

CONSUMER PREFERENCES FOR THE ATTRIBUTES OF EQUINE OIL
SUPPLEMENTS

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DEDICATION

For my mother, Kelly, and grandparents, Martha and Walter. Words will never be enough to express how thankful I am for all the love and support you have given me. This would not have been possible without you.

For Easton “Bug” and Duchess “Chicken,” because you both have shown me unconditional love and I want nothing more than to give you the best life I possibly can.

ABSTRACT

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The equine nutrition market is expected to grow with higher household disposable income. However, there is hardly any research on consumer attitudes toward equine oil, a key supplement to promote healthy weight gain for horses. The objective of this study was to understand consumers' preferences regarding the nutrition, product, and package attributes of equine oil supplements when making purchase decisions. Among 110 equine owners or renters who responded to the anonymous online survey, approximately 64.55% had used fat supplements for their horses, and 23.64% had tried rice bran oil in particular. When rating the importance of nutritional attributes on a scale of one to five, consumers identified the following three factors as the most important: horses find the oil highly palatable and do not refuse to consume it (mean = 4.10), promoting weight gain for hard keepers (mean = 4.03), and good source for fat supplementation (mean = 3.90). Consumers considered being grown and made in the USA (mean = 3.44), top dress on current ration (mean = 3.11), and family or farmer owned (mean = 2.99) as the most critical product attributes. In terms of packaging, unit price per ounce (mean = 3.85) and ease of use (mean = 3.56) were the most important, and 90.91% of participants would prefer that an equine oil supplement be packaged in bulk with a pump dispenser. The findings from this study will shed light on the packaging and labeling practices of equine oil supplements and provide guidance on how to promote their nutritional benefits.

KEY WORDS: Equine nutrition, Oil supplementation, Consumer preferences, Survey, Package attributes

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I would also like to acknowledge Mrs. Jennifer Strauss and Dr. Nora Bailey for helping me overcome mental illness throughout my undergraduate and graduate journey. Mental illness is something that needs to be discussed more often, and if you are suffering, don't be afraid to reach out.

PREFACE

“We keep moving forward, opening new doors, and doing new things, because we’re curious and curiosity keeps leading us down new paths.” – Walt Disney

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CHAPTER I

Introduction

When thinking about equine oil supplements, or equine supplements in general, most research is done through a palatability test to see if the horse will consume it or a fecal test to see what of the supplements have been absorbed. This study is aimed at the owners and what they want due to the fact that there has been very little research done in that way. To our knowledge, no previous studies have examined consumers' preferences for the attributes of equine oil supplements specifically. The equine supplement market was valued at 78 million dollars in 2020 and is projected to climb to 99 million by 2028 (Broadway, 2017). This project will help improve the equine nutrition industry in many ways. The results we will gain from this study will significantly influence how people view the nutrition, product, and packaging of supplements, specifically oil supplements. The findings from this study will also help companies such as Riceland and SmartPak to make informed decisions regarding product design, packaging, and marketing channels.

General Overview of Equine Nutritional Supplements

Horse owners have easy access to many nutritional supplements, both prescription and from retailers, that come in a vast array of forms. There are a number of issues that should be taken into account when considering nutritional supplements, but the key ones are: how necessary, how efficacious, and how safe is the supplement in question (Davidson & Harris, 2007).

Several studies have been done on what supplements are fed, how common a supplement is used, and why they are fed. Nutritional supplements are fed for many different reasons and the benefits they may offer include the following: an additional

source of vitamins and minerals; ‘diet enrichment’ by providing plants that horses may not have access to; ergogenic aids (performance enhancers); health benefits (claims to increase immunity, gastrointestinal support, improving appearance, etc.); and behavioral modification (to provide a calmer demeanor for excitable horses) (Davidson & Harris, 2007).

In a 2016 study on senior equine nutrition, Bushell and Murray (2016) found that out of 1,342 respondents, a high proportion (86%) of respondents used supplements, predominantly for providing vitamins or minerals (78%), while salt or electrolytes (46%), joint support (43%), fats and oils (35%), and hoof care supplements (27%) were also commonly fed. Among 6,538 global respondents from an online equine nutrition course, more than 80% reported feeding their horses at least one form of supplements with salt, fats and/or oil, and nutraceuticals being the most commonly fed (Murray et al., 2015).

At a large animal hospital, 337 horses were seen, and 67 surveys were completed with a response rate of 19.8% (Hoffman et al., 2009). Fifty-six owners (84%) reported giving the horse at least one dietary supplement. Similarly, another online survey of horse owners (n=2,087) also found that 84% of the respondents gave supplements to at least one horse, without difference between competitive and recreational riders (Swirsley et al., 2017). The most commonly used supplements included chondroprotectives, electrolytes, multivitamins, fatty acids, antioxidants, hoof supplements, and probiotics (Hoffman et al., 2009). The respondents also reported using amino acids, chromium, yeast, echinacea, biotin, and an iron and vitamin B–based supplement.

Oil Supplement Overview

There are many reasons why an oil supplement would be fed. One of the main reasons is to promote healthy weight gain. It is also used to increase energy density, decrease bowel bulk and fecal output, and reduce health risks associated with hydrolysable carbohydrate overload (Kronfeld, 1996). It may also reduce spontaneous activity and reactivity (or excitability), increase fatty acid oxidation, reduce CO₂ production and associated acidosis, enhance metabolic regulation of glycolysis, improve both aerobic and anaerobic performance, and substantially reduce heat production (Kronfeld, 1996). Swirsley et al. (2017) reported that about half of the U.S. horse owners (n=2,087) used supplements to prevent or treat problems in their horses, promote overall health, and provide nutrients not provided in feedstuffs.

Understanding Health and Welfare of Equids

To understand the health and welfare of equids, people may use a variety of sources to find their nutrition information. This can be and is not limited to, the veterinarian, farrier, trainer, other horse owners, family, friends, etc. Some of these resources have been proven by other studies that their information may be outdated, not credible, or lacking in knowledge. In an online survey of horse owners, 43% of the respondents relied on veterinarians as their first choice for supplement information, and their other choices included farriers, other horse owners, and nutritionists or consultants (Swirsley et al., 2017). This concurs with findings from Murray et al. (2015). Respondents in that study also identified veterinarians (54%) as their top source of information, followed by magazines or reference books (46%) and other horse owners or

friends (40%). Additionally, Murray et al. (2015) found that respondents preferred receiving information via reading short articles online (60%) or in print (54%).

Veterinarian Knowledge of Supplements

Equine nutrition is something that may be misunderstood by the owner. In a global survey designed to assess participants' knowledge of equine nutrition (n=6,538), more than 80% of owners reported feeding at least one form of supplement to their horse(s). Sixty percent reported using supplements because they believe that their horse(s) needs it, and only 24% do so based on veterinary advice (Murray et al., 2015). According to a survey done by the University of Minnesota, most of the horse owners reported to be "somewhat knowledgeable" in equine nutrition.

Veterinarians are expected to be a major source of information regarding supplements and nutritional information. Very little research has been done to determine if they are reliable sources. According to a study done in Georgia by Roberts and Murray in 2013, of the usable responses (n=74), 88% had not attended any equine nutrition continuing education course the previous year. Collective reasons cited were lack of courses available (54%), inconvenient dates (15%), and a lack of personal interest (15%). Individual responses included "recently graduated from an accredited program"; "do not see enough equine"; and "percentage of practice is so low that time and money for education did not warrant for class." Most of the respondents (80%) from this study placed a strong emphasis on the importance of obtaining information from an equine nutritionist. This can become an issue when horse owners or leasers are looking for information on supplementation or equine nutrition in general, as most look to a veterinarian for advice. Unfortunately, 78% of the respondents did not have access to an

equine nutritionist and would be likely to recommend it if it were available (91%) (Roberts & Murray, 2014).

Research on Supplementation

As of 2022, there has been little research done on consumer preferences with equine supplements in general, especially in terms of product and package attributes. In a study completed by Murray, Hanna, and Hastie (2015), the most influential factor when choosing a supplement for their horse was veterinary recommendation (90%). Following veterinary recommendation was cost at 69%. Product packaging was not selected by any respondent as influencing their choice of supplement. It should not be assumed that lower cost products have an increased rate of purchase. It has been proposed that a more expensive product may influence a purchasing decision as it may be perceived by the consumer as a higher quality and a premium product.

Supplementation Research on Companion Animals and Livestock

From May 2014 to April 2015, Vandendriessche, Picavet, and Hesta completed a survey of 100 pet owners present in the waiting room of The Clinic of Small Animals, Faculty of Veterinary Medicine, Ghent University, Merelbeke, Belgium. There were 15 cat owners and 85 dog owners. Only one of the 15 cats received a commercial supplement containing fat and dextrose to promote intestinal movement (Vandendriessche et al., 2017). Thirteen (or about 15%) of the 85 dogs received a commercial supplement. Nine of them got a chondroprotective, and one dog received garlic powder as a supplement (Vandendriessche et al., 2017).

