



**CALIFORNIA STATE SCIENCE FAIR
2017 PROJECT SUMMARY**

Name(s) Jessica M. Cronin	Project Number S1301
Project Title The Effects of Electrolyte Supplements on Endurance Racing	
Abstract Objectives/Goals The goal of this project was to determine whether electrolyte supplements had an effect on the performance of the horses at the 2016 Cooley Ranch Ride. The performance was measured by which horses were removed from the race at checkpoints and after the race, and which horses finished. I predicted that the horses' bodies would regulate electrolytes on their own, and that any supplements would only stress the kidneys, therefore the horses that were given electrolyte supplements would perform just as well as the horses that were not. Methods/Materials Because this section of the research that was being conducted at the Cooley Ranch Ride was essentially a survey, the only materials that were required were those necessary for recording answers and performing the Chi Square test used to analyze the data. Results The Chi Square test told me that there was no statistical difference in my data, therefore there was no significant statistical difference between horses that were given electrolyte supplements and horses that weren't. Conclusions/Discussion These results supported my hypothesis, though there is no way of knowing why there was no significant difference, or if more stress was placed on the kidneys and other organs used in electrolyte regulation. The data in my project was taken as part of a research study that was attempting to determine if there was a way of predicting which horses would get sick before they actually did. This is vital to the world of endurance racing because there are a significant amount of horses that get seriously ill after a race due to overworking and dehydration, some horses even die.	
Summary Statement My project represents data collected, at an endurance ride, on electrolyte supplements used, and whether the horses were fit to continue the race.	
Help Received I gathered the information myself, though I was part of a research team lead by Gerry Gillespie, Ph.D., DVM. Gaea Reid and Erin Vaccaro helped me decide how to analyze and present the data, but I performed both Chi Square calculations myself.	