

COMPLETED PROJECT REPORT

Project Title: Cholecalciferol/ Pocket Gopher/ Burrow Builder Study

Research Agency: National Wildlife Research Center

Principal Investigator: Matschke

Budget: \$196,485.00

Summary:

The final report was submitted in July 2000.

The objective of this study was to determine the minimum concentration of cholecalciferol on steamed-rolled oat groat bait required to produce maximum control of pocket gophers. The study was conducted in anticipation of an EPA requirement to field test the efficacy of several concentrations of cholecalciferol that had been shown to be effective in laboratory experiments for control of Valley Pocket gophers (*Thomomys bottae*). The study site was a 420 ac, flood irrigated alfalfa field located about 2.75 mi southwest of Pixley, Tulare County, California. Efficacy data were obtained by placement of the bait into artificial underground burrow systems made with a mechanical burrow builder in randomly selected treatment units. The 0.005, 0.0375%, 0.05%, 0.075%, and the 0.15% cholecalciferol treated baits were placed in the artificial burrows at the rate of 2.46 gm every 18.6 in. Gopher mortality estimated from the open-hole index using active burrow systems was 13.0%, 13.3%, 46.7%, 46.7%, and 40% for the control (placebo), 0.0375%, 0.05%, 0.075%, and 0.15% concentrations, respectively. After deducting the natural mortality observed in the control plots, the percentage of mortality was even less (<35%). However, these results were affected by the weather which caused a high percentage of the artificial burrows to collapse (mean = 46.7%, SD = 17.1%) during the study. We suggest that better efficacy may be achieved if the study were to be redone with the high concentrations of cholecalciferol used in this study (e.g., >0.0375%) when the conditions for use of the burrow builder are more appropriate for burrow maintenance.

Last Updated:

01/31/09

