

5-15-80

EE BRANCH REVIEW

5/14/80 5/15/80
IN _____ OUT _____

FILE OR REG. NO. 241-243-AA

PETITION OR EXP. PERMIT NO. _____

DATE DIV. RECEIVED _____

DATE OF SUBMISSION _____

DATE SUBMISSION ACCEPTED _____

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

DATA ACCESSION NO(S) . _____

PRODUCT MGR. NO. 25 Taylor

PRODUCT NAME(S) Prowl

COMPANY NAME American Cyanamid Co

SUBMISSION PURPOSE Label Amendment Adding tobacco

CHEMICAL & FORMULATION Pendimethalin 42.3%

Pesticide Name Prowl

100 Pesticide Label Information

100.1 Pesticide Use

The proposed label amendment would add the use of Prowl to tobacco.

100.2 Formulation Information

Pendimethalin 42.3%
4 lbs. active ingredient/gallon

100.3 Application Methods, Directions, Rates

Refer to supplemental labeling [Note: not provided in review package].

101 Physical and Chemical Properties

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

102 Behavior in the Environment

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

103 Toxicological Properties

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

104 Hazard Assessment

104.1 Discussion

Tobacco is grown on approximately 1 million acres concentrated primarily in the states of North Carolina, Kentucky, South Carolina, Virginia, Tennessee and Georgia. Most of the tobacco crop in the U.S. is grown where the annual precipitation is 40 to 45 inches (100 to 114 cm). Each type of tobacco has its own special soil requirements, though all require a well-drained and slightly acidic soil. Some tobacco types require ditch or tile-drainage for optimal growth.

The use of Prowl on tobacco would be as a pre-transplant, incorporated herbicide. The maximum application rates would be 1.5 lb. active ingredient/acre.

104.2 Likelihood of Adverse Effects to Non-Target Organisms

The use of Prowl on tobacco should not pose an unreasonable adverse effect on terrestrial vertebrates. The toxicity data indicate the active ingredient in Prowl, pendimethalin, is only slightly toxic to birds and mammals. The expected residues of pendimethalin should be well below toxic levels for the terrestrial animals.

Pendimethalin is highly toxic to aquatic organisms. The use of Prowl on tobacco may pose an unreasonable hazard to aquatic organisms. The fate data indicate that pendimethalin is persistent and has a relatively high solubility in water. The extent of adsorption/desorption on soil or organic particles is not known. Additional studies are necessary to determine the effects of prowl on non-target aquatic organisms.

104.3 Endangered Species Considerations

Additional studies are necessary to determine the hazard of Prowl to endangered species.

107 Conclusions

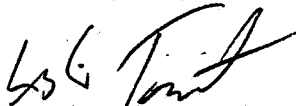
The Ecological Effects Branch cannot concur with the proposed conditional registration of Prowl for use on tobacco. Additional studies are necessary to complete a hazard assessment.


107.5 Data Requests

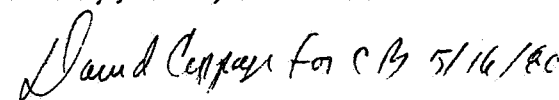
The following studies are required by the Ecological Effects Branch before an Environmental Hazard Assessment can be completed.

1. An aquatic invertebrate life-cycle toxicity study preferably with Daphnia magna for the technical of the Prowl active ingredient. [See EPA guidelines 7/10/78, Sec. 163.72-4 (a)(i)(iv)]
2. A field monitoring study to determine the concentrations of the Prowl active ingredient and degradates in the runoff water and sediment, leachate and groundwater, and in the water and sediment of receiving aquifers (i.e. lakes, ponds, etc.). An acceptable protocol for tobacco field situations should be verified through the Ecological Effects Branch. [Sec. 163.70-1 (d)].

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

 5/16/80
Leslie Touart, Fisheries Biologist, Section 1

 5/16/80
Ray Matheny, Head, Section 1

 5/16/80
Clayton Bushong, Chief, Ecological Effects Branch