



**CALIFORNIA STATE SCIENCE FAIR  
2017 PROJECT SUMMARY**

<b>Name(s)</b> <b>Arti Gnanasekar</b>	<b>Project Number</b> <b>J2209</b>
<b>Project Title</b> <b>Investigating the Effects of Different Chemical Composition of Pesticides on the Survival of Honeybees</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective of this experiment is to uncover which neonicotinoid or brand of pesticide is most harmful to honeybees. If pesticides prove to be harmful to honeybees, this project will bring awareness to scientists to take steps in mitigating and even preventing the way humans contribute to Colony Collapse Disorder.</p> <p><b>Methods/Materials</b> Greenhouse, food, flowers, plastic containers, and honeybees. Observe how many bees die in a course of 3 consecutive days when released to higher or lower concentration of pesticide.</p> <p><b>Results</b> Out of the 3 pesticides, Imidacloprid killed the most bees that the other two neonicotinoids. Clothianidin and Acetmaiprid were harmful to the honeybees through the 5 trials, but not as harmful as Imidacloprid. Control barely killed any bees. This project elucidates how humans are contributing to Colony Collapse Disorder and bee death by constantly using pesticides that may be harmful to bees.</p> <p><b>Conclusions/Discussion</b> The results was that Imidacloprid did kill the most honeybees in all. In the 5 trials, out of 10 bees in each trial, Imidacloprid killed the range of 7 to 9 bees in the lower and higher concentration in a course of three consecutive days. The Acetamiprid and Clothianidin proved to be harmful to the bees to a certain extent as well, killing 4 to 6 honeybees in each trial.</p>	
<b>Summary Statement</b> I am testing the effects of different pesticide concentrations on the survival of Honeybees.	
<b>Help Received</b> I tested the experiment by myself but I recieved training on how to handle the bees by the local San jose beekeeper named Art Hall.	