



**CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY**

Name(s) Samantha M. Williams	Project Number S1016
Project Title Does Varying Feed Affect the Milk of Lactating Caprines? A Two Year Study	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective of this project is to see that if we change the protein in the diets of dairy goats if that will affect the pH, EC or TDS of the milk.</p> <p>Methods/Materials Clean and calibrate the pH, EC and TDS meter using the calibration fluids supplied by the pH manufacture. Put the first goat on the stand with one pound Nutrina Dairy Goat Feed in the feeding bucket. Clean the teat off with the teat cleaner, then wipe with a towel. Squirt a few drops of milk in to the milk bucket, to make sure that you have taken off all of the cleaning chemicals off of the tip of the teat so it doesn't affect the pH. Then take the 4 ounce glass measuring cup, and squirt milk into it until it is about half full. Record the pH level of the milk sample. Measure out one pound of Nutrina Dairy Goat Feed in to the feeding bucket on the milk stand and add one cup of dried black eye peas and one cup of dry corn oats and barley and put that also into the feeding bucket. Mix well. Repeat steps 3-12 with each goat.</p> <p>Results Results from the pH tests on the treated goats showed a decrease in pH 72 hours after the feed was adjusted. This was consistent with the results with the results in 2004. The EC from the treated goats showed a slight increase of about .25 EC for only 24 hours. Within 48 hours the EC readings returned to average readings before feed adjustment. The results in TDS of total dissolved solids with the goats that had their feed adjusted showed again a reduction in TDS for 24 hours with the milk returning to pretreatment readings with in 48 to 72 hours.</p> <p>Conclusions/Discussion The hypothesis was correct. The goats that had their feed adjusted with higher protein had the acidity of their milk lower for about 24 hours. The total dissolved solids of the milk for the goats that had their feed adjusted lowered for about 24 hours. The electrical conductivity of the milk on the goats that had the feed adjusted showed a higher EC reading again for about 24 hours.</p>	
Summary Statement This project is to see that if we change the protein in the diets of dairy goats if that will affect the pH, EC or TDS of the milk.	
Help Received This Project was under the supervision of Dr. Selgrath, Mrs, Jennifer Wilke and Mr. Roger Williams	