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108501
SHAUGHNESSEY NO.

47
REVIEW NO.

EEB REVIEW

DATE: IN 2-20-87 OUT 03 MAR 1987

FILE OR REG. NO 87-LA-01

PETITION OR EXP. NO. _____

DATE OF SUBMISSION 1-21-87 OK

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

DATA ACCESSION NO(S). _____

PRODUCT MANAGER NO. D. Stubbs (41)

PRODUCT NAME(S) Prowl (Pendimethalin)

COMPANY NAME State of Louisiana

SUBMISSION PURPOSE Proposed Section 18 for use in Louisiana
on sugarcane

SHAUGHNESSEY NO.	CHEMICAL, & FORMULATION	% A.I.
<u>108501</u>	<u>N-(1-ethylpropyl)-3,4-dimethyl-</u>	
	<u>2,6-dinitrobenzenamine</u>	<u>45.6%</u>

EEB REVIEW

Pendimethalin

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 pendimethalin (Prowl) on sugarcane to control itchgrass and browntop panicum. No data were submitted with this request.

100.2 Formulation Information

Pendimethalin, N-(1-ethylpropyl)-3,4-dimethyl-2,6-dinitrobenzenamine 45.6%
Inert ingredients 54.4%

This product (Prowl) contains 4 lb ai per gallon.

100.3 Application Methods, Directions, Rates

Application rate is 4 pints of 4 EC (2 lb ai) per acre, with two applications being allowed, one in early spring and one at layby. Total acreage to be treated is approximately 40,000 acres. All applications will be made by ground application, with treatments to occur between March 1 and June 30, 1987. See attached label for additional detail.

100.4 Target Organisms

Itchgrass (Rottboellia exaltata)
Browntop panicum (Panicum fasciculatum)

100.5 Precautionary Labeling

Only the supplemental labeling was submitted, and it does not contain precautionary labeling.

101 Hazard Assessment

101.1 Discussion

The State of Louisiana is requesting an emergency exemption for the use of pendimethalin on sugarcane. Pendimethalin is currently registered for use on a number of crops such as soybeans, cotton, rice, peanuts, and sorghum. The registered rates of application range from 0.5 to 2.0 lb ai per acre. Louisiana is requesting two applications at 2.0 lb ai/A. Sites to be treated are in the parishes of Ascension, Assumption, Iberia, Iberville, Lafayette, Pointe Coupee, St. Charles, St. James, St. John, St. Martin, St. Mary, Terrebonne, Vermilion, and West Baton Rouge. The total acreage covered under this exemption is 40,000 acres.

101.2 Likelihood of Adverse Effects on Nontarget Organisms

Pendimethalin is only slightly toxic to birds (dietary LC50 > 4000 ppm for bobwhite quail and mallard duck). However, it is highly toxic to aquatic organisms, with LC50 values in the range of 0.14 to 0.42 ppm for Daphnia, bluegill sunfish, and rainbow trout. Chronic studies with fathead minnow showed reduction in egg production at 9.8 ppb and reduced hatchability of eggs at 22 ppb. Chronic studies with Daphnia showed reproductive impairment at 17.2 ppb.

Pendimethalin is already registered for use on a number of crops grown on extensive acreages in Louisiana, such as rice (573,000 acres), cotton (560,000 acres), and soybeans (2.6 million acres). Since the proposed application rate is no higher than currently registered rates, and acreage to be treated totals only 40,000 acres, use on sugarcane should not present a significant increase in either exposure or toxicity to nontarget organisms.

101.3 Endangered Species Considerations

On the basis of information in its Endangered Species files, EEB has determined that application to sugarcane in Louisiana will not result in exposure of endangered species of aquatic organisms or plants.

103 Conclusions

EEB has reviewed the proposed emergency exemption for the use of pendimethalin on sugarcane in Louisiana. This use will not present a significant increase in exposure or toxicity to nontarget organisms. There are no federally listed endangered species in Louisiana that will be adversely affected by this use.

Allen W. Vaughan 2/27/87
Allen W. Vaughan, Entomologist
Ecological Effects Branch
Hazard Evaluation Division (TS-769)

Norman J. Cook 2-27-87
Norman J. Cook, Section Head
Ecological Effects Branch
Hazard Evaluation Division (TS-769)

Michael W. Slimak 3/2/87
Michael W. Slimak, Chief
Ecological Effects Branch
Hazard Evaluation Division (TS-769)

PROWL[®]
herbicide

Supplemental Labeling

EPA Reg. No. 241-243

FOR USE IN SUGARCANE

IN LOUISIANA

OBSERVE ALL PRECAUTIONARY STATEMENTS
IN THE PROWL LEAFLET LABEL BEFORE USING

PROWL can be applied to plant or ratoon cane in the spring before the cane emerges and again at layby as follows:

PROWL alone
PROWL + atrazine¹
PROWL + Sencor²/Lexone³

Refer to specific sections of the label for directions for method of application.

GENERAL INFORMATION

PROWL herbicide controls most annual grasses and certain broadleaf weeds as they germinate, but will not control established weeds. PROWL should be applied to rows free of weeds and trash.

PROWL may be applied twice per season: in the spring after beds have been false shaved and loosened, and at layby. Application may be band or broadcast.

¹AAtrex is a leading brand of atrazine. AAtrex and AAtrex Nine-0 are trademarks of Ciba-Geigy Corporation.

