112701

00080239 12/81

DATA EVALUATION RECORD

1. CHEMICAL: Brodifacoum

2. FORMULATION: 50 ppm (Talon)

3. CITATION: Hazards to Barn Owls associated with the use of 'Talon' Brodifacoum bait) for controlling rats and house mice. Hegdal, Paul L. and Blaskiewicz, Raymond W. May 28, 1981. USFWS/DWRC for ICI Americas, Inc.

4. REVIEWED BY: Russel Farringer
Wildlife Biologist
EEB/HED

5. DATE REVIEWED: Russel Farringer 12/81
Wildlife Biologist
EEB/HED

6. TEST TYPE: Field Monitering ✓

A. Test Species: Barn Owls (Tyto alba)

7. REPORTED RESULTS:

' We did not observe nor do we suspect any Talon caused barn owl mortality during the study. However, trace residues (<0.05 ppm, the limit of determination) of brodifacoum were found in one electrocuted barn owl.'

8. REVIEWER'S CONCLUSIONS: Due to the nature of this study, the following questions are of concern:

1) Page 3, para. 2- "Even though food habits studies by many Researchers indicate that rats of the genus Rattus and house mice do not generally make up a large part of the owls' diet, some of these rodents are consumed by barn owls, especially in siutations where other small mammal prey are scarce...."
   a) Where small mammal prey scarce? (b) Were the rats and mice found in pellets consumed pre-or posttreatment?

2) Page 4, End of para. "...barn owls that roost or nest in farm buildings or near farmsteads generally have higher intake of rats and house mice."
   a) From the data, only five potentially toxic prey were taken by the barn owls. However, site 18, where two Mus muscolus skulls were reported in pellets,

the presence of the owl posttreated was spectulative as the owls radio telemetry device was molted. This owl could not e confirm alive at the end of the study. (B) Is this statement supported by the data.

3) Page 5 - "Savarie and LaVoie (unpublished) reported that some American Kestrels (Falco sparverius) died after feeding on Talon-killed meadow voles (Microtus pennsylvanicus) for 6 days. Kestrels did not die after feeding on Talon-killed voles for 2 days but prothrombin ttimes were elevated even 71 days posttreatment."

4) Page 21 - "...they (Barn owls) were the most likely raptor to be affected secondarily by Talon baiting in and around farm buildings."
(a) If Microtus spp. were numerous or on the high side of of a population dynamics curve, and if as this report would indicate that Microtus spp. is preferred by the Barn owl then the potential hazard would be greatly reduced. (b) Pg. 21- "Radio telemetry data also indicated that adult barn owls spent most hunting time away from farmsteads and seemed to concentrate their efforts in fields and marshes with high populations of voles." This would further indicates that the secondary hazard exposure potential was minimized. Since "farmer related observations of owls taking rats and mice on their farmstead in previous years", this study may not of presented a worst case situation.
(c) Page 22 - "There was a limited potential for exposure to some owls".

5) Page 22 - It would appear that the ideal time to treat to get potential exposure to owls would be in early June when the adult owls are very active bringing food to the nest."
(a) Baiting was not commenced until 24 July, a definite negative factor in accepting the results.

6) Page 23 - Presumably young birds left the area. However, what about the possibility that they died and were not found?

This reviewer agrees that the results of this study indicated that the potential for barn owl mortality as a result of Talon rodenticide baiting around farmsteads appears to be low. However, the exposure potential to the barn owls was also low. The birds exposure was not during a stress period (i.e. breeding, low rodent populations, ect.). This study has not answered the question of secondary hazard to raptors when Talon bait is used in outdoor situations.