EXTENSION

AFS-3936

Price determinants for race-bred American Quarter Horse yearlings sold at public auction

August 2025

Introduction

Research evaluating price factors in the American Quarter Horse racing industry is limited and outdated with only one study conducted using sales data from 1982 to 1992 (Lansford et al., 1998). The current study analyzed data from 2019-2021 for the Heritage Place September Yearling Quarter Horse sale. The Heritage Place sales facility is ranked among the top 10 public horse auctions in the nation based on total revenue (American Horse Council, 2023). The objective of this study was to provide an analysis of sales price factors which could result in a significant premium in the market price of yearlings sold at auction.

Market data and analysis

Sale catalogs and resulting market prices were acquired from Heritage Place Inc. located in Oklahoma City, Oklahoma, for the 2019, 2020 and 2021 September Quarter Horse yearling sales. In total, 1,876 race-bred Quarter Horse yearlings (917 colts and 959 fillies) were included in this study. Horses listed as Repurchase (n = 160) were excluded from this study. Geldings were also excluded as only 13 were cataloged during these three years.

Price changes are presented as a percent (%) premium for each yearling price factor. Marginal prices ($) indicate the added premium a horse received for each given characteristic. Regression analysis was performed to estimate price effect for each factor while holding all other characteristics constant.

Yearling price factors

Gender (COLT)

Colts sold for 22% ($4,177.22) more than fillies (Table 1). One reason for the difference in sales price between genders may be due to a perceived, if not real, difference in the potential earnings on the track of colts versus fillies. This difference could be due to certain physiological differences observed between sexes. Seder et al. (2003) found that yearling Thoroughbred colts had significantly larger hearts and a higher percent blood pumped per stroke as compared to fillies. These differences between sexes may deter some owners from running their fillies against the colts in the graded stakes races, which have the highest purses. For example, only three fillies have won the Kentucky Derby since the first race took place in 1875.

Radiographs (RADS)

Yearlings with radiographs available in the repository sold for 36.6% ($6,286.60) more than those without (Table 1). The Heritage Place Yearling Quarter Horse sale does not require owners to provide radiographs; however, in the current study, images were available for 50.4% of the horses sold. Multiple views are provided of the carpus, front fetlock, hind fetlock, hock and stifle. The availability of these radiographs allows buyers to make more informed decisions and consequently feel more secure in their investment.

Table 1. Estimated premium (%) and marginal value ($) of yearling price factors from the Heritage Place sales, 2019-2021.

Price Factor	N	Premium (%)	Marginal Value ($)
COLT	917	22.0*	4,177.22
RADS	946	36.6*	6,286.60
TCR	897	22.1*	4,044.29
AQHAC	993	10.2*	2,005.55
OKBRED	778	2.4	423.33
SRCHAMP	898	15.7*	2,906.28
GETCHAMP	836	30.4*	5,587.18
GETG1SW	997	13.4*	2,204.80
D1D2CHAMP	107	18.5*	3,969.45
D1D2PRCHAMP	303	6.7	1,312.80
D1PRG1SW	124	50.8*	9,317.65
SIRESI	1,859	0.5*	100.65
DAM1SI	1,513	0.1*	20.13
YR2020	598	15.6*	2,780.69
YR2021	671	48.4*	8,155.63

Note: N = Number of yearlings in each category; RADS = Radiographs; TCR = Triple Crown Races; AQHAC = American Quarter Horse Association Racing Challenge; OKBRED = Oklahoma Bred; SRCHAMP = Sire is an AQHA champion; GETCHAMP = Get of sire is an AQHA champion; GETG1SW = Get of sire is a grade 1 stakes winner; D1D2CHAMP = First and/or second dam is a champion; D1D2PRCHAMP = First and/or second dam has produced a champion; D1PRG1SW = First dam has produced a grade 1 stakes winner; SIRESI = Sire's speed index; DAM1SI = First dam's speed index

*Denotes a significant increase in sale price.

Triple Crown races (TCR)

Yearlings that were paid up for Triple Crown race eligibility sold for 22.1% ($4,044.29) more than yearlings that were not paid up into the incentive (Table 1). The Quarter Horse Triple Crown races consist of the All-American Futurity (est. $3 million purse), Ruidoso Futurity (est. $1 million purse) and the Rainbow Futurity (est. $1 million purse), according to Ruidoso Downs (2025). Based on the current study, buyers appear to favor yearlings eligible to run in the Triple Crown races due to the extremely large purses offered in these races. These findings were consistent with Commer (1991), who reported a $2,603.24 premium for Thoroughbred yearlings nominated to the Breeder's Cup. Yearlings from the same study nominated for the Maryland Million also received a significant premium when sold at public auction.

