1-5-78

EEE BRANCH REVIEW

DATE: IN _____ OUT _____ IN 12/20/77 OUT 1/5/78 IN _____ OUT _____

FISH & WILDLIFE ENVIRONMENTAL CHEMISTRY EFFICACY

FILE OR REG. NO. 201-EUP-58

PETITION OR EXP. PERMIT NO. 8G2024

DATE DIV. RECEIVED Nov. 18, 1977

DATE OF SUBMISSION No. 14, 1977

DATE SUBMISSION ACCEPTED

TYPE PRODUCT(S): (I) D, H, F, N, R, S

PRODUCT MGR. NO. SRS (Stubbs)

PRODUCT NAME(S) PYDRIN Insecticide 2.4 Emulsifiable Concentrate

COMPANY NAME Shell Chemical

SUBMISSION PURPOSE EUP (soybeans, peanuts, potatoes, pears)

CHEMICAL & FORMULATION Cyano (3-phenoxyphenyl)methyl-4-chloro-alpha-(1-methylethyl) benzeneacetate (Pydrin)

1.0 INTRODUCTION

1.1 Applicant wants a permit for use of PYDRIN on peanuts, pears, potatoes and soybeans. Nineteen states, 550 acres and 400 lbs of the ai are involved.

2.0 DIRECTIONS FOR USE

2.1 Soybeans - Apply 0.05-0.2 lb ai/A as necessary not exceeding 4 sprays/season and observe a 21 day PHI. Do not feed treated plants to livestock.

2.2 Peanuts - Apply 0.05-0.2 lb ai/A as necessary not exceeding 3 sprays/season and observe a 21 day PHI. Do not feed treated plants to livestock.

2.3 Potatoes - Apply 0.05-0.2 lb ai/A as necessary not exceeding 7 sprays/season and observe a 21 day PHI. Do not feed treated plants to livestock.

2.4 Pears - Apply 0.05-0.1 lb ai in 100 gallons of water to trees at rate not exceeding 600 gallons of spray/A. Do not apply more than 4 sprays/season nor more than 3 sprays between bloom and harvest. Do not feed treated fruit to livestock or graze livestock in treated area. Apply to fruit for fresh market only. Observe a 21 day PHI.

2.5 Note: The spray is toxic to fish and bees.

3.0 DISCUSSION OF DATA

3.1 Environmental chemistry data was not submitted.

3.2 There is some outdoor soil metabolism data within a lettuce metabolism study under Sectin D, tab 3 but it is not adequate for environmental chemistry purposes.

3.3 Our files show no hydrolysis data and the previously submitted rotational crop data to be inadequate. There is some soil metabolism data (sufficient to support this permit only) in our files.

3.4 The technical bulletin for Pydrin shows high concentration solutions of Pydrin to be stable to acid hydrolysis. We will consider this information for purposes of this permit.

3.5 We note the small acreage and low Pydrin poundage involved in this permit request.

4.0 RECOMMENDATIONS

4.1 Due to the low acreage and small Pydrin poundage involved in this permit request, we can concur with this permit providing a 12 month crop rotation restriction is added to the label for those crop uses that are rotated. For example, "...do not rotate treated area to a different crop within 12 months of the last application..."

Rotational crop studies may enable deletion of the 12 month restriction. See below for an acceptable protocol.

Rotational crop study: Studies are required to establish if pesticide residue uptake occurs in rotational crops, emergency replanting, or in situations where crops receive water from treated areas. The applicant must identify crops that can be rotated in the proposed use areas. Treat a sandy loam soil with radiolabeled pesticide at a rate equivalent to that expected under actual use conditions. Following treatment, age the pesticide aerobically for a time approximating the anticipated cultural practice; for example, one year for crops rotated the following year, 120 days for crops rotated immediately after harvest, and 30 days for assessing circumstances of crop failure. Plant a root crop, small grain, and leafy vegetable crop at the above times and periodically analyze to maturity. When residues are found, a field study using formulated products shall be undertaken to determine when residues would not occur in subsequent crops under actual use conditions. A crop residue study under actual use conditions is required for those practices where a subsequent crop is treated with the same active ingredient as the initial crop. This study is not required for a cover crop if typically plowed under and not grazed. A crop residue study under actual field use conditions is required where water from treated areas, including holding ponds or effluent and other discharges, is typically used to irrigate crops.

Note: Data which are to be reported from field tests include precipitation (accumulated from first application to each sampling), water table, grade (slope), and soil type. In addition, dates of planting and harvesting, application and sampling times; dates and stages of crop and pest development; application-to-harvest and application-to-sampling intervals for each treatment; and the depth, weight, or volume of each sample and the weights and volumes of aliquots taken for analysis must be reported. When water flow is measured in situ, flow meters or comparable techniques are

required. (Data in gal. per minute or liters per minute will be acceptable). Characterization of soils must be reported including texture (percent sand, silt, and clay), percent organic matter pH, cation exchange capacity, and bulk density.

4.2 The data considered with this permit were not reviewed in depth nor validated at this time.

4.3 For registration, data as indicated under Section 3 of the regulations will be needed.

Ronald E. Ney, Jr. 1/5/78

Samuel M. Creeger Feb 6, 1978

Samuel M. Creeger
January 4, 1978
Environmental Chemistry Section
EEEB