



**CALIFORNIA STATE SCIENCE FAIR  
2015 PROJECT SUMMARY**

<b>Name(s)</b> <b>Ivann U. De La Cruz</b>	<b>Project Number</b> <b>S2106</b>
<b>Project Title</b> <b>Return of Cacti's Worst Enemy: Combating Wild Grana Cochineal</b>	
<div><div><b>Objectives/Goals</b> Objective: To find an efficient mixture that can exterminate Wild Grana Cochineal then protect cacti from being plagued again for the longest amount of time. I think the alcohol and liquid soap mixture will be able to do this best due to their toxic properties if ingested, and because of last year's results.</div><div><b>Methods/Materials</b> Procedure: I sprayed the insects directly with the mixtures in an effort to exterminate them with the mixture alone. Then I sprayed the entire plant every time new plague appeared to make sure the cacti had a coating that would theoretically protect it from new cochineal.</div><div><b>Results</b> I sprayed the insects directly with the mixtures in an effort to exterminate them with the mixture alone. Then I sprayed the entire plant every time new plague appeared to make sure the cacti had a coating that would theoretically protect it from new cochineal.</div><div><b>Conclusions/Discussion</b> Conclusion: The alcohol and liquid soap mixture was the mixture that exterminated the parasite efficiently constantly protected the cacti from being infected again for the longest amount of time. The mixture was all safe as they did not affect the cacti internally, did not alter growth, and the cacti was deemed safe to eat. They were also easy to use, effective, materials can be obtained at a reasonable cost, and with the shortage in water, it replaces well known (although less effective) mixtures.</div></div>	
<b>Summary Statement</b> Creating a safe insecticide to combat Wild Grana Cochineal	
<b>Help Received</b> Mother helped me wash and maintain cacti.	