098301

Shaughnessy No. 098301

Date: APR 1 1983

To: D. Stubbs
Product Manager # 41
Registration Division (TS-767)

From: E. Regelman, Head (Acting)
Review Section #1
Environmental Fate Branch
Hazard Evaluation Division (TS-769c)

David Severn for

Attached please find the review of...

Reg./File No.: 83-NJ-09

Chemical: Aldicarb

Type Product: Insecticide

Product Name: TEMIK 15G

Company Name: State of New Jersey

Submission Purpose: Use on eggplant and groundwater concerns

ZBB Code: Sec. 18

Action Code: 510

Date In: 3/14/83

EFB # 271

Date Completed: APR /1 1983

TAIS (level II)	Days
63	1

Deferrals To:

____ Ecological Effects Branch

____ Residue Chemistry Branch

____ Toxicology Branch

1. INTRODUCTION / DIRECTIONS FOR USE

1.1 The State of New Jersey is requesting an emergency exemption under §18 of FIFRA for use of aldicarb (TEMIK 15G) on eggplant. A similar request was addressed by EFB in an August 6, 1981 evaluation. Refer to the EFB file.

1.2 A telephone call to Dr. Ghidiu (609-455-3100), the contact individual for this §18, revealed the following about eggplant culture in New Jersey.

-- In greenhouses maintained at daytime temperatures of 70 - 80°F, eggplant seeds are planted in individual planting cells and, after germination, the seedlings are transplanted to 4" X 4" pots containing sterilized peat moss. At about 7 weeks of growth, each eggplant seedling is treated with 0.4 - 0.8 grams of TEMIK 15G and incubated an additional 1 - 2 weeks in the greenhouse. At 1 - 2 weeks after treatment with TEMIK, the eggplants are transplanted into the field (where the soil pH is 6.3 - 7.0) at a density of about 2500 plants per acre (based on 8000 feet of row per acre). This results in an aldicarb application rate of 150 - 300 grams ai per acre. About 20 - 30% of the fields will be plastic mulched and a total of about 500 acres distributed over several counties are involved. --

Although County Extension agents from Burlington and Camden counties (Kate Liss, 609-267-3300 and Robert Ruizzo, 609-784-1001, respectively) state that groundwater in the principal eggplant-growing counties in New Jersey is found at 2 - 6 feet below the surface, Dr. Ghidiu stated that the groundwater table in eggplant fields is not reached at depths less than 10 feet. He also said that planting in the field will not be done before the first week in May (to avoid frost) which is after the spring rainy season.

2. DISCUSSION

2.1 The combination of: (1) a single application at a low rate to plants with an actively growing root system, (2) incubation in the greenhouse at 70 - 80°F for 1 - 2 weeks before transplanting to the field in early May and (3) the low acreage involved, lead to the conclusion that the proposed use will not result in detectable groundwater contamination. However, this conclusion does not necessarily apply to use of aldicarb under similar conditions in subsequent years in the same fields.

3. RECOMMENDATIONS

3.1 Groundwater contamination is not expected to result from the proposed use. Refer to 2.1, above.

3.2 If a similar use of aldicarb is anticipated for next year on the same fields in New Jersey in New Jersey, then the results of soil monitoring for total aldicarb residues (parent plus the sulfoxide and the sulfone) in the fields treated in 1983 under this Section 18 will be needed. Soil sampling will have to be done to sufficient depth to define the extent of leaching. Alternatively, the results of analyses of the treated peat moss in the 4" X 4" pots showing no detectable total residues of aldicarb before transplanting into the field may suffice in making field sampling not necessary. (Dr. Ghidiu indicated he may have access to a Master's thesis showing the latter).

The State of New Jersey is urged to discuss their plans with EFB before initiating any work.

Samuel M. Creeger
March 31, 1983
Section #1/EFB
Hazard Evaluation Division