



**CALIFORNIA STATE SCIENCE FAIR  
2014 PROJECT SUMMARY**

<b>Name(s)</b> Nolan W. Yamada	<b>Project Number</b> <b>J2021</b>
<b>Project Title</b> <b>The Effects of Pasteurization on the Vitamin C Content of Raw Milk</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> To test if the process of pasteurization will effect the levels of vitamin C in raw cow milk compared to the pasteurized milk from the same sample.</p> <p><b>Methods/Materials</b> <b>MATERIALS</b> 10 dairy cows; 1 Vitamin C testing kit; Pasteurizer; 10 sealed containers for stowing milk; Notebook ; sharpie; Pencil; Stop watch ; Veterinarian.</p> <p><b>PROCEDURES</b> 1. Gather all materials. 2. Gather milk from cow 1. 3. Place milk container 1. 4. Take testing material and test the raw milk from container 1 for Vitamin C. 5. Record results. 6. Place raw milk from container 1 and put it in the Pasteurizer. 7. Pasteurizer the milk for 30 min with a temperature of 63 °C. 8. Once pasteurized, let cool for ten minuets. 9. Then test for vitamin C levels using the testing kit. 10. Record results. * Repeat steps 2-10 for cows and containers 2-10.</p> <p><b>Results</b> The pasteurization process did effect the vitamin C content of raw milk. The most that the raw milk vitamin C levels were decreased by was 66% and the low was 20%.</p> <p><b>Conclusions/Discussion</b> This shows that the process of pasteurization does in fact decrease the vitamin content of raw cow's milk. Compared to store bought cows milk, there was a significant amount in the raw milk but almost no trace in the pasteurized milk. I have concluded that the process of pasteurization majorly decreases the amount of vitamin C in raw cow's milk when pasteurized.</p>	
<b>Summary Statement</b> This project is about testing raw cows milk to see if when pasteurized, the vitamin C content decreases	
<b>Help Received</b> Veterinarian collected milk; Teacher helped with the scientific process.	