

COMPLETED PROJECT REPORT

Project Title: Deer mouse Lab feeding study.

Research Agency: National Wildlife Research Center

Principal Investigator: Matschke

Budget: \$17,191.00

Background:

April 1998

Study Protocol QA 515 was canceled and this study was combined with the QA 506 Study Protocol. Although a site in Colorado to trap deer mice was located and trapping of animals was to begin in the fall 1997, because of the threat of hantavirus in the wild populations, it was determined to be safer and more efficient to raise the test population from a hantavirus-free breeding colony of mice. A laboratory has been located in South Carolina that specializes in raising breeding pairs free of the hantavirus. Breeding pairs were purchased in November 1997 to begin the colony. It took 4 to 6 months to acclimate the mice and allow them to raise 2 litters before the first tests. The pairs have started to produce offspring and it is anticipated that testing for the chlorophacinone will begin in late May 1998 and in late June-July 1988 for the diphacinone.

August 1998: The deer mice in the colony at NWRC have started to produce offspring. The efficacy trials for chlorophacinone began 8 July and are in progress. It is anticipated that the tests for diphacinone will begin shortly.

March 1999: This feeding study was conducted in July and August 1998 using hantavirus-free *Peromyscus* bred at the NWRC. For both chlorophacinone and diphacinone, for all males and females, mortality was 100%. The final report is in preparation.

May 1999: No new findings were reported. The data have been tabulated and a final report is being drafted.

Summary:

Partial abstract from final report submitted to CDFA:

The VPCRAC funded a lab study at the NWRC to provide efficacy data required by the EPA for the reregistration of 0.01% chlorophacinone and diphacinone oat groat baits for controlling deer

mice (*Peromyscus maniculatus*) in California. Twenty mature deer mice (10 males and 10 females) were purchased from the Univ. of S. Carolina in Nov. 1997 to begin a breeding colony. By July and August 1998, the offspring reached maturity and 60 mice (30M:30F) were selected bait to be tested. The mice were randomly assigned by weight and sex to 1 of 3 groups, each containing 10 makes and 10 females. A 15-day 2-choice feeding trial was started with a control group (Group 1) receiving 2 dishes of rat and mouse challenge diet. The 2 treated groups (Groups II and III) received 1 dish of challenge diet and 1 dish of either 0.01% chlorophacinone or diphacinone.

For the chlorophacinone group, all 40 (100%) of the treated mice died. Mortality began on day 1 and continued through day 9, with 92% of the mice dying between days 3 and 7.

For the diphacinone group, all 40 (100%) of the treated mice died. Mortality began on day 3 and continued until day 17, with 82.5% of the mice dying between days 3 and 7.

The results suggest both baits are efficacious rodenticides for controlling deer mice in California. The observed 100% mortality for both baits exceeds the 70% standard set by EPA.

Last Updated:

02/13/09

