

177176  
RECORD NO.

109301  
SHAUGHNESSEY NO.

REVIEW NO.

EEB REVIEW

DATE: IN 8-08-86 OUT 8-18-86

FILE OR REG. NO 86-LA-12

PETITION OR EXP. NO. \_\_\_\_\_

DATE OF SUBMISSION 07-11-86

DATE RECEIVED BY HED 08--8-86

RD REQUESTED COMPLETION DATE 08-25-86

EEB ESTIMATED COMPLETION DATE 08-20-86

RD ACTION CODE/TYPE OF REVIEW 510

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

DATA ACCESSION NO(S). \_\_\_\_\_

PRODUCT MANAGER NO. Austin (41)

PRODUCT NAME(S) Fenvalerate

COMPANY NAME Louisiana department of Agriculture

SUBMISSION PURPOSE For the purpose of controlling sorghum midge in  
grain sorghum from July to September

SHAUGHNESSEY NO.                      CHEMICAL, & FORMULATION                      % A.I.

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EEB Review

Fenvalerate

100 Submission Purpose and Label Information

100.1 Submission Purpose and Pesticide Use

The state of Louisiana is requesting an emergency exemption (Section 18) for the use of fenvalerate, a synthetic pyrethroid, on grain sorghum to control a heavy infestation of sorghum midge. Approximately 210,000 lb. of active ingredient will be applied to 350,000 acres of sorghum.

The state wishes to apply fenvalerate to control sorghum midge since this chemical is less toxic to beneficial arthropods than are the insecticides registered for this use. They believe that if they were to apply one of the other chemicals, Lorsban, Diazinon, Trithion and Malathion, to Sorghum, the beneficial insects which control pests on sorghum, cotton and soybeans may be depleted. This depletion may create the need to treat cotton and soybeans, which are grown in close proximity to sorghum, for pests such as Lepidoptera larvae.

Louisiana was given an exemption in 1985 to apply fenvalerate to 216,000 acres of grain sorghum.

100.2 Formulation Information

Pydrin 2.4 EC, EPA Reg. No. 201-401

Cyano (3-phenoxyphenyl)methyl-4-  
Chloro-alpha-(1-Methylethyl)benzeneacetate....30%

Inerts.....70%

This product contains 2.4 lb. of Pydrin per gallon.

100.3 Application, Methods, Directions, Rates

Rate = 0.025 to 0.05 lb. ai/A per application

Total use is not to exceed 0.6 lb. ai/A

Aerial applications made by or under the supervision of certified applicators.

#### 100.4 Target Organism

Sorghum midge

#### 100.5 Precautionary Labeling

This pesticide is extremely toxic to fish. Use with care when applying in areas adjacent to any body of water. Do not apply directly to water. Do not apply when weather conditions favor drift from treated areas. Do not contaminate water by cleaning of equipment or disposal of wastes. Apply this product only as specified on label. This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply Pydrin or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area. Additional information may be obtained by consulting your Cooperative Extension Service.

#### 101 Hazard Assessment

##### 101.1 Discussion

The state of Louisiana is requesting an emergency exemption for the use of fenvalerate on grain sorghum. Fenvalerate is currently registered on a number of crops such as cotton, corn, peanuts, soybeans, beans, and potatoes. The registered rates of application range from 0.05 to 0.3 lb. ai/A. A total of 0.4 to 2 lb. ai/A per season cannot be exceeded for the registered uses. Louisiana is requesting a single application rate of 0.025 to 0.05 lb. ai/A, and the total amount applied cannot exceed 0.6 lb. ai/A per Season.

The grain sorghum on which fenvalerate will be applied is grown in close proximity to cotton and soybeans. The total acreage covered in this exemption is 350,000 acres.

##### 101.2 Likelihood of Adverse Effects to Non-Target Organisms

Fenvalerate is a pyrethroid insecticide that is relatively non-toxic to birds (bobwhite quail  $LC_{50} = 10000$  ppm). However, it is very highly toxic to aquatic organisms as the  $LC_{50}$  values for Daphnia, rainbow trout and bluegill are 1.6 ppb, 1.2 ppb and 0.42 ppb, respectively. The data from a fathead minnow life-cycle study showed that the MATC for fry survival and egg production was between 0.09 ppb and 0.21 ppb.

The environmental fate data indicate that fenvalerate strongly sorbs onto soil as the  $K_d$  value is about 18000. The half-life in water is greater than 93 hours, and hydrolysis occurs after 24 days at pH 7.2.

Since fenvalerate is already registered for use on similar crops such as corn and soybeans, it is currently used in Louisiana on soybeans and cotton, and the application rate and total amount used per acre per season are within currently registered rates, this use should not present a significant increase in either exposure or toxicity to non-target organisms.

101.3 Endangered Species Considerations

There are no endangered species in Louisiana associated with grain sorghum fields. Therefore, this use of fenvalerate will not present a hazard to any endangered species.

102 Classification

This is a restricted use pesticide.

103 Conclusions

The Ecological Effects Branch has reviewed this request by the State of Louisiana for an emergency exemption (Section 18) for the use of fenvalerate on sorghum to control sorghum midge. This use will not present a significant increase in exposure or toxicity to non-target organisms. There are no federally listed endangered species in Louisiana that will be adversely affected by this use.

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PYDRIN®  
Insecticide  
2.4 Emulsible Concentrate

SUPPLEMENTAL LABEL  
FOR USE OF PYDRIN INSECTICIDE  
2.4 EMULSIBLE CONCENTRATE  
(EPA Reg. No. 201-401)

(Refer to Label on Container for Ingredients, Precautions, and Notice of Warranty.)

FOR USE ONLY ON GRAIN SORGHUM IN LOUISIANA UNDER EPA EMERGENCY EXEMPTION ISSUED PURSUANT TO SECTION 18 OF THE FEDERAL INSECTICIDE, FUNGICIDE AND RODENTICIDE ACT, AS NEEDED.

GENERAL DIRECTIONS

PYDRIN 2.4EC is an emulsible concentrate which contains 2.4 pounds of active ingredient per gallon. For grain sorghum applications, mix the required amount of PYDRIN in sufficient water or vegetable oil to provide uniform coverage (see under "Directions for Applications" in the table below.) Do not enter treated field before spray is dry. Do not rotate to root crops within 12 months of all other crops within 60 days after last treatment.

Use of this product other than as approved under the emergency exemption issued by the EPA is considered misuse and is subject to criminal and civil penalties. Before applying this pesticide, consult your state agricultural authority for the provisions of the grain sorghum emergency exemption program.

USE AND DIRECTION FOR APPLICATIONS

Crop	Insect	Dosage			Directions For Application
		Lb A.I. Per Acre	Fluid Ounces Per Acre	Acres One Gallon Will Treat	
Grain Sorghum	Sorghum Midge	0.05	2-2/3	48	Apply as necessary to maintain control. Do not exceed 0.6 lb. a.i. per acre per season. Do not apply within 21 days to harvest.

EXPIRES:

Shell Chemical Company  
A Division of Shell Oil Company  
P. O. Box 3871  
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ACL 2567 6-86

