



# CALIFORNIA STATE SCIENCE FAIR 2011 PROJECT SUMMARY

<b>Name(s)</b> Stevie A. O'Connor	<b>Project Number</b>  31011
<b>Project Title</b> Worm vs. Warm: Yogurtland, Lazy Acres, or Bamboo Studios	
<b>Objectives/Goals</b> The purpose of this experiment is to show companies how effective biodegradable/compostable utensils really are and how much smaller their impact on the world is. The purpose is also to show which compost system is most effective and to show people that composting is a good, effective idea that is worthy of their time and energy. My hypothesis for this project was, if I plant three different biodegradable/compostable spoons in two different compost piles/bins, then the Bamboo spoons will break down faster than the Yogurtland and Lazy Acres spoons. <b>Abstract</b> The purpose of this experiment is to show companies how effective biodegradable/compostable utensils really are and how much smaller their impact on the world is. The purpose is also to show which compost system is most effective and to show people that composting is a good, effective idea that is worthy of their time and energy. My hypothesis for this project was, if I plant three different biodegradable/compostable spoons in two different compost piles/bins, then the Bamboo spoons will break down faster than the Yogurtland and Lazy Acres spoons. <b>Methods/Materials</b> Materials: Eight Yogurtland, Lazy Acres and Bamboo spoons, Aerobic and Vermiculture compost, triple Beam Balance, graph Paper, bright duct tape and a camera. Procedures: Divide spoons into two piles (four of each in each pile), keep spoons separated. Label the spoons with different numbers, up to four (Yogurtland 1,2,3,4, etc.). Measure mass of all spoons. Record on paper. Calculate total mass (Yogurtland bin #1&#2, etc.). Trace each spoon on graph paper to determine cm <sup>2</sup> (surface area). Photograph each group of spoons. Date pictures accordingly. Wrap one piece of bright green duct tape around each spoons, to aid in finding them. Bury one group of spoons in each bin. Next week, dig up spoons from both composts bins, keeping groups separate. Finally, repeat all steps for seven weeks starting at step three. <b>Results</b> Since there was not enough time to complete the testing, my results are unknown. I was able to make an educated guess about the results. My guess was that the Bamboo spoon would break down the fastest because it was the one showing signs of deterioration and one beginning to fall apart. I guessed that the Aerobic compost bin would break down the Bamboo spoon the fastest because the bamboo spoons in the Aerobic compost bin were showing more signs of deterioration compared to the Vermiculture compost bin. <b>Conclusions/Discussion</b> It was too early to tell the exact and accurate result of my experiment. I did realize some interesting things during my experiment. One of the things I realized was that the fluctuation in the spoons weight may have been due to the amount of moisture they absorbed each week and may have varied depending on how much moisture was in the compost each week. Given a sufficient amount of time, I would have been able to conclude the full results of my experiment.	
<b>Summary Statement</b> My project was comparing the rate at which three different biodegradable spoons (Yogurtland, Lazy Acres and Bamboo Studios) will break down in two different compost bins (Aerobic Compost Bin and Vermiculture Compost Bin).	
<b>Help Received</b> Mother and Father helped with digging up spoons from compost bins. Mentor answered questions through email for me, to help with project.	