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LABORATORY EFFICACY STUDY ON VALLEY POCKET GOPHERS (THOMOMYS BOTTAE) WITH  
CHOLECALCIFEROL.

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Abstract

The California Department of Food and Agriculture funded the laboratory study at the Denver Wildlife Research Center (DWRC) to determine if Cholecalciferol could control Valley pocket gophers in California. Valley pocket gophers were captured in California and shipped to the DWRC for a laboratory efficacy study with a control (0.00%) and 4 levels of treated oat groats: 0.05%, 0.075%, 0.112%, and 0.169%. A 1.5 increment between the treated baits was established around the 0.075% Cholecalciferol bait currently registered in California for commensal rodent control. The study was a 3-day, no choice feeding trial in which 100 animals were ranked by weight into the 20 weight classes and randomly assigned to 5 treatment groups. Total mean bait consumption was 18.17g in the control, 4.29g for 0.05%, 4.08g for 0.075%, 2.98g for 0.112%, 2.50g for the 0.169%. The average mg/kg in the treated groups was 13.53mg/kg for the 0.05% bait, 19.55mg/kg for the 0.075%, 21.39mg/kg for the 0.112%, and 27.95mg/kg for the 0.169% bait. Mortality was 100% in the 0.05% bait class by day 8, 100% in the 0.075% by day 7, 100% in 0.112% by day 10, and 95% from the 0.169% group by day 7. One control animal died on day 3 of unknown causes and 1 gopher surviving from the 0.169% group was essentially a non-eater consuming a total of 0.03g of bait in 3 days. In conclusion, all concentrations were highly successful in a laboratory situation with an overall 95% mortality rate; but, the gophers were not given a choice of diets. This study concludes that more testing of Cholecalciferol is warranted as it has potential as a rodenticide for controlling Valley pocket gophers.