



# CALIFORNIA SCIENCE & ENGINEERING FAIR 2018 PROJECT SUMMARY

<b>Name(s)</b> Atticus J. Humphrey	<b>Project Number</b>  38168
<b>Project Title</b> Effects of Apollo SC Miticide on Galendromus occidentalis	
<b>Abstract</b> <b>Objectives/Goals</b> The title of this project is Toxicity of Apollo# SC Miticide on Galendromus occidentalis (G. occidentalis). The purpose of this study was to investigate if differing concentrations and intervals between the leaf-dip assay of Apollo# SC (Apollo) and test subject exposure would affect its toxicity. <b>Methods/Materials</b> Concentrations consisted of a 100% label rate (LR) Apollo, a 50% LR, a 25% LR, and a 12.5% LR. The control was a 0% LR. Each concentration and the control test contained ten petri dishes with the leaf-dip assay and five test subjects of G. occidentalis. Three leaf-dip assays were conducted. Test 1 had a twenty-four-hour interval between Apollo application and test subject exposure, test 2 had an interval of three days before exposure, and test 3 had a 5-day interval before exposure. Toxicity was measured in mortality of the G. occidentalis and recorded every twelve hours for thirty-six hours. <b>Results</b> After performing this study, the results showed that differing concentrations and delayed leaf-dip exposure of the pesticide did affect the mortality of G. occidentalis. The 100% LR concentration did show the greatest mortality in all of the leaf-dip assays performed at an average of 4.2. The control had the lowest mortality at an average of 0.4. The remaining pesticide concentrations# results were 50% LR at 3.2, 25% LR at 2.7, and 12.5% LR at 2.1. <b>Conclusions/Discussion</b> These results indicate that that Apollo SC does have lethal impacts to G. occidentalis. Apollo SC is a selective pesticide and could be utilized in an integrated pest management (IPM) application in conjunction with G. occidentalis. The most effective concentration and exposure delay must be determined for maximum pest management.	
<b>Summary Statement</b> The focus of this project is to determine the selectivity of Apollo SC Miticide when applied to a beneficial mite.	
<b>Help Received</b> The help that was recieved was from Kearny Ag Center and Dr. Kent Daane for project setup, along with my project advisor, Mr. Aalto. I also recieved help from the miticide company and Ricom Vitova for the mite supply.	