



**CALIFORNIA SCIENCE & ENGINEERING FAIR
2019 PROJECT SUMMARY**

Name(s) Savannah Kampmann	Project Number J1813
Project Title Manure and Nutrients	
<p style="text-align: center;">Abstract</p> <p>Objectives My goal was to see which manure had the most nutrients in it. An additional analysis was performed on broccoli seeds for a visual comparison of which manure provided the best environment for growing broccoli.</p> <p>Methods I obtained four different manure samples from around my house and had them tested for a variety of nutrient levels. I also mixed each of the manure with with dirt and planted broccoli seeds to see which mixture grew the best.</p> <p>Results I found that pig manure was the highest in primary nutrients. However the broccoli seeds thrived the best in the goat manure mixture.</p> <p>Conclusions I learned that although the pig manure had the most primary nutrients, and the the goat manure was the best balance for growing broccoli seeds, the type of manure and mixture with the soil will depend on the crop you want to grow.</p>	
Summary Statement Although pig manure was the highest in primary nutrients, it does not mean it is best for growing every crop.	
Help Received The Director of Ag Services at Fruit Growers Laboratory, Scott Bucy, and guidance from my parents.	