128701
SHUGHNESSY NUMBER

REVIEW NO.

EEB BRANCH REVIEW

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PETITION OR EXP. PERMIT NO.

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

DATA ACCESSION NO(S). 255859

PRODUCT MANAGER NO. R. Mountfort (23)

PRODUCT NAME(S) Whip 1EC

COMPANY NAME American Hoescht Corporation

SUBMISSION PURPOSE Proposed extension and expansion of rice EUP program

SHAUGHANESSY NO.	CHEMICAL, & FORMULATION	% A.I.
128701	HOE-33171	12.50%

-1

HOE-33171

100 Submission Purpose and Label Information

100.1 Submission Purpose and Pesticide Use

The registrant has requested a one-year extension for an EUP program to evaluate the use of Whip 1 EC for the postemergence control of annual and perennial grassy weeds in rice. The additional states of Missouri and California are in the proposed 1985 EUP program.

This program will be conducted with Whip 1 EC rather than Whip 0.75 EC which was used last year. This program will be conducted in three regional areas containing up to a total of six states. A maximum total use of 637.5 pounds (lbs) active ingredient (a.i.) is requested with no more than 442.5 lbs a.i. to be used in one geographical region. This program will consist of 85 tests treating 50 acres each. The total program, therefore, will be conducted on 4,250 acres.

DESCRIPTION OF PROPOSED PROGRAM

A. Number and Distribution of Tests

REGION	NO. OF TESTS	ACRES	MAXIMUM POUNDS OF ACTIVE INGREDIENT
Delta			
Arkansas	24	1,200	180.0
Louisiana	15	750	112.5
Mississippi	18	900	135.0
Missouri (boot heel)	2	100	15.0
West			
California	5	250	37.5
Southwest			
Texas	21	1,050	157.5
TOTALS	85	4,250	637.5

B. Treatment to be Used

Treatment	Rate (Pounds Active Ingredient per Acre)
Whip 1 EC herbicide	0.15
Broadleaf herbicide	label rate
Controls	
Commercial rice herbicide program	label rates
Untreated check strip	

Whip will be applied according to the label as a grass control herbicide alone or sequentially with other grass herbicides for rice, and sequentially or in tank mix combination with broadleaf herbicides for rice.

100.2 Formulation Information

ACTIVE INGREDIENT:	
Ethyl 2-[4-[(6-chloro-2-benzoxazolyl) oxy]phenoxy]propanoate	*12.50%
INERT INGREDIENTS:	87.50%
	100.00%

*Equivalent to 1.00 pounds of active ingredient per gallon.

100.3 Application Methods, Directions, Rates

For general information, see EEB Review, April 11, 1984. For target organisms and rates, see following pages.

100.4 Precautionary Labeling

This pesticide is toxic to fish. Do not apply directly to water outside of the treated rice field. Do not apply when weather conditions favor runoff or drift. Do not contaminate land or water by cleaning of equipment and/or disposal of waste.

Fenoxaprop-ethyl scientific review

Page _____ is not included in this copy.

Pages 4 through 6 are not included in this copy.

The material not included contains the following type of information:

___ Identity of product inert ingredients

___ Identity of product impurities

___ Description of the product manufacturing process

___ Description of product quality control procedures

___ Identity of the source of product ingredients

___ Sales or other commercial/financial information

___ A draft product label

___ The product confidential statement of formula

___ Information about a pending registration action

X FIFRA registration data

___ The document is a duplicate of page(s) _____

___ The document is not responsive to the request

The information not included is generally considered confidential by product registrants. If you have any questions, please contact the individual who prepared the response to your request.

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101 Hazard Assessment

101.1 Discussion

An extension of a previous EUP program has been requested. The additional states of Missouri and California are in the proposed 1985 program. For the states of Arkansas, Louisiana, Mississippi, Texas, and Missouri, the maximum rate is 0.15 lbs a.i./A (the same as for the 1984 program). For the state of California, the maximum rate is 0.2 lbs a.i./A.

101.2 Likelihood of Adverse Effects to Non-Target Organisms

HOE-33171 is practically non-toxic to birds both when administered through the diet and as an acute exposure. The use of Whip 1 EC on rice should not result in any hazard to avian wildlife.

HOE-33171 is highly toxic to fish, with an LC_{50} of 310 ppb to bluegill sunfish.

