Name(s)	Project Number
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Project Title

Creating Images that Represent Both Monocular and Binocular Vision of an Average Sized Equus ferus caballus

Abstract

Objectives/Goals
In this experiment I created a model and developed images that represent both monocular and binocular vision of a Clydesdale horse.

Methods/Materials
I created a model of the Clydesdale horse#s body habitus using sheets of cardboard to recreate the exact placement of the horse#s eye. I then used a GoPro camera to take the pictures of what the model can see.

Results
In trial one I measured that the right and left eye#s field of vision was 133 degrees and the binocular vision was 63 degrees. I also measured that the entire visual field in trial one was 204 degrees. In trial two, I measured that the right and left eye#s field of vision was 119 degrees; the binocular vision was 45 degrees, and the full field of vision was 190 degrees. In trial three, I measured that the right eye#s field of vision was 145 degrees and the left was 132 degrees. The binocular vision was 63 degrees, and the entire field of vision was 243 degrees. I calculated an average degree in full visual field to be 212 degrees.

Conclusions/Discussion
Some errors that affected these results were that the wind moved the string after the limits of the image were established as well as it was difficult to be sure the mounted camera was positioned at the 45 degrees this ungulate animal#s eye is usually positioned, which narrowed both the total visual field and binocular visual field. I could improve these errors by first attaching the string to stakes hammered into the ground. I could also have use a fixed (immobile) angle mount which would have eliminated this variability in result and improved the accuracy of the experiment.

Summary Statement

I tried to create images that represent both monocular and binocular vision of an average-sized Equus ferus caballus.

Help Received

My mom drove me to the store to collect supplies needed.