

THE RELATIONSHIP BETWEEN SIZE AT YEARLING SALE, SALE PRICE AND FUTURE RACING PERFORMANCE IN KENTUCKY THOROUGHBREDS

C.G. Brown-Douglas^A, J.D. Pagan^A, A. Koch^B, S. Caddel^B and P.J. Huntington^C

^A Kentucky Equine Research, Versailles, Kentucky, USA

^B Hallway Feeds, Lexington, Kentucky, USA

^C Kentucky Equine Research, Brighton, Vic, Australia

Thousands of Thoroughbred yearlings are sold at public auction every year, but many will never achieve success on the racecourse. Buyers of Thoroughbred yearlings must rely on subjective methods including analysis of pedigree and conformation rather than performance history, to select future athletes. Selling price of Thoroughbred yearlings at public auction is influenced by body size, as yearlings that sold higher than the median of the session in which they were sold tended to be heavier and taller than yearlings which sold below the session median (1). Recent work has shown relationships between yearling size and future racing performance (2). Yearlings that weighed in the lowest 25% of the population had lower earnings and fewer stakes winners than the rest of the population. Yearlings below the 50th weight and height percentiles were more likely to start as two-year-olds and had more career starts than those above the 50th percentile. This study examined body size and selling price of 1040 Thoroughbred yearlings and compared these with results from a study of yearling size and future racing performance (2). Growth measurements were converted into percentiles and quartiles for analysis.

Yearlings that sold above their session median were heavier and taller (had higher weight and height percentiles) than those that sold below the median (weight 56.61 ± 1.34 vs. 53.47 ± 1.34 , $p < 0.05$ and height 53.64 ± 1.38 vs. 50.88 ± 1.38 , $p = 0.1$). Of the 1040 yearlings, 211 (20.3%) were listed as RNA (reserve price not achieved). Sold yearlings were heavier and taller than those listed as RNA (weight 55.04 ± 0.95 vs. 50.80 ± 1.88 , $p < 0.05$ and height 52.26 ± 0.98 vs. 48.68 ± 1.94 , $p = 0.1$). Fewer yearlings in the lowest weight quartile (percentiles 0-25) were sold compared with the highest weight quartile (percentiles 76-100) (34% vs. 44%, respectively). Of yearlings that sold, 44% in the lowest weight quartile sold below the session median compared with 38% in the highest weight quartile, indicating that lighter-weight yearlings did not sell as well.

Median sale price increased with each body weight quartile (Table 1). Sire index (a measure of pedigree) increased with weight quartile (2) indicating sales price is correlated with pedigree. Yearlings in the second, third and fourth weight quartiles had the most stakes winners and greatest career earnings (2), suggesting yearling sales prices may predict career success. In addition, the tallest yearlings in the 4th height quartile sold for less than those in the 3rd height quartile, but earlier work has reported that the tallest yearlings had a higher percentage of stakes winners and greater career earnings (2). Yearlings that are the best value for price are in the 2nd weight quartile (percentiles 26-50) and the 4th height quartile (percentiles 76-100), as they not only out-perform their pedigrees, but also out-perform their sales price.

Table 1. Median sale price of yearlings compared with average sire index (data from another study (2)), percent stakes winners and median career earnings; letters indicate sig differences within factor ($p < 0.05$).

Yearling weight quartile	1	2	3	4
Median Sale price (\$)	\$21,500	\$30,000	\$40,000	\$50,000
Sire index	2.09 ± 0.03^a	2.16 ± 0.03^a	2.33 ± 0.03^b	2.45 ± 0.03^c
Stakes winners (%)	4.64 ^a	8.68 ^b	8.44 ^b	8.26 ^b
Median career earnings (\$)	\$13,795	\$17,058	\$19,050	\$18,081

1. Pagan JD, Koch A, Caddel S, and Nash D. (2005). *Proc ESS Sym* 19:224-225

2. Brown-Douglas CG, Pagan JD, and Stromberg AJ. (2006). *Proc KER Nutr Conf* 15:125-139