



**CALIFORNIA STATE SCIENCE FAIR
2016 PROJECT SUMMARY**

Name(s) Zavier L. Annis	Project Number J2101
Project Title Effects of Varied Ratios of Greywater to Clean Water on Tall Fescue Grass	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals This experiment tested which ratio of greywater to clean water (greywater/clean water), among eleven, descending by 10% greywater, is the most effective when used to water tall fescue grass.</p> <p>Methods/Materials The procedure involved placing all eleven samples under a grow lamp and checking them every evening to take observations, moving to maintain evenness of light received, and watering when necessary. The approximate observations taken were written to calculate the four dependent variables: average length, longest sprout, range, and number of sprouts.</p> <p>Results All four variables were taken into consideration, and the ratio of 60% greywater to 40% clean water proved to be the most effective, mostly based on its superior average length and high number of sprouts germinated in a short amount of time. Interestingly, the samples (including 60/40) watered with ratios close to 1/2 greywater and 1/2 clean water seemed generally more successful than ones watered with mostly clean water (not including 10/90 and 100% clean water).</p> <p>Conclusions/Discussion Contrary to my hypothesis, the materials in the greywater did seem to have a substantial effect, sometimes positive and sometimes negative, on the growth of the grass. In conclusion, 60% greywater and 40% clean water is a very effective ratio to use when watering tall fescue grass, and could be used to water actual lawns and backyards.</p>	
Summary Statement This project tested the effects of combined greywater and clean water, in varying ratios, on tall fescue grass.	
Help Received My parents provided financial support for materials. My father provided certain tools and other on-hand materials used during the experiment.	