

COMPLETED PROJECT REPORT

Project Title: Formulation of anticoagulant artichoke bracts.

Research Agency: University of California - Davis

Principal Investigator: Salmon

Budget: \$38,803.00

Background:

The objectives of this project are to:

1. Research processes for developing a chlorphacinone/mineral oil suspension including methods of developing suspensions, effects of handling on suspension concentration, methods of resuspension after settling, and uniformity of a.i. in the suspension.
2. Research formulation methods for developing uniform 0.01% chlorphacinone artichoke bract bait.
3. Research field scale formulation methods and, in cooperation with artichoke growers evaluate practicality of these methods for field use. Assist in developing manufacturing process information for submission to EPA.
4. Compare 0.01 and 0.005% chlorphacinone artichoke baits under field conditions for short (24 hour) and long term (5 day) stability to address potential need for the 0.01% bait.

Summary:

June 2003

Two summaries were provided in the final report and are presented below:

Summary of Field Trials: To assess the efficacy of the new formulation we looked at vole activity before baiting compared to activity after baiting. We sampled areas where fresh vole damage was seen and in these areas bracts were put out and marked by flags. The average percent eaten per flag location was used as a measure of consumption. Bract consumption was used as an index for activity. In the August field trial there was an 86% decrease in bract consumption following treatment of the artichoke field and in the September trial there was a 90% decrease. We cannot assume that the percent decrease in consumption represents the actual decrease in population. However, the decrease in activity definitely suggests that vole numbers

were decreased by a significant amount when the area was baited with the new formulation of 0.01% chlorophacinone-treated bracts.

Overall Summary: Although the manufacturing process of the newly formulated 0.28% chlorophacinone/mineral oil is somewhat different, the use of the finished bait remains the same and we expect that it will perform in a very similar manner to the original 0.28% Rozol chlorophacinone oil. Both our laboratory and field scale tests demonstrated the feasibility of manufacturing the chlorophacinone/mineral oil artichoke bracts using the new formulation. Analysis of the chlorophacinone oil as well as the bracts indicated that by following the procedures developed by Kleen Globe and CDFA, we were able to obtain a homogeneous chlorophacinone suspension solution. We determined that the chlorophacinone concentration on the bracts was within the 0.01% range. Furthermore, based on the findings of the field trials we conclude, the manufacturing process should have no negative impact on the overall efficacy of the 0.01% chlorophacinone treated artichoke bracts.

Last Updated:

03/03/09