

COMPLETED PROJECT REPORT

Project Title: Grower evaluation of California ground squirrel control using reduced baiting strategies.

Research Agency: University of California - Cooperative Extension

Principal Investigator: T. Salmon

Budget: \$187,864

Background:

This project will use a new approach to conducting field evaluation of broadcast, spot and bait station baiting of anticoagulant baits. The concept is to solicit growers to participate in a field based evaluation project to determine if the proposed baiting strategies are effective under specific commercial operational conditions. Growers will be trained in the simple research design to identify proper treatment sites, and to evaluate relative population size.

Objectives:

1. Develop a complete training package to instruct growers in evaluation of squirrel populations, and in the proper bait application methods.
2. Identify growers with ground squirrel problems who would be willing to participate in a simple research program to evaluate anticoagulant baiting strategies.
3. Using grower cooperators, conduct baiting trials comparing chlorophacinone and diphacinone baits using bait stations, spot and broadcast methods.
4. Prepare baiting strategies information (written and video) for dissemination via the WEB and other methods.

Summary:

The final report has been completed. Excerpts from the Conclusions/Discussion section of the report are provided below.

Our ability to involve cooperators in the implementation of this research allowed us to more fully evaluate the efficacy of anticoagulant baiting strategies in a variety of agricultural settings. Farm Advisors played a vital role in finding willing cooperators, setting up meetings, conducting site visits, assisting with field work, and some Farm Advisors served as cooperators collecting data. The results for the comparison in baiting strategies supports previous research that suggests that two treatments separated by three days (alternate strategy) is as effective as the current recommendation of three treatments at two-day intervals (Whisson and Salmon 2002a,b). Using the alternate baiting strategy may reduce potential secondary hazards by decreasing the amount of bait available, while maintaining efficacy. The results of the baiting method comparison suggest that when attempting to control ground squirrels, one should choose an appropriate

application method based on local conditions, time constraints, and economic concerns. Broadcast baiting appears to be best suited for larger, open areas and may cost less on a per acre basis, while bait stations are more adaptable to cluttered or busy areas or in situations where time is a limiting factor. The convenience and economical feasibility of spot baiting is likely dependant upon the level of ground squirrel infestation and the size of the treatment area. The lowest overall efficacy was seen in nut orchards which supports anecdotal reports that it is more difficult to control ground squirrels in nut orchards than in any other agricultural setting. We were pleased with the recovery rate of the workbooks and the detail in which they were completed. All of the feedback we received from participating cooperators about the project was positive. While evaluating the survey data, we found that cooperators were more likely to use bait stations in future ground squirrel control operations. They also expressed the opinion that bait stations were more effective, despite fact that the data they had collected showed no difference.

Final Update:

09/27/06