DP Barcode :
PC Code No. 122804
EFGWB Out : 7/8/92

To: G. LaRocca/A. Heyward
Product Manager PM 15
Special Review and Reregistration Division (H7508W)

From: Henry P. Nelson, Ph.D., Head H Nelson
Environmental Assessment Section
Environmental Fate & Ground Water Branch/EFED (H7507C)

Thru: Henry Jacoby, Chief
Environmental Fate & Ground Water Branch/EFED (H7507C)

Attached, please find the EFGWB review of...

Reg./File # : NA

Chemical Name : 5-O-Dimethyl Avermectin A1a

Common Name : Avermectin

Type Product : insecticide/miticide

Product Name : Two products: Agrimek and Zephyr

Company Name : Merck

Purpose : Request that spray drift loading assumptions be lowered

Action Code : 570 EFGWB #(s): 90- 0705 & 0706 Total Review Time: 2

EFGWB Guideline/MRID Summary Table: The review in this package contains...				
161-1	202-2	164-1	165-1	166-1
161-3	162-3	164-3	165-3	166-3
201-1	162-4	164-4	165-4	167-1
202-1	163-1	164-5	165-5	167-2

MEMORANDUM

SUBJECT: EFGWB action #90-0705. Request for a reduction in the 5% of applied assumption

FROM: Robert Hitch Robert Hitch
Surface Water Section
EFGWB/EFED/OPP

THRU: Henry Nelson Chief, H Nelson
Surface Water Section
EFGWB/EFED/OPP

THRU: Henry Jacoby, Chief, Henry Jacoby
Environmental Fate and Groundwater Branch

Background

Currently the Ecological Effects Branch assumes that a spray drift loading equal to 5% of the application rate is reasonable for dosing mesocosms and driving aquatic fate models. As a part of a label amendment request, Merck Corporation proposes that EEB should use a 3% drift assumption and submits a publication (Riley and Wiesner, 1989, in submission 412635-01) purported to support the lowered figure. With the submission is a letter from James Akerman. The letter poses four questions for EFGWB. The questions and our responses are shown below:

1. Is this study scientifically sound?

EFGWB response. It is, in general, scientifically sound but it can not support Merck Corporation's argument. Ms. Sandra Bird of the Athens ERL is working on a literature review of aerial application studies. She was able to use some fourty studies. By telecom, she noted that 5% deposition at 100 feet downwind was about average and that several studies were above 10 percent while others were quite low. There is very little data related to airblast. We have on file two airblast studies with less than five percent and one study with 13%. We would recommend staying with the five percent assumption for both use patterns for now.

2. Is it appropriate to use deltamethrin as a surrogate test material for drift measurement.

EFGWB response. Yes deltamethrin and abamectin are large molecules and they are nonvolatile so it is reasonable to assume that they would be good surrogates for one another.

3. Is drift measured from aerial application useful in estimating drift from air blast or with ULV?

EFGWB response. As stated for question #1, there is little information about airblast drift. Studies need to be designed to tell what the drift will be from large acreage orchards. Thus far we have not seen much data indicating that ULV is much worse than normal aerial application. Sticking with the 5 percent assumption for all three use patterns seems reasonable for now.

4. Does it provide enough information to allow an estimation of drift, if so, how much drift occurred?

EFGWB response. The downwind transect extend only to 100 meters. This does not allow extrapolation of the drift which would result from a commercial-sized field. Again, we note that it is reasonable to stay with the 5% assumption for aerial and airblast application until additional data are evaluated.

Reference (Submitted by Registrant)

Riley, C. M. and C. J. Wiesner. 1989. Pesticide Science. (26) 159-166.

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