²Sencor is a trademark of Farbenfabriken Bayer GmbH, Leverkusen, West Germany.

³Lexone is a trademark of E. I. duPont de Nemours and Company.

Registered trademark of American Cyanamid Company

Uniformly apply the recommended PROWL or PROWL tank mix combination treatment in 10 or more gallons of water per acre with ground equipment or in 5 or more gallons of water per acre by aircraft in the spring prior to cane emergence. At layby, uniformly apply the recommended PROWL treatment by ground equipment in a spray directed under the sugarcane canopy. DO NOT make aerial applications at layby because complete and uniform coverage cannot be obtained.

Refer to PROWL leaflet label on top of PROWL container for complete mixing and spraying instructions.

INCORPORATION INSTRUCTIONS

PROWL alone treatments must be thoroughly and uniformly incorporated into the soil with either (a) mechanical incorporation equipment as outlined below, or (b) with rainfall, if rainfall is adequate for good crop and weed emergence and received within 7 days after application. If rainfall does not occur, PROWL alone treatments must be mechanically incorporated.

Mechanical Incorporation:

PROWL should be applied to loosened beds and incorporated into the top 1 to 2 inches of soil within 7 days after application. Ratoon sugarcane must be lightly shaved in early spring to remove the old stubble before incorporation over the line of sugarcane is possible. Carefully adjust equipment to incorporate without causing excessive damage to emerging shoots. Mechanical incorporation can be achieved by the following:

- a. Rolling cultivator set to cut 2 to 3 inches deep and operated two times at 6 to 8 mph.
- b. Bed chopper set to cut 2 to 3 inches deep and operated two times at 6 to 8 mph.

APPLICATIONS OF PROWL ALONE

Apply 2 to 4 pints of PROWL (broadcast rate) at each application timing (spring and layby). Refer to spraying instructions in PROWL leaflet label for calculation of band treatment rate.

Use the 4 pint rate:

- a. for dark clay soils;
- b. if no mechanical incorporation is planned;
- c. if heavy weed populations are anticipated;
- d. or if itchgrass infestation is anticipated.

WEED SPECIES CONTROLLED

When applied as directed, PROWL will control the following grass and broadleaf weeds:

GRASSES CONTROLLED

Barnyardgrass (Echinochloa crus-galli)
Crabgrass (Digitaria spp.)
Fall panicum (Panicum dichotomiflorum)
Foxtail (giant) (Setaria faberi)
Foxtail (green) (Setaria viridis)
Foxtail (yellow) (Setaria lutescens)
Goosegrass (Eleusine indica)
Johnsongrass (from seed) (Sorghum halepense)
Signalgrass (Brachiaria platyphylla)
Browntop Panicum (Panicum fasciculatum)
Texas panicum (Panicum texanum)

Itchgrass (Raoulgrass) (Rottboellia exaltata) - See below for special instructions.

BROADLEAF WEEDS CONTROLLED

Carpetweed (Mollugo verticillata)
Florida pusley (Richardia scabra)
Lambsquarters (Chenopodium album)
Pigweed (Amaranthus spp.)
Purslane (Portulaca oleracea)
Spurge, annuals (Euphorbia spp.)

ITCHGRASS CONTROL

PROWL must be applied at the 4 pint per acre broadcast rate in the spring and mechanically incorporated for itchgrass control. An additional application of 2 to 4 pints per acre may be made at layby.

NOTE: DO NOT graze treated fields or feed treated forage or fodder to livestock.

APPLICATIONS OF PROWL PLUS ATRAZINE OR PROWL PLUS SENCOR/LEXONE

Apply the recommended tank mixture of PROWL plus atrazine or PROWL plus Sencor/Lexone preemergence (surface treatment) only. DO NOT INCORPORATE.

Follow all precautions and limitations on the atrazine or Sencor/Lexone labels.

When applied as directed, in addition to those weeds controlled by PROWL alone, PROWL plus atrazine or PROWL plus Sencor/Lexone will control those additional weeds listed on the respective tank mix product label.

Broadcast Rate Per Acre of PROWL Plus Atrazine

<u>PROWL</u>	<u>Atrazine 80W*</u>
2 to 4 pts.	2.5 to 5.0 lbs.

*When using atrazine 4L or AAtrex Nine-0, use equivalent rates. One quart of atrazine 4L equals 1.25 lbs. of atrazine 80W. One pound of AAtrex Nine-0 equals 1.12 lbs. of atrazine 80W.

The high rates of PROWL and atrazine should be used on dark clay soils or if heavy weed populations are anticipated.

Broadcast Rate Per Acre of PROWL Plus Sencor/Lexone

<u>PROWL</u>	<u>SENCOR/LEXONE DF*</u>
2 to 4 pts.	2 to 4 lbs.

*When using Sencor 4F, Sencor 50WP, Lexone 4L or Lexone 50WP, use equivalent rates. One pint of the flowable formulation or 1 lb. of the wettable powder formulation equal 0.67 lb. of Sencor DF or Lexone DF.

The high rates of PROWL and Sencor/Lexone should be used on dark clay soils or on soils with high organic matter content.

NOTE: This labeling must be in the possession of the user at the time of pesticide application.

AMERICAN CYANAMID COMPANY
AGRICULTURAL DIVISION
WAYNE, NJ 07470