Department of Pesticide Regulation

Paul E. Helliker
Director

Gray Davis
Governor

Winston H. Hickox
Secretary, California Environmental Protection Agency

M E M O R A N D U M

TO: Gary Sprock, Registration Specialist **HSM-01025**
Pesticide Registration Branch

FROM: Michael H. Dong, Ph.D., CNS, DABT, Staff Toxicologist
Worker Health and Safety Branch
(916) 445-4263

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SUBJECT: REVIEW OF LABEL AMENDMENT FOR SECTION 3 REGISTRATION OF BIRD SHIELD® BIRD REPELLENT USED ON ADDITIONAL CROPS

Under review is the label amendment (re)proposed (November, 2001) by Bird Shield Repellent Corporation for a Section 3 registration of the use of Bird Shield® Bird Repellent Concentrate (EPA Reg. No. 66550-1) on additional crops. This repellent product contains 26.4% (by weight) methyl anthranilate (MA) as the active ingredient (AI), for which worker exposure has been assessed to address the current registered uses only (Dong, 1999a, 1999b). The proposed label amendment now adds uses on corn, sunflowers, and structures (bird nests).

A comparison of the revised proposed label with the current registered label indicated that *significant* worker exposure could result from the anticipated additional use on structures, but *unlikely* on corn or sunflowers. The revised proposed label retains essentially all use directions and all personal protective (and clothing) requirements for the current registered uses on cherries, grapes, turf, and various non-fishbearing bodies of water.

This review concurs that, for the proposed new uses on corn and sunflowers, applicators and other handlers are not required to wear additionally coveralls since the proposed maximum label rate (0.28 lb AI/acre) is deemed low enough to sufficiently mitigate the exposure of concern. Because the bird repellent is to be applied to these two crops at such a low rate (compared to those for the current registered crops), reentry exposures at the restricted entry interval of 5 or 7 days are also expected to be equally low, even when corn harvesters and sunflower scouts are not wearing gloves. Sunflowers generally are not harvested by hand; and the dermal transfer factor for sunflower scouts is much lower compared to that for cherry or grape harvesters. The dermal transfer rate for corn harvesters was previously estimated by this Branch (Dong, 1999c) to be somewhat lower than that for grape harvesters. Although U.S. EPA (2000) currently uses a 2- to 3-fold higher transfer rate for corn harvesters, the resultant reentry exposure should still be within the margin of safety when all things are considered. For one thing, it is not expected that after a day's hard work in the field, harvesters would still have the time or desire to consume large amounts of foods (e.g., wine) rich in MA. It is also unlikely that the *actual* dermal absorption of MA in humans is as high as the default value of 50% used in this assessment.

The default (dermal) exposure rate is roughly 20 mg per lb AI handled for backpack applicators wearing normal work clothes (long pants, a long-sleeved shirt, shoes plus socks) and gloves (Dong and Haskell, 1999; PHED, 1995). This implies that backpack applicators each can handle *no more than* 2 lb of the MA active ingredient per day (based on the default dermal absorption of

50%). Nonetheless, the more acceptable maximum usage should be close to 1.0 lb AI per day. Even when backpack applicators are required to wear coveralls (that typically having an overall body protection of 60 to 70% or more, depending on the type of application method/equipment used), at most they should handle only 4 to 5 lb AI per day. That is*, even with coveralls, backpack applicators should be allowed to apply no more than 2 gallons of the bird repellent concentrate to the swallows' or woodpeckers' nests per day.* This is equivalent to a maximum daily usage of 4 gallons of spray solution that is made up of 1 part of the concentrate product (containing 2.29 lb AI per gallon) with 1 part of water, as specified on the proposed label. In accordance with the earlier review (Dong, 1999a), applicators are not expected to spray the repellent solution to large turf areas using a backpack sprayer (which is typically for application in hard-to-reach, small areas). In addition, the maximum label rate for turf application is 0.42 lb AI per 1,000 sq ft, or roughly 0.25 to 0.35 lb AI per home lawn. This means that backpack applicators each need to spray about 6 or 7 home lawns a day, before their daily usage would reach the above calculated maximum of 1 to 2 lb AI per day (for the no coveralls scenario).

References

Dong MH, 1999a. *Review Document*: Dislodgeable Foliar Residues (for Bird Shield® Repellent Concentrate). Worker Health and Safety Branch, Cal/EPA Department of Pesticide Regulation, dated May 19.

Dong MH, 1999b. Assumptions for and Estimation of Human and Worker Exposures to Methyl Anthranilate (Bird Shield®). Worker Health and Safety Branch, Cal/EPA Department of Pesticide Regulation, dated August 18.

Dong MH, 1999c. Human Pesticide Exposure Assessment – Diazinon (An Organophosphate Insecticide for a Variety of Agricultural and Non-Agricultural Uses). HS-1774. Worker Health and Safety Branch, Cal/EPA Department of Pesticide Regulation.

Dong MH, Haskell D, 1999. Human Pesticide Exposure Assessment – Naled (An Organophosphate Insecticide for a Variety of Agricultural and Non-Agricultural Uses). HS-1739. Worker Health and Safety Branch, Cal/EPA Department of Pesticide Regulation.

PHED (Pesticide Handlers Exposure Database), 1995. Prepared for Health Canada, U.S. EPA, and American Crop Protection Association by Versar Inc. (6850 Versar Center, P.O. Box 1549, Springfield, VA 22151).

U.S. EPA (U.S. Environmental Protection Agency), 2000. Agricultural Transfer Coefficients. Policy No. 003.1. Health Effects Division Science Advisory Council for Exposure, Office of Prevention, Pesticides and Toxic Substances, Washington DC.

cc: Joseph P. Frank, D.Sc.