2E for any of the supplemental applications.

Rotational Crops Rotation Crop	Planting Time From Metalaxyl Application
Ginseng	0 days

October 29, 1990
Revised March 8, 1991

R101MA0311KS

2E 150 together

.75 a.i.
.75 a.i.
1.50 lb. a.i.

EEC Calculation Sheet

I. Un-incorporated ground application.

Runoff

1.50 lb(s) x 0.01 (%runoff) x 10A (from 10A drainage basin) = .15 lb(s)

EEC of 1 lb. a.i. direct application to 1A pond 6-foot deep = 61 ppb,

Therefore, EEC = 61 ppb x .15 (lb) = ppb. 9.15 – 6'

734 ppb x .15 lb = 110.1 ppb – 6"

II. For incorporated ground application

Runoff

___lb(s) ÷ _____(cm) (depth of incorp.) x 0.0____ (% runoff) x 10A = ___lb(s)

Therefore, EEC = 61 ppb x ____bl(s) = ppb

III. For aerial application (or mist blower).

A. Runoff

___lb(s) x 0.6 (appl. efficiency) x 0.0__ (%runoff) x 10 A (basin) = _____lb(s) (tot. runoff)

B. Drift

___lb(s) x 0.05 (5% drift) = ____lb(s) total drift

Tot. loading = ____lb(s) (total runoff) + ___lb(s) (total drift) = ____lb(s)

Therefore, EEC = 61 ppb x ___lb(s) = ____ppb

2E or 5G separately

EEC Calculation Sheet

I. Un-incorporated ground application.

Runoff

.75 lb(s) / A x 0.0 1 (%runoff) x 10A (from 10A drainage basin) = .075 lb(s)

EEC of 1 lb. a.i. direct application to 1A pond 6-foot deep = 61 ppb,

Therefore, EEC = 61 ppb x .075 (lb) = ppb. 4.575 ppb → 6"

734 ppb x .075 = 55.1 ppb → 6"

II. For incorporated ground application

Runoff

___lb(s) ÷ _____(cm) (depth of incorp.) x 0.0____ (% runoff) x 10A = ___lb(s)

Therefore, EEC = 61 ppb x ____bl(s) = ppb

III. For aerial application (or mist blower).

A. Runoff

___lb(s) x 0.6 (appl. efficiency) x 0.0__ (%runoff) x 10 A (basin) = _____lb(s) (tot. runoff)

B. Drift

___lb(s) x 0.05 (5% drift) = ____lb(s) total drift

Tot. loading = ____lb(s) (total runoff) + ___lb(s) (total drift) = ____lb(s)

Therefore, EEC = 61 ppb x ___lb(s) = ____ppb