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Editor: Bindu Poudel-Ward

Fonnesbeck, S.¹ and Davila, S.²

¹Assistant Extension Educator, University of Idaho, Malad City, Idaho, 83252

²Assistant Extension Educator, University of Idaho, Shoshone, Idaho, 83352

Equine knowledge assessment in Idaho provides background for future Extension Programs

Abstract

Horses play a meaningful role in Idaho's economy, culture, and agricultural systems. However, access to consistent, research-based equine education through University of Idaho Extension has historically been limited. This study seeks to survey horse owners and parents of youth in the Horse 4-H program to better understand their knowledge of horses and their comfort/health. A 25-question Qualtrics survey was distributed statewide to adult horse owners and 4-H parents, evaluating knowledge in key areas including equine health, nutrition, vaccination, hoof and dental care, and safe handling practices. Results from 140 respondents revealed notable variation in knowledge, with new owners and 4-H parents scoring lowest (approximately 30–32% correct), while experienced owners performed moderately better (51–56% correct). Across all groups, respondents demonstrated the greatest deficiencies in equine health, detailed nutrition, and handling practices, while showing stronger understanding in hoof and dental care. Qualitative feedback emphasized a strong demand for education in first aid, nutrition, horse behavior, and performance-related topics. Participants also showed a clear preference for hands-on, in-person learning opportunities. These findings underscore the importance of developing targeted, research-based Extension programs that enhance equine welfare, improve owner safety, and promote informed management

practices. This study provides a foundation for developing responsive educational programs that strengthen Idaho's equine community and sustain its longstanding horse heritage.

Introduction

Idaho's proud heritage tied to horses plays a role in the state's economy, culture, and way of life. The 2020 Idaho Equine Census reported 156,591 horses statewide, with 112,299 registered and 44,293 grade or unregistered animals (Idaho Horse Council, 2021). In 2020, the human population of Idaho was 1.8 million (U.S. Census, 2020) which results in a per capita number of 11.7 people per horse. This ratio lends strength to the prominence of horses in Idaho.

Across the nation, horses are kept and used for several purposes. On ranches, they remain indispensable for cattle work, roping, and handling livestock in rugged terrain where motorized vehicles cannot reach. In addition to production agriculture, horses are central to recreational activities such as trail riding, rodeo, barrel racing, reining, and pleasure riding (Idaho Horse Council, 2021). These equine athletes also play a key role in the youth development programs offered through 4-H, where young people learn responsibility, animal husbandry, and leadership. The versatility of horses to perform in all these areas illustrates their broad relevance to Idaho communities and others across the world.

Despite their prominence, no consistent equine programs have been developed from the University of Idaho Extension providing research-based educational opportunities for horse owners. Conversations with long-serving Extension educators confirm that equine science has not historically been a prominent topic within county Extension programs. As a result, many horse owners rely on informal networks, traditions, or professional organizations for information. While these sources can provide easily accessible information, it may create varied levels of knowledge among horse owners, leading to potential risks to horse welfare, owner safety, and effective management practices. The inconsistencies or misunderstanding of nutritional needs, proper tack,

transportation, or general equine management may have harmful effects on these horses. Structured equine educational programs that are presented in text, video, and virtual or in-person meetings would be reliable source of information for horse owners or enthusiasts to access.

Recognizing these challenges, this study seeks to survey horse owners and parents of youth in the Idaho Horse 4-H programs to better understand their knowledge level regarding horse care. By identifying gaps in knowledge, the authors of this study can develop programming that addresses those gaps and promotes animal health, safety, and strong management practices statewide.

Background and Justification

Previous work in Idaho underscores both the size of the equine industry and the need for educational support. Several Idaho Equine Census have been taken with the most recent in 2020 (Idaho Horse Council, 2021) Each census documented the number of horses in the state, their uses, and the economic contribution of the industry. These studies show the positive impact of horses in Idaho through employment opportunities, economic impact, and prominence in multiple disciplines for work and pleasure.

Beyond studies, the success of statewide events further illustrates the appetite for equine education. The Idaho Horse Expo, organized annually by the Idaho Horse Council, attracts thousands of attendees for clinics, demonstrations, and seminars on horse care and training (Idaho Horse Council, n.d.). Similarly, the Ford Idaho Horse Park hosts a wide range of equine shows and educational events that draw competitors, spectators, and participants from across the region (Ford Idaho Horse Park, n.d.). Venues like these do not merely provide entertainment; they demonstrate a clear interest in equine programs, competitions, and educational programming.

