1 Miniature horses and ponies

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This chapter will discuss feeding of miniature horses and ponies, two of the smallest members of the genus, species, and subspecies *Equus ferus caballus*. Both miniature horses and ponies should be fed in a similar fashion as light breeds, with the obvious exception that they are smaller and therefore require less total nutrients on a body weight basis. Many of the common feeding and husbandry practices applicable for other breeds may be applicable to both miniature and pony breeds.[1]

1.1 Miniature Horses

Although the American Miniature horse was declared a single breed in the late 1970s by the American Horse Association, many miniature horse breeders consider several distinct breeds to exist (e.g., Australian Miniature Pony, Dartmoor Pony, Falabella, Micro Mini, Miniature Toy Horse, etc.). These breeds can be traced back to royal families in Europe of the seventeenth century. Presently, these equids are used as pets, show, and service animals. Miniature horses usually live 25–35 years and are described as being less than 97 cm (38 in) in height at the withers (probably all carry some genes for dwarfism). Many non-guide miniature horses may weigh up to 90 kg, while the minis used as service animals should be less than 66 cm (26 in) in height and weigh between 24–45 kg (55–100 lb).

1.2 General Feeding of Miniature Horses

Unlike ponies, there are few controlled scientific studies on nutritional requirements of miniature horses.[1–3] Minis are considered an "easy keeper" breed and should not be overfed to prevent obesity. As with other horse breeds, energy requirements for maintenance usually can be met by feeding 1.0–1.8% of their body weight daily in dry matter derived from good quality forages or 1–2 kg of good quality dry forage daily. Miniature horses can be fed small amounts of grass or hay and concentrates or used to graze or "mow" lawns. Supplemental grain should be fed only as needed and added to the diet based upon body condition score (BCS). The principles of body condition scoring are the same for miniatures as for other breeds of horses. Miniature horses should be maintained at an ideal BCS of 5–6/9 (ribs can easily be palpated, but not seen, and there are no obvious fat deposits on the neck, shoulders, withers, or tail base). Body condition scoring should be used to determine energy intake adequacy or lack thereof.[1] When BCS falls below 5/9, caretakers should consider increasing either the quality and/or quantity of forages or slowly introducing a small amount (0.25–0.5 lb/day) of concentrate. Common mistakes made with concentrate feeding include overestimation of body weight and underestimation of concentrate offered. Both mistakes can result in obesity and possibly one of many metabolic disorders (e.g., equine metabolic syndrome, laminitis, hyperlipemia, etc.) seen in overweight miniature horses. Owners of miniature horses should be encouraged to purchase scales to actually weigh feed to avoid overfeeding. Scales used by fishermen to weigh fish are inexpensive and can be readily purchased. As for other horses, access to fresh clean water is critical to ensure adequate feed intake, minimize colic risk, and maintain overall health. The general guidelines for water, energy, protein, mineral, and vitamin requirements as a percent of diet are based upon age, growth, production status (e.g. early, mid, late gestation, or lactation), and use of miniature horses, and are similar to other breeds.[1]

Miniature horses are susceptible to many of the nutritionally related conditions seen in other breeds, but may be more prone to enteroliths[4] and hyperlipemia.[5,6]

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Caregivers should be cognizant of normal horse feeding practices and adopt well-conceived, basic feeding programs as discussed in other chapters of this text.

1.3 Pony Feeding

Ponies are horses less than 147 cm (14.2 hands or 58 in) in height at the withers. Pony breeds typically have shorter heads with broader foreheads, thicker necks, wider barrels, and shorter legs compared to other horses. Pony breeds are used as pets, show, riding, and working animals. There are many distinct breeds of ponies with varying uses that help determine proper feeding programs (e.g., carriage ponies vs hunter/jumper ponies).

