



**CALIFORNIA STATE SCIENCE FAIR  
2015 PROJECT SUMMARY**

<b>Name(s)</b> <b>Avinash Ramaswamy</b>	<b>Project Number</b> <b>J1517</b>
<b>Project Title</b> <b>Got Spoiled Milk?</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> I conducted an investigation to find out if the amount of fat in store bought milk affects the time it takes to spoil. My experiment was designed to test Kirkland Signature 2% Reduced Fat Milk, Kirkland Signature Whole Milk, and Kirkland Signature Fat Free Milk as the 3 variations of my independent variable.</p> <p><b>Methods/Materials</b> For the materials, I used the three milk types stated in the objective. I also used a refrigerator, pH meter, 15 containers, and a measuring cup. In my method, I put the milk types into 5 containers each, and put them all in the top shelf of the refrigerator. Every day, I would test to see if the milk was spoiled by using the pH meter every day. If the pH is below 6.4, the milk is spoiled. Also, qualitative observations such as smell, look, and texture helped identify spoiled milk.</p> <p><b>Results</b> As a result, the Reduced Fat Milk had an average spoilage range of plus 2.8 days from the expiration date. The Fat Free Milk, however, took the longest time to spoil since it had an average of plus 4.8 days from predicted expiration date. The Whole Milk expired the quickest due to its average spoilage time being minus 2 days from the predicted expiration date.</p> <p><b>Conclusions/Discussion</b> In conclusion, the amount of fat in store bought milk does affect the time it takes to spoil, because fat-free milk spoiled the slowest, and whole milk spoiled the quickest.</p>	
<b>Summary Statement</b> The amount of fat in store-bought milk affects the time the milk takes to spoil.	
<b>Help Received</b> Father bought milk and pH meter; Mother bought containers and measuring cup; Mother supervised pH testing.	