11/29/91

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REVIEW NO.

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SRRD/RD **ACTION** CODE/TYPE OF REVIEW 405 - Adverse Data

MRID #(S) _____

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DP TYPE 001 - Submission Related Data Package

PRODUCT MANAGER, NO. R. Taylor (25)

PRODUCT NAME(S) Benefin

TYPE PRODUCT F R I N H D Herbicide

COMPANY NAME DowElanco

SUBMISSION PURPOSE Review possible (6)(a)(2) data:

INCLUDE USE(S) preliminary findings from avian reproduction studies

COMMON CHEMICAL NAME Benefin

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

MEMORANDUM

November 25, 1991

SUBJECT: 6(a)(2) Submission of Results of Avian Reproduction Studies with Benefin

TO : Robert Taylor
Product Manager
Registration Division

FROM : Doug Urban
Acting Branch Chief
Ecological Effects Branch

DowElanco submitted result summaries of two avian reproduction studies which evaluated Benefin, the active ingredient in Balan and Team Herbicides. The summary of the Bobwhite study indicated that at 295 and 990 ppm in feed reproduction performance was decreased. The effects reported to be the most significant at the 990 ppm dietary level were on the number of eggs laid, the number of 14-day-old survivors, and 14-day-old hatchlings body weight. At the 295 ppm level, the summary indicated the most significant reproductive parameter affected was the number of 14-day-old survivors per hen per day. It was also indicated that the number of viable embryos was reduced at this concentration. The NOEL was reported to be 96 ppm. The summary of the Mallard test indicated that the only treatment related reproductive effect observed was at the highest dietary concentration, 975 ppm, which resulted in a significantly higher percentage of cracked eggs compared to controls.

Preliminary evaluation of these results suggests that benefin may present a chronic hazard to avian species at registered use rates. Benefin is registered as a preemergent herbicide for control of grasses and broadleaf weeds in alfalfa, birdsfoot trefoil, clover, lettuce, peanuts, tobacco, ornamental plants and forest trees, and turfgrass. Rates of application range from 1.1 to 1.5 lbs. ai/A for terrestrial food and nonfood crops, 2.0 to 3.0 lbs. ai/A for ornamental plants and forest trees, and 0.4 to 3.0 lbs ai/A for turf (Benefin Registration

CONCURRENCES							
SYMBOL							
SURNAME							
DATE	11/26/91	11-27-91	11/29/91				

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Standard 1988). At the lowest use rate, 0.4 lbs ai/A, estimated residues on wildlife food sources in and around areas of use range from 2.8 to 100 ppm and at the highest registered use rate, 3.0 lbs. ai/A, residues on wildlife food sources in and around areas of use range from 22 to 720 ppm; all uses resulting in residues exceeding the reported NOEL of 96 ppm for Benefin. Therefore, preliminary review of the summary information indicates that Benefin may pose a chronic hazard to terrestrial wildlife at registered use rates. It should be noted that this conclusion is based on the review of a summary of the results of two avian reproduction tests and final evaluation will be reserved pending receipt of completed studies.