



**CALIFORNIA STATE SCIENCE FAIR
2017 PROJECT SUMMARY**

Name(s) Jason E. Gravori	Project Number J1910
Project Title Salvage or Sabotage?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The purpose of this experiment was to test if the best irrigation water temperature for cress was related to the ambient temperature.</p> <p>Methods/Materials To conduct this experiment I used cress seeds, paper towels, plates, spray cans, water, a food scale, a thermometer, a ruler, a camera and a light meter. I first used the light meter to find an indoor and outdoor area that received the same amount of light. I then planted six plants of cress in each location. Two of the indoor cress plants were irrigated with water whose temperature matched the ambient temperature. Two indoor cress plants received water 5 degrees Celsius colder than the ambient temperature, and two received water 5 degrees Celsius warmer than the ambient temperature. The same was done with the outdoor plants. Everyday I measured the two tallest shoots of each plant as well as the weight of the plant.</p> <p>Results My data showed that amongst the indoor plants, the plants watered with ambient water fared best. However, amongst the outdoor plants, the ones watered with ambient plus 5 degrees Celsius water fared best. This difference between the patterns of the indoor and outdoor plants showed that the best irrigation water temperature was not related to the temperature of the environment. Upon further analysis, I concluded that the best irrigation water temperature for cress falls between 21.38 degrees Celsius and 21.55 degrees Celsius, regardless of the ambient temperature.</p> <p>Conclusions/Discussion Before this experiment, I thought that the best irrigation water temperature for cress was related to ambient temperature. The results did not support my hypothesis. However, the results did teach me that is important to water cress with irrigation water that is between 21.38 degrees Celsius and 21.55 degrees Celsius. Doing this will maximize crop growth.</p>	
Summary Statement While testing if the best irrigation water temperature for cress was related to ambient temperature, I discovered that the best water temperature for cress was between 21.38 and 21.55 degrees Celsius REGARDLESS of the ambient temperature.	
Help Received My teacher suggested that I look at the temperature variability outdoors as a source of error. My mom watered the plants for me on days when I was running late to school.	