



## Original Research

## Supplement Use and Perceptions: A Study of US Horse Owners



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## ABSTRACT

Although difficult to accurately assess, the equine supplement market is substantial and continues to grow, yet little research has examined horse owner use of supplements or beliefs regarding safety and efficacy. It was hypothesized that perceptions of use, safety, and efficacy of supplements would differ by rider discipline and competitive versus recreational riders. An online survey including demographics, rider discipline, and six-point Likert scale questions examined beliefs regarding supplements. Two thousand eighty-seven responses were collected over 30 days. Perceived horse health issues were positively correlated ( $P < .05$ ;  $R^2 > 0.10$ ) with the use of supplements to treat or prevent those issues, while 84% of respondents reported giving supplements to at least one horse under their care. There was no difference by discipline or competitive status concerning perceptions on using supplements to treat or prevent issues, or the safety or efficacy of supplements. Most horse owners, regardless of discipline or competitive status, report giving supplements and indicate belief in their safety and efficacy.

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## 1. Introduction

As horse owners seemingly have become more concerned with the health, performance, and longevity of their horses, the market for supplements continues to grow. The equine global healthcare market, including supplement sales, has been valued at over \$26.6 billion [1]. At the same time, supplement sales for equine use may be contributing to the livestock healthcare market as well. The equine supplement industry's value, therefore, is difficult to determine but likely substantial.

Recently, horse owners reported high use of joint supplements, trace mineral supplementation, digestive

support, hoof health, and coat condition supplements [2], although little to no evidence exists to back most products claims of efficacy [3,4]. At the same time, there are few studies that provide insight as to how people choose supplements for their pets [5]. The 2012 American Horse Publications Equine Industry Survey suggests most chose supplements "if they felt their horse needed the product," although respondents also indicated they took veterinary advice and trust of the supplement supplier into account when considering which supplements to give their horses [2].

Research examining where horse owners get information on nutrition and supplements has generally been gathered from small subsets of the horse owning population such as top-level competitors or horses brought in to specific veterinary hospitals [6,7]. Several studies report that horse owners consider veterinarians to be good sources for supplement information, although these surveys did not report what percentage of respondents chose veterinarians as their primary source for information, or if veterinarians were their top choice for information [2,8–10].

*Animal welfare/ethical statement:* This research did not utilize live animals.

*Conflict of interest statement:* The authors declare no conflicts of interest.

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Considering that the U.S. Food and Drug Administration does not regulate the safety or efficacy of supplements (unless products are misbranded or adulterated), we can speculate that owners seem to have a high level of confidence in the safety and efficacy of supplements based simply on sales of such products [11], yet there is very little research available concerning horse owners' opinions on the safety and effectiveness of supplements for their horses. When the 2012 American Horse Publications survey asked horse owners what they believed were the top issues facing the horse industry, respondents did not express concern regarding the lack of information about the safety or efficacy of supplements [2]. Conversely, many equine researchers cite the lack of evidence about the safety and efficacy of the supplements available for horses as a major concern [3,4,8,9].

This survey was conducted to determine factors surrounding the use of supplements by US horse owners and their beliefs on the safety and efficacy of such supplements. We hypothesized that perceptions of use, safety, and efficacy of supplements would differ by rider discipline. Furthermore, we hypothesized that supplement use would be greater in competitive riders than recreational.

## 2. Materials and Methods

For this study, an online survey was developed and hosted on a third-party data collection website ([www.surveymonkey.com](http://www.surveymonkey.com)). The survey and all methods were approved by the institutional review board at Middle Tennessee State University. To publicize the survey, information about the survey and a link or QR code was posted on social media websites, distributed by several discipline or breed-specific organizations through e-mail or social media, and distributed to students and faculty at several universities around the United States from November–December 2014.

In this survey, general demographic information was collected, although no identity-specific questions were asked. Respondents were asked to identify their gender, age range, and then asked a series of questions regarding their horse ownership status, rider identification as competitive (COM) and recreational (REC), riding discipline, and whether they provide supplements to horses under their care. In addition, respondents were asked to answer a series of six-point Likert scale questions about perceived issues in their horses, views on the use of supplements to treat or prevent those issues, and beliefs on the safety and efficacy of supplements. In the survey design, "supplement" was not defined and thus the definition was left to the interpretation of the respondent.

Before survey evaluation, inclusion criteria were developed to include completion of more than 50% of survey questions (>9 of 18 questions). Summary statistics and frequency counts of the data were completed in SAS Version 9.2 (SAS Institute Inc, Cary, NC). In addition, an analysis of variance using a general linear model was used to examine the effects of discipline and COM versus REC on use of supplements. Pearson correlation coefficients were used to examine relationships between owner's perceived issues in their horses and their likelihood of using

supplements to treat or prevent those issues. Statistical significance was set as  $P < .05$ , whereas trends were considered as  $.05 < P < .10$ .

## 3. Results

In total, 2,219 respondents initiated the survey, of which 2,087 responses met the criteria for inclusion. Responses presented herein represent all answers for those surveys meeting inclusion criteria, resulting in a slightly variable number of responses per question because of the freedom of respondent to omit questions, yet all questions had greater than 2,000 responses. Of the respondents, 93% were identified as women and 7% as men. Survey respondents represented a range of age groups with 6% of respondents under 20 years (but at least 18 years), 35% were 20–34 years, 24% were 35–49 years, and 35% were 50 years or older. Level of education indicated 1% of respondents without a high school diploma, 7% with a high school diploma, 27% some college, 43% a college degree, and 22% a postgraduate degree.

When asked how many horses they owned or were under their care, 2% of respondents reported that they currently do not own horses, 25% reported owning one horse, 43% reported owning two to four horses, 16% reported owning five to nine horses, and 14% reported owning 10 or more horses (Fig. 1). Of the respondents, 75% reported having owned horses for more than 10 years, 12% owned horses for 5–9 years, 11% owned horses for 1–5 years, and 2% owned horses for less than 1 year. There were 51% of respondents who reported keeping horses on their property, 37% boarded at a separate facility, and 11% had horses both on their property and at a separate facility.

Respondents identified their competitive status as professional (14%), amateur or nonprofessional (51%), recreational or noncompeting (34%), or not currently riding or competing (1%). Professional and amateur or nonprofessional riders were then further categorized as COM (65%), whereas recreational or nonriding or competing riders were categorized as REC (35%).

Survey respondents represented a wide variety of disciplines including dressage (14%), driving (3%),

### Number of Horses Owned/ Under Care

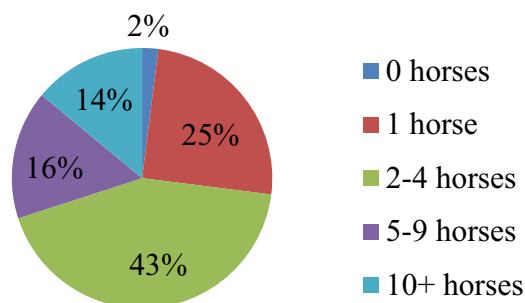


Fig. 1. The number of horses owned or under the care of the respondents to an online survey on supplement use and perceptions ( $n = 2,087$ ).

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