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Date Out EFB:

OCT 21 1980

To: Product Manager 21 Wilson
TS-767

From: Dr. Willa Garner *Samuel M. Lueger (Acting)*
Chief, Review Section No. 1
Environmental Fate Branch

Attached please find the environmental fate review of:

Reg./File No.: 677-313, OF 2405, OH5272

Chemical: Chlorothalonil

Type Product: Fungicide

Product Name: Bravo 500

Company Name: Diamond Shamrock

Submission Purpose: added use on oranges and grapefruit

ZBB Code: 3(c)(7)

ACTION CODE: 335

Date in: 9/22/80

EFB # 625-627

Date Completed: OCT 21 1980

Time (days)

Deferrals To:

_____ Ecological Effects Branch

_____ Residue Chemistry Branch

_____ Toxicology Branch

1. INTRODUCTION

1.1. This is a request for the conditional registration of chlorothalonil (BRAVO 500) on oranges and grapefruit. The product contains 4.17 pounds ai/gallon.

1.2 See previous review of 677-313 on soybeans, dated October 20, 1980..

2. DIRECTIONS FOR USE

2.1 For scab - Apply 7-11 pints per acre. For severe scab, apply 11 pints per acre at pinhead stage just prior to first flush and make a second application at 2/3 petal fall.

2.2 For melanose - Apply 7-11 pints per acre. Apply as a post bloom spray in late April to early May (1-3 weeks after petal fall). For severe disease conditions, a second application 2-3 weeks later will provide more effective control.

2.3 For greasy spot and pink pitting - Apply 5-7 pints per acre one time between mid-June and mid-July. For most effective control, apply with 0.5% oil.

2.4 Do not apply when mature fruit is on the tree. Do not apply within 100 days of harvest. Do not allow livestock to graze treated areas.

3. DISCUSSION OF DATA

4.1 The following data gaps exist for the orange and grapefruit use. They must be filled during the period of conditional registration granted by Registration Division.

4.1.1 Effects of the pesticide on microbes - Data previously reviewed satisfy this requirement in part. Refer to our evaluation of 677-313 dated October 20, 1980, section 4.2.4 and 677-313 dated May 26, 1978, section 5.2.1 (5) for other microbes and microbe functions to be tested.

4.1.2 With regard to the soil adsorption/desorption study, we note the soil was sieved at 60 mesh which removed large sand particles. We would expect this to result in higher K values than expected if such fine sieving had not been done. Do you predict the sieving done in this study affected the K values derived compared to the K values that would be derived if sieving had not been done?

- 4.1.3 Field dissipation - Such data were previously submitted and reviewed in our evaluation of PP 1024 dated July 15, 1971. Field dissipation of the parent compound was shown but analysis was for parent compound only and soil profiles were not provided. Refer to the July 10, 1978 Proposed Guidelines for sample protocol.
- 4.1.4 Catfish accumulation study - Refer to the July 10, 1978 Proposed Guidelines for sample protocol.
- 4.1.5 In the leaching study in accession number 099248, page 000114, what is the length of the leaching column and how many acre - inch equivalents of water were used for leaching? *column length 5 cm #10 steel with 80" equiv*
- 4.2 The soil degradation product of chlorothalonil, DAC 3701, is persistent and ^{H₂O} mobile in soil. Groundwater contamination is a possibility especially since the proposed citrus use areas may be in sandy soil areas. A groundwater monitoring program is recommended.

Samuel M. Creeger

Samuel M. Creeger
October 20, 1980
EFB/HED