



**CALIFORNIA STATE SCIENCE FAIR
2007 PROJECT SUMMARY**

Name(s) Jonathan L. Noyola	Project Number J1219
Project Title How Do Different Substances Affect How Appetizing Cooked Vegetables Look?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals When a vegetable is cooked, its color changes. It can get brighter or darker. The color change of the food can make it look unappetizing. For my science fair project, I was trying to find out how to stop that from happening. How does cooking under different conditions affect the color of the vegetable?</p> <p>Methods/Materials I started the project by filling my pot with water. Then I put broccoli in the pot. I tested that three times, and then I also added lemon juice to the water. I repeated that three times, and then I added salt instead of the lemon juice. I repeated that three times, too. Then I repeated the whole thing again with green beans and carrots. Then I had my mom, dad, and brother rate the level of how appetizing each batch of vegetables looked. They wrote a number from one to ten for each trial. One was the least appetizing and ten was the most appetizing. Then I also used paint samples from Home Depot to compare the color of the vegetables from each trial.</p> <p>Results The broccoli cooked in only water was darker and more appetizing than the raw broccoli. The broccoli that was cooked in lemon juice turned partly yellow and partly a dark greenish-brown. The broccoli that was cooked in salt turned a solid dark green.</p> <p>The green beans were all mostly the same. The green beans just cooked in plain water looked the most appetizing. They were darker than the raw green beans. The green beans cooked in lemon juice were the least appetizing. The green beans that were cooked in salt water looked darker than the raw green beans, but not as good as the green beans cooked in plain water.</p> <p>All of the carrots appeared the same as each other, and they were darker than the raw carrots.</p> <p>Conclusions/Discussion The carrot wasn't affected by salt or lemon juice. The green vegetables were the opposite of what I thought: the lemon juice made the green vegetables lighter in color and they looked the least appetizing. The salt turned the green vegetables darker and they looked the most appetizing. I thought it was interesting the way the vegetables turned out. If you want your green vegetables to look more appetizing after they are cooked, avoid lemon juice and use salt in the water. For the vegetables to taste good, though, don't put in too much salt.</p>	
Summary Statement My project studied how different cooking conditions affect the color of vegetables.	
Help Received Mom, Dad and brother helped rate the appetizing level and color of vegetables. Mom helped with stove.	