



**CALIFORNIA STATE SCIENCE FAIR
2012 PROJECT SUMMARY**

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Project Title The Grass That Isn't Greener	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective of this experiment was to determine whether 100mg/L of BPA would inhibit the germination and initial growth of annual ryegrass seeds over a period of twelve days.</p> <p>Methods/Materials Four trials were conducted in which 100 controlled ryegrass seeds and 100 seeds in contact with BPA were allowed to germinated for twelve days in an area with a constant temperature of 60-70 degrees Celsius. After twelve days, the lengths of the stems and roots of each seed were measured and recorded.</p> <p>Results On average, 44.7% of the seeds in contact with BPA had no growth, whereas only 26.2% of the undisturbed seeds did not grow. The average differences between the stem and root lengths of the BPA and undisturbed seeds were, respectively, 1.72cm and 1.56cm, the undisturbed seeds having the most growth.</p> <p>Conclusions/Discussion BPA is a chemical that can very easily be absorbed by organisms and give off weak, hormone-like properties. 100mg/L of BPA was found to inhibited the initial growth of 44.7% of annual ryegrass seeds, a crop used as fodder that could be affected by runoff and easily integrated into the agricultural world. The BPA also caused the seeds to grow 1.72cm shorter stems and 1.56cm shorter roots than those of controlled seeds. This data suggests that BPA may be a harmful substance and may be directly entering the agricultural system.</p>	
Summary Statement This project tested if 100mg/L of BPA affects the germination and initial growth of annual ryegrass seeds, a crop which can easily be affected by runoff and direct chemicals into the agricultural system through biomagnification.	
Help Received	