



**CALIFORNIA STATE SCIENCE FAIR
2017 PROJECT SUMMARY**

Name(s) Estrella Leal Martinez	Project Number J1913
Project Title Comparing Soil Fertility Levels Collected from Different Orchards and Vineyards	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals I wanted to learn if soils in different types of fruit orchards and vineyards would have different fertility levels.</p> <p>Methods/Materials I developed a Wick Hydroponic System in my investigation. I collected soil from 3 different orange, pomegranate, and grape fields. For my control, I collected soil from the adjacent area from the 3 orange, pomegranate, and grape fields. The control was the soil that has not been exposed to the tree/vine fruits and leaves that have decomposed into the soil. I placed 10 radish seeds on the cotton balls in the Hydroponic System. The fabric wick was used to extract the nutrients form the soil and water solution. Then, I measured the plant growth in centimeters on day 7 and 14.</p> <p>Results The results from my investigation indicated that soils in different types of fruit orchards and vineyards did have different fertility levels. The average plant growth from the different soil solutions on Day 7 varied from pomegranates 1.0 cm., oranges 1.1 cm., and grapes 1.4 cm. The average plant growth from the different soil solutions on Day 14 varied from pomegranates 1.6 cm., oranges 1.8 cm., and grapes 2.0 cm.</p> <p>Conclusions/Discussion After completing my investigation, I discovered that my hypothesis was correct. Every fruit orchard and vineyard soil had a different fertility level that determined the average plant growth. In addition, the soil collected from the grape vineyards had the highest fertility level based on the average plant growth of 2.0 cm. In comparison to the soil collected from the pomegranate orchards that had the lowest fertility level based on the average plant growth of 1.6 cm.</p>	
Summary Statement I developed a hydroponic system to compare soil fertility levels from orange/pomegranate orchards and grape vineyards.	
Help Received	