

GROWTH STUDIES WITH ROSEWORTHY QUARTER HORSES

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There has been a recent upsurge of interest in horses as evidenced by the demand for tertiary courses in horse husbandry. Growth and development of horses is an important aspect of horse husbandry and despite reports on this subject from overseas with Quarter Horses (Cunningham and Fowler 1961) and other breeds (Hintz *et al.* 1979), there is a lack of information under Australian conditions.

The aim of this study was to obtain examples of growth and development at Roseworthy (average annual rainfall 430mm) as a guide to normal growth patterns of horses reared on horse enterprises in South Australia.

Growth was assessed from the live weights of three donated Quarter Horse fillies and a gelding which were weighed at six monthly intervals from birth to mature live weight at 60 months of age. Rate of development of live weight as defined by Hintz *et al.* (1969) was live weight at a particular age expressed as a percentage of live weight at maturity. The animals grazed pastures containing Wimmera ryegrass (*Lolium rigidum*) and barrel medic (*Medicago tribuloides*) and were supplemented daily with oaten grain and hay produced on the property.

TABLE 1 Growth of horses from birth to 60 months of age

Age months	0	6	12	18	24	30	36	42	48	54	60
Mean live weight kg	44	229	336	431	486	499	511	510	507	535	541
± SE	-	7.5	13.7	15.4	19.9	16.6	14.1	17.9	16.1	24.1	16.6
Range	-	33	60	70	80	70	60	85	70	110	75

As shown in Table 1 the foals made their most rapid liveweight gain in the first six months after birth (185kg). From six to 12 months they increased less rapidly (107kg), then 95kg from 12 to 18 months and 55kg from 18 to 24 months. In the period from 30 months to alive weight of 541kg at 60 months, there were periods of slight live weight loss associated with riding classes. The development of live weight was such that 42%, 62% and 80% of 60 months weight was attained at 6, 12, 18 months of age. Studies with large numbers of Quarter Horses in Louisiana (Cunningham and Fowler 1961) showed that 44%, 63% and 78% of 60 month weight of 532kg was realised at 6, 12, 18 months and results with Thoroughbreds in Ontario (Hintz *et al.* 1979) indicated that 46%, 67% and 80% of mature weight was reached at 6, 12, 18 months of age.

Although the examples of growth at Roseworthy are based on limited data they do suggest that the feeding programme was able to provide for the development of live weight at a rate comparable with large numbers of horses in North America. The Roseworthy examples provide useful information for horsemen rearing horses in South Australia but the absence of data from other horse rearing areas point to the need for further growth studies as an essential step towards the development of Australian feeding standards for horses.

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