

Nutrition and horse racing: feeding racehorses

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The provision of sufficient nutrients to meet dietary requirements is a problem in racehorse feeding. The difficulty is to supply adequate amounts of energy using feed concentrates and to maintain normal gut function through provision of roughage. In many instances horses in full work have suboptimal voluntary feed intake despite the best efforts of the trainer.

The nutrient requirements of farm animals that supply meat, wool, eggs or milk have been well described in relation to the specific end-product. However, the product of the racehorse is efficient muscular action, which is much more difficult to measure. The work output or performance of a horse is affected by a number of factors. Basic physiological mechanisms, such as muscle contraction, energy metabolism, respiration, circulation and heat dissipation, are factors that are important in the efficiency of energy generation and use. Other factors including temperament and training affect the amount of work a horse accomplishes. Similarly, environmental conditions including ambient temperature and humidity, track surface and the motivation and experience of the jockey all influence the performance of a horse. The variable influences of these factors make it difficult to accurately predict and to measure the performance of a horse under normal race conditions.

Over the last 10 to 15 years there has been increased research into the nutrition and dietetic problems associated with performance of racehorses. In this review aspects of equine metabolism during exercise are described and their influence on nutrient requirements discussed. Opportunities for meeting these requirements from dietary sources are evaluated.