



**CALIFORNIA STATE SCIENCE FAIR  
2007 PROJECT SUMMARY**

<b>Name(s)</b> <b>Madylynn K. Snyder</b>	<b>Project Number</b> <b>J1434</b>
<b>Project Title</b> <b>Aunt Bertha's Buns</b>	
<b>Abstract</b> <b>Objectives/Goals</b> The objective of this experiment was to determine if Aunt Bertha's family bun recipe created the tallest rise in the bread dough by combining yeast and the natural starches from mash potatoes in the bread dough. Yeast is the ingredient in breadmaking that causes the bread to rise. Yeast transform sugar and starch into carbon dioxide bubbles. Potatoes contain forms of both sugar and starch and a high concentration of amylose. <b>Methods/Materials</b> Boiled and mashed potatoes (plain potatoes-no additions) were added to an active yeast mixture containing lukewarm water and yeast. The dough was placed in callibrated beakers and covered with a cloth. The beakers were placed on a heating pad of 78 degrees. The dough was measured every 15 minutes for four hours. The control groups were two mixtures; 1) a mixture of 2) unleavened dough(no yeast)and leavened dough (addition of yeast). <b>Results</b> The dough containing mashed potatoes and yeast rose significantly higher than the control group dough. The dough rose an average of 20% higher than the dough with yeast and 80% higher than the unleavened dough. <b>Conclusions/Discussion</b> The results for this experiment were expected based on the scientific research and the family history of Aunt Bertha's buns. The yeast attacked and fed on the starches in the flour and then continued to feed on the natural starches in the mashed potatoes. In all three trials the results were the same.	
<b>Summary Statement</b> Aunt Bertha's Bun recipe which included the secret ingredient of mashed potatoes caused the dough to rise higher than the bread dough with yeast only.	
<b>Help Received</b> Mother helped type report, Lou Massei (Biology teacher at Monache High school provided lab equipment)	