

COMPLETED PROJECT REPORT

Project Title: Mouse Lab feeding study.

Research Agency: National Wildlife Research Center

Principal Investigator: Matschke

Budget: \$15,684.00

Background:

April 1998 Study Protocol QA 516 was canceled and the study was combined with the QA 506 Study Protocol. ACP developed a method to analyze chlorophacinone in wax bait. However, the manufactured baits appear to be half of the 0.005% target concentration. The low concentration problem may be due to the manufacturer not accounting for the wax added to the grain and the chlorophacinone in the wax bait block. NWRC prepared a 0.001% bait using the original formulation and added the wax to this, resulting in the needed 0.005% concentration in the completed wax bait block. NWRC used environmental chamber to acclimate the 0.005% wax blocks at 90% to 100% humidity at 100 degrees F for 15 days. The study was conducted in March-April 1997.

Summary:

December 1999: The final report was submitted to CDFA. An abstract of the report is given below:

This study was required by EPA to partially fulfill data requirements for reregistering CDFA's 0.005% chlorophacinone wax bait block and the 0.005% diphacinone wax bait block. This lab study determined the efficacy of the chlorophacinone and diphacinone oat groat wax bait blocks for controlling house mice (*Mus musculus*). For both the chlorophacinone and diphacinone tests, 80 domestic house mice (20 control, 60 treated), equally represented by sex, were placed on a 15-day, 2-choice feeding trial. Mice were housed in groups of 10, segregated by sex for testing. Each group of control mice received 2 dishes containing the Office of Pesticide Programs (OOP) rat and mouse challenge diet. Each group of treated mice (Groups II and III) each received one dish of the OOP challenge diet and one 0.005% unweathered chlorophacinone or diphacinone wax bait block. The last group of mice (Group IV), each received one dish of the OOP diet and one 0.005% weathered chlorophacinone or diphacinone wax bait block.

For the chlorophacinone group, by day 5 of the study, the treated mice (Groups II, III, IV) had consumed 78.1% of the total amount of the wax bait blocks. Forty-three (71.7%) of the 60

treated mice died. Mortality for Groups II, III, and IV was 14, 14, and 15 mice, respectively. Mouse mortality began on day 3 and continued until day 15, with 70% dying between days 3 and 7. Seventeen treated mice survived the test. The 71.7% mortality meets the 70% minimum mortality standard established by the EPA for verifying efficacy of rodenticides.

For the diphacinone group, by day 5 of the trial, the treated mice (Groups II, III, IV) had consumed 82.43% (cumulative) of the total amount of the wax bait. The percent of toxic bait consumed (8.16%) compared to the total bait consumption did not meet the minimum 25% standard set by EPA. Forty (66.7%) of the 60 treated mice died. Mortality for Groups II, III, and IV was 65%, 75%, and 60%, respectively. Mouse mortality began on day 3 and continued until day 16, with 65% dying between days 3 and 7. The 66.7% mortality did not meet the 70% minimum mortality standard established by EPA.

Last Updated:

02/13/09