AQHA racing challenge (AQHAC)

Yearlings enrolled in the AQHA Challenge program sold for 10.2% ($2,005.55) more than yearlings not paid up for the incentive (Table 1). The AQHA Challenge encourages racing for 3-year-olds and older via added purse money. It appears buyers prefer horses eligible for this incentive to have the option to continue racing for purse money beyond the primary 2- and 3-year-old racing years. If a horse was unable to compete during the futurity and derby races, buyers may be encouraged by this incentive, which gives their horses a chance to race later in their careers.

Oklahoma-bred program (OKBRED)

Although yearlings nominated for the Oklahoma-Bred program sold for $423.33 (2.4%) more than those not paid into the program, this premium was not statistically significant (Table 1). Even so, this finding may suggest that mean sales price of Oklahoma-Bred yearlings remains competitive against the open market of other yearlings across the country that may or may not be enrolled in a state-bred incentive program. Commer (1991) reported a $1,474 premium for Thoroughbred yearlings sold at auction which were enrolled as registered Maryland-Bred. Vickner and Koch (2001) reported similar findings in Kentucky-Bred yearlings which sold for 2.7% ($976.00) more at public auction in Kentucky. Due to the high cost of owning a racehorse, investors may be inclined to spend more money on horses enrolled in the additional state-bred programs that give the yearling an additional space to win earnings on the track.

AQHA champion sire (SRCHAMP)

In the present study, yearlings whose sires were named as an AQHA Racing Champion received a $2,906.28 (15.7%) premium in comparison to yearlings sired by stallions who did not receive an AQHA Champion recognition (Table 1). Lansford et al. (1998) reported similar findings as yearlings whose sires were AQHA Champions had a significantly higher (29.4%) sales price with a marginal value of $2,041.60.

While the title of AQHA Champion is prestigious, horses must have displayed an accomplished racing record with major track wins leading to a high level of earnings to even be considered for the award. Therefore, investors likely have established their demand for yearlings with an AQHA Champion sire status with the hope the sire will pass on similar characteristics to his offspring.

Get of sire is an AQHA champion (GETCHAMP)

Yearlings by stallions who have sired an AQHA Racing Champion received a $5,587.18 (30.4%) premium compared to yearlings sired by stallions without champion progeny (Table 1). Likewise, Lansford et al. (1998) found that yearlings whose sires have AQHA Champion progeny sold for 60.9% ($4,233.33) more than yearlings whose sires do not have champion progeny.

Get of sire is a grade 1 stakes winner (GETG1SW)

Yearlings by stallions who have sired a non-restricted Grade 1 (G1) stakes winner received a $2,204.80 (13.4%) premium in comparison to those sired by stallions without a non-restricted G1 winner (Table 1). Non-restricted G1 stakes are considered the most prestigious races frequently having the highest purses. In support of these findings, Lansford et al. (1998) found a 10.5% premium for each additional stakes winner by the sire.

First and/or second dam is an AQHA champion (D1D2CHAMP)

Yearlings whose first and/or second dams were named an AQHA Racing Champion received a $3,969.45 (18.5%) premium in comparison to yearlings out of dams who did not receive the AQHA Champion recognition (Table 1). Similarly, Lansford et al. (1998) reported a significant premium ($4,790.94) for yearlings whose first dams were themselves or have produced an AQHA Champion. While the previous study reported a higher premium, their study analyzed dams being an AQHA Champion and/or producing an AQHA champion collectively. In the present study, these factors were separated to analyze the influence of dams being a champion themselves versus their ability to produce champions. Therefore, when the resulting premiums were included together, they likely established an even higher premium than found in the present study.

First and/or second dam produced an AQHA champion (D1D2PRCHAMP)

Although yearlings whose first and/or second dam have produced an AQHA Champion sold for a higher premium (6.7%) in relation to yearlings out of dams who have not produced an AQHA Champion, this difference is not statistically significant (Table 1). Furthermore, Commer (1991) reported a $3,014.63 increase in yearling Thoroughbred sales price for each additional "Black Type" horse (horses that excel in high-caliber races such as stakes or handicaps) the yearling's dam has produced. While the current study did report a positive premium, the difference is less significant compared to yearlings out of mares that are AQHA Champions themselves. Based on these findings, investors may be willing to take the chance on dams that are not yet proven producers because of the time it could take for a dam to produce an AQHA Champion.

Lansford et al. (1998) reported a significantly higher premium (68.9%) for yearlings whose first dam is or has produced an AQHA champion. The difference between the two studies may be explained by the fact that the previous study combined the dam's championship performance title and her progenies championship record.

