



CALIFORNIA STATE SCIENCE FAIR 2007 PROJECT SUMMARY

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Project Title Super Tasters: All in Good Taste	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals Taste is one of our most important senses. Our tongue is covered with hundreds of papillae. Each papillae is covered with tiny taste buds. Through complicated chemical reactions, our taste buds help us detect very specific taste sensations. Everyone has papillae and taste buds, but some people have more than other people. The people who have the most taste buds are called #super tasters# and they are much more sensitive to taste sensation then the rest of the population.</p> <p>We wanted to know if Chefs were more sensitive to taste and if they had a higher probability of being super tasters versus people who don#t like to cook. Our hypothesis is that Chefs are more likely to be super tasters compared to people who don#t like to cook.</p> <p>Methods/Materials We discovered that a simple test, called a PROP test, could be used to measure a person#s sensitivity to taste. We carefully measured out 1/32 of a teaspoon of Propylthiouracil (PROP) powder with one pint of water, and then soaked absorbent coffee filters in the solution. The filters were dried, cut into small pieces and placed into zip lock baggies. We then developed a questionnaire to carefully identify Chefs and non-cookers. Chefs had to be people who studied cooking for a career and "non-cookers" had to be people who said they disliked cooking. We then had each person put the PROP paper in their mouth and measured their reactions. Non tasters will not taste anything, tasters will detect a slight bitter taste, and super tasters will experience a very bitter taste. We recorded our observations and then analyzed our data.</p> <p>Results We found that 22.2% of the Chefs were super-tasters, versus only 9.1% of the non-cooks. 51.9 % of the Chefs were non-tasters and 77.9% of the non-cooks were non-tasters. We were able to prove our hypothesis that chefs were more likely to be super tasters compared to people who don#t like to cook. Although we were surprised that over half of the Chefs were non-tasters, our experiment did demonstrate that the Chef group had a much higher percentage of taste sensitivity to PROP strips when compared to people who don#t like to cook.</p> <p>Conclusions/Discussion Scientists are using information on super tasters and peoples sensitivity to taste to study obesity, colon cancer, heart disease and a number of other important health related disorders. We learned a tremendous amount about the tongue, taste and flavor!</p>	
Summary Statement Using a procedure that measures sensitivity to taste, we tested whether chefs were more sensitive to taste than people who don't like to cook.	
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