



**CALIFORNIA SCIENCE & ENGINEERING FAIR
2018 PROJECT SUMMARY**

Name(s) Gavin C. Joyce	Project Number S1912
Project Title Surviving Drought IV: More for Less	
Abstract Objectives/Goals The experiment aimed to identify what approximate amount of daily recycled water produced the highest ratio of fruit to water expended for squash plants in a tiered system. Methods/Materials Tiered watering structure, apparatus for obtaining recycled water, scale, liter-sized measuring cup. Watered plants daily with specified amounts of recycled water while recording amounts of fruit harvested and water expended while cycling water from the bottom tier back to the top tier. Results The results of my experiment show that approximately 1200 mL/day of water produces the highest ratio of fruit to water expended in a tiered watering system with squash plants. Conclusions/Discussion The results of my experiment revealed that 1200 mL/day of recycled water sufficiently supplied growing plants with enough nutrients to thrive while not over saturating them with nutrients, damaging them. This knowledge would help people conserve water while also producing more fruit with the lower amount of water being used.	
Summary Statement This experiment aimed to determine what approximate amount of daily recycled water is best for producing the highest ratio of fruit to water expended in squash plants. I found that 1200 mL/day of recycled water produces the highest ratio.	
Help Received I designed and conducted the experiment myself. I also built the structure for the experiment with my grandfather, who allowed me to use his garden infrastructure for the experiment. In addition, my mother and my biology teacher, Ms. Sainato, both advised me on my experiment.	