Freeman et al. (2006) completed a survey of 1,104 canine and feline owners via Telephone and asked about the supplements they gave to their pets. Owners of more than

one cat or dog were asked to use only one pet as the subject of the survey. The survey consisted of 635 dogs and 469 cats. Excluding the pets on a therapeutic diet, the study contained information on the dietary supplements of 1,076 animals. One-hundred and seven (9.9% of 1,076) pet owners reported giving dietary supplements to their pets, with 70 owners (6.5%) administering supplements regularly, and 37 (3.4%) administering supplements occasionally. The proportion of dogs receiving supplements (82/624 [13.1%]) was more than two times as high as the proportion of cats receiving supplements (25/452 [5.5%]). Animals having a disease were almost two times as likely to receive dietary supplements (26/155 [16.8%]) as those without any diseases (81/921 [8.8%]). Pet owners reported the following types of dietary supplements: multivitamins (n=53), chondroprotective agents (n=22), fatty acids (n=13), vitamin C (n=7), calcium (n=6), antioxidants (n=5), combination products (n=4), yeast (n=3), taurine (n=2), zinc (n=2), and enzymes, herbs, charcoal, lysine, melatonin, garlic, and dimethylglycine (1 each) (Freeman et al., 2006).

Supplementing livestock species is dependent on what the animal is being raised for. Beef and dairy cattle may be supplemented differently from broilers and egg layers, meat and wool producers in sheep, and so on. Based on a systematic review of 58 studies, Montout et al. (2021) concluded that synthetic amino acid supplementation would help improve the livestock' immune response.

Regulations on Nutritional Supplementation

In 1994, the Dietary Supplement Health and Education Act (DSHEA) amended the FD&C Act to create a category for dietary supplements for people as well as a regulatory framework for these products (Center for Food Safety and Applied Nutrition,

2022). This framework places dietary supplements for people under the umbrella of “foods,” not drugs or food additives. FDA isn’t authorized to review dietary supplement products for people or animals for safety and effectiveness before they are marketed.

In 1996, FDA determined that DSHEA didn't apply to products for use in animals, and at least one court case has upheld the agency’s thinking. Therefore, products marketed as dietary supplements for animals don’t fall under DSHEA, and FDA doesn’t recognize them as a special category. Rather, the agency regulates these products as either food for animals or animal drugs, depending on their composition of ingredients and intended use (Center for Veterinary Medicine, 2022). In 2022, APHIS stated in import guidelines that dietary supplements do not require an import permit (United States Department of Agriculture, 2022).

CHAPTER II

Materials and Methods

For this study, an online survey was developed and hosted on a third-party data collection website (www.qualtrics.com) that is partnered with Sam Houston State University. This study was deemed exempt by Sam Houston State University Institutional Review Board (Protocol #: IRB-2021-63). To publicize the survey, an anonymous survey link and QR code was emailed to different universities in the U.S. with an agricultural program with the hopes of them distributing it to their students. This survey was also distributed in equine classes at Sam Houston State University. The survey link was open for a period of 62 days from May 19th 2021 to July 19th 2021.

The survey collected general demographic information, and no identity-specific questions were asked. Respondents were asked for their consent and whether they owned or leased a horse. If they chose “No,” they would be redirected to the end of the survey. If they answered “Yes,” they would be asked to report their basic demographic information, including age, gender, race, household income, educational level, employment status, and whether they have any children. Respondents were also asked to identify the number of horses they own/rent and select a state where the horse(s) reside, the location (urban, suburban, rural), the amount of acreage (given in ranges), and whether they have ever purchased fat or rice bran oil supplements for their horse(s). Respondents were also asked to rate the importance of the nutrition, product, and package attributes of equine oil supplements on a Likert scale from not important (coded as 1) to very important (coded as 5). Other questions included where information on supplementation is obtained, what is the most important source of supplement information, how often a supplement is

purchased, and what kind of packaging is preferred. The full questionnaire is included in the appendix of this thesis.

Data Analysis

Data were analyzed using Excel and SAS. Means and standard deviations were summarized for the Likert-scale questions. Percentages were used to describe the demographic characteristics of equine owners/renters. Tables, pie charts, and bar charts were also used to assist in interpreting the results of the study. Two Logit models were used to investigate the demographic characteristics associated with the application of fat supplements and rice bran oil, respectively. The two dependent variables were dichotomous. Equine owners/renters who had ever used fat supplements for their horses were coded as 1 and 0 otherwise. Similarly, equine owners/renters who had ever used rice bran oil were coded as 1 and 0 otherwise. The independent variables for the Logit models included all the demographic and equine characteristics.

CHAPTER III

Results

Table 1 summarizes the demographic information of the respondents who were equine owners or renters. There was a total of 160 survey responses. Of those 160, 110 met the criteria for inclusion, i.e., the respondents consented and owned or leased a horse at the time of the survey. The majority of respondents were female (91.82%), 6.36% were male, and 1.82% (two respondents) identified themselves as non-binary/third gender. The minimum age reported in the study was 18, the maximum was 68, and the mean was 33.17. Regarding ethnicity, 91.82% were Non-Hispanic White, 5.45% were Hispanic, and 2.73% were another race/ethnicity. When analyzing household income before taxes, 41.82% of the respondents made \$100,000 or more annually. When asked about their child status, over three quarters (76.36%) stated that they have no children under the age of 18 living in the household. Regarding education level, 30% of respondents had a bachelor's degree, and 40.91% obtained a graduate or post-graduate degree. Over half (55.45%) of participants in this study worked full time at the time they completed this survey.

Table 1

Descriptive Statistics of the Demographics of the Participants

110 Participants	Proportion or Mean (S.D.)
Gender	
Female	91.82%
Male	6.36%

(continued)

110 Participants	Proportion or Mean (S.D.)
Non-binary/third gender	1.82%
Age	33.17
Race	
Non-Hispanic White	91.82%
Hispanic	5.45%
Other race/ethnicity	2.73%
Household Income (Before Taxes)	
Less than \$25,000	16.36%
\$25,000 - \$49,999	15.45%
\$50,000 - \$74,999	9.09%
\$75,000 - \$99,999	17.27%
\$100,000 - \$124,999	20%
\$125,000 or more	21.82%
Child Status	
Children under the age of 18	23.64%
No children under the age of 18	76.36%
Education Level	
High School Graduate	0.91%
Some college education without a degree	18.18%
Associate degree	10%
Bachelor's degree	30%

(continued)

110 Participants	Proportion or Mean (S.D.)
Graduate or post-graduate degree	40.91%
Employment Status	
Full time	55.45%
Part time	19.09%
Student	18.18%
Retired	3.64%
Homemakers	2.73%
Unemployed	0.91%

Table 2 provides an overall summary of equine demographics. Out of 110 participants, 84.54% owned one to five horses. The majority of the horses (38.18%) resided in Texas. About 8% of the horses resided in New York, and the other 28 states made up about half (53.64%) of the survey responses. Regarding geographical area of the state, 83.64% of respondents claimed that their horse(s) were living in a rural area. When analyzing boarding versus personally taking care of their horse(s), 65.45% chose personally take care of, 28.18% chose boarding, and 6.36% chose other which was a combination of boarding and personally taking care of. 30% of respondents reported their horse(s) being on two to ten acres of property and 32.73% reported their horse(s) being on ten to twenty acres of property.

Table 2*Descriptive Statistics of the Equine Related Demographics*

110 Participants	Proportion or Mean (S.D.)
Number of horses owned or leased	
1 - 5 horses	84.54%
6 - 10 horses	10.01%
More than 10	5.46%
State horse is located in	
Texas	38.18%
New York	8.18%
Colorado	4.55%
Connecticut	4.55%
Utah	4.55%
California	3.64%
Tennessee	3.64%
Other States	32.71%
Location	
Rural	83.64%
Suburban	15.45%
Urban	0.91%
Board or personally take care of	
Board	28.18%
Personally take care of	65.45%

