

COMPLETED PROJECT REPORT

Project Title: Rodent Control Training and Certification using an Interactive Computer Kiosk System

Research Agency: University of California Cooperative Extension

Principal Investigator: Terrell P. Salmon

Budget: \$133,575.00

Background:

The development of a multimedia program for self service education and certification of individuals, principally growers, who are using restricted use rodenticides. This program will be available in a computerized 'touch screen' format at two California County Agriculture Offices with the potential for expansion of the program to all County Agriculture Offices.

The Environmental Protection Agency (EPA) recently issued a proposed risk mitigation decision for rodenticide bait products containing the following nine active ingredients: brodifacoum, bromadiolone, difethialone, chlorophacinone, diphacinone, warfarin, zinc phosphide, bromethalin, and cholecalciferol. This decision was based on an evaluation of the ecological risks associated with the use of rodenticide bait products containing the nine active ingredients. The EPA decision anticipates classifying all bait products containing the active ingredients brodifacoum, bromadiolone, and difethialone as restricted use pesticides. EPA is also proposing labeling changes to mitigate the risks associated with bait products containing any of the nine rodenticides. The proposed changes would classify diphacinone and chlorophacinone for agricultural uses as restricted use pesticides. This classification would limit their use to certified applicators with sufficient training to know when to use the products and how to use them in order to limit risks.

Under authority of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) Section 4 reregistration requirements, EPA issued Reregistration Eligibility Decisions (REDs) for the Rodenticide Cluster and Zinc Phosphide in 1998. Following the RED, EPA developed a Comparative Ecological Risk Assessment for Nine Rodenticides to further evaluate the potential for rodenticide bait products to pose ecological risks to non-target birds and mammals. The nine rodenticide active ingredients addressed in the RED are divided into three categories: first-generation anticoagulants (warfarin, chlorophacinone, diphacinone); second-generation anticoagulants (brodifacoum, bromadiolone, and difethialone); and the non-anticoagulants bromethalin, cholecalciferol and zinc phosphide.

All nine rodenticides are used in bait products to control rats and mice in and around buildings. Chlorophacinone, diphacinone, and zinc phosphide are registered for agricultural uses. Brodifacoum and diphacinone have island conservation uses that are managed by the Fish and Wildlife Service (FWS). The EPA's comparative ecological risk assessment concluded that all nine rodenticide active ingredients pose some risks to non-target wildlife. The risks to wildlife are from primary exposure (direct consumption of rodenticide bait) for all compounds; and secondary exposure (consumption of prey by predators or scavengers with rodenticide stored in body tissues) from the anticoagulants.

When the EPA's risk mitigation proposals become effective the result will be that all current rodenticide materials used by agriculture (growers) in California will be restricted use materials. To apply these materials, a Department of Pesticide Regulation issued license or certificate, or a private applicators certificate will be required. Although the effect of the proposal on agriculture users is as not fully known, some form of training and or licensing/certification will be required for agricultural uses of anticoagulant baits. It is anticipated that each 'user' will be required to certify or train before any form of restricted use materials can be sold or issued through County Agricultural Commissioner offices.

The concept of this proposal is to assess the feasibility of a multimedia 'touch screen' program in order that agricultural users can be easily, efficiently, and instantly trained and certified for using the proposed restricted use materials. If successful the program could be extended throughout California at all county offices that sell rodenticide baits.

Objectives:

The overall objective of this research is to develop a computerized self service solution to the training and certification of individuals using restricted use materials for rodent control. The specific objectives are:

1. Create a computer kiosk based self service training and certification program for rodent control using restricted use material baits.
2. Field tests the kiosk system in 2 Agricultural Commissioner offices representing large and small scale bait sales and use (i.e. large commercial growers and small scale growers).
3. Evaluate potential for the kiosk based system as a self service training and certification program for rodent control using restricted use material baits for all county offices that sell or distribute rodenticides.

Summary

This study was undertaken to demonstrate and assess the efficacy of a new outreach education concept the use of an interactive touch screen computer (kiosk) for ground squirrel control education, particularly with regard to using anticoagulant rodent bait. The target audience for the concept is the California agricultural industry and urban members of the public who are dealing with ground squirrel problems. Users of the computer kiosk are able to access various learning tools: learning library, a quiz, video learning, interactive decision making tool, and are able to print information and certificates. The computer kiosks are available at select California County Agricultural Commissioner offices. The computer kiosks are networked (computer linked) and

the education content is capable of being added to or amended from remote locations. In addition to educating users the computer kiosks seamlessly garner statistical data and collect voluntary information from users, i.e. email, comments. The computers were deployed from June – September, 2008 in San Diego, Fresno, Monterey, and Alameda counties. They were successfully utilized by individuals throughout the period. The success of the computer kiosks demonstrated their potential for use in statewide continuing education and pesticide applicator certification efforts related to vertebrate pest control.

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