

US EPA ARCHIVE DOCUMENT

COPY

7 JUN 1984

U.S. Department of the Interior
Fish and Wildlife Service
Office of Endangered Species
Washington D.C. 20240

Attention: Mr. John Spinks

RE: Formal Section 7 Consultation on the proposed Registration of Volid on apple orchards.

The Ecological Effects Branch has been asked by ICI Americas, Inc. to seek formal consultation on Volid™ (EPA Reg. No. 10182-LI). ICI will be seeking a conditional registration of this product during the calendar year 1984. We are therefore requesting from your office a biological opinion to help clarify the potential impacts to listed species in the use of Volid to control pine and meadow mice in apple orchards so that we can address this issue under the conditional registration of Volid™ in apples, later this year.

To assist you in formulating your biological opinion, we have included an overview of the active ingredient (Brodifacoum) in Volid™ which is based on the previous 25 reviews by EEB staff, literature, meetings and personal communications. Additionally, we have included a copy of the proposed label. If your personnel have questions regarding this consultation, please contact Russel Farringer or Ray Matheny (FIS 557-7560, commercial (703)557-7560).

Sincerely,

Clayton Bushong
Ecological Effects Branch
Hazard Evaluation Division (TS-769)

Attachments

TS-769:FarringerR:sf:557-7560:Rm.803:6/06/84

Background

Brodifacoum is a "new generation" anticoagulant. This chemical has the property of being fatal to the target organism with only one feeding. However, the effect of the compound may take 4 to 5 days before it is lethal. Brodifacoum is registered at a 50 ppm concentration (Talon[®], Havoc[®], and Weather Blok[®]) for use in and around urban and rural structures and in sewers. ICI Americas, Inc. has indicated that they will seek conditional registration for their 10 ppm brodifacoum product (Valid[™]) in 1984. This product is to be used in apple orchards in the following nine states: Delaware, New Jersey, Maryland, New York, North Carolina, Ohio, Pennsylvania, Virginia, and West Virginia.

Rationale for Requested Consultation

Firstly, EEB is concerned with non-target, non-endangered species mortality that occurred during the conduct of experimental use permits. Under these permits mortality was recorded for raptors, seed eating birds, rabbits, and suspected dog intoxication that could be related to the toxicant. Secondly, if endangered mammals and or avian species occur in proximity to or would feed or scavenge in an orchard, then we would assume that the potential for mortality exists.

EEB considers the potential for hazard to be equated to exposure to the toxicant and to the high toxicity of the product. Can the Office of Endangered Species determine what endangered species will utilize orchards in these nine states for the purpose of fulfilling their food requirements?

Brodifacoum is one of the most toxic rodenticides and the most toxic anticoagulant on which we have data. ICI attempted some preliminary studies in orchards with their 50 ppm product but stopped their experimental use due to high non-target mortality. They reduced the amount of toxicant in their proposed field use rodenticide. Their rationale for reduction was 'with less toxicant available the less non-target mortality would not be observed.' This would usually seem logical but there are fallacies with the logic. First, brodifacoum, being an anticoagulant does not kill the animal immediately. This delayed mortality allows the animal to feed for additional lengths of time on the bait. Second, brodifacoum is not readily excreted from the body. In some cases (avian) death occurred over 20 days after consumption of the lethal dose. Third, the combination of the first and second item increases the likelihood of secondary hazard since target and non-target species can accumulate the toxicant in their tissues several times over an acute LD₁₀₀.

In summation, any endangered terrestrial species located in these nine states that would utilize an apple orchard area while seeking out food could be exposed to brodifacoum. This includes anytime of the year since bait placement under shingles, tires, etc. allows for a continual exposure. This would also include primary exposure to the pelletized grain bait product or secondary exposure through target and non-target species.

EEB has included the attached literature for your information.