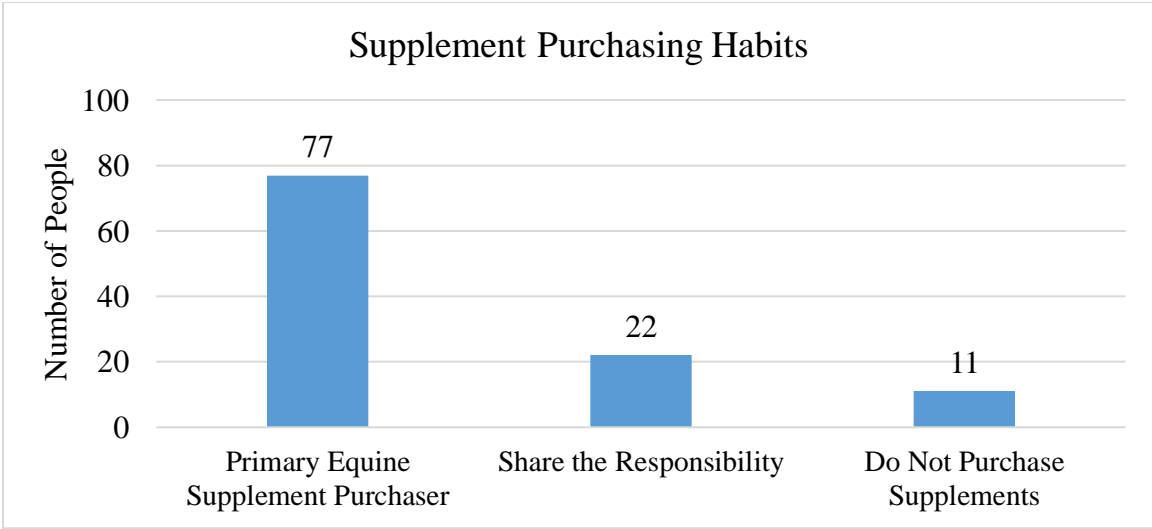
(continued)

110 Participants	Proportion or Mean (S.D.)
Other	6.36%
Size of the property	
< 2 acres	0.91%
2 - 10 acres	30%
10 - 20 acres	32.73%
20 - 50 acres	20.91%
> 50 acres	15.45%

The variable of supplement purchasing status was obtained by asking respondents if they were the primary supplement purchaser, if they shared the responsibility of purchasing supplements, or if they do not purchase supplements at all. 70% of the respondents were the primary supplement purchaser for the household/horse(s), 20% shared the responsibility, and 10% did not purchase any supplements.

Figure 1

Supplement Purchasing Habits



Respondents were then asked whether they had ever used fat supplements or rice bran oil for the horse. Figure 2 shows that 64.55% of respondents had used fat supplementation in the past for their horse(s). Figure 3 shows that only 23.64% of the respondents had used rice bran oil, whereas more than three-quarters (76.36%) of respondents had not used rice bran oil as a form of supplementation.

Figure 2

Have you ever used Fat Supplementation for your Horse(s)?

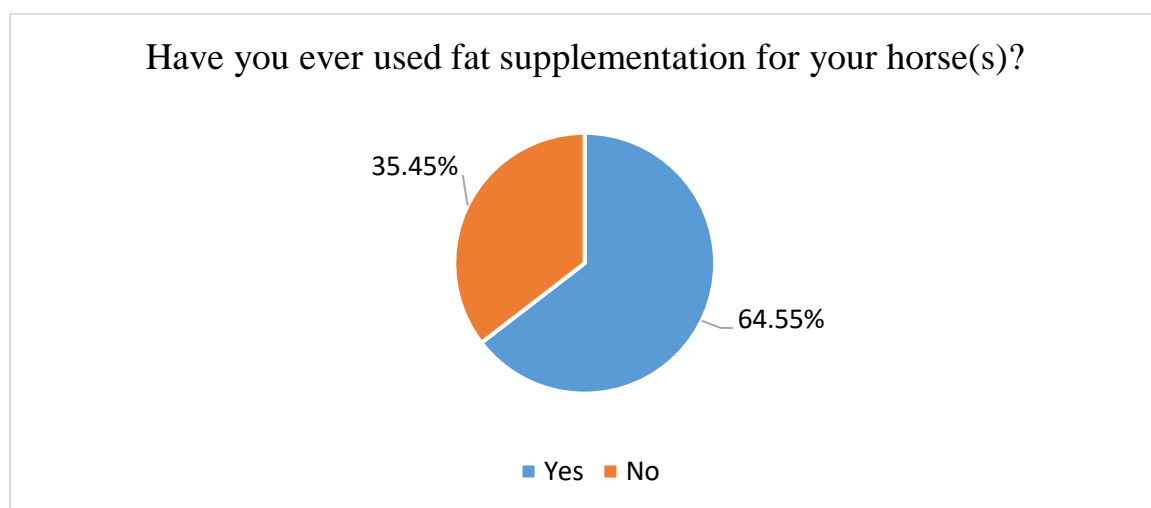
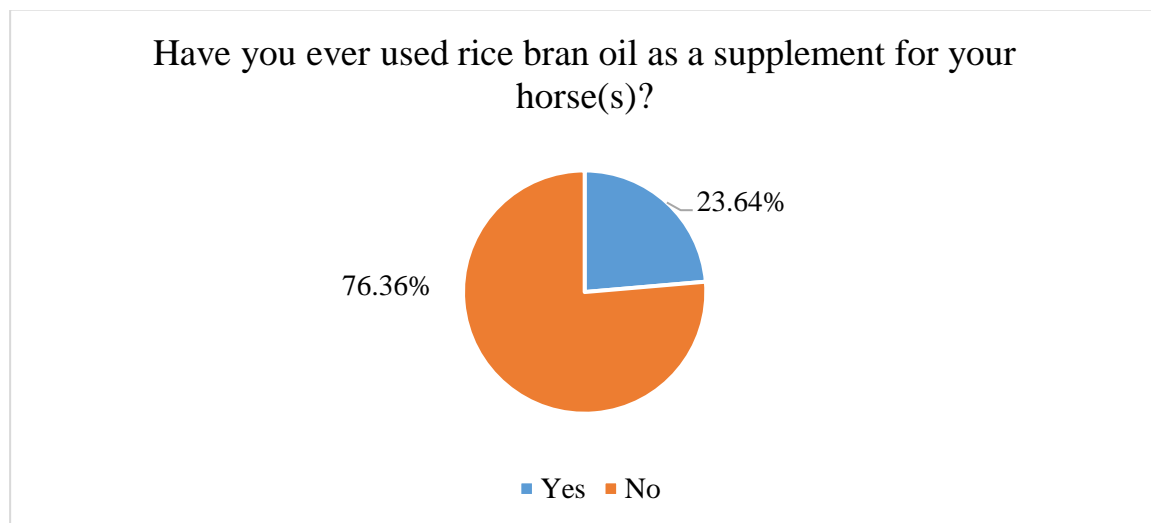


Figure 3

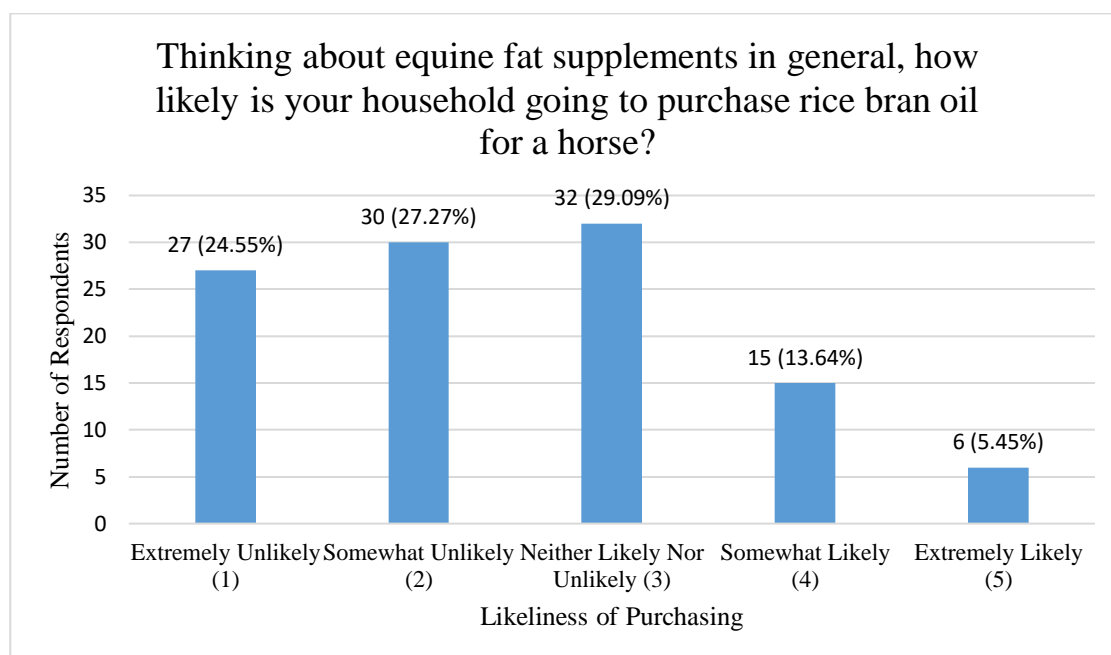
Have you ever used Rice Bran Oil as a Supplement for your Horse(s)?



A Likert Type scale was used to determine how likely respondents would be purchasing rice bran oil as a supplement for their horse(s) when thinking about buying a fat supplement in general which is depicted in Table 3. Ranging from one to five, with one being “extremely unlikely” to purchase and five being “extremely likely” to purchase, the majority of respondents chose extremely unlikely or somewhat unlikely (51.82%).

