FILE COPY

Date Out EFB: DEC 16 1980

PROPRIETARY

To: Product Manager 21 - H. Jacoby
TS-767

From: Dr. Willa Garner *for Creeger (Acting Chief)*
Chief, Review Section No. 1
Environmental Fate Branch

Attached please find the environmental fate review of:

Reg./File No.: 7969-LG

Chemical: Vinclozolin

Type Product: F

Product Name: Ronilan

Company Name: BASF

Submission Purpose: Data Review

ZBB Code: Other

ACTION CODE: 111

Date in: 10/8/80

EFB # 648

Date Completed: DEC 16 1980

Timed (days) 1

Deferrals To:

TAIS 61

_____ Ecological Effects Branch

_____ Residue Chemistry Branch

_____ Toxicology Branch

1.0 INTRODUCTION

1.1 Purpose

BASF Wyandotte submitted a report that was omitted from data reviewed by EFB on 3/25/80 relative to registration of vinclozolin on strawberry [File No. 7969-LG; submitted on 10/2/80].

1.2 Other Reviews

7969-LG, 9F2205	3/25/80
7969-LG	9/23/80
7969-LG	12/16/80

1.3 Chemical

See EFB review of 12/16/80

2.0 USE DIRECTIONS

See EFB review of 3/25/80.

3.0 DISCUSSION OF DATA

Data submitted entitled: "Influence of vinclozolin on the N_2-fixation by Clostridium pasteurianum"; filed under Accession No. 243519.

In this report, ethylene formation was measured throughout the test period and was used as an index to the nitrogenase system which is responsible for the fixation of molecular nitrogen. All experiments were performed under sterile and anaerobic conditions. To get an anaerobic atmosphere, the test batches were maintained under nitrogen.

In this test, 100 ml nutrient agar was inoculated with 1 ml of Clostridium suspension under sterile conditions and then incubated in a shaking incubator at 25°C. When cell density reached 5 x 10^6 cells, one ml of acetone containing 10 mg and 50 mg vinclozolin were added to the test batches. Final vinclozolin concentrations were 10 or 50 mg/l of nutrient solution.

Microbial activities, vinclozolin concentration, and ethylene production were monitored for a period of 102 hours. Determination of nitrogenase activity was accomplished by using 10 ml samples, added to it 2 ml acetylene and shaken for one hour in a shaking incubator at 25°C. The enzyme activity was stopped by adding 0.5 ml of a 30% TCA and the proportion of ethylene formed in the gas mixture was determined using GC. The amount of ethylene liberated from tests and controls were determined in nMol/hour/10^9 cells.

Test results showed that the formation of ethylene gas during the test period from 0-102 hours was not affected by the addition of 10 or 50 mg of vinclozolin in /l. The researchers concluded that the nitrogenase system which is responsible for the fixation of molecular nitrogen, had not been affected by vinclozolin.

4.0 SUMMARY

Vinclozolin at 50 mg/l did not affect molecular nitrogen fixation where Clostridium pasteurianum was used as the N_2-fixing organism.

5.0 CONCLUSION

This supplementary test and additional data reviewed on 12/16/80 (EFB #659), complement EFB review of 3/25/80. We concur with the registration of vinclozolin for use on strawberry.

Sami Malak

Sami Malak, Ph.D.
Review Section #1
Environmental Fate Branch
Hazard Evaluation Division