First dam produced grade 1 stakes winner (D1PRG1SW)

Yearlings whose first dam produced a non-restricted Grade 1 (G1) stakes winner received a $9,317.65 (50.8%) premium in comparison to yearlings out of dams who have not produced a non-restricted G1 stakes winner (Table 1). Lansford et al. (1998) also found a significant (32.3%) premium for yearlings whose first dam has produced stakes winners. More so, the same study reported a 6.1% increase in yearlings whose second dam has produced stakes winners. These results suggest investors are willing to pay premiums for an accomplished female line, that includes foals excelling in the highest caliber races.

Furthermore, Commer (1991) found Thoroughbred yearlings sold at public auction received a significant premium in sales price with each additional Black Type horse out of the first or second dam. Based on the highest premium (50.8%) and the greatest marginal value ($9,317.65) observed in the present study, it would appear buyers placed the most emphasis on whether or not the first dam has produced a G1 stakes winner.

Speed index (SI)

The percent premium and marginal values for sire and dam speed index indicate the change in price that occurs with each unit increase in speed index (Table 1). Marginal values were calculated at the mean SI for the sires (SI=101) and the first dams (SI=77). These average values include sires and dams that were unraced. For every one unit increase in the sire's speed index (SIRESI) above the mean, price increased by 0.5% ($100.65). For every one unit increase in the first dam's speed index (DAM1SI) above the mean, price increased by 0.1% ($20.13). Lansford et al. (1998) reported no significant impact of sire speed index on sale price of yearling race-bred Quarter Horses. However, the previous study did find a significant increase of 0.2% ($10.90) with each additional unit increase in the dam's speed index.

Studies have shown heritability estimates for running ability (speed) range from 0.24 to 0.70 with a weighted average of 0.43 (Hintz, 1980). These results would indicate speed is moderately heritable with 43% of the variation in this trait being attributed to genetic differences. Based on these heritability estimates, combined with the significant premiums in SI demonstrated in the present study, it would appear these measures could be of economic importance. These measures of speed could also provide breeders with markers for trait selection to potentially increase speed through mating decisions.

Summary

Each year, buyers look to purchase prospective yearling racehorses with the goal of providing a return on their investment through breeding and/or racing. Producers base their breeding decisions on current market trends and making genetic improvements in order to remain competitive in the industry. The resulting premiums and marginal values placed on these price factors may assist breeders and sellers with their mating and marketing decisions.

References

American Horse Council Foundation. (2023). "Economic Impact Study of the U.S. Horse Industry."

Commer, Jr., M. (1991). "The effect of non-phenotypic data on thoroughbred prices in the mid-Atlantic market." The Professional Animal Scientist, 7:18-24. https://doi.org/10.15232/S1080-7446(15)32220-8

Heritage Place. (2019-2021). September Quarter Horse Yearling Sale. Oklahoma City, OK.

Hintz, R. (1980). "Genetics of Performance in the Horse." Journal of Animal Science, 51:582-594. https://doi.org/10.2527/jas1980.513582x

Lansford Jr., N. H., D. W. Freeman, D. R. Topliff, and O. L. Walker. (1998). "Hedonic pricing of race-bred yearling quarter horses produced by quarter horse sires and dams." Journal of Agribusiness, 16(2):169-185. https://doi.org/10.22004/ag.econ.90443

Ruidoso Downs Racetrack and Casino. (2025, January 20). The World's Richest Quarter Horse Races. https://www.raceruidoso.com/triple-crown-races

Seder, J.A., C.E Vickery, and P.M. Miller. (2003). The Relationship of Selected Two-dimensional Echocardiographic Measurements to the Racing Performance of 5431 Yearlings and 2003 Two-year-old Thoroughbred Racehorses. Journal of Equine Veterinary Science, 23(4):149-167. https://doi.org/10.1053/jevs.2003.46

Vickner, S. S. and S. I. Koch. (2001). "Hedonic pricing, information and the market for thoroughbred yearlings." Journal of Agribusiness, 19(2):173-189. https://doi.org/10.22004/ag.econ.14693

Peer Reviewed

Steven Cooper
Associate Professor, Endowed Professor

Scan the code or visit **extension.okstate.edu/fact-sheets** for more OSU Extension fact sheets.

EDUCATION EVERYWHERE FOR EVERYONE
Division of Agricultural Sciences and Natural Resources

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Director of Oklahoma Cooperative Extension Service, Oklahoma State University, Stillwater, Oklahoma. This publication is printed and issued by Oklahoma State University as authorized by the Vice President for Agricultural Programs and has been prepared and distributed at a cost of 20 cents per copy. 08 25 SB.

AFS-3936-5