



**CALIFORNIA STATE SCIENCE FAIR  
2014 PROJECT SUMMARY**

<b>Name(s)</b> <b>Jessica Cronin; Alicia Hoxie</b>	<b>Project Number</b> <b>J1707</b>
<b>Project Title</b> <b>A Study in Parasite Resistance in Horses</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective of this project was to determine the effectiveness of anthelmintics against intestinal parasites in select horses in Mendocino County.</p> <p><b>Methods/Materials</b> We collected fecal samples from 6 different facilities that practice different deworming regimens or none at all. We did fecal flotation samples using sodium nitrate and a fecal diagnostic kit. Samples were examined under a compound microscope for the presence or absence of intestinal parasites.</p> <p><b>Results</b> Barn 1:13 tested. 13 were negative. (this is a closed population of older horses) Barn 2:10 tested. 7 negative, 3 positive. (breeding farm with transient population) Barn 3:12 tested. 12 positive. (breeding farm) Barn 4:12 tested. 10 negative, 2 positive. Barn 5:7 tested. 7 negative. (closed herd) Barn 6:6 tested. 6 positive. (rodeo horses)</p> <p><b>Conclusions/Discussion</b> Our results did not support our hypothesis. Some factors complicating our results include the age of horses, contamination of property, and deworming routines. Our background research indicates that resistance to anthelmintics does exist and is a real problem. Just because resistance did not show in our results does not mean it does not exist. We think that some of the reasons for it not showing is the fact that the majority of the horses we tested were older and well cared for, most of them didn't travel and most of the barns were closed. Age is important here because older horses usually build up their own immunity to parasites therefore needing to be dewormed less and not giving the parasites opportunity to build up resistance. The kind of test we used was a qualitative test which lets us see the eggs/larvae and what species they are but not how badly the horse is infected and an exact calculation of worms as a quantitative test would. We would use a quantitative test if we were to redo this project.</p>	
<b>Summary Statement</b> Our project is about intestinal parasites in horses and the effectiveness of anthelmintics against them.	
<b>Help Received</b> Used lab equipment at Dr. Sheri Cronin's veterinary lab, at her home, under her supervision.	