

081901
SHAUGHNESSEY NO.

43
REVIEW NO.

EEB BRANCH REVIEW

DATE: IN 4/24/84 OUT 5/2/84

FILE OR REG. NO. 84-OR-12

PETITION OR EXP. PERMIT NO. _____

DATE OF SUBMISSION 3/27/84

DATE RECEIVED BY HED 4/19/84

RD REQUESTED COMPLETION DATE 5/4/84

EEB ESTIMATED COMPLETION DATE 5/4/84

RD ACTION CODE/TYPE OF REVIEW 510/Section 18

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

DATA ACCESSION NO(S). _____

PRODUCT MANAGER NO. Bravo 500

PRODUCT NAME(S) _____

COMPANY NAME Oregon Dept. of Agriculture

SUBMISSION PURPOSE Proposed section 18 for use of cranberries

SHAUGHNESSEY NO.	CHEMICAL, & FORMULATION	% A.I.
<u>081901</u>	<u>Chlorothalonil</u>	<u>40.4</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

Pesticide Name: Chlorothalonil

100 Submission Purpose and Label Information

100.1 Submission Purpose and Pesticide Use

The state of Oregon seeks an emergency exemption (Sec. 18) to allow the use of Bravo 500 on cranberries. Bravo 500 is more effective at controlling Lophodermium twig blight than any of the currently registered products in the estimation of the applicant.

100.2 Formulation Information

Bravo 500 (Flowable Product)
Chlorothalonil.....4.17 lbs./Gallon

100.3 Application Methods, Directions, Rates

For cranberry Lophodermium leaf/twig blight, 6-10 pints of Bravo 500 will be applied per acre. Applications will be made at late bloom and repeated at 10-14 day intervals. Under severe disease conditions, the higher rate will be used on a 10 day schedule. Bravo 500 will not be applied more than 3 times per season, nor within 50 days before harvest. Bogs will not be flooded until cranberries are to be harvested. Bravo 500 may be applied through solid set sprinkler irrigation systems.

100.4 Target Organisms

Lophodermium oxycocci - twig blight fungus

101 Hazard Assessment

101.1 Discussion

Bravo 500 is requested for the Oregon cranberry growing areas of Clatsop, Coos and Curry counties. Approximately 1200 acres of cranberries are in production in this area. Maximum application rates allow up to 5.2 lbs. A.I./Acre three times in 30 days.

101.2 Likelihood of Adverse Effects to Non-target Organisms

Chlorothalonil the active ingredient for Bravo 500 is practically non-toxic to terrestrial wildlife (Avian $LC_{50} > 10,000$ ppm) and is not expected to pose an acute hazard from the cranberry use. On the other hand, chlorothalonil is very highly toxic to aquatic organisms and it can be expected to pose a substantial risk to these animals in waters adjacent or adjoining treated cranberry fields.

From a single maximum application of Bravo (5.2 lbs. A.I.) applied directly to 6 inches of water, a concentration of approximately 3.8 ppm would be expected. The maximum water solubility of chlorothalonil is only 0.6 ppm, so the excess would precipitate or bind to soil/organics in the system.

With the most sensitive freshwater fish (channel catfish), an LC₅₀ of 43 ppb has been reported. Allowing for only 10% of the applied entering as drift into a water body (or equivalent surface area) 5 feet deep, a concentration of 38 ppb could be expected -- this exceeds 1/2 the channel catfish LC₅₀. Chlorothalonil can also increase the loading into these water bodies. Bioconcentration of chlorothalonil into the non-edible tissue of bluegill sunfish is reported up to 3000x. Chlorothalonil and its major degradate (DS-3701), which is only moderately toxic (Bluegill LC₅₀ = 16 ppm), will both persist to flooding of cranberry fields and would therefore contaminate field discharge waters. With a 1/2 life of approximately 30 days, residues remaining in the field after 3 treatments could, if disassociated from the soil, amount to a concentration equivalent of 1.3 ppm. [3 applications x 5 lbs. A.I./Application x 1/4 = 3.8 lbs; in 1 foot of water] Therefore, the use of chlorothalonil on cranberries can be expected to pose a significant risk to non-target aquatic fauna.

101.3 Endangered Species Considerations

No federally listed endangered/threatened aquatic animals are presently listed.

103 Conclusions

The Ecological Effects Branch has completed a risk assessment of the proposed emergency exemption (Sec. 18) of Bravo 500 for use on cranberries in Oregon. Based on the available information EEB concludes that the proposed use provides for potentially serious hazards to nontarget aquatic organisms.

Les T 5-4-84
Les Touart, Fisheries Biologist, Section 4

for Richard M. Lee
for Henry T. Craven, Head, Section 4

Clayton Bushong 5/4/84
Clayton Bushong, Chief
Ecological Effects Branch HED