CALIFORNIA STATE SCIENCE FAIR
2010 PROJECT SUMMARY

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Project Number
J2401

Project Title
A Horse's Shoulder Height and Angle's Effect on Its Stride Length

Abstract

Objectives/Goals
Our project was to find out if a horse's shoulder height and angle had an effect on it's stride length. We believe if a horse's shoulder angle and height are bigger, then a horse's stride length will be greater.

Methods/Materials
18 horses, all variations of quarter horses (such as a paint, which is a quarter horse with a different coloring) were used. The horses were all brought to an arena and a smooth area was created with a rake, so we could distinguish the hoofprints left by the horses. Each horse was measured for shoulder height,and we took measurments for the shoulder angle. Each horse trotted over the smooth area three times each, and the average stride length from the 3 trials was recorded.

Results
The horses with the largest shoulder heights on average had the biggest stride length. However, the horses with the biggest stride length also had the smaller angles.

Conclusions/Discussion
We accept half of our hypothesis and we reject half of our hypothesis. We accept the half of our hypothesis that stated horses with larger shoulder height will have a longer stride length, and we reject the half of our hypothesis that says horses with bigger shoulder angles will have the longer strides. Perhaps this is because since a smaller angle would be more parallell to the ground, it would allow it to move more freely.

Summary Statement
We wanted to test if a horse's stride length is affected by it's shoulder height and angle.

Help Received
Neighbors let us borrow horses