

233281
RECORD NO.

121001
SHAUGHNESSEY NO.

22
REVIEW NO.

EEB REVIEW

DATE: IN 10-17-88 OUT 11/19/88

FILE OR REG. NO. 88-IL-01

PETITION OR EXP. NO. _____

DATE OF SUBMISSION 10-7-88

DATE RECEIVED BY HED 10-14-88

RD REQUESTED COMPLETION DATE 11-1-88

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RD ACTION CODE/TYPE OF REVIEW 510

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

DATA ACCESSION NO(S). _____

PRODUCT MANAGER NO. J. Tompkins (41)

PRODUCT NAME(S) Poast (Sethoxydim)

COMPANY NAME State of Illinois

SUBMISSION PURPOSE Proposed \$18 for use on winter

rapeseed in southern Illinois

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

121001 Sethoxydim 18%

EEB Review

Pesticide Name: Sethoxydim (Poast)
SN 121001

100.0 Submission Purposes and Label Information

100.1 Submission Purpose and Pesticide Use

The Illinois Department of Agriculture requests a specific exemption (Section 18) for Poast herbicide to control volunteer cereals and grasses in winter rapeseed (Canola). Application period from present until May 1, 1989.

100.2 Formulation Information

EPA Reg. No. 7969-58

Active Ingredient:

Sethoxydim

18.0%

Inert Ingredients:

82.0%

One gallon contains 1.5 lb ai.

100.3 Application Methods, Directions, Rates.

1.5 pint/acre (0.28 lb ai/A) by either ground or aerial equipment. No more than a total of 3 3/4 pints/A (0.7/lb ai/A) in one season. Oil concentrate is added to spray tank at a rate of 2 pints/A. (See attached label for more detail).

100.4 Target Organisms

Volunteer cereals and grasses. (See attached label for species)

100.5 Precautionary Labeling

See attached label.

101.0 Hazard Assessment

101.1 Discussion

Poast is currently registered for use as a foliar treatment for grass control on soybeans, Virginia pine (forest), ornamental herbaceous plants, nursery stock, nonfood crops, onions (SLN CA, NV), cucurbits (SLN CA) ladino clover (SLN CA), alfalfa, (SLN CA, NV), garlic (SLN NV), fescue (SLN OR), daffodil (SLN CA), and carrots (SLN WA): NPIRS, May 1988.

This emergency exemption will allow use of Poast on winter rapeseed in the southern half of Illinois for control of volunteer wheat and grasses. An estimated 15,000 acres could be treated with approximately 2,812 gallons of herbicide (or 4218 lb ai).

101.2 Likelihood of Adverse Effects to Nontarget Organisms

Terrestrial

Toxicity data from previous EEB reviews indicate that sethoxydim is practically nontoxic to mammals (acute oral LD₅₀ for rats >2000 mg/kg and for mice >5000 mg/kg). The pesticide is practically nontoxic to birds based on an acute LD₅₀ of >2000 mg/kg for the mallard and dietary LC₅₀ values of >5000 ppm for the bobwhite quail and mallard duck.

Following a single application at 0.28 lb ai/A (1 1/2 pints), maximum expected residues would range from 67.2 ppm on short range grass to 16.2 ppm on forage/insects. These values are well below the mallard and quail LC₅₀ values.

Due to the very low toxicity to terrestrial species, this use of sethoxydim should not result in adverse effects to these species. Repeat applications are not anticipated to result in potential for chronic effects as the half-life in soil is less than 4 days and in water less than 1 day (in direct sunlight).

Aquatic

Sethoxydim is practically nontoxic to freshwater fish (LC₅₀ > 100 ppm for both bluegill and trout) and slightly toxic to aquatic invertebrates (LC₅₀ = 78.1 ppm for daphnia). Assuming a direct application to water at 0.28 lb ai/A, the concentration in 6 acre inches of water would be 0.205 ppm. This is 390 times less than the LC₅₀ of the most sensitive species tested. Potential for chronic effects

to aquatic organisms are not of concern as test data indicate a lack of persistence in water as well as a lack of accumulation in fish.

Plants (From EEB review - C. Lewis, May 1988)

Since the vapor pressure of Poast is 1.6×10^{-7} mm Hg @25 °C, volatility should not be a hazard to non-target plants. EEB's current level of concern is a vapor pressure of $>10^{-5}$ mm Hg @ 25 °C.

The solubility of Poast is 0.0048 g/100 g water @ 25 °C, (48 ppm), therefore movement from the site of application as a result of runoff is considered to be below the level requiring aquatic plant testing (a solubility of > 0.04 g/100 g @ 25 °C, or 400 ppm).

101.3 Endangered Species Considerations

now is 10 ppm
CRC

No adverse impact is expected to any endangered or threatened animal species from the use of Poast on winter rapeseed because of the low toxicity and application rate and lack of persistence in the environment. The "triggers" for endangered species are far from being reached.

The pesticide is expected to be phytotoxic to endangered grass species. However, no endangered plants have been identified with this use in the southern half of Illinois.

101.4 Adequacy of Toxicity Data

No new data were submitted with this exemption, however, previously reviewed data in EEB files was sufficient for adequate risk assessment. No new data are required at this time.

101.5 Adequacy of Labeling

The ecotoxicity warning label must read as follows:

"Do not apply directly to water or wetlands (swamps, bogs, marshes, and potholes). Do not contaminate water when disposing of equipment washwaters or rinsate."

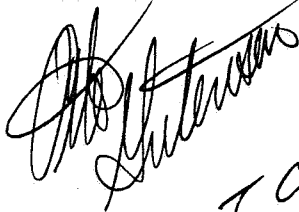
103.0 Conclusions

EEB has reviewed the proposed emergency exemption for the use of Poast herbicide to control volunteer cereals and grasses in winter rapeseed (Canola). We find the proposed use will result in no adverse effects to nontarget or endangered plant or animal species.



James W. Akerman, Chief
Ecological Effects Branch
Environmental Fate and Effects Division (TS 769C)

Questions or Comments: Otto Gutenson - 557 3449



Henry T. Craven
11/18/88

Sethoxydim ecological effects review

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Pages 6 through 17 are not included in this copy.

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