Figure 4

Likelihood of Purchasing Rice Bran Oil as a Supplement

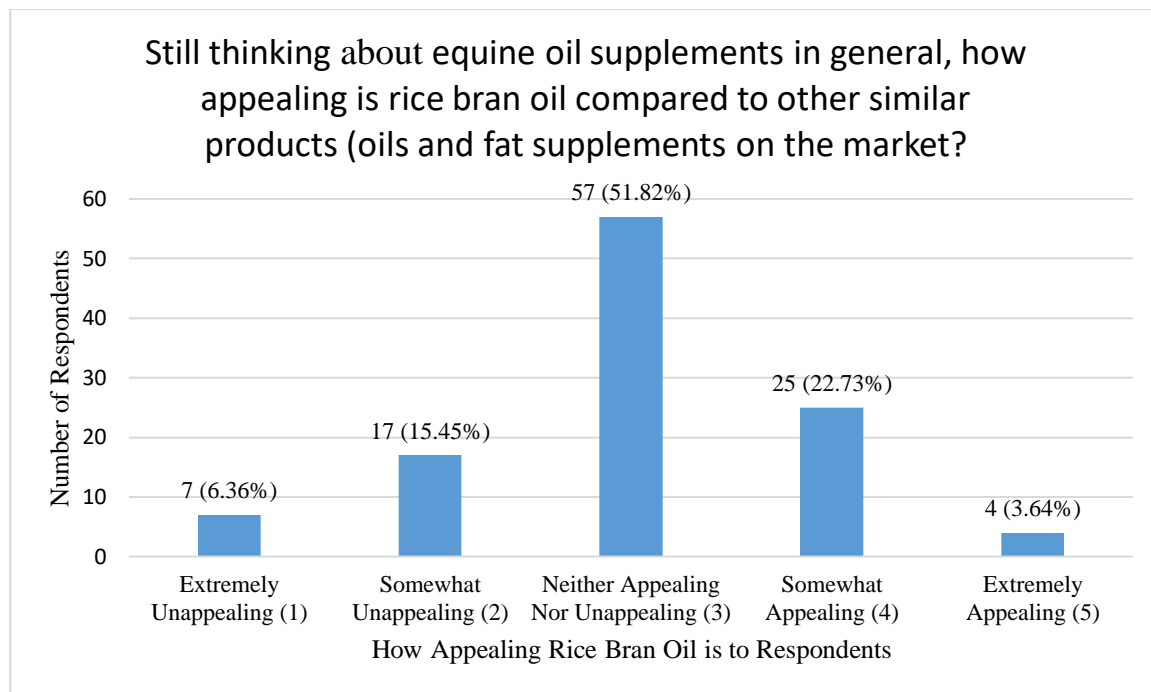


Note. The mean score was 2.48 with n=110.

Figure 5 used the same Likert Type scale method. Respondents were asked how appealing rice bran oil is compared to other similar products (oil and fat supplements) on the market. 51.82% of participants claimed that it was neither appealing nor unappealing.

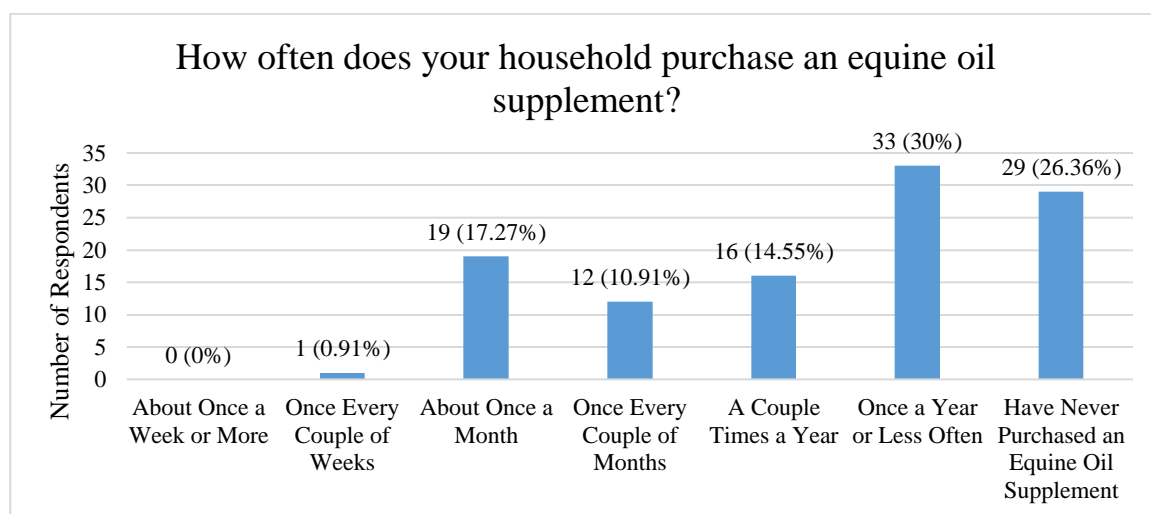
Figure 5

How Appealing is Rice Bran Oil Compared to Other Oils and Fat Supplements on the Market?



Note. The mean score was 3.02 with n=110.

Respondents were then asked how often their household purchased an equine oil supplement. Seven frequency choices were given in the question shown in Figure 6. Of the 110 respondents, 30% stated that they purchased an equine oil supplement once a year or less often, and 26.36% stated that they had never purchased an equine oil supplement.

Figure 6*How Often an Equine Oil Supplement is Purchased*

Respondents were asked to rate the following nutritional attributes when purchasing an equine oil supplement on a Likert Type scale from one, being not important at all, to five, being very important, as seen in Table 3. The top-rated three nutritional attributes were: 1) horse(s) find the oil highly palatable and do not refuse to consume it, 2) promote weight gain for hard keepers, and 3) be a good source of fat supplementation, with mean scores being 4.1, 4.03, and 3.9, respectively. 77.28% stated that horses finding the oil highly palatable and not refusing to consume it was either important or very important. 76.37% of respondents said it was important or very important for the equine oil supplement to promote weight gain for hard keepers. 68.18% of respondents stated that being a good source of fat supplementation was important or very important. The three least important nutritional attributes when purchasing an equine oil supplement were 1) promoting “cool” calories, 2) advertised to aid in the support of digestive and metabolic diseases, and 3) the horse(s) having a calmer demeanor overall, with mean scores being 3.44, 3.42, and 3.03, respectively.

Table 3*The Importance of Nutritional Attributes*

Please Rate the Importance of the following	Not Important at all (1)	Of Little Importance (2)	Moderately Important (3)	Important (4)	Very Important (5)	Mean
Horses find the oil highly palatable and do not refuse to consume it	3 (2.73%)	4 (3.64%)	17 (15.45%)	38 (34.55%)	47 (42.73%)	4.1
Promote weight gain for hard keepers	6 (5.45%)	2 (1.82%)	18 (16.36%)	41 (37.27%)	43 (39.1%)	4.03
Good source for fat supplementation	4 (3.64%)	4 (3.64%)	27 (24.55%)	39 (35.45%)	36 (32.73%)	3.9
Rich in Omega 3's and Omega 6's	4 (3.64%)	6 (5.45%)	25 (22.73%)	43 (39.1%)	32 (29.1%)	3.85
Improved Stomach Health	8 (7.27%)	7 (6.36%)	23 (20.91%)	42 (38.18%)	30 (27.27%)	3.72
Lessen impact of exercise on horse's joints	9 (8.18%)	9 (8.18%)	25 (22.73%)	34 (30.91%)	33 (30%)	3.66
Advertised to support the healthy horse in maintaining the immune system and normal muscle function	10 (9.09%)	6 (5.45%)	22 (20%)	47 (42.73%)	25 (22.73%)	3.65
Good source of Vitamin E	7 (6.36%)	7 (6.36%)	36 (32.73%)	38 (34.55%)	22 (20%)	3.55
Antioxidants to support cellular health post-exercise	9 (8.18%)	12 (10.91%)	30 (27.27%)	30 (27.27%)	29 (26.36%)	3.53
Increased recovery rates after training, a long week show, travel, etc.	8 (7.27%)	15 (13.64%)	25 (22.73%)	41 (37.27%)	21 (19.09%)	3.47
Improved coat condition	4 (3.64%)	14 (12.73%)	36 (32.73%)	39 (35.45%)	17 (15.45%)	3.46
Promotes "cool" calories, e.g. will not make your horse hot	12 (10.91%)	13 (11.82%)	29 (26.36%)	27 (25.55%)	29 (26.36%)	3.44
Advertised to aid in the support of metabolic and digestive issues	15 (13.64%)	9 (8.18%)	24 (21.82%)	39 (35.45%)	23 (20.91%)	3.42
Calmer demeanor overall	17 (15.45%)	22 (20%)	28 (25.45%)	27 (24.55%)	16 (14.55%)	3.03

Respondents were asked to rate the importance of product attributes when purchasing an equine oil supplement, as seen in Table 4. This Likert Type scale followed the same rating, with one being not important at all to five being very important. The top three product attributes were grown and made in the U.S.A., top dress current ration, and family/farmer owned, with mean scores of 3.44, 3.11, and 2.99. Approximately half (50.91%) of the participants stated that being grown or made in the U.S.A. was either important or very important. 39.09% of participants stated that top dressing the horses current ration was moderately important. Nearly two-thirds (64.55%) of respondents claimed that the product being family/farmer owned was moderately important to very important. The three least important product attributes were non-GMO, gluten-free, and certified organic, with mean scores of 1.85, 1.64, and 1.61.

