



**CALIFORNIA STATE SCIENCE FAIR  
2016 PROJECT SUMMARY**

<b>Name(s)</b> <b>Larisa M. Assadourian</b>	<b>Project Number</b> <b>J0604</b>
<b>Project Title</b> <b>I Love Dairy, but It Hates Me: Testing the Glucose Content of Milk and Ice Cream</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> My objective or goal in this science project is to understand why people become lactose intolerant. People should also be informed about how much glucose there is in the milk they drink and the ice cream they eat.</p> <p><b>Methods/Materials</b> First, I made the glucose liquid with 1 glucose tablet and 200mL of water. I poured 20mL of the completed liquid into the test tube. In the other test tubes, I poured the soymilk, lactose free ice cream, lactose free milk, water, and regular milk. I dipped five glucose strips in each liquid and laid them on a paper towel. To help me analyze the glucose content, I used glucose test strips. On the bag, there is a color chart that corresponds to different glucose levels. Every minute I recorded the estimated glucose amount for ten minutes using a stopwatch, and recorded the results. After completing the process, I put a drop of Lacteeze into each liquid and rolled each test tube in my hands for two minutes. Once again, I did the process of dipping and measuring. At last, I calculated my results.</p> <p><b>Results</b> Water did not have any glucose content. The glucose solution had some content (300mg/dL). Regular milk had low glucose content (80mg/dL). Lactose free milk had much higher glucose content (590mg/dL) than regular milk. Soymilk demonstrated very low levels of glucose because it has no lactose. Lactose free ice cream had very high levels of glucose (1250mg/dL). Regular milk with one drop of lactase enzyme demonstrated a huge increase in glucose level (from 80 to 680mg/dL). Lactose free milk with one drop of lactase enzyme demonstrated a very minute increase in its high glucose level (from 580 to 670mg/dL). Soymilk with one drop of lactase enzyme demonstrated no increase in glucose level (from 15 to 40mg/dL). Similarly Lactose free ice cream with one drop of lactase enzyme demonstrated very little increase in its high glucose level (from 1060 to 1100mg/dL).</p> <p><b>Conclusions/Discussion</b> The experiment demonstrated that lactose free dairy products have much higher glucose concentration than those in regular dairy products. The experiment also revealed that the addition of lactase enzyme to regular milk caused the glucose concentration to increase tremendously due to that fact the original lactose has broken to glucose and galactose upon reaction with the lactase enzyme.</p>	
<b>Summary Statement</b> This project is about measuring the glucose concentration in different dairy products.	
<b>Help Received</b> I would like to thank my parents, Michael & Dr. Lena Assadourians, for buying the right materials, taking pictures while I did the procedure, and for supporting me and encouraging me to do this science experiment. I would also like to thank the scientist that I have contacted, Christina Kasparian for	