BODY WEIGHT AND GROWTH RATES IN AUSTRALIAN THOROUGHBREDS COMPARED WITH THOROUGHBREDS IN KENTUCKY, ENGLAND, NEW ZEALAND AND INDIA

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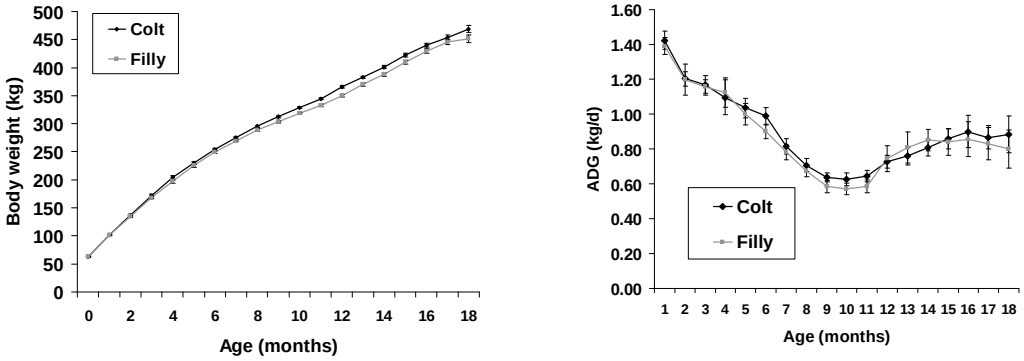
Past studies on the growth of Throughbreds have been limited to small populations located primarily in the northern hemisphere. There are much less data available on southern hemisphere populations and no published Australian growth curve. Furthermore, there has been no detailed comparison made between the growth patterns of Thoroughbreds in different countries. Growth characteristics including body weight, height and average daily gain (ADG) were measured between birth and 18 months of age in Thoroughbred horses born and raised on commercial stud farms in Australia (n=2653), New Zealand (n=925), Kentucky (n=6783), England (n=1233) and India (n=939) during the years 1996 to 2005.

Figures 1 and 2. Mean body weight and ADG (± 95% confidence intervals) of Australian colts and fillies



There was no difference in body weight or wither height between Australian colts and fillies between birth and 5 months of age ($p>0.05$) however, colts were heavier and taller than fillies from 6 to 18 months of age ($p<0.05$) (Figure 1). There was no difference in ADG between Australian colts and fillies throughout the study (Figure 2). Australian and Kentucky Thoroughbreds were heavier at 7 days of age than those born in New Zealand, England, and India ($p<0.05$). Indian Thoroughbreds were significantly lighter than all Thoroughbred populations throughout the study ($P<0.05$) (Table 1).

Table 1. Mean body weight of Thoroughbreds separated by country (± 95% confidence interval). Differing superscripts within columns indicate significant differences (p<0.05) (Tukey-Kramer test).

	7 days	1 month	6 months	12 months	18 months
Kentucky	64.39 ± 0.61^{a}	100.20 ± 0.65^{a}	250.87 ± 0.94^{a}	353.79 ± 1.38^{a}	453.66 ± 2.46^{a}
Australia	63.55 ± 0.67^{ab}	101.80 ± 0.94^{a}	251.40 ± 1.57^{a}	357.42 ± 1.64^{a}	456.34 ± 4.63^{a}
New Zealand	60.68 ± 1.48^{b}	103.74 ± 2.99^{a}	248.43 ± 2.10^{a}	356.86 ± 3.34^{a}	458.81 ± 4.52^{a}
England	58.13 ± 1.03^{c}	95.87 ± 1.93^{b}	251.49 ± 3.00^{a}	353.78 ± 3.91^{a}	450.49 ± 8.67^{a}
India	55.46 ± 0.60^{d}	90.54 ± 0.90^{c}	224.68 ± 1.26^{b}	325.95 ± 1.75^{b}	408.47 ± 2.29^{b}

Body weight did not differ between Australian, New Zealand, and Kentucky Thoroughbreds between 1 month and 18 months ($p>0.05$) however, Australian and New Zealand Thoroughbreds tended to be heavier than the other populations between 12 and 18 months. This is most likely a reflection of differences in management of yearlings prepared for sale. Australian and New Zealand yearlings tend to be presented at sale in a well rounded and often greater body condition compared with northern hemisphere yearlings which are sold leaner, more athletic and fit. However, this trend is changing as the industry realises the potential developmental problems associated with over-conditioned yearlings.