



**CALIFORNIA STATE SCIENCE FAIR
2010 PROJECT SUMMARY**

Name(s) Yesenia Guerrero	Project Number J2309
Project Title Effects of Pharmaceuticals on Plants	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective of this project was to find out the effect that Children's Tylenol Plus Cough and Runny Nose has on rosemary plants.</p> <p>Methods/Materials Fifteen rosemary plants were divided into three groups of five. The first two groups were given Children's Tylenol Plus Cough and Runny Nose combined with water. One of these groups was given more medication (5mL more). In the third group, medication was not used at all; only water. This was done every night for twenty-one days. Plants were observed every day, and one ruler was used to measure their growth and wilt.</p> <p>Results The two groups of plants that were exposed to Children's Tylenol Plus Cough and Runny Nose were greatly harmed. But the plants with the most medication, drooped faster and two centimeters more than the plants with less medication, which wilted five centimeters. Most of the plants in the group in which medication was not used, did not have that many changes, except that they grew about two centimeters.</p> <p>Conclusions/Discussion Children's Tylenol Plus Cough and Runny Nose, like many other drugs, can end up contaminating the soil when they are disposed of improperly. An ingredient in this medication- synthetic nitrogen- harms the soil, and therefore, the plants. The damage that this product can cause to plants, is shown in the way that the rosemary plants were affected becoming brittle, stiff, and surviving no longer than three weeks. This information should help people to be more careful in the way they get rid of their unwanted pharmaceuticals.</p>	
Summary Statement My project is about the harm that pharmaceuticals can cause on plants.	
Help Received My older sister helped me organize my ideas; my mom helped me w/ my poster board.	