



**CALIFORNIA STATE SCIENCE FAIR  
2005 PROJECT SUMMARY**

<b>Name(s)</b> <b>Erica Lynn Soutanian</b>	<b>Project Number</b> <b>J0533</b>
<b>Project Title</b> <b>Natural Dyes</b>	
<b>Objectives/Goals</b> My Question that I am testing is if natural fruit and vegetable dyed fabric will retain its original color when washed with todays detergents.	
<b>Abstract</b> <b>Methods/Materials</b> To test my experiment I did 3 trial and 3 tests. My first one I did is one in the washing machine with detergent. Another, in the washing machine with no detergent. Finally, I did one in the sink with no detergent. I did each of my tests three times for each fabric. # 1 L 250 mL onion skins ( 5 cups)# 1 L 250 mL beets ( 5 cups) # 1 L 250 mL blueberries ( 5 cups) # 1 L 250 mL raspberries ( 5 cups) # 100 cotton % quilters broadcloth 2.7432 meters ( 3 yards) # 4 medium/ large pots # All Free and Clear detergent # Washing machine # Water # Strainer # Salt # White Vinegar # Pot Holders # Scissors # Measuring cups # 4 big bowls # 4 stirring spoons # Knife # Cutting board	
<b>Results</b> When I washed the fabric I found that some of the dyes washed out completely, while others changed colors. The only dye that held completely was the onion skins. When I washed the other fabrics in the washing machine the colors either went out completely or changed color. When I hand washed the fabric mainly all of the dyes stayed mostly the same. The washing machine trials with and without turned out almost the same. The detergent seemed to even out the color a little bit, while the trials without detergent seemed to make the color spread unevenly.	
<b>Conclusions/Discussion</b> My hypothesis was incorrect because the color fixative did not make the color hold in the fabric. The answer to my question is yes and no because one of the colors stayed and the others didn#. This could be that the color pigment level in the onion skins had something in it that helped it keep its color longer. Another possible explanation could be that there was a reaction to the PH levels in the dye with the detergent and water in the washing machine. When I washed my fabric in the washing machine I found that it changed or lost its color. When I hand washed my fabric I found that it stayed the same color. This could be because the constant movement of the fabric in the washing machine caused it to lose its original	
<b>Summary Statement</b> In my project I washed fabric with natural dyes to see if they would retain their original color.	
<b>Help Received</b> Mother helped me make dyes	