CALIFORNIA STATE SCIENCE FAIR
2010 PROJECT SUMMARY

Name(s)
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Project Number
J2317

Project Title
The Ability of a Dove Weed Extract to Control Aphids

Abstract

Objectives/Goals
The objective is to determine if an extract of the Dove weed could be used as an insecticide and be comparable to an over the counter insecticide, Acetamiprid, in the control of Rose Aphids.

Methods/Materials
I collected Dove weed, created a liquid extract by grinding the plant leaves and stems, filtered the extract to remove plant parts, initially applied the extract to iris leaves with Iris Whiteflies. After the initial success I expanded the testing to Rose Aphids in roses and added the Acetamiprid as a comparison. I included 1 versus 2 applications of both treatments. I counted the live and dead aphids in all treatments.

Results
The 2 untreated sites had 17 and 42 live Rose Aphids and 0 dead aphids present. The single application Dove weed extract site had 10 live and 32 dead aphids or 76% control. The single application Acetamiprid site had 3 live and 37 dead aphids or 92.5% control. The 2 application Dove weed site had 1 live and 23 dead aphids or 95.8% control. The 2 application Acetamiprid site had 0 live and 26 dead aphids or 100% control.

Conclusions/Discussion
From discussions with my 7th grade teacher, I learned that Native Americans used Dove weed to stun and catch fish. After researching on the internet, I found that an Indian researcher had tested Dove weed for the control of cross striped cabbage worms. From this information I decided to test a Dove weed extract on whiteflies and aphids. The results of my tests shows that an insecticide based on the Dove weed extract could be a successful alternative to currently used products for whiteflies and aphids.

Summary Statement
The comparison of Dove weed (also known as Turkey Mullein) extract to the insecticide Acetamiprid for the control of rose aphids.

Help Received
My father provided guidance and supervision of the project and my mother helped with the board. Dr. Sam Wells from the Bayer CropScience Fresno Field Research Station, assisted with the use of equipment for counting the aphids.