Past research, policy frameworks, and event participation all point to the same conclusion: Idaho horse owners value equine educational opportunities. However, we are missing a systematic needs assessment that identifies what equine owners know and where gaps remain. This project addresses that need directly.

Purpose

The purpose of the current study is twofold. First, it seeks to document the current knowledge levels of horse owners and parents of youth in the Idaho Horse 4-H program. Participants were questioned about their understanding in areas related to equine health, vaccinations, nutrition, dental health, hoof care, and safe handling practices. Second, the study aims to use this information to guide future Extension programming. By identifying where knowledge gaps exist, Extension educators will be able to design and deliver research-based programs that address those gaps, thereby improving equine welfare and owner safety across Idaho.

Methods

A Qualtrics knowledge assessment was developed by the investigators, who together bring decades of personal experience with horses and formal training in equine science. Other sources used were Equine 4-H manuals, the American Association of Equine Practitioners informational social media posts, and other Extension Publications. The final knowledge assessment format included 25 questions. The only demographic data collected was done through the first two questions, identifying their county in Idaho and self-identification of equine experience level. The remaining questions were phrased to cover the main topics of horse management including animal health, vaccination schedules, nutrition, hoof and dental care, training, and safe handling practices. Both multiple-choice and short-answer questions were included to capture quantitative and

qualitative insights. The short answer responses were evaluated and scored by the investigators using a rubric created using the previously mentioned information sources. Participants were given partial credit for a mostly correct answer. Questions about desired topics in future educational events and learning preferences were also included.

The knowledge assessment targeted two key populations: (1) adult horse owners over the age of 18 and (2) parents of youth currently participating in the Horse 4-H program through the University of Idaho Extension. These groups were chosen as they represent both direct caregivers of horses and influential decision-makers in youth equine education. Invitations to participate in this knowledge assessment were distributed through Extension email lists, social media platforms, and 4-H club leaders.

Investigators also attended live equine events, where they spoke with horse owners to promote the knowledge assessment and provide background information. No personally identifying information was collected. Participants selected their county of residence and identified themselves in one of the following experience categories: a) Parent of a child in horse 4-H, b) Fairly new horse owner, c) Experienced horse owner, d) A and B, e) A and C, f) Have had experience with horses, but do not own one. There were no parameters given on what qualified a participant as an “experienced” or “fairly new” horse owner. This was taken into consideration when analyzing data and differences between the two groups.

Responses were stored securely on University of Idaho computers used by the investigators. Questions were reviewed and critiqued by other Idaho Extension County educators prior to dissemination. The knowledge assessment was available to participants from May 2025 until September 2025. Both quantitative and qualitative analyses were employed. Quantitative responses were scored to determine overall knowledge levels by group. Qualitative responses were coded for themes, with particular attention to recurring responses or concerns. Results presented in this paper are numerical values and not statistical in nature.

The investigators hypothesized that those owners who identified as “Experienced horse owners” would have a higher percentage of correct answers while those who did not own horses or perhaps the “Parents of a child in horse 4-H” would have lower scores. In addition, it was assumed that one of the most requested topics from the question “What topic would you like to see taught during a future Extension class” would be equine nutrition since this is a topic that is frequently brought up to the investigators of the study.

Results

At the time of analysis, 140 complete knowledge assessment responses had been received (Table 1). These responses were included in the preliminary evaluation and revealed important differences in equine knowledge across groups. Parents of 4-H members and new horse owners had the lowest overall performance, with 30.4% and 31.8% correct responses, respectively. These low scores indicate that more than half of responses in these groups were incorrect, highlighting substantial gaps in basic equine knowledge.

Experienced owners performed better, averaging 51.0% correct responses. The highest-performing group was experienced owners who were also 4-H parents, who achieved 56.1% correct. Original hypothesis of Experienced owners scores was an expectation of 75% correct answers or higher. While this group resulted in the highest accuracy of questions answered correctly, the percentages were lower than expected. This suggests that even seasoned horse owners may not have fully accurate or up-to-date information. While responses were collected across the state, a majority of participants identified as living in Southeast or Southern Idaho with 61 responses. Southwestern Idaho followed with 29 responses, followed by Northern Idaho with 23 responses.

Throughout all groups, the most frequently missed topics were equine health, equine specific nutrition, and horse handling or behavior. By contrast, respondents demonstrated stronger knowledge in hoof care, dental care, and basic nutrition concepts such as water being an essential nutrient.

