



**CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY**

Name(s) Morgan C. Riggins	Project Number J2028
Project Title Enhancing the Biomasses of Raphanus sativus with Different Manures	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective is to determine which manure, chicken, donkey, goat, horse, pheasant, or sheep, has the greatest effect on radishes' biomass.</p> <p>Methods/Materials Each type of manure was composted for two weeks with the same type and amount of ingredients, and then added with potting soil to six separate planting containers. Sixty radish seeds were then planted among the manure. All the radishes were harvested after thirty-seven days, and measured for length, mass, and ratio of root to sprout length.</p> <p>Results Of the manures, radishes fertilized with sheep produced the longest and most abundant root mass. However, chicken and pheasant manure grew the radishes with the highest mass and sprout growth. (See my project's conclusion for a more in depth explanation)</p> <p>Conclusions/Discussion In conclusion, this project showed that when using manure to fertilize plants, one should base their manure type on whether they want healthy leaf growth above ground, or a large root mass tunneling their soil. From their experiment, I discovered that sheep, chicken, and pheasant manures all contribute to a radish's biomass, given that their individual nutrients benefit different aspects of the plant.</p>	
Summary Statement In this experiment, different manures were composted and used to fertilize radishes for later inquiries on the effects of manure on a radish's biomass.	
Help Received Parents purchased needed supplies and tools for the experiment.	