



**CALIFORNIA STATE SCIENCE FAIR  
2010 PROJECT SUMMARY**

<b>Name(s)</b> <b>Matt S. Pandol, III</b>	<b>Project Number</b> <b>J2023</b>
<b>Project Title</b> <b>The Effect of Worm Casting on Plant Growth</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective is to determine how different percentages of the Coachella worm casting can affect the growth of radish plants in biomass.</p> <p><b>Methods/Materials</b> Planted ten containers of six different percentages of worm casting mixed with sterilized peat moss and placed three radish seeds each. The percentages were 0%, 20%, 40%, 60%, 80%, and 100% of worm casting. The containers were color coded. Plants were placed in a green house to grow for the next 31 days. After four days, I thinned the plants out and left only the biggest plant to grow in each container. Plants were watered on a daily basis with the same amount of water. After 31 days the plants were uprooted, soil removed, and weighed. Then the radishes were removed and reweighed them separately.</p> <p><b>Results</b> The results show that the plants that grew in the 80% worm casting had the most biomass and the 0% had the least. The order of smallest to greatest biomass is as follows: 0%, 100%, 40%, 20%, 60%, and 80%. In weighing just the radishes the 60% weighed the most.</p> <p><b>Conclusions/Discussion</b> In conclusion my hypothesis was not fully supported by the data. I expected the 20% worm casting to produce the most biomass. With the 60% and 80% worm casting the plants had more biomass than the 20%, but the radishes were mutated, or oddly shaped. With the 20% worm casting, radishes were the most uniform in shape. This shows that too many nutrients can be harmful to plants and can affect the food it produces.</p>	
<b>Summary Statement</b> How different percentages of Coachella worm casting can affect plant growth.	
<b>Help Received</b> Carl Gwilliams for providing the worm casting, electrical conductivity meter and obtaining the soil sample from the lab.	