



**CALIFORNIA STATE SCIENCE FAIR
2007 PROJECT SUMMARY**

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Project Title How Spoiled Can You Get?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The aim of this project is to determine which food preservative (salt or vinegar) inhibits bacterial growth in food.</p> <p>Methods/Materials 4 packets of no salt chicken boullion 20, 50 mL containers with lids 500 mL of hot water at 102.8 degrees farenheit 37.5 grams of salt 18.75 mL of vinegar gram balance permanent marker 60 nutrient agar plates 60 inoculation loops mixing bowl spoon syringe for measuring Dissolve boullion cubes into the hot water. Add different concentration of salt or vinegar to each container. Streak onto agar plates immediately after mixing preservatives into the broth. Then let broth sit at room temperature for a period of five days. Streak onto agar plates on days 1,3, and 5 and check bacterial growth.</p> <p>Results Salt: 830 bacterial colonies over a five day period. Vinegar: 82 bacterial colonies over a five day period.</p> <p>Conclusions/Discussion We concluded that vinegar is a better preservative than salt. We also did some research to find out why it was. The answer is because vinegar contains about 4-6 percent acidic content so it was hard for the bacteria to grow</p>	
Summary Statement Our project is about bacterial growth in food and how food preservatives help inhibit this growth so that foods can stay fresher longer.	
Help Received Mom- helped with providing materials and driving us to the lab. Jeff Cordell- letting us use his laboratory and his materials. Brother-for helping us make the graphs.	