



# CALIFORNIA STATE SCIENCE FAIR 2010 PROJECT SUMMARY

<b>Name(s)</b> <b>Ania Kaila Osuna</b>	<b>Project Number</b> <b>J2021</b>
<b>Project Title</b> <b>Analyzing Which Plant Is Most Adaptable to Car Exhaust</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> My primary goal was to determine which of my three plants would survive in car exhaust contaminated climates and to determine which of my plants were the most adversely effected.</p> <p><b>Methods/Materials</b> I used six Strawberry plants, Brussels Sprout plants, and Basil plants. Three of each went into a greenhouse exposed to car exhaust and the other three went into a greenhouse not exposed to car exhaust. I used car exhaust, because it is one of the main air pollutants in our valley. I used Strawberries because they are an ever bearing fruit that would survive through the weather of my experiment. I used Brussels sprouts, because they cope well with both hot and cold weather. I used Basil, because it is an annual herb.</p> <p>I labeled the plants exposed to car exhaust A and the plants not, B. I replanted them and placed two clear plastic containers over them, this container acted as my greenhouse. I had nine plants in each greenhouse. One greenhouse would house the plants and contaminated socks (A) and the other would house the plants (B).</p> <p>For my source of car exhaust I secured two socks around the muffler of a car. At the end of each day I removed the socks, replaced them with two more, recorded the daily mileage, and placed the removed socks in greenhouse A. This experiment lasted eight weeks.</p> <p><b>Results</b> I used six weeks of data for my final analysis, because of a variable I had not anticipated. I concluded from my six weeks that strawberries were the least adversely effected and Brussels sprouts the most.</p> <p><b>Conclusions/Discussion</b> I discovered my hypothesis to be incorrect. My hypothesis asserted that the Basil would flourish and thrive better than the rest of the plants. I also maintained that the Strawberries would be susceptible to the effects of car exhaust. The end results proved that the Strawberries were least affected by car exhaust and that Brussels sprouts were the most affected. Strawberries exposed to car exhaust grew only four (4) cm less than the control group and Brussels Sprouts grew a total average of eight point four (8.4) cm less than the control group.</p> <p>In conclusion, car exhaust affects Strawberries least. Even though precautions are being implemented to clean up air pollution, planting plants that can withstand the effects of pollution caused by car exhaust, such as strawberries, might help agriculture remain a strong industry in our Valley.</p>	
<b>Summary Statement</b> I investigated the effects of car exhaust on three different plants in order to determine which is least effected by it and thereby, more likely to thrive in the San Joaquin Valley where car exhaust is one of the main air pollutants.	
<b>Help Received</b> Mother assisted me in acquiring all my equipment and best way to place sock around muffler without affecting the vehicle.	