

CALIFORNIA STATE SCIENCE FAIR 2007 PROJECT SUMMARY

Name(s)

Kirsten I. Albers

Project Number

J0402

Project Title

Got Milk? Evaporation Rates of Milk

Objectives/Goals

Abstract

Problem: Does fat content effect the evaporation rate of liquid milk? If so, which amount of fat content will evaporate the fastest?

Hypothesis Yes, I think fat content will affect the evaporation rate of liquid milk. I think whole milk will evaporate the fastest because it will turn into cream first which should speed up the process of evaporation. Fat content will affect the evaporation because it affects the amount of solids and vitamins which might change how fast the milk evaporates.

Methods/Materials

Procedure: 1. Buy each kind of milk, same brand with same expiration date. Set up table and Petri dishes. 3. Pour three milliliters of milk in each Petri dish (30 of each type of milk). 4. Separate and label sections of tables with each type of milk. 5. Every two hours, weigh each dish in order on the scale. 6. Continue every 2 hours for 12 hours, writing down weight for each dish. 7. Average each type of milk between samples.

Results

In my experiment, the results showed that whole milk evaporated the most with 1.438 grams evaporated. 2% evaporated 1.328 graFather helped withms, nonfat evaporated 1.324 grams and 1% milk had the least amount evaporated with 1.306 grams evaporated.

Conclusions/Discussion

Conclusion: In conclusion, the fat content in milk affected the evaporation rate and whole milk had the highest evaporation rate. This proved my hypothesis correct. The next highest was 2% milk, then nonfat. The milk with the lowest evaporation rate was 1% milk. This shows a general correlation between fat and evaporation, but also shows that other elements such as solids or lactose in milk also affect the evaporation rate.

Summary Statement

My project tested to see whether the fat content in liquid milk would affect the evaporation rate.

Help Received

Father helped with writing results while I did the experiment.