



**CALIFORNIA STATE SCIENCE FAIR  
2011 PROJECT SUMMARY**

<b>Name(s)</b> Anne C. Maher	<b>Project Number</b>  31695
<b>Project Title</b> The Worst Pollutant for Plants	
<b>Objectives/Goals</b> To discover which of the given pollutants (car soap, car oil, smog, and acid rain) is most harmful to the life of plants. I believe this will be car oil. <b>Abstract</b> <b>Methods/Materials</b> Thirty-nine Cherry Belle radishes, thirteen pots, soil, acid water, motor oil, car soap, three plastic bags, three paper plates, duct tape, and a notebook were used. Three pots, three plants in each pot, were used for each pollutant. There was also one control that was given no pollutants. Each of the three pots was given twice the amount of pollutants as the last pot. For instance, the three smog plants recieved one hour, two hours, and four hours of smog each day. Soap and oil recieved 1/2 teaspoon, one teaspoon, and two teaspoons. Acid rain recieved 1/8 cup, 1/4 cup, and 1/2 cup. This continued every day for four weeks. <b>Results</b> The soap was the most deadly pollutant, killing the plants most quickly. Oil came next, then smog, than acid rain. Oil plants recieved black blotches on the leaves before dying. Smog did not grow well, suffered discoloration and loss of leaves before dying. Acid rain had discoloration for a while and then flourished and were the first to grow a radish. <b>Conclusions/Discussion</b> Soap is by far the most harmful pollutant of the ones used; killing usually within a week. This may be because the soap rubbed off the cuticle of the leaves and dehydrated it, along with poisoning it. The oil probably entered into the leaves pores and caused the blotching. The lack of sunlight most likely prevented photosynthesis in smog plants and caused the lack of growth and discoloration. The lemon juice used to make acid rain may be what caused them to flourish.	
<b>Summary Statement</b> The worst pollutant for radish plants out of acid rain, smog, soap, and car oil.	
<b>Help Received</b> Father helped with idea, mother bought supplies.	