



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: Effects of Vitamin E Supplementation on Horse Health and Performance

Finalist's Name: Westlea Tipsowrd

School and City: Homeschool , Saguache, CO

Sponsor's Name: Wanetta Tipsword

Category: Animal Sciences

Division: Senior (grades 9 - 12)

Abstract (250 words or less):

Abstract

This project explores how vitamin E supplementation affects muscle growth, endurance, and immune health in horses that don't have access to fresh pasture. Horses typically get vitamin E from fresh grass, but in areas like southern Colorado, where they eat hay for many months, they may not get enough. A deficiency in vitamin E can lead to weak muscles, poor endurance, and a weakened immune system. Four equines of different ages and conditions—two geldings (ages 25+ and 23+) and two mares (ages 4 and 2)—were studied. Each equine lived in a dry lot, ate hay and feed, and had constant access to water. Before and after four weeks of vitamin E supplementation, we measured their blood health and muscle condition. Weekly heart rate and stride efficiency were tested. After four weeks, equines showed better muscle tone, faster recovery after exercise, and improved immune markers. These results suggest that vitamin E can help equines stay healthier and perform better, even without access to fresh pasture. This study shows that vitamin E is an important part of a balanced diet for equines, especially in areas where they rely on hay. More research could help us understand how vitamin E works in different equine populations.

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.**