



**CALIFORNIA STATE SCIENCE FAIR  
2007 PROJECT SUMMARY**

<b>Name(s)</b> Austin C. Eadie	<b>Project Number</b> <b>J1414</b>
<b>Project Title</b> <b>Does Antibiotic Medicine Given to Cows Have a Profound Effect on the Yogurt Produced?</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective of my experiment was to determine if the anti-biotic medicine given to cows can have an effect on the yogurt produced.</p> <p><b>Methods/Materials</b> I used two containers of culture certified organic yogurt, and two containers of culture certified non-organic yogurt. Organic yogurt is produced by cows that are not given anti-biotic medicine, while non-organic yogurt is produced by cows given heavy doses of anti-biotic medicine. I used regular soy-agar in standard sterile Petri dishes. I prepared a 10x dilution, and a 100x dilution, for both the organic and non-organic yogurt, and incubated them at 37 C for six days.</p> <p><b>Results</b> I found that the organic yogurt significantly clouded the Petri dish indicating strong bacteria growth. I could hardly observe any growth in the agar with the diluted non-organic yogurt. This was consistent with both 10x and 100x dilutions. I concluded that my hypothesis was correct, and Lactobacillus bacteria was more present in organic yogurt than in non-organic yogurt</p> <p><b>Conclusions/Discussion</b> Since Lactobacillus bacteria assists with digestion, these results could mean that it is healthier for most people to eat organic yogurt. It is also interesting that anti-biotic medicines, which according to the USDA are frequently given to non-organically raised cows, could have an adverse affect on the quality of the food produced. It is possible that the reason for the absence of bacteria in non-organic yogurt is due to anti-biotic residue in the yogurt itself.</p>	
<b>Summary Statement</b> My project is designed to determine if anti-biotic medicine given to cows has an effect on the yogurt produced, and I found that there was an absence of bacteria in the yogurt produced by the cows given anti-biotic medicine.	
<b>Help Received</b> I received help from Mr. Atchley with my methods. Mr. Steely also allowed me to use his incubator, and his room for the experiment. My parents proof read my research and my mom helped me with my board.	