Table 4*The Importance of Product Attributes*

Please Rate the Importance of the following	Not Important at all (1)	Of Little Importance (2)	Moderately Important (3)	Important (4)	Very Important (5)	Mean
Grown and Made in the USA	10 (9.09%)	18 (16.36%)	26 (23.64%)	26 (23.64%)	30 (27.27%)	3.44
Top Dress Current Ration	12 (10.9%)	15 (13.64%)	43 (39.09%)	29 (26.36%)	11 (10%)	3.11
Family/Farmer Owned	13 (11.82%)	26 (23.64%)	33 (30%)	25 (22.73%)	13 (11.82%)	2.99
100% All Natural	27 (24.55%)	21 (19.09%)	33 (30%)	19 (17.27%)	10 (9.09%)	2.67
Sugar-Free	34 (30.91%)	26 (23.64%)	23 (20.91%)	16 (14.55%)	11 (10%)	2.49
Single Ingredient (for instance, 100% rice bran oil)	28 (25.45%)	30 (27.27%)	31 (28.18%)	14 (12.73%)	7 (6.36%)	2.47
Soy-Free	50 (45.45%)	35 (31.82%)	19 (17.27%)	4 (3.64%)	2 (1.82%)	1.85
Non-GMO	61 (55.45%)	22 (20%)	15 (13.64%)	7 (6.36%)	5 (4.55%)	1.85
Gluten-Free	62 (56.36%)	31 (28.18%)	13 (11.82%)	3 (2.73%)	1 (0.91%)	1.64
Certified Organic	67 (60.91%)	23 (20.91%)	16 (14.55%)	4 (3.64%)	0 (0%)	1.61

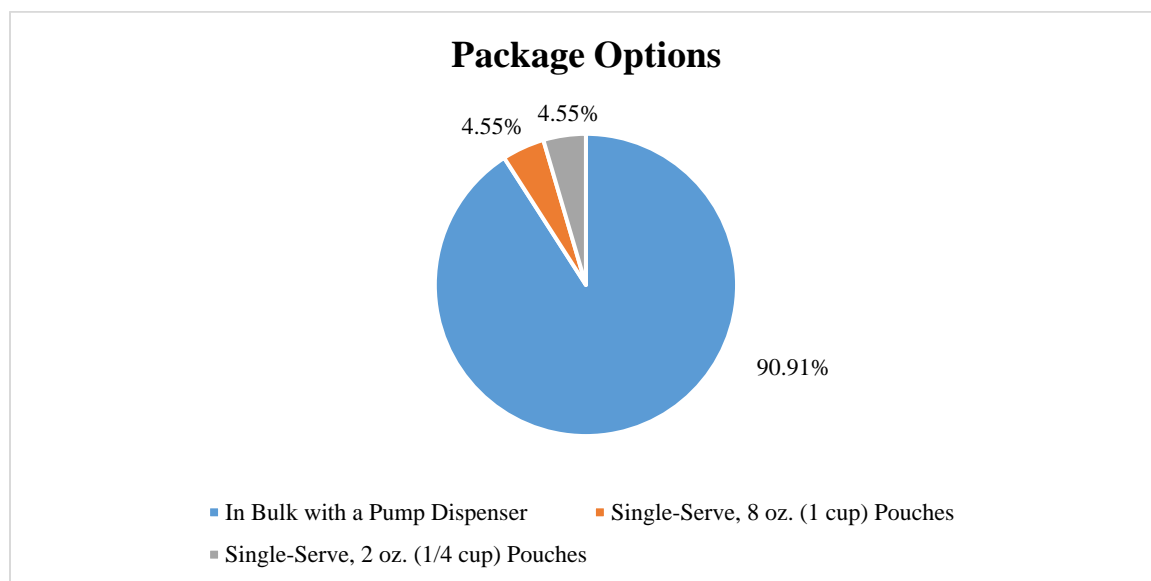
Table 5 represents another Likert Type scale question regarding the importance of package attributes with a whole number increment from one to five, with one being not important at all to five being very important. Unit price per ounce was the highest-rated package attribute, with 70% of respondents stating that it was important or very important. Easy to open or use was next, with 40.91% of respondents stating that it was important. Sustainable packaging was the least important among the package attributes, with approximately half (50.91%) of respondents claiming that it was of little importance or moderately important.

Table 5

The Importance of Package Attributes

Please Rate the Importance of the following	Not Important at all (1)	Of Little Importance (2)	Moderately Important (3)	Important (4)	Very Important (5)	Mean
Unit Price Per Ounce	4 (3.64%)	8 (7.27%)	21 (19.09%)	44 (40%)	33 (30%)	3.85
Easy to Open/Use	7 (6.36%)	9 (8.18%)	29 (26.36%)	45 (40.91%)	20 (18.18%)	3.56
Sustainable Packaging	15 (13.64%)	24 (21.82%)	32 (29.09%)	27 (25.55%)	12 (10.91%)	2.97

Figure 7 shows what package participants preferred when purchasing an equine oil supplement. 90.91% of respondents said they would rather have their equine oil supplement packaged in bulk with a pump dispenser. 9.1% of respondents chose either the single-serve 8-ounce pouch or the single-serve 2-ounce pouch.

Figure 7*Packaging Preference among Participants*

Question 26 of this survey, “What is the single most important thing to you when purchasing any type of supplement for your horse(s)?” was a free response type question. The participants could type anything in the answer box, and some chose to type more than one factor when purchasing a supplement. Most of the participants indicated that price, ease of use, efficacy, palatability, and quality were most important to them when purchasing any kind of supplement.

There are many different places where equine supplement information can be obtained from. Figure 8 was a “choose all that apply” question from the list given. Out of 110 participants, 88 (80%) chose the veterinarian as a source they use for supplement information. The next highest source chosen among respondents was the internet, with 55.45% stating that it is one they use. The third most common information source chosen among respondents was a nutritionist at 51.82%. The least popular sources of supplement information were tv/radio, celebrities, and the riding instructor.

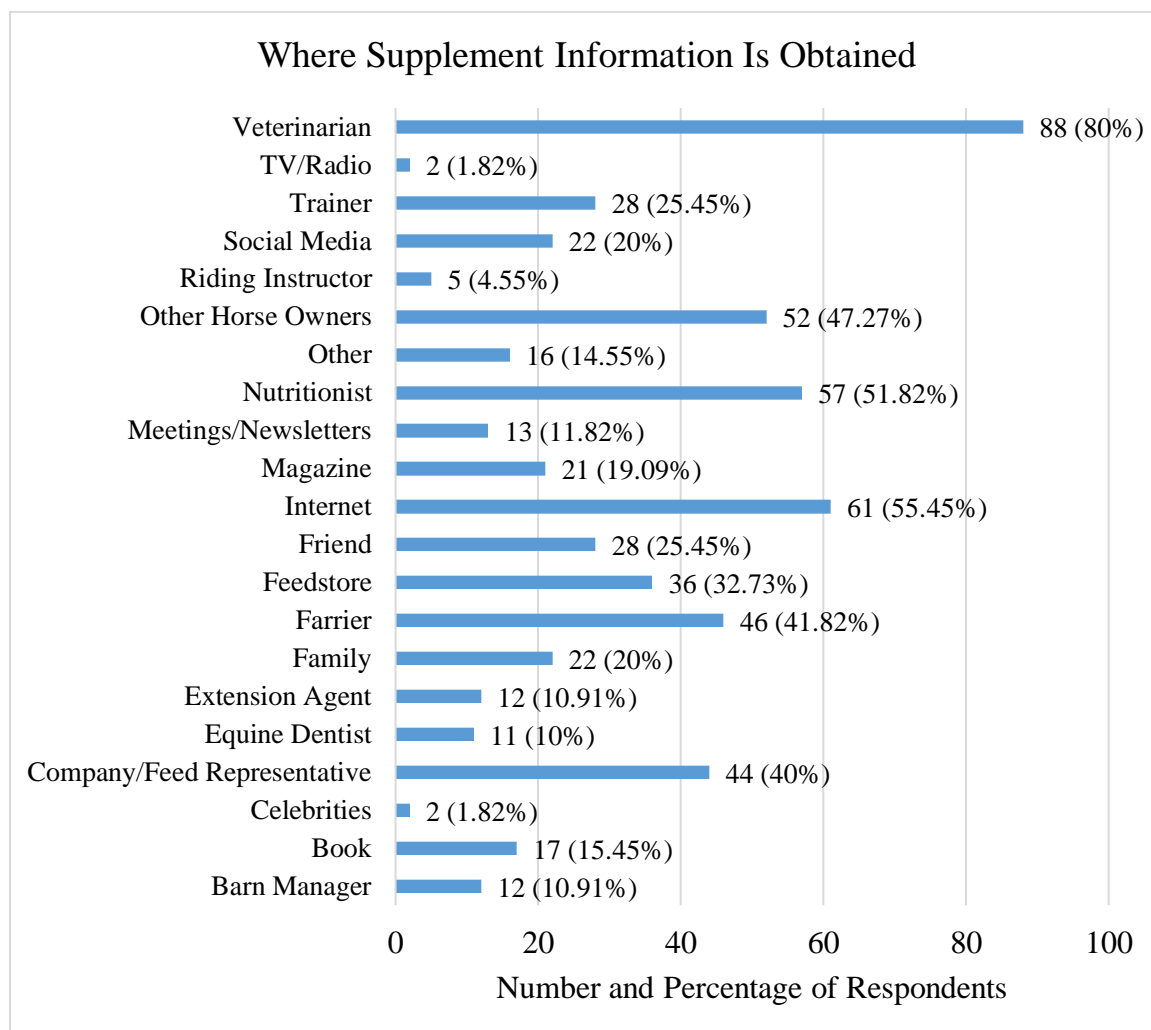
Figure 8*Where Supplement Information is Obtained*

