



**CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY**

Name(s) Alicia I. Guerra	Project Number S0815
Project Title Supplementary Analysis of the Adjudication of Competence of a Greywater Mechanical Filtration/Reuse Complex	
Abstract Objectives/Goals The prospect of this investigation is to ascertain whether an autochthonous greywater reuse and filtration complex can minimize unfavorable indicators of water quality (e.g. alkalinity, pH) and yield surpassing height lengths and biomasses of basil plants compared to those of untreated greywater. Methods/Materials Greywater is salvaged from the washer and transported outdoors to be filtered through mechanical processes (including sand filtration). Treated greywater (experimental), untreated greywater (control) annexed before filtration, and tapwater will be measured for levels of water quality determinants and each water sample will be used to water 10 plants each to compare biomasses and height. Results Ocimum basilicum grown in treated greywater had height lengths and biomasses almost duplicate to those of tapwater, while plants watered in untreated greywater languished in root damage and lagging heights. Conclusions/Discussion Accordant results after ten trials manifest cogency of a small-scale, cost-efficient greywater treatment system and connote arbitration of greywater constrained to being filtered for the scope of watering plants.	
Summary Statement The levels of antagonistic water quality determinants were reduced by greywater treatment ; filtration of greywater leads to an improvement in growth and root development of ocimum basilicum.	
Help Received Water testing kits/ laboratory equipment from BVHS used under supervision of Dr. Michelle Mardahl. Questions answered by Otay Water District chemist Patricia Ortega. Family aided with board/ material expenses.	