

## COMPLETED PROJECT REPORT

**Project Title:** A review of potential avicides, rodenticides and other vertebrate pest control compounds

**Research Agency:** University of California, Davis

**Principal Investigator:** R. Marsh

**Budget:** \$9,995

### **Background:**

This research project was undertaken to assist the California Department of Food & Agriculture in maintaining and improving vertebrate pest management as it relates to California agriculture. The establishment of a surcharge on rodent control products sold by the agricultural commissioners has been highly effective in generating research funds. These funds have been used to develop additional data needed by the U.S. Environmental Protection Agency to maintain California's existing vertebrate pesticides. These funds may be used to reregister previously lost pest control materials, or to pursue the development of new control materials.

### **Objectives:**

1. Review past and current rodenticides and avicides to determine their potential for reregistration or use expansion.
2. Identify those potential or new rodenticides or avicides which have never been developed for agricultural use in the U. S., and evaluate their future possibilities.
3. Establish priorities for pursuing the development, or further development, of specific chemicals for vertebrate pest management.

### **Summary:**

Forty vertebrate pest control chemicals or potential pesticides have been included in this study. Past and current uses of each material have been provided, along with a brief discussion as to whether a material warrants further exploration, an expansion of its use, or a significant developmental undertaking

Suggested priorities have been given for 22 compounds and of these 11 are ranked as the most important by making up the top half (i.e. 1 to 5, with 1 being highest) ranking of the chemicals. Eleven are ranked in the lowest (i.e. 6 to 10) groupings. It is anticipated that it will take years to conduct the needed testing and development of basic chemical data. There is a good chance that some priorities will undergo changes over time and that new chemicals may come along to be added. See table 1 (in the final report) for a complete list of chemicals,

suggested actions, and priority ratings for those actions. An abbreviated list of the compounds with the highest priority ratings (with 1 being the highest) follows: chlorophacinone - 1; cholecalciferol - 4; diphacinone - 1; sodium fluoroacetate - 3; strychnine (rodenticide) - 1; warfarin - 5; zinc phosphide - 1; aluminum phosphide - 5; gas cartridges - 5; fenthion - 5; strychnine (avicide) - 2; avitrol - 4.

The importance of the bait surcharge for supporting needed research on vertebrate pest control chemicals, either to register or retain their existing registration, cannot be over stressed. The California Department of Food and Agriculture, those individuals and organizations who supported the establishment of the surcharge, and the members of the Vertebrate Research Advisory Committee should all be congratulated for their role in and progressive outlook toward California agriculture's immediate and future needs for vertebrate pest management chemicals.