



# Colorado Science and Engineering Fair

**2024  
Team Project  
Abstract Form**

**Please print 2 copies of the completed form. Sign both copies, keep 1 for your notebook and submit 1 copy to your Regional Fair Director with your other paperwork.**

Title of Project: We Got GOOD Milk!

Team Leader's Name: Sienna Harden

Team Member 1: Vivian Bozek

Team Member 2:

School and City: St. Joseph's Catholic School, Fort Collins

Sponsor's Name: Marianne Aiken

Category: Animal Sciences (ANIM)

Division: Junior (6th - 8th grades)

Abstract (250 words or less):

Lactose intolerance impacts over 65 percent of the world's population. Goat milk is a good dairy substitute for lactose intolerant individuals because it is 9 percent lower in lactose than cow's milk. Recognizing the importance of goat milk as a source of nutrition to so many, this research examined what makes the best goat milk. The results, opposite the hypothesized relationship, found that older goats had better-quality milk than younger goats. This relationship was present for all three dependent variables: fat, protein, and cholesterol. Second, in an exploratory study, the researchers found that the goat breed makes a difference in goat milk quality. The larger goat breeds (Nubian and Alpine) had higher fat and protein in their milk than the smaller breeds (Nigerian Dwarf). Interestingly, the relationship was the opposite for cholesterol with smaller goats having higher cholesterol than larger goats. Dairy goat farmers can use this research to consider if they should keep larger goats versus smaller goats due to their higher quality goat milk.

*We hereby certify that the above statements are correct and the information provided in the Abstract is the result of one year's research. We also attest that the above properly reflects our own work.*

Team Leader's Signature: Sienna Harden

Date: 2/25/24

Team Member 1's Signature: [Signature]

Date: 2/27/24

Team Member 2's Signature: \_\_\_\_\_

Date: \_\_\_\_\_

In addition, all students must complete the ISEF Student Checklist (1A), Research Plan, Approval Form (1B), and Checklist for Adult Sponsor (1), and any other ISEF forms required for this type of project. See the International Rules and Guidelines for form requirements. Return COPIES of all of these forms to your Regional Fair Director with your Finalist Verification/Permission Form. A signed copy of this form must be included in your notebook.