Figure 9 used the same list of information sources as Figure 8, but this was respondents choosing the most important source for supplement information. Over half (50.91%) of respondents chose the veterinarian as their most important source when finding information about supplements. 21.82% of respondents claimed that the nutritionist was their most important source of information.

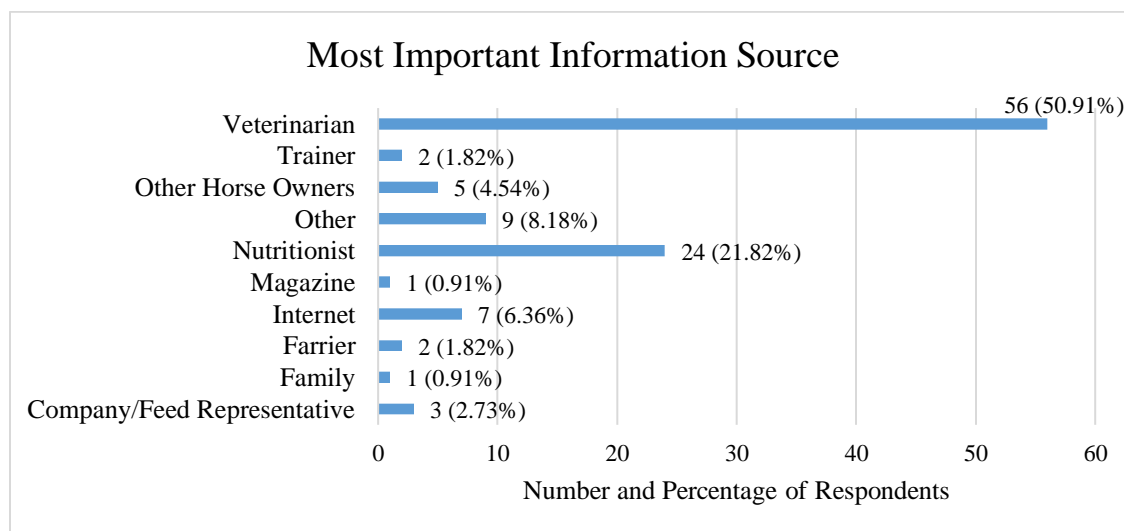
Figure 9*Most Important Source for Supplement Information*

Table 6 shows the results from two Logit models assessing the demographic characteristics of equine oil supplement users. Age, employment status, number of horses, location, and size of the land were significantly associated with the use of rice bran oil. The estimated odds ratio for age was 1.11 with a significance level of 0.01. This indicates that each additional year of age was associated with an 11% increase in the odds of using rice bran oil. The estimated odds ratio for full-time employment status was 13.35 ($P < 0.05$). In other words, the odds of using rice bran oil for horse owners/renters with full-time employment were 13.35 times the odds of those who were not employed. Horse owners/renters in New York were much less likely to use rice bran oil, compared with other states. Horses on larger lands (>20 acres) were associated with much higher odds of using rice bran oil than those on smaller lands (<10 acres).

Table 6*Logit Results from Models Assessing the Demographic Characteristics of Equine Oil**Supplement Users (n=110)*

Logit Model	Odds Ratio Estimates	
	Ever Used Fat Supplement = 1 vs 0 otherwise	Ever Used Rice Bran Oil = 1 vs 0 otherwise
R ²	0.17	0.48
Age	1.01	1.11**
Female = 1 vs 0 otherwise	1.39	3.91
White = 1 vs 0 otherwise	0.45	0.75
Income ≤ \$49,999 (reference)		
\$50,000 ≤ Income ≤ \$99,999	0.73	1.33
Income ≥ \$100,000	1.39	0.37
Having children = 1 vs 0 otherwise	0.85	0.46
Some college, associate's degree, high		
Bachelor's degree	1.54	0.31
Graduate or professional degree	1.03	0.17†
Not employed (reference)		
Employed part time	0.65	3.19
Employed full time	1.87	13.35*
# horses ≤ 5 (reference)		
5 < # horses ≤ 10	1.73	14.48**
# horses > 10	2.28	0.89
Other states (reference)		
Texas	0.58	2.65
New York	0.48	0.003**

(continued)

Suburban and urban (reference)		
Rural	2.49	1.57
Board (reference)		
Personally take care of horses	0.68	3.04
< 10 acres (reference)		
10 to 20 acres	1.07	1.56
20 to 50 acres	2.48	16.39**
> 50 acres	1.13	19.89**

**p ≤ 0.01; *p ≤ 0.05; †p ≤ 0.10

CHAPTER IV

Discussion

There have been numerous studies on equine supplements in reference to palatability and digestibility. However, there is very little research done on nutrition, product, and package attributes of equine supplements in general. To our knowledge, the present study is the first comprehensive survey on the nutrition, product, and package attributes of equine oil supplements. In total, 110 respondents included in this survey is not a good representation of the U.S. horse industry. The most comprehensive number comes from the 2017 National Economic Impact of the U.S. Horse Population conducted by the American Horse Council Foundation which counts 1,013,746 horse owners owning or leasing farms housing 7,246,835 horses in the U.S (Broadway, 2017).

It is interesting to note that 59.09% of respondents made \$75,000 or more in 2021. According to the U.S. Census Bureau, the 2021 real median household income in the U.S. was \$70,784 (Semega & Kollar, 2022). Horse owners or leasers had a higher disposable income and were willing to spend more on their horse(s). However, income was not found to be significantly associated with the use of equine oil supplements in this study. A little over three-quarters of respondents did not have children under the age of eighteen, which could influence their spending habits. Swirsley et al. (2015) asked respondents how much money was spent per horse per month. Approximately 55% of their respondents spent anywhere from \$1 - \$60 per month, 30% spent \$60 or more a month per horse, and 15% did not spend any money on supplements.

The respondents in this study were highly educated with 70.91% having a Bachelor's degree or higher. With respondents being highly educated, they were more

likely to do their own research on what oil supplements to feed before buying one. When reviewing where owners and leasers keep their horses, 65.45% of participants in this study personally took care of their own horses which was a higher percentage than a similar question asked by Swirsley et al. (2017) who found 51% of the respondents boarded their horses. This is important to note as the owner may not be the person that is purchasing the equine oil supplements.

This study was supported by Riceland, a company that provides marketing services for rice grown by farmers in Arkansas and Missouri (Riceland Foods, 2022). Participants were asked whether or not they had ever used fat supplementation for their horse(s) and 64.55% said they had. It is interesting to note that 76.36% of respondents had never used rice bran oil as an oil supplement for their horse(s). When looking at likeliness of purchasing rice bran oil in general, over half (51.82%) chose “extremely unlikely or somewhat unlikely” and 29.09% chose “neither likely nor unlikely.” It is important to address the concerns of these horse owners who were unlikely to buy oil supplements for their horses. Providing credible sources of information might help. Respondents were then asked to compare rice bran oil to similar oil and fat supplements on the market and it is important to note that 51.82% of respondents found rice bran oil “neither appealing nor unappealing.” There are many different factors that can play a part in how respondents answered this question. This could be the first time they are hearing about rice bran oil. They might view all oil or fat supplements the same due to the fact that they are all promoting weight gain.

Respondents were then asked how often they purchased an equine oil supplement. 44.55% of respondents chose “a couple times a year to once a year or less often” and this

could be related to the seasonality of weight gain among horses. For some owners, it could be hard to keep weight on their horse(s) during the summer months due to the heat and it could be difficult for others to keep weight on their horse(s) during the winter months.

Nutritional attributes are what the product claims to aid with or support.

