



**CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY**

Name(s) Maliha S. Ahmed	Project Number J1302
Project Title Bacterial Content of Milk	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals My objective is to determine the amount of bacteria in refrigerated and standing milk to see if it is unsafe or safe to drink by using the Methylene Blue Test. Growing bacteria needs dissolved oxygen that the blue dye presents in the milk, so the time it takes the blue dye to disappear indicates the amount of bacteria present.</p> <p>Methods/Materials My materials that I used for my procedure were 2 test tube stands, 2 test tubes with rubber stoppers, 2 medium glass jars, a saucepan, a hotplate, a thermometer, a calibrated(cc) medicine dropper, tongs, methylene blue solution, standing milk, and refrigerated milk. My methods for this experiment were that I first sterilized the test tubes. Then I put 9cc of refrigerated milk into both tubes. Then I put 1cc of methylene blue solution in first tube and shook it thoroughly. I put water in a saucepan and placed it on a hotplate and slowly heated it until it reached 98.6 degrees F. Then I filled 2 glass jars with 3/4 full with water and then placed it in the pan. Then I put both test tubes in each jar and allowed them to remain until the methylene blue disappeared. I checked the tubes every half hour for the first 2 hours then once an hour after that. I did this experiment again but I substituted the refrigerated milk with standing milk. I did this whole experiment three times.</p> <p>Results My results were that the first time I did this experiment it took the blue solution 8hr. and 25min. to disappear in the refrigerated milk. The standing milk with the blue in it took 35min. to regain its white color. On the second experiment the refrigerated milk with the blue in it took 8hr. and 12min. for it to regain its white color. The standing milk with the blue solution in it took 32min. for it to regain its white color. On the third experiment the refrigerated milk with the blue solution in it took 8hr. and 30min. for it to regain its white color. The standing milk with the blue solution in it took 35minutes for it to regain its white color.</p> <p>Conclusions/Discussion My conclusion was that my hypothesis for the refrigerated milk was incorrect. I thought that the refrigerated milk would be of good quality but it turns out that it was of excellent quality. But my hypothesis for the standing milk was correct. The standing milk was of poor quality. I bought raw milk to compare it with the other milks and it took the the raw milk 5hr. and 10min. The raw milk was of Fair quality.</p>	
Summary Statement My project is about bacteria in milk.	
Help Received NONE.	