Because of their size and availability, ponies have been utilized in many equine nutrition research projects. Therefore, much information is available specifically discussing pony nutrition.[7–11] Feeding practices for other light breeds are usually applicable to ponies.[1] Many pony breeds will reach 75% of their mature weight by 12 months of age, while Thoroughbred horses only reach approximately 69% of mature weight at the same age.[1] Therefore, feeding practices should be adjusted for ponies compared to other breeds because of their faster growth rate. Because most pony breeds were selected and evolved under conditions of sparse or poor quality pasture and rugged terrain, they tend to be easier to maintain than other horse breeds. With the possible exception of working, lactating, and growing ponies, most ponies will rarely require concentrates and easily become obese. Ponies are predisposed to many metabolic conditions, such as hyperlipemia and equine metabolic syndrome.[1,12,13] Increased fat supplementation with soybean oil at 10% of dry matter intake was associated with glucose intolerance in Shetland ponies.[14] Ponies appear to have a higher voluntary intake than other horse breeds.[1,11,15] In one study, ponies consumed 3.9 kg of alfalfa hay per 100 kg of body weight (3.9% of body weight in dry matter intake).[11] Caretakers should be cautious and utilize high energy feedstuffs only when necessary. When providing a concentrate or concentrates, the BCS should be continuously monitored to minimize obesity.

As for miniature horses, ponies should be fed good quality forages at 1.0–1.8% of their body weight in dry matter daily. Body condition scores should be estimated for ponies as for other breeds, with diet modifications implemented to maintain ideal body condition near 5–6/9. Ponies at maintenance (neither gaining nor losing weight) usually can survive on hay only or grass pastures, while those used for light work may require 20% of their dietary intake in the form of a concentrate. Feed should be withheld from ponies only when medically indicated and with strict observation. Prolonged periods of inadequate energy intake result in hyperlipemia, which is exacerbated by preexisting conditions such as illness, pregnancy, and/or obesity.[1]

References

1. National Research Council. Nutrient Requirements of Horses, 6th ed. National Research Council, The National Academies Press, 2007.
2. Hoyt JK, Potter GD, Greene LW, et al. Mineral balance in resting and exercised miniature horses. J Equine Vet Sci 1995;15(7):310–314.
3. Hoyt JK, Potter GD, Greene LW, et al. Copper balance in miniature horses fed varying amounts of zinc. J Equine Vet Sci 1995;15(8):357–359.
4. Cohen ND, Vontur CA, Rakestraw PC. Risk factors for enterolithiasis among horses in Texas. J Am Vet Med Assoc 2000;216:1787–1794.
5. Moore BR, Abood SK, Hinchcliff KW. Hyperlipemia in 9 miniature horses and miniature donkeys. J Vet Intern Med 1994;8(5):376–381.
6. Golenz MR, Knight DA, Yvorchuk-St Jean KE. Use of a human enteral feeding preparation for treatment of hyperlipemia and nutritional support during healing of an esophageal laceration in a miniature horse. J Am Vet Med Assoc 1992;200(7):951–953.
7. Vermorel, M; J Vernet; W Martin-Rosset. Digestive and energy utilisation of two diets by ponies and horses. Livest Prod Sci 1997;51:13–19.
8. Kane E, Baker JP, Bull LS. Utilization of corn oil supplemented diet by the pony. J Anim Sci 1979;48:1379–1384.
9. Goodson J, Tyznik WJ, Cline JH, et al. Effects of an abrupt diet change from hay to concentrate on microbial numbers and physical environment in the cecum of the pony. Appl Environ Microb 1988;54(8):1946–1950.
10. Cuddeford D, Pearson RA, Archibald RF, et al. Digestibility and gastro-intestinal transit time of diets containing different proportions of alfalfa and oat straw given to thoroughbreds, Shetland ponies, highland ponies, and donkeys. 1995; Anim Sci 61:407–417.
11. Pearson RA, Archibald RF, Muirhead RH. The effect of forage quality and level of feeding on digestibility and gastrointestinal transit time of oat straw and alfalfa given to ponies and donkeys. Brit J Nutr 2001;85:599–606.
12. Treiber K, Carter R, Gay L, et al. Inflammatory and redox status of ponies with a history of pasture-associated laminitis. Vet Immunol Immunopathol 2009;129(3–4):216–20.

13. Hughes KJ, Hodgson DR, Dart AJ. Hyperlipaemia in a 7-week-old miniature pony foal. Aust Vet J 2002;80(6):350–1.
14. Schmidt O, Deegen E, Fuhrmann H, et al. Effects of fat feeding and energy level on plasma metabolites and hormones in Shetland ponies. J Vet Med 2001;48A:39–49.
15. Argo C McG, Cox JE, Lockyear C, et al. Adaptive changes in the appetite, growth, and feeding behaviour of pony mares offered ad libitum access to a complete diet in either a pelleted or chaffbased form. Anim Scis 2002; 74:517–528.