Palatability was the highest ranked attribute among participants with 42.73% stating it was “very important” to them. It is understandable that palatability was the top-rated factor. Because if a horse refuses to consume the supplement, there is no point in the participant buying it. The second most important attribute was promoting weight gain for hard keepers and the third was being a good source for fat supplementation. A good explanation for the ranks was that horse owners tended to purchase the supplements to help their horses maintain or gain weight. It is recommended to companies that produce equine oil supplements to add these labels to their product with appropriate research to back their claims. For instance, how much weight horses gained after consuming the supplement. The lower ranking attributes were attributes that can be found in other supplements that are currently on the market such as Mare Magic that helps the moody, cranky, uncomfortable horse (State Line Tack, 2022).

When analyzing product attributes, the most important attribute among participants was that the product was grown and made in the U.S.A. This is important because buying from businesses within the United States is beneficial to the domestic economy. Top dressing the current ration means the ability to pour the supplement on top of their feed with mixing at the owner or leaser’s discretion. This can be considered ease of use. So, respondents do not have to spend extra time preparing the supplement to be

added to the current feed ration. The least important product attributes were the product being soy-free, non-GMO, gluten-free, and certified organic. These were the lowest rated attributes in this study overall. This is something to note because it may be unimportant to the participants due to the fact that it is being fed to animals. Additionally, if this were being asked of human supplementation the results could be opposite.

When reviewing the importance of package attributes among the participants, unit price per ounce was the most important. Money is very important to the respondents in this study because that was also listed as the single most important thing when buying any supplement. Other than price, quality and efficacy were among the most important things considered when purchasing a supplement for their horse(s).

There were a variety of information sources that our respondents could choose from when selecting where they get their supplement information. 80% of the respondents stated that they used the veterinarian as a source of information. When asked what their most important source is when obtaining supplement information, only 50.91% chose the veterinarian. It is important to note the significant decrease (30.91%) in veterinary usage from the choose all that apply question to choose the most important source question.

Limitations

This study has a few limitations. There was a sampling error present because the information being requested was only from a convenience sample of the population (Dillman et al., 2009). The 110 participants were not representative of all equine owners or renters over the age of eighteen in the United States. There was a non-response error within this study, as there might have been people who would have responded differently

had they taken the survey. Additionally, the product, nutrition, and package attributes examined in this study might not be exhaustive.

CHAPTER V

Conclusion

The findings in this study display the importance equine owners and leasers place on certain nutrition, product, and package attributes of equine oil supplements. This study will benefit the companies producing equine oil supplements to better market their products to their consumers. Suggestions for future research include obtaining more participants, asking questions about the horses' age and whether or not they are being used in competition or recreation, and asking how many horses are currently being supplemented. Questions could also be asked about how safe participants think supplements are or if the supplement in question is well researched. It would be beneficial if future researchers used breed associations, extension services, and horse shows to promote their research. There needs to be more research in the equine supplement industry in general to see how equine owners and leasers view supplements.

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APPENDIX A

Date: Apr 1, 2021 5:20:38 PM CDT

TO: Rachel Hansen Jessica Bedore

FROM: SHSU IRB

PROJECT TITLE: Consumer Preferences When Purchasing Equine Fat Supplements

PROTOCOL #: IRB-2021-63

SUBMISSION TYPE: Initial

ACTION: Exempt

DECISION DATE: April 1, 2021

EXEMPT REVIEW CATEGORY: Category 2.(i). Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording). The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects.

OPPORTUNITY TO PROVIDE FEEDBACK: To access the survey, click [here](#). It only takes 10 minutes of your time and is voluntary. The results will be used internally to make improvements to the IRB application and/or process. Thank you for your time.

REVISED SPECIAL UPDATE RE: COVID-19 CRISIS: The IRB has released specific guidelines for easing or transitioning existing IRB-approved studies or any new study subject to IRB oversight to in-person data collection. Please be advised, before ANY in-person data collection can begin, you must have IRB approval specifically for the conduct of this type of research. Please see the IRB response page for COVID-19 [here](#).

Greetings,

Thank you for your submission of Initial Review materials for this project. The Sam Houston State University (SHSU) IRB has determined this project is EXEMPT FROM IRB REVIEW according to federal regulations.

Since Cayuse IRB does not currently possess the ability to provide a "stamp of approval" on any recruitment or consent documentation, it is the strong recommendation of this office to please include the following approval language in the footer of those recruitment and consent documents: IRB-2021-63/April 1, 2021.

We will retain a copy of this correspondence within our records.

*** What should investigators do when considering changes to an exempt study that could make it nonexempt?**

It is the PI's responsibility to consult with the IRB whenever questions arise about whether planned changes to an exempt study might make that study nonexempt human subjects research.

In this case, please make available sufficient information to the IRB so it can make a correct determination.

If you have any questions, please contact the IRB Office at 936-294-4875 or irb@shsu.edu. Please include your project title and protocol number in all correspondence with this committee.

Sincerely,

Chase Young, Ph.D.
Chair, IRB
Hannah R. Gerber, Ph.D.
Co-Chair, IRB

IRB #: IRB-2021-63

Title: Consumer Preferences When Purchasing Equine Fat Supplements

Creation Date: 3-12-2021

End Date:

Status: **Approved**

Principal Investigator: Rachel Hansen

Review Board: SHSU IRB

Sponsor:

Study History

Submission Type: Initial

Review Type: Exempt

Decision: **Exempt**

Key Study Contacts

Member: Jessica Bedore Role: Co-Principal Investigator Contact: jsb071@shsu.edu

Member: Rachel Hansen Role: Principal Investigator Contact: rdh034@shsu.edu

Member: Rachel Hansen Role: Primary Contact Contact: rdh034@shsu.edu

Member: Shyam Sivankutty Nair Role: Investigator Contact: shyam.nair@shsu.edu

APPENDIX B

Survey Questionnaire

Start of Block: Block 1

Q1 We created this survey to assess consumer preferences regarding the packaging and purchasing of equine oils supplements. The information will be used by researchers and the feed industry to understand needs of horse owners. You will be asked to describe your demographic characteristics such as age, gender, employment status, ethnicity, and geographical location. It will take less than 10 minutes to complete the survey. Your participation in this study is voluntary. If you decide to participate, your responses will be anonymous - that is, recorded without any identifying information that is linked to you. If you have any questions regarding this survey, please contact us at 936-294-1218. If you have any questions regarding your rights as a human subject and participant in this study, or to report research-related problems, you may call the Institutional Review Board at SHSU for information, at (936) 294-4875, or irb@shsu.edu. Do you consent to participate in this survey?

IRB-2021-63/April 1, 2021



Q2

- I consent (1)
- I do not consent (0)

Skip To: End of Survey If = I do not consent
End of Block: Block 1

Start of Block: Default Question Block

Q3 Do you own or lease a horse?

Yes (1)

No (0)

Skip To: End of Survey If Do you own or lease a horse? = No

Q4 What is your gender?

Male (1)

Female (2)

Non-binary / third gender (3)

Prefer not to say (4)

Q5 What is your age?

Q6 Which of the following best describes you?

African American (1)

Hispanic (2)

Asian (3)

Caucasian/White (4)

Other (5) _____

Q7 What is your total annual household income (before taxes)?

- Less than \$25,000 (1)
 - \$25,000 - \$49,999 (2)
 - \$50,000 - \$74,999 (3)
 - \$75,000 - \$99,999 (4)
 - \$100,000 - \$124,999 (5)
 - \$125,000 or more (6)
-

Q8 Do you have children in your household under the age of 18? (Select all that apply).

- Child(ren) less than 5 years old (1)
- Child(ren) 5 - 11 years old (2)
- Child(ren) 12 - 17 years old (3)
- Not applicable (4)

Q9 What is your education level?

- Less than high school (1)
 - High school graduate (2)
 - Some college, no degree (3)
 - Associate's degree (4)
 - Bachelor's degree (5)
 - Graduate or professional degree (MS, PhD, DVM, MD, JD, etc.) (6)
-

Q10 Which of the following best describes your current employment status?

- Employed full time (1)
 - Employed part time (2)
 - Homemaker (3)
 - Student (4)
 - Retired (5)
 - Disabled (6)
 - Unemployed (7)
-

Q11 How many horses do you own or lease?

Q12 In which state is(are) the horse(s) located?

▼ Alabama (1) ... Wyoming (52)

Q13 Is the location of the horse(s) urban, suburban, or rural?

Rural (1)

Suburban (2)

Urban (3)

Q14 Do you board your horse(s) or personally take care of your horse(s) at your own property?

Board (1)

Personally take care of horse(s) on your own property (2)

Other (3) _____

Q15 Approximately what size is the property that the horse(s) is located on?

- <2 acres (1)
 - 2 - 10 acres (2)
 - 10 - 20 acres (3)
 - 20 - 50 acres (4)
 - >50 acres (5)
-

Q16 Which of the following best describes you?

