



# CALIFORNIA SCIENCE & ENGINEERING FAIR 2018 PROJECT SUMMARY

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<b>Project Title</b> <b>Comparing Nitrate levels on Different Apples and Studying the Effectiveness of Different Solutions in Removing Pesticide</b>	
<b>Abstract</b> <b>Objectives/Goals</b> This experiment was conducted to compare the nitrate levels of both organic and conventional gala, granny smith, and red delicious apples before and after they are washed in a baking soda solution, a white vinegar solution, and Trader Joe's Fruit Wash. The hypothesis was that baking soda solution would work the best at removing pesticide residue.  Another experiment was also done with twenty of the apples that were used. The hypothesis for this experiment was that wiping down the apples would be the most effective at removing pesticide rather than air-drying which was proved correct. <b>Methods/Materials</b> The materials used were different varieties of apples, solutions, and a Greentest Nitrate Tester.  Five conventional and five organic apples were wiped down completely after being washed, and the other five organic and five conventional were left to air dry. <b>Results</b> The results showed that white vinegar was the least effective at removing residue. It indicated that both before and after the wash there was no change in residue levels. (<30 milligrams.) Trader Joe's Fruit Wash had removed 20 milligrams off of a 60-milligram conventional gala apple. Baking soda solution had turned <30 milligrams into 0 milligrams on two apples.  Two conventional apples washed with baking soda and wiped down and were found with 0 milligrams of nitrate after being tested. <b>Conclusions/Discussion</b> This experiment is useful because it clarifies the fact that both organic and conventional apples had safe levels of pesticide residue. In this study, organic apples did not prove to be better than cheaper conventional apples.	
<b>Summary Statement</b> This project is about comparing nitrate levels on different varieties of apples and finding the most effective solution in removing pesticide.	
<b>Help Received</b>	