



## Colorado Science and Engineering Fair

## 2024 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: Tricky Treats?

Finalist's Name: Adalen Aldridge

School and City: Sargent Jr. High School; Monte Vista

Sponsor's Name: Terri Rae Paulson

Category: Animal Sciences (ANIM)

Division: Junior (6th - 8th grades)

Abstract (250 words or less):

The purpose of this investigation was to discover which popular horse treat would break down in a horse's stomach the quickest, therefore, giving the horse its needed nutrients without causing a buildup of acid in its stomach which could lead to ulcers. I researched and purchased eight of the most commonly used treats. I then measured out an equal amount of each treat, broke them into smaller pieces (to mimic the chewing process) and placed them in a labeled jar. I then added an equal amount of mock stomach acid to each jar and took the pH of each. I placed them in a hooded vent and observed for a week documenting the pH, texture, and breakdown rate of each. I also did a nutritional analysis and cost analysis of each treat to help me to determine the most nutritious and cost effective treat. I hypothesized that the treats with the least amount of preservatives and sugar would neutralize the quickest which they did. The more expensive horse treats contained minimal preservatives and sugars and neutralized the quickest as predicted. The treats that were higher in sugars, did not break down and did not neutralize as much. I now know that it would be wise to read the nutrition labels first to ensure that your horse gets a treat that can be broken down and used by the body.

Overall the Purina Butterscotch treat was the cheapest and neutralized the quickest. It was discovered that a horse's stomach can be very temperamental and can incur numerous problems due to the acid contents of its diet. Owners should be educated on the proper nutrition and feeding schedules of their equine friends.

*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.