CALIFORNIA STATE SCIENCE FAIR
2014 PROJECT SUMMARY

Name(s)
Cameron G. Brown

Project Number
J1204

Project Title
The Stimulation Effect of Music on Equines

Abstract

Objectives/Goals
My objective was to learn if different types of music stimulate horses in different ways.

Methods/Materials
Each of the five horses was fit with a bridle and walked freely on a longe line in a measured circle, tracking left, in a covered arena. Heart rate was taken with a stethoscope before and after each lap, and each lap was timed and recorded. The first lap was with no music, followed by laps when playing music of six different types, ending with another lap without music. Two minutes of quiet time between music changes was given and then 30 seconds of the specific music type was played prior to beginning the timer. Each horse completed this cycle three times on different days.

Results
My data shows that a horse's speed and heart rate decrease with prolonged exposure to music, independent of music type. The data (both heart rate and lap time) was averaged for each horse over three trials and the overall average of all of the horses' data was calculated. In general, the change in heart rate was minimal for all horses but the lap time was more variable. Of the six types of music tested, no one type had a predictable impact on either lap time or heart rate, however, the trend to slow down toward the end of each trial was clear. The results within a single trial show this trend more clearly than the averages.

Conclusions/Discussion
My results only partially support my hypothesis, which was "I think that music with a higher tempo will stimulate the horses to move quicker and increase their heart rate. I think more calm music will relax them." It turns out that all of the types of music I played eventually had a calming effect on the horses and that the length of time that they listened to music was more important than the type of music played. This information may help trainers calm down horses who are hyperactive or nervous, help competitors choose music for vaulting competitions that put the horse in the most relaxed mood, or encourage riders to play music while trail riding to decrease the risk of the horse spooking.

Summary Statement
My project evaluates the way music effects horses.

Help Received
Barn Manager allowed use of horses, equipment and facilities; Mother helped with timing and music