US EPA ARCHIVE DOCUMENT

FILE COPY

Date Out EFB: APR 27 1982

APR 27 1982

To: Henry Jacoby
Product Manager 21
Registration Division (TS-767)

From: Dr. Willa Garner, Chief
Review Section No. 1
Environmental Fate Branch
Hazard Evaluation Division (TS-769)

Attached please find the environmental fate review of:

Reg./File No.: 7969-53

Chemical: Vinclozin [3-(3,5-dichlorophenyl)-5-ethenyl-5-methyl-1,3-oxazolidine-2,4-dione]

Type Product: Fundicide

Product Name: Ronilan

Company Name: BASF Wyandotte

Submission Purpose: New Rotational Crop Study

ZBB Code: other

ACTION CODE: 180

Date In: 2/12/82

EFB # 181

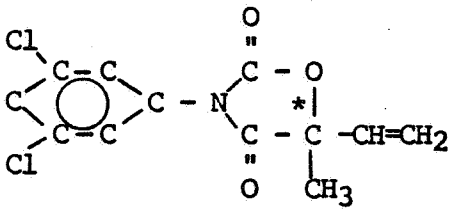
Date Completed: 4/26/82

TAIS (level II)	Days
64	1

1.0 INTRODUCTION

BASF Wyandotte seeks a waiver of the crop rotation restriction for use of Ronilan (Vinclozin, BAS-352-F, [3-(3,5-dichlorophenyl)-5-ethenyl-5-ethyl-1,3-oxazolidine-2,4-dione]), following the use pattern recommended for lettuce.

2.0 STRUCTURE



(* marks position of radiolabel)

3.0 DIRECTIONS FOR USE

See previous reviews.

4.0 EXPERIMENTAL

Clark, James R. and Stuart N. Adamsbaum. 1981. Uptake of BAS 352F-^{14}C (Ronilan) by Rotational Crops Under Field Conditions. Laboratory Report No. PM-34. Metabolism Laboratory. BASF Wyandotte Corporation, Agricultural Chemicals Division, Parsippany, NJ. December, 1981. In Accession #070670 - 2/10/82

4.1 Introduction

Two crop rotational studies have previously been submitted, following the use pattern recommended for strawberries (0.5-1.0 lb ai/A at 7-14 day intervals, for a total of 17.5 lbs ai/A/season). This current study is based on the lettuce use pattern (1 to 3 applications of 3/4 - 1 lb ai/acre, for a maximum of 3 lb ai/acre/season.

In the study, BAS 352F-5-^{14}C was used, having a specific activity of 3.86 mCi/mMole and a radiopurity >99% (by TLC and HPLC).

On May 14, 1981, Florida Deep Heart Lettuce was planted into 4 rows in a 1.49 m^2 plot in Alpha, NJ. The soil textural characteristics were as follows:

Silt	Sand	Clay	Texture	pH	CEC	% O.M.
67.60	11.87	20.53	silt loam	5.5	9.5	2.3

Radiolabeled fungicide in acetone was applied to each plant by direct pressure, low dead-volume sprayer. Four plots received 0.84 kg/Ha (3/4 lb ai/acre) and two received 1.12 kg/Ha (1.0 lb ai/acre). Applications were made on 5/22, 6/5 and 6/16/81.

On 7/2/81, lettuce was harvested, and disposed of as radioactive waste. Soil in the test areas was tilled to a depth of 15 cm, then raked smoothly. Representative rotational crops (see appendix I, appended to this review) were planted at 20,30,60 and 90 days after the last fungicide application.

Both soil and vegetative samples were taken at at least 3 intervals during the growing season, and analyzed for radio-residues by LSC (method used appears valid).

4.2 Results and Discussion

Non-accumulation of residues was confirmed. No plant sample analyzed contained residues which exceeded 0.07 ppm of BAS 352F-^{14}C equivalents. With the exception of a single immature spinach sample (planted on day 20), all plant samples contained 0.056 ppm or less.

None of the fungicide residues appeared to leach beyond the top 8" of soil.

5.0 CONCLUSION

BAS 352F residues do not accumulate in rotated crops to levels which exceed 0.056 ppm, when the fungicide is applied in accordance with the recommended use pattern for lettuce.

6.0 RECOMMENDATION

We concur with the waiver of a crop rotation restriction for BAS 352F, if used following the recommended lettuce use pattern.

Emil Regelman
Chemist
EFB/HED (TS-769)
April 26, 1982

Appendix 1

ROTATIONAL CROP PLANTING DATES

Rotational Crop	Variety	Days Since Last Application	Date Planted Month/Day 1981
Carrots	Nantes Long	20	7/6
Cucumbers	Carolina	20	7/6
Spinach	Bloomsdale	20	7/6
Tomatoes	Pixie	20	7/6
Beets	Detroit	30	7/16
Cucumbers	Carolina	30	7/16
Spinach	Bloomsdale	30	7/16
Tomatoes	Pixie	30	7/16
Cucumbers	Carolina	60	8/15
Spinach	Bloomsdale	60	8/15
Tomatoes	Pixie	60	8/15
Turnips	Tokyo Cross (Hybrid)	60	8/15
Radish	Scarlet Glove	90	9/14
Spinach	Bloomsdale	90	9/14
Winter Wheat	Redcoat	90	9/14
Beets	Detroit	90	9/14

Appendix 2

Weather at Alpha, New Jersey 1979-81

The study reported here was carried out in 1981. Data from 1979 and 1980 are provided for comparison.

Monthly Rainfall (mm)

	1979	1980	1981
May	113	107	157
June	62	91	128
July	189	66	112
August	156	34	86
September	260	80	85
October	139	80	109

Monthly Temperatures (^{0}C)

	1979		1981	
	Highest	Lowest	Highest	Lowest
May	32	3	22	8
June	29	6	26	14
July	31	8	29	17
August	32	9	27	15
September	28	3	30	4
October	29	-2	23	-3