- I am the primary equine supplement purchaser for the household/horse (1)
 - I share the responsibility of purchasing equine supplements for my household/horse (2)
 - I do not purchase equine supplements for my household/horse (3)
-

Q17 Have you ever used fat supplementation for your horse(s)?

- Yes (1)
 - No (0)
-

Q18 Have you ever used rice bran oil as a supplement for your horse(s)?

- Yes (1)
 - No (0)
-

Q19 Thinking about equine fat supplements in general, how likely is your household going to purchase rice bran oil for a horse?

- Extremely likely (5)
 - Somewhat likely (4)
 - Neither likely nor unlikely (3)
 - Somewhat unlikely (2)
 - Extremely unlikely (1)
-

Q20 Still thinking about the equine oil supplement in general, how appealing is rice bran oil compared to other similar products (oils and fat supplements) on the market?

- Extremely appealing (5)
 - Somewhat appealing (4)
 - Neither appealing nor unappealing (3)
 - Somewhat unappealing (2)
 - Extremely unappealing (1)
-

Q21 How often does your household purchase an equine oil supplement?

- About once a week or more (7)
 - Once every couple of weeks (6)
 - About once a month (5)
 - Once every couple of months (4)
 - A couple times a year (3)
 - Once a year or less often (2)
 - Have never purchased an equine oil supplement (1)
-

Q22 Please rate the importance of the following nutritional attributes, when purchasing an equine oil supplement.

	N ot important at all (1)	O f little importanc e (2)	Moderate ly important (3)	Importa nt (4)	Ve ry important (5)
Promotes "cool" calories, e.g. will not make your horse hot (Q22_1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Advertise d to aid in the support of metabolic and digestive issues (Q22_2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Horses find the oil highly palatable and do not refuse to consume it (Q22_3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improved coat condition (Q22_4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rich in Omega 3's and 6's (Q22_5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Advertise d to support the healthy horse in maintaining the immune system and normal muscle function (Q22_6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Promote weight gain for hard keepers (Q22_7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Good source for fat supplementation (Q22_8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Antioxi da nts to support cellular health post exercise (Q22_9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increased recovery rates after training, a long week show, travel, etc. (Q22_10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Good					
source of Vitamin					
E (Q22_11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improved					
stomach health					
(Q22_12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Calmer					
demeanor overall					
(Q22_13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lessen					
impact of exercise					
on horse's joints					
(Q22_14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q23 Please rate the importance of the following product attributes, when purchasing an equine oil supplement.

	Not important at all (1)	Of little importance (2)	Moderately important (3)	Important (4)	Very important (5)
Grown and made in the USA (Q23_1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Family/Farmer owned (Q23_2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gluten-free (Q23_3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Top dress current ration (Q23_4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Soy-free (Q23_5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sugar-free (Q23_6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Single ingredient - for instance, 100% rice bran oil (Q23_7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
100% All Natural (Q23_8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Non-GMO (Q23_9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Certified organic (Q23_10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q24 Please rate the importance of the following package attributes, when purchasing an equine oil supplement.

	Not important at all (1)	Of little importance (2)	Moderate ly important (3)	Importa nt (4)	Ver y important (5)
Sustainable packaging (Q24_1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Easy to open/use (Q24_2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unit price per ounce (Q24_3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q25 Which of the following package do you prefer when purchasing an equine oil supplement?

- Packaged in single-serve, 2 oz. (1/4 cup) pouches (1)
 - Packaged in single-serve, 8 oz. (1 cup) pouches (2)
 - Packaged in bulk with a pump dispenser (3)
-

Q26 What is the single most important thing to you when purchasing any type of supplement for your horse(s)?

Q27 Where do you obtain your source of information on supplementation?
(Select all that apply).

- Veterinarian (1)
- Barn manager (2)
- Trainer (3)
- Feedstore (4)
- Book (5)
- Internet (6)
- Magazine (7)
- Nutritionist (8)
- Friend (9)
- Family (10)
- Company/Feed Representative (11)
- Farrier (12)
- Extension agent (13)
- Equine dentist (14)
- Social media (15)
- TV/Radio (16)
- Celebrities (17)

Riding instructor (18)

Meetings/Newsletters (19)

Other horse owners (20)

Other (21) _____

Q28 Which is your most important source of information when making equine nutrition decisions? (Choose one).

- Veterinarian (1)
- Barn manager (2)
- Trainer (3)
- Feedstore (4)
- Book (5)
- Internet (6)
- Magazine (7)
- Nutritionist (8)
- Friend (9)
- Family (10)
- Company/Feed Representative (11)
- Farrier (12)
- Extension agent (13)
- Equine dentist (14)
- Social media (15)
- TV/Radio (16)
- Celebrities (17)
- Riding instructor (18)
- Meetings/Newsletters (19)

Other horse owners (20)

Other (21) _____

End of Block: Default Question Block

VITA

- SUMMARY:**
- Sam Houston State University Equine Science Teaching Assistant
 - Sam Houston State University Horse Judging Coach
 - 2022 Small Business Institute Conference Abstract Presentation
 - Recipient of 2021 Houston Livestock Show and Rodeo Scholarship
 - Recipient of 2021 San Antonio Livestock Show and Exposition Scholarship

EDUCATION: Sam Houston State University, Huntsville, Texas

Bachelor of Science in Animal Science

Minors in Agricultural Business and Equine Science

Major GPA of 3.63/4.0, Overall GPA of 3.63/4.0

Degree Awarded: December 2020

Courses taken include:

Equine Behavior and Training I & II

Animal & Equine Reproduction

Animal & Equine Nutrition

Meat Science

Anatomy and Physiology of the Domestic Animal

Animal Breeding and Genetics

Agribusiness Organization and Management

Agricultural Finance

Agribusiness Marketing

Sam Houston State University, Huntsville, Texas

Master of Science in Agriculture

Major GPA of 3.88/4.0, Overall GPA of 3.88/4.0

Expected Graduation Date: December 2022

Courses taken include:

Behavior and Management of Domestic Animals

Statistical Methods for Agriculture

Advanced Agriculture Biosecurity

Animal Diseases and Public Health

Advanced Animal Growth and Performance

Agricultural Sales and Communication

Advanced Equine Facility Management

EXPERIENCE:

Sam Houston State University

Equine Science Teaching Assistant

Huntsville, Texas

January 2021 to Present

- Assist with teaching Equine Science laboratory classes.
- On-call 24/7 when teaching Equine Foaling Practicum.
- Grade assignments for classes and laboratory classes.
- Experience with pregnant mares, newborn foals, post-partum care, and colt training.
- Supervise students giving horse care.
- Assist with research projects within the department.

- Assist with managing Equine Science social media.

Labs taught include:

Equine Science
 Equine Safety & Handling
 Equine Foaling Practicum
 Selection and Evaluation of Horses
 Equine Behavior and Training I

Sam Houston State University
Horse Judging Coach

Huntsville, Texas
January 2021 to Present

- Instruct practice up to three times a week.
- Prepare students to compete at a national level.
- Coordinate fundraising activities and events.
- Travel to provide students equine industry exposure.
- Create and present PowerPoints over each judging discipline.
- Help students develop and refine oral presentation skills.
- Manage the Horse Judging Team social media pages.

PRESENTATIONS:

- Hansen, R., Chen, D., Nair, S., & Ullrich, D., (2022). Consumer Preferences for the Attributes of Equine Oil Supplements. Oral presentation at the 2022 Small Business Institute Conference, February 23-26, 2022.

AWARDS:

- Ann & Charles Mallery Agricultural Business Scholarship 2022
- HEERF III Fall Block Grant Recipient 2021
- Houston Livestock Show and Rodeo Endowed Scholarship Recipient 2021
- COSET Scholarship Recipient 2021
- San Antonio Livestock Show and Exposition Scholarship Recipient 2021
- Sam Houston State University Fall Dean's List 2020
- Sam Houston State University Spring Dean's List 2020
- Sam Houston State University Fall Dean's List 2019
- Sam Houston State University Spring Dean's List 2019
- Lone Star College Spring President's List 2016
- Bands of America Grand National Champion 2013

ACTIVITIES:

- SHSU Agriculture Alumni Lifetime Member 2022
- Coastal Conservation Association Member 2022
- SHSU National Agri-Marketing Association Graduate Advisor 2022
- Agricultural Council Member – Horse Judging Team & National Agri-Marketing Association Representative 2022
- CITI Working with Cattle in Agricultural Research Settings Certificate 2022

- CITI Working with the IACUC Certificate 2022
- EDEN Animal Agrosecurity and Emergency Management Certificate 2021
- CITI Social-Behavioral-Educational Researchers Certificate 2021
- NavaRio Volunteer 2021
- SHSU Horse Judging Coach 2021
- SHSU Horsemen's Association Member 2020
- Delta Tau Alpha Honor Society Member 2020
- SHSU Kats and K9's for Military Heroes Vice President 2020
- Panther Creek Inspiration Ranch Volunteer 2015