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VOLID Rodenticide
Application for
Conditional
Registration
Revised 5/14/84

Page 1 of 4
File Symbol:
10182-LI

[FRONT PANEL]

RESTRICTED USE PESTICIDE
For retail sale to and use
only by Certified Applicators
or persons under their direct
supervision and only for
those uses covered by the
Certified Applicator's Certification

VOLID™ RODENTICIDE PELLETS

For Control of Microtus (Pine and
Meadow Voles) in Apple Orchards

ACTIVE INGREDIENT:

Brodifacoum -
3-[3-(4'-bromo[1,1'-biphenyl]-4-yl)-
1,2,3,4-tetrahydro-1-naphthalenyl]-4-
hydroxy-2H-1-benzopyran-2-one.....0.001%
INERT INGREDIENTS.....99.999%

Total.....100.000%

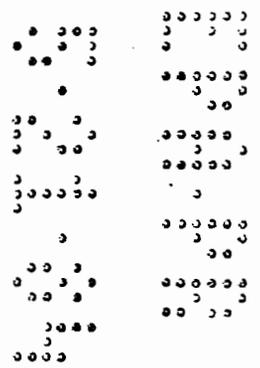
KEEP OUT OF REACH
OF CHILDREN

CAUTION

May be Harmful or Fatal if Swallowed.
Read Additional Precautionary Statements
on Back Panel.

Net Contents:
EPA Reg. No. 10182-
EPA Est. No. _____

ICI Americas Inc.
Agricultural Chemicals Division
Wilmington, DE 19897



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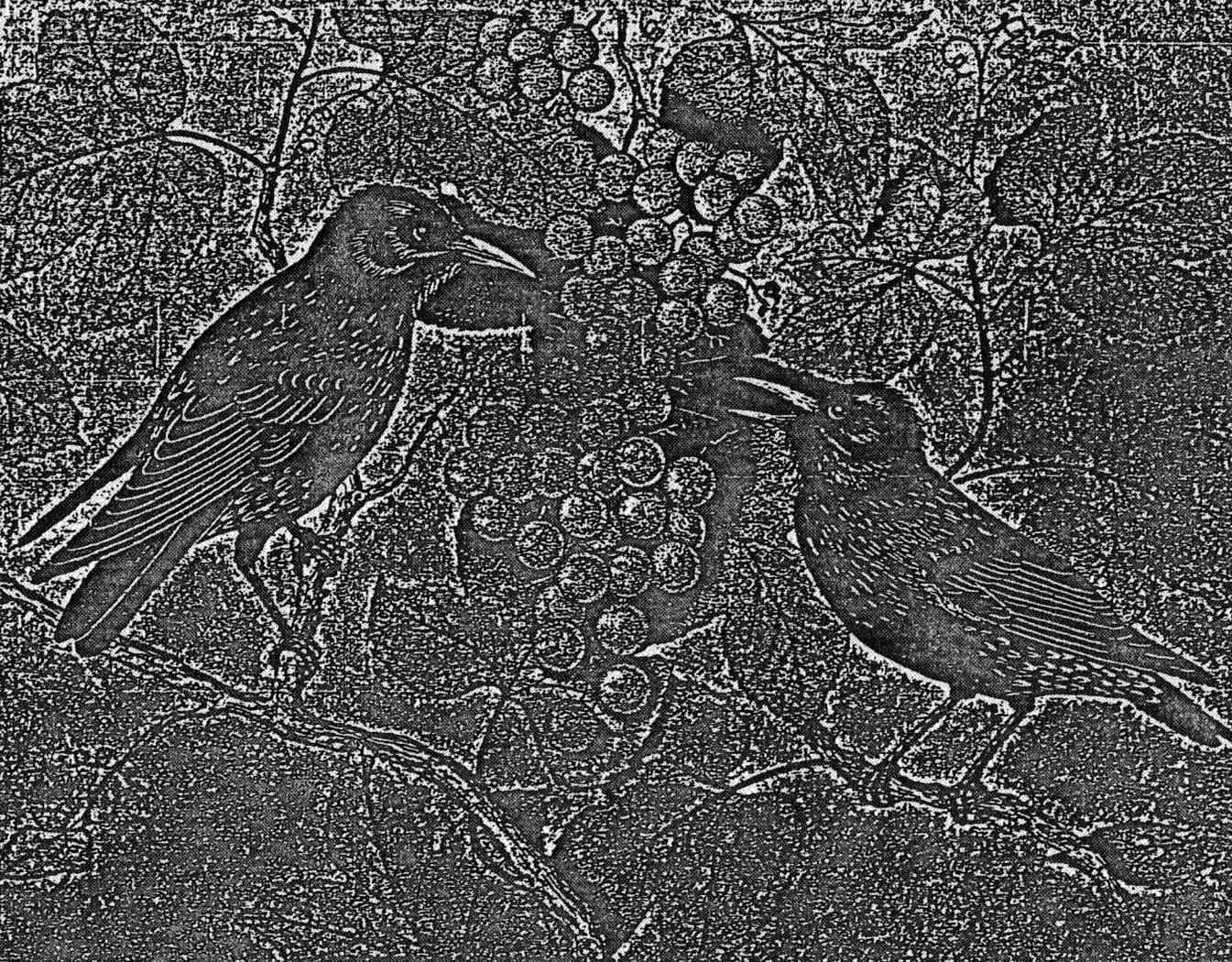
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SACRAMENTO, CALIFORNIA

