108501
SHAUGHNESSEY NO.

3 3
REVIEW NO.

EEB BRANCH REVIEW

DATE: IN 2/11/82 OUT 4/13/82

FILE OR REG. NO. 241-243

PETITION OR EXP.

DATE OF SUBMISSION January 15, 1982

DATE RECEIVED BY HED February 8, 1982

RD REQUESTED COMPLETION DATE April 20, 1982

EEB ESTIMATED COMPLETION DATE

RD ACTION CODE/TYPE OF REVIEW 335/Amendment - New food/feed uses

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

DATA ACCESSION NO(S).

PRODUCT MANAGER NO. Robert Taylor (25)

PRODUCT NAME(S) PROWL

COMPANY NAME American Cyanamid Company

SUBMISSION PURPOSE Proposed Conditional Registration of preemergence and early postemergence use of Prowl along and in combination on sweet corn

SHAUGHNESSEY NO.	CHEMICAL & FORMULATION	% A.I.
108501	Pendimethalin	42.3

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100. Pesticide Label Information

100.1 Pesticide Use

Prowl is currently registered for use on field corn, cotton and soybeans as a post-emergence herbicide. The proposed registration would add the use of Prowl for preemergence and early postemergence (alone and with Bladex or Atrazine) applications to sweet corn.

100.2 Formulation Information

Pendimethalin -- 42.3% EC Formulation, 4 lbs. of Pendimethalin/ gallon.

100.3 Application Methods, Directions, Rates

See appendix.

100.5 Precautionary Labeling

This product is toxic to fish. Keep out of lakes, streams or ponds. Do not apply when weather conditions favor drift from target area. Do not contaminate water by cleaning equipment or disposal of wastes.

101. Physical and Chemical Properties

See the EEB Review by L. Touart (5/13/80).

102. Behavior in the Environment

See the EEB review by W. Rabert (10/23/79).

103. Toxicological Properties

See the EEB review by W. Rabert (10/23/79).

104. Hazard Assessment

104.1 Discussion

Sweet corn is grown throughout the U.S. with the total area planted amounting to approximately 500,000 acres. Prowl is applied preemergence or early postemergence with a maximum application rate or 1.5 lbs. a.i./acre.

104.2 Likelihood of Adverse Effects to Non-Target Orgaminsms

The active ingredient in Prowl, pendimethalin, is slightly toxic to terrestrial vertebrates. Applications of Prowl to sweet corn are not expected to approach toxic levels in these animals feedstuff when label directions are followed.

Pendimethalin is highly toxic to aquatic organisms. A chronic freshwater fish study indicates that reproductive effects from exposure to pendimethalin may occur at concentrations of at least 10 ppb. Also, pendimethalin is concentrated to 2200x in fathead minnows, suggesting a potential to bioaccumulate. Considering the persistence (1/2-life $\geq$ 90 days) and the likelihood of movement (Runoff - 0.76% of applied, based on trifluralin as a benchmark), a potentially serious chronic hazard to aquatic organisms is indicated. Additional information is necessary to fully evaluate this potential hazard. Full-scale field testing and monitoring would be required to provide this information.

With Prowl currently registered for use on field corn, cotton and soybeans, little increment is added by sweet corn. However, all uses of Prowl provide for ptentially serious aquatic hazards.

104.3 Endangered Species Considerations

Prowl is not expected to pose any hazard to terrestrial endangered species when used according to label directions. Available information does not definitely indicate any aquatic endangered/threatened species which would be adversely impacted by the use of Prowl on sweet corn. Aquatic endangered species could potentially be effected from chronic exposures, but additional information is necessary to adequately evaluate the risks.

107. Conclusions

The Ecological Effects Branch has completed an incremental risk assessment [3(c)(7) Finding] of the proposed conditional registration of Prowl for use on sweet corn. Based upon the available data EEB concludes that the proposed uses provide for a minimum increase in exposure, but there are potentially significant chronic risks to non-target organisms.

107.5 Data Requests

The following studies are required by the Ecological Effects Branch to improve its Environmental Hazard Assessment:

(1) An aquatic invertebrate life-cycle toxicity study,

(2) A field monitoring study.

Any questions concerning the above requests or for appropriate protocols should be directed to the Ecological Effects Branch.

4/15/82

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4/15/82

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Pendimethalin ecological effects review

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Pages 5 through 12 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

X A draft product label

___ The product confidential statement of formula

___ Information about a pending registration action

___ 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.
