



**CALIFORNIA STATE SCIENCE FAIR  
2008 PROJECT SUMMARY**

<b>Name(s)</b> <b>Olivia E. Wong</b>	<b>Project Number</b> <b>J0417</b>
<b>Project Title</b> <b>The Effects of Various Amylase Enzymes on the Starch Hydrolysis</b>	
<b>Abstract</b> <b>Objectives/Goals</b> The objective of this experiment is to compare the effects of human salivary amylase enzymes versus microbial enzymes on starch hydrolysis. <b>Methods/Materials</b> Subcultures of <i>Bacillus subtilis</i> , <i>Streptococcus agalatae</i> , <i>Sacchromyces cerevisiae</i> , and human saliva were inoculated to the appropriately labeled quadrants on the starch agar plate. The starch agar plate was left at room temperature for 24 hours at 37 degrees Celsius and pH of 7.0. Iodine solution was then flooded on the starch agar plate. The diameters of the starch hydrolysis for <i>S. agalatae</i> , <i>B. subtilis</i> , saliva, and <i>S. cerevisiae</i> were measured in mm. every ten minutes for two hours. The data was then tabulated and graphed. Procedure was repeated for two more trials. <b>Results</b> The largest diameter of the clear zone (starch hydrolysis) was found in salivary amylase, 9.7 mm., followed by <i>Bacillus subtilis</i> , 4.4 mm., and 0 mm. for both <i>Streptococcus agalatae</i> (negative control) and <i>Sacchromyces cerevisiae</i> . <b>Conclusions/Discussion</b> Human salivary enzymes were more effective in starch hydrolysis than microbial amylase enzymes.	
<b>Summary Statement</b> Effects of various amylase enzymes on starch hydrolysis are being observed.	
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