



**CALIFORNIA STATE SCIENCE FAIR  
2011 PROJECT SUMMARY**

<b>Name(s)</b> <b>Haleema F. Abbasi</b>	<b>Project Number</b> <b>J2001</b>
<b>Project Title</b> <b>FarmaCowLogy: Comparing Saturated Fat Levels in Different Types of Beef</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> Many people have stopped eating beef, or really cut it out of their diet, because of the health problems caused by saturated fat. Saturated fat can cause heart attacks, stroke and can lead to obesity, which can lead to other problems. With all the different kinds of beef in the markets, all of them at different prices, I wanted to find out if there was a type of beef that would be less harmful to health than others. After my research, I decided that the best way to answer that question would be to find out which of the beefs had the least saturated fat. I called and e-mailed many different companies to understand how they raise their cows and what the cows are fed. Based on my information, I decided to use beef from a national concentrated animal feed operation (CAFO) that feed corn and allegedly, other fillers and maybe beef fat, one from a California CAFO that I had verified as being 100% vegetarian fed, and grass grazing pasture raised cattle company.</p> <p><b>Methods/Materials</b> I had a simple experiment. I got three samples of each type of New York steak from each beef company. I assumed that there was a good chance that each piece came from a different cow. I did not cut them since the fat was unevenly distributed. I boiled the beef and used a broth defatting process that I saw on Good Eats. My negative control was to boil water to see if it added any fat to my experiment. My positive control was to add a measured amount of saturated fat to my experiment and see how much I was able to extract at the end. Then I let the fat cool and I weighed how much fat I got from each beef sample.</p> <p><b>Results</b> I calculated the percentage of fat in each steak, the fat grams per ounce, and the fat grams per three ounce serving (which is the serving size I found most often during my research).</p> <p>The national CAFO with mainly corn and some other food products had the most fat, the California CAFO that was 100% corn fed was next, and the grass fed pasture raised beef had the least saturated fat.</p> <p><b>Conclusions/Discussion</b> There is a difference between all the types of beef we can buy in the market. For people who are watching their saturated fat levels, grass fed beef is the best choice. For families who have to watch their dollar, consider the California CAFO as a cheaper choice, but a healthier one!</p>	
<b>Summary Statement</b> Comparing Saturated Fat Levels in Beef from a National CAFO, a California CAFO & a pasture raised farm.	
<b>Help Received</b> Mom bought beef and helped with the boiling and working with the hot broth. She also helped with pasting the board.	