Colorado Science and Engineering Fair

2025 Individual 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: The Potential Relationship Between Tibia Length and Speed in Samoyed Dogs Running 100 yards

Finalist's Name: Hannah Deering

School and City: Yuma Middle School; Yuma, Colorado

Sponsor's Name: Amy Melby

Category: Animal Sciences

Division: Junior (grades 6 - 8)

Abstract (250 words or less):

Fast CAT is a sport that many dog owners find joy in doing. The purpose of this research is to determine whether tibia length is a better predictor of speed than withers height. Every fast CAT run requires a fee of approximately $30. In attempting to title your dog at fast CAT events, the money starts to add up.

It was hypothesized that tibia length in Samoyed dogs would predict how fast they would run, and withers height would not predict how fast Samoyed dogs would run. The third hypothesis was that a combination of tibia length, withers height, and age would be a superior predictor of how fast Samoyed dogs would run.

32 Samoyed dogs' tibia lengths were measured at the SCA (Samoyed Club of America) national fast CAT event. A soft tape measure was used to collect measurements in centimeters. Age was collected from the dogs' owners. Time was collected from the SCA Fast CAT chairs. All data was recorded and analyzed using Excel. P value, r value, and mean ± standard deviation was used for data analysis.

It was found that longer tibia length predicted faster running with an r value of 0.2629, and a p value of 0.0095. Withers height was not a predictor in Samoyed dogs' speed with an r value of 0.0379 and a p value of 0.86. However, a combination of withers height, tibia length, and age was a superior prediction of Fast CAT time, with an r square of 0.39.

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

Finalist'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 you Finalist Verification/Permission Form. **A signed copy of this form must be included in your notebook.**