Table 1: Knowledge assessment Results from first 140 respondents

Group	% Correct	% Incorrect	% Partial
Parents of 4H members	30.4	53.2	15.7
New Owners	31.8	51.6	16.9
Experienced Owners	51.0	34.0	15.0
Parent/New Owner	35.1	50.8	14.1
Parent/Experience Owner	56.1	31.5	12.3
Have Experience but Not Own	41.9	45.2	12.8

The consistency of partial-credit responses across groups (ranging from 12.3% to 16.9%) suggests that many respondents were familiar with concepts but uncertain of the details. This pattern is particularly concerning in areas such as animal health and nutrition, where small errors may have significant consequences.

The concluding question allowed participants to provide comments about the knowledge assessment and/or provide suggestions on what topics they would like to see taught in future Extension educational programs. These open-ended responses provided valuable context for the assessment findings. Some responses included the following. *"I'd like to see first aid for horses taught."* *"Properties of different feed and what age groups need what nutrition."* *"Horse confirmation, lameness issues. The consequences*

of dressage, barrel racing, etc. on horse longevity.” These are only a few examples of all responses collected. However, several themes/concerns emerged from participant comments. These included first aid and health care, nutrition, performance and longevity, and horsemanship. These themes are consistent with the main themes of our knowledge assessment and indicate areas that equine owners would like to be further educated about.

Discussion

The results of this study reveal both encouraging and concerning trends. On the positive side, experienced owners demonstrated a relatively strong baseline of knowledge, particularly in hoof care and dental health. However, even among these groups, knowledge levels were not as high as expected. For new owners and 4-H parents, the low percentage of correct answers suggests notable risks if gaps are not addressed.

These findings have important implications. First, they highlight the immediate need for structured, research-based programming to support horse welfare and owner safety. Inadequate knowledge of health, nutrition, and handling directly impacts the quality-of-care horses receive and may increase the risk of harm and decrease overall performance of these amazing animals. (Dyson et.al., 2016, Noble, 2023). Second, the assessment results suggest that youth education through 4-H may not be fully reaching the parents of these youth. This gap may not allow them to fully understand or support their children’s involvement in such a program and points to an opportunity for parent-focused training.

Another notable finding is the overwhelming preference for hands-on education indicated by participants. Eighty percent of the 140 respondents reported favoring in-person/classroom education over online-only instruction. This preference will guide the design of Extension programs, emphasizing workshops where participants can directly learn and apply new skills. The open-ended comments reinforce these conclusions,

providing concrete examples of the topics owners most want addressed. From first aid and preventive care to safe hauling and saddle fitting, participants identified a broad range of needs that align with Extension's capacity to deliver science-based programming.

The investigators plan to use the knowledge assessment results to design educational programs that directly address identified needs. Programming is scheduled for spring and fall of 2026, initially in Southern and Eastern Idaho. To ensure quality, the project will involve veterinarians, equine dentists, farriers, and other certified specialists. This collaborative approach will provide participants with access to multiple expert perspectives while maintaining the research-based standards of Extension. The investigators will also be available to deliver seminars and workshops in other counties as requested.

Partnerships with organizations such as the Idaho Horse Council will be central to dissemination. Promotion through social media, Extension networks, and equine associations will ensure broad awareness. Given the strong preference for hands-on education, programs will emphasize interactive sessions. In addition to in-person classes, results and guidelines developed from this survey will be printed in an Extension bulletin. This will allow other faculty across Idaho to adapt the findings to their local contexts.

Conclusion

Horses remain an integral part of Idaho's agricultural and recreational landscape. Yet, despite their prominence, equine education has not historically been a central focus of University of Idaho Extension. This knowledge assessment provides the first step toward filling that gap by documenting current knowledge levels among horse owners and parents of youth in the Horse 4-H program.

Preliminary results reveal variation in knowledge, with weaknesses in health, nutrition, and handling. Participant comments reinforce these findings and provide clear directions for future programming. Importantly, the results demonstrate strong demand for research-based, hands-on education in a classroom setting tailored to the needs of Idaho's horse-owning community. By building on this foundation, Extension has an opportunity to expand its impact, improve animal welfare, and support safer, more knowledgeable horse ownership across the state. This project represents not only a needs assessment but also a commitment to strengthening Idaho's equine heritage through education.

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