Don't walk on carpet

A portion of an insecticide spray is an emulsifier. This emulsifier chemical helps the "oily" insecticide remain mixed with water. Emulsifiers are chemically similar to detergents. Thus when you treat a carpet or rug for fleas you are placing a small amount of detergent (emulsifier) on the carpet with your insecticide.

If you walk on a freshly treated carpet, there is enough detergent present to "wash" the bottoms of your shoes. Detergent will lift the dirt from your shoes and deposit it upon the carpet leaving dirty footprints behind you. These same emulsifiers will "eat" holes in the wax on waxed floors. That's why you must avoid drips on such floors. Detergents are especially harmful on colored fabrics when the colors are not "fast." (See the Answers column by Dr. Mampe.)

No contacts with face mask

Contact lenses should not be worn along with a full face gas mask, the type used for fumigation. Special masks are available which mount a special set of spectacles inside the facepiece. The danger is that pressure differences and the squeezing of facial skin may serve to pop the lenses out of the eyes.

Likewise, contact lenses may be a detriment when working in any space where there are toxic gases or vapors. Small amounts of irritants can be washed from eyes by tears. But moisture held beneath contact lenses does not flush as rapidly from the eyes. Unexpected irritation may result from having irritants held closely to the eyes for a longer period of time.

Talon alert

A note of caution was published in the August 1980 *Zoological Newsletter*, a publication of the American Association of Zoos, Parks, and Attractions, by Dr. Wilbur B. Amand, a veterinarian and Director of the Phila-

delphia Zoo. Dr. Amand expressed concern that insects, such as ants and roaches, may serve as vehicles of secondary poisoning for insect-eating birds.

The walk-through aviary of the Philadelphia Zoo was treated with Talon placed in carefully concealed and bird-proof stations. Mouse control was effective. Pavement ants and roaches were seen foraging in some stations and several days after exposure of the Talon, insectivorous birds died. Dr. Amand cautions fellow zookeepers and asks for them to relay any

similar, and possibly unexplained, mortality of insect-eating birds. Talon is not known to be insecticidal, and the fate of Talon inside insects, when they ingest pieces of crumbled baits, is not known. If the supposition contained in Dr. Amand's caution proves true, it will be the first time that insects have been linked to this kind of secondary poisoning. For PCOs, this note may prompt special caution to be taken in places such as pet shops, especially where rodent control may be attempted before any insect control is effected.

SUMMARY OF REPORTED PESTICIDE INCIDENTS INVOLVING BRODIFACOUM

Pesticide Incident Monitoring System

Report No. 417

by

**Health Effects Branch
Hazard Evaluation Division
Office of Pesticide Programs
Environmental Protection Agency**

February 1981