

Equine Internal Parasite Project Report

Holly Detrick - Alfalfa County Extension Intern

There are three missions for which land grant universities were started: teaching, research, and extension. While interning for the Alfalfa County Extension Office this summer, I came to appreciate the importance of these three missions and incorporate them into my project.

When Tommy Puffinbarger and I decided that I would be doing my project in the area of animal science, equine intestinal parasites specifically, we got to work on planning the details. We chose this topic because I have a passion for animal science; it is something I am currently pursuing in my education and is something I hope to continue to pursue in my future career. Another reason we chose this topic was to satisfy equine education requests following an annual PAC report. One benefit of working on this type of project allows for opportunities in educating individual horse owners across the county and state. Not only does this project provide individual educational opportunities, but the goal of this project was to create data to be used in future educational programs provided through the extending arm of OSU.

When it came to planning the project, Tommy and I consulted Area Livestock Specialist Dana Zook who was vital in helping decide what direction we wanted this to go. We decided there was going to be a survey administered to equine owners across the state on their deworming protocols then afterward, fact sheets on equine internal parasites would be provided. We also decided to specifically choose a handful of horse owners with different management strategies whose horse herds would be used for fecal egg counts and thus demonstrate the effectiveness of their strategies. With the data from the surveys and the fecal sample collections, our goal was to provide information needed for the development of an equine educational program. Something else we planned was for me to compile the information and data I would collect and present two workshops in an understandable, interactive, and educational format for the 4H-youth at Roundup.

Starting the project, I came up with an eight-question survey that inquired about the deworming protocol of a typical horse owner. With the survey, I included five pictures of common equine intestinal parasites where the horse owner could identify the parasites. Complementary with the survey, I also included the fact sheets “Common Internal Parasites of the Horse” (AFS-3932) and “Control of Common Equine Parasites” (ANSI-3933) which were optional for the owner to take at the completion of the survey. Using these materials, I was able to speak with, survey, and educate a total of 120 equine owners that are categorized into 3 demographics. The first demographic included 83 individuals, mostly adults, that were surveyed in the extension office, at a few individual homes, and at Alfalfa County equine events with participants from multiple states. The second demographic included the seven specifically chosen equine owners with different management strategies that were surveyed at their residence or in the extension office. The third demographic included 30 youth from across the state at Roundup that were surveyed in a campus classroom. Every survey I administered was done face-to-face with a discussion that followed lasting approximately 5 minutes.

Equine fecal samples were collected from the second demographic set in one day. For each fecal collection, I drove to the residence, pasture, or corral, and wrote down basic information on the living situation of the horse. I followed proper Oklahoma Animal Disease Diagnostic Laboratory (OADDL) protocol while collecting, storing, and when delivering the samples to the OADDL in Stillwater. The Coproculture (larvae ID)

test was performed on Herds 1 and 2 as they were the two herds with the most unique management and therefore, I wanted the most specificity in the test results. The other five samples, Herds 3-7, had the McMaster's fecal egg count performed on them. Once I received the results, they were sent to the individual owners. When the data collection was complete, it was condensed into several spreadsheets.

After the equine fecal collection, all that was left was the 4H-Roundup workshop presentations. Before Roundup, I made a display board that presented all the materials used in the project. I had two presentations at Roundup and for both I walked each participant through a survey and let them try to identify each parasite on the board. After that, we discussed the names of the parasites, their lifecycles, signs and symptoms, and the repercussions of having parasite infested horses. The two previously mentioned fact sheets were also provided if the youth wanted to learn more. While Tommy and I were on campus, I had the privilege of meeting with Dr. Justin Talley, department head of entomology and plant pathology. After receiving a survey and reviewing the project, Dr. Talley gave me invaluable feedback on result and discussion formatting. With further work on those two areas, I hope to have my project turned into a poster that can be helpful with further research projects, presentations, and future educational programs.

This project had an impact on equine owners in several ways. The survey caused all 120 individuals to think critically about their deworming protocol and to evaluate their knowledge on internal parasites. The project had an impact on the seven individual owners by causing them to evaluate, rethink, and in some cases alter their protocol. For the 30 youth at Roundup, the impact was an educational experience. The project also had a major influence on myself. From planning, to carrying it out, to presenting it, I experienced the value of networking and building connections with the community as well as county, area, and state extension staff. This has been such a great opportunity for me and a project that I will never forget.



Left: Administering a survey to a horse owner in the extension office (top) and a fecal sample horse owner at his residence(bottom).

Bottom: Administering a survey to a horse owner at an equine event





Top: Collecting manure in a large pasture.

Middle Left: Collecting manure in a corral (left) and a pasture (right).

Bottom: Logging information and storing manure (left). Dropping off samples at the OADDL in Stillwater (right).



Top: Display board with project materials.

Middle: Dr. Justin Talley providing feedback on my project.

Bottom: Parasite identification (left). Discussing the repercussions of parasite infested horses with the kids.

