



**CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY**

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| Name(s) Leah A. Hatayama | Project Number J0407 |
| Project Title The Effects of Honey on Longevity of Fruits and Vegetables | |
| <p style="text-align: center;">Abstract</p> <p>Objectives/Goals To determine the effects of honey on extending the shelf life and preserving fruits and vegetables.</p> <p>Methods/Materials I purchased strawberries and tomatoes from the grocery store and raw honey from the health food store. I made 3 different honey dilutions: a 1% honey solution, a 5% honey solution, and a 10% honey solution using honey and sterile water. I labeled each piece of fruit and separated them into groups of 10. I sprayed each of the honey dilutions on both the strawberries and tomatoes and made a control group that I did nothing to. I let the berries and tomatoes dry overnight, stacked them in a bowl, and left them at room temperature. The next day I started checking for signs of soft spots, dark spots, or mold. I observed the strawberries and tomatoes until all the strawberries showed signs of rot and the tomatoes until it was time for my school science fair (21 days).</p> <p>Results The 1% honey dilution coated strawberries were preserved 50% more (or twice) as long as the control group and had an attractive bright red color. By day 5 only 40% of the 1% honey coated strawberries showed signs of decay, compared to the control which was 100% decayed. By day 5, both the 5% and 10% dilutions showed 80% of the berries decayed. The 1% and 5% honey dilutions did an equal job preserving the tomatoes compared to the control, 0% decay in these two groups compared to 30% decay in the control. In fact, the tomatoes coated with the 1% honey dilution are still sitting on my kitchen counter and are just now showing signs of getting wrinkled!</p> <p>Conclusions/Discussion After completing my investigation on the effects of honey on preserving fruits and vegetables, I found that my hypothesis was correct and the 1% honey dilution sprayed on strawberries and tomatoes will keep the fruits and vegetables fresh much longer. This is a way to preserve perishable fruits and vegetables without chemicals. The fruit also looks better, the color was much redder for the strawberries. This could help farmers, fruit packers, and grocery stores as well as people allergic to chemicals.</p> | |
| Summary Statement Investigating whether or not honey could be used to preserve and extend the shelf life of fruits and vegetables. | |
| Help Received My teacher read over my project and my mom helped type it and helped me with my board display. | |