EEB has developed an aquatic Estimated Environmental Concentration (EEC) scenario for a rice use pattern based upon certain features of New Bayou, a tributary of the Chocolate Bayou Estuary in the Galveston Trinity Bay Complex. This scenario was employed in EEB's previous review of this EUP program and will now be used to estimate the aquatic concentrations resulting from the use of Whip 1 EC at the new maximum rate of 0.2 lb a.i./Ac (in the state of California). This EEC scenario employs the following features: Two rice fields adjacent to the bayou (comprising ca. 200 acres) drain into New Bayou 0.6 miles above its confluence with the larger Mustang Bayou. New Bayou averages 20 feet wide with an average depth of 2 feet within this 0.6 mile stretch (total surface area calculated to be 1.45 acres).

Employing this scenario and assuming a loss from the rice fields of 1% (through flushing of the fields) and an additional loss of 0.5% from the fields due to aerial drift, the resulting EEC would be 75.9 ppb (0.2 lb a.i./A x 200 acres x 1.5% = 0.6 lbs total runoff; concentration in 1 acre pond from pesticide concentration chart = 110 ppb; 110 ✤ 1.45 A = 75.9 ppb). Mitigating factors (California labeling) which may result in a lower rate of pesticide entering aquatic systems would include: (1) aerobic soil half-life of less than 1 day, (2) the herbicide binds to soils.

As stated above, the lowest LC_{50} value (bluegill) is 310 ppb (96-hour observed no-effect level is 180 ppb). An aquatic concentration of 75.9 ppb is less than 1/2 this LC_{50} and as such should not result in acute hazards to aquatic organisms.

101.3 Endangered Species Considerations

The use of Whip 1 EC on rice may result in aquatic concentrations which would exceed the endangered species hazard trigger of 1/20 the LC_{50} of the most sensitive species (1/20 310 ppb = 15.5 ppb).

Such concentrations may result in unreasonable adverse effects to endangered aquatic species. One area of concern is in Arkansas where the fat pocketbook pearly mussel, Potamilus capax, is found in the White and St. Francis Rivers which flow through the rice regions.

101.4 Adequacy of Toxicity Data

The high octanol/water partition coefficient (19,100) of this chemical may indicate a potential for accumulation in biological systems. A fish accumulation study was found inadequate by EAB to support registration. This question can be further addressed upon receipt and evaluation of an acceptable fish accumulation study by EAB.

Two studies were submitted with this EUP request:

1. Test Material: 96.5% technical HOE 033171

   Study Type: Aquatic invertebrate LC_{50}

   Species Tested: Crayfish (Procambarus simulans)

   Conclusions: The study is scientifically sound and with a 96-hour LC_{50} of 1.1 ppm (0.74-1.5), HOE 033171 is moderately toxic to crayfish.

   The study does not fulfill the requirement for an aquatic invertebrate bioassay because the crayfish is not a recommended species.

2. Test Material: EC formulation (% a.i. unknown)

   Study Type: Aquatic invertebrate LC_{50}

   Species Tested: Crayfish (Procambarus simulans)

   Conclusions: The study is scientifically sound and with a 96-hour LC_{50} of 3.1 ppm, this EC formulation of HOE 033171 is moderately toxic to crayfish.

   This study, however, is unacceptable as it stands because the percent active ingredient of the test material is not provided. Upon receipt of this information, this study will not fulfill any requirement for an aquatic invertebrate bioassay performed with the formulated product because the crayfish is not a recommended species.

   Data Request: An identification of the formulated product used and the percent active ingredient.

102 Conclusions

EEB has reviewed this request for a one-year extension for an EUP program to evaluate the use of Whip 1 EC herbicide on rice. Based upon available data, EEB concludes that this program provides for minimal hazards to nonendangered nontarget organisms. However, this program does provide for potential hazards to endangered aquatic nontarget organisms.

In order to mitigate this hazard, this EUP program for rice should not be conducted in areas where impact to endangered or threatened aquatic species is likely. Prior to the use of this product in rice growing areas, the users of this product must contact the Office of Endangered Species (Endangered Species Specialist) or the local Department of Fish and Game to determine if any endangered or threatened species are located adjacent to the treated areas. This product must not be used in areas where impact to endangered/threatened species is likely.

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