

Feeding and Nutritional Considerations for Miniatures, Ponies, and Drafts

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Two of the smallest members of the genus, species, and subspecies *Equus ferus caballus* are Miniature Horses and ponies. Both should be fed in a similar fashion as light breeds, with the obvious exception that they are smaller and therefore require less total nutrients. Many of the common feeding and husbandry practices applicable for other light, hot, cold, or Warmblood breeds may be applicable to both miniature and pony breeds (NRC, 2007).

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 European royal families of the 17th century. Presently, these equids are used as pets, show, and service animals. Miniature breeds of horses usually live 25 to 35 years and are described as being less than 97 cm (38 in) in height at the withers. Many miniatures may weigh up to 90 kg, while the miniatures used as service animals should be less than 66 cm (26 in) and weigh between 24 and 45 kg (55 and 100 lb).

Unlike ponies, there are few controlled scientific studies on nutritional requirements of miniature horses (Hoyt et al., 1995a,b; NRC, 2007). These horses are considered easy keepers and should not be overfed. As with other horses, energy requirements for maintenance usually can be met by feeding 1 to 1.8% of their body weight daily in dry matter derived from good-quality forages or 1 to 2 kg (2.2 to 4.4 lb) of good-quality dry forage daily. This breed(s) can be fed small amounts of grass, hay, and grain or used to graze lawns. Supplemental grain should be used 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 a BCS of 5 to 6. At this weight, ribs can be easily palpated but not seen, and there are no obvious fat deposits on the neck, shoulders, withers, or at the base of the tail. Body condition scoring should be used to help determine energy intake adequacy or lack thereof (NRC, 2007). When BCS falls below 5, caretakers should consider increasing either the quality and/or quantity of forages or slowly introducing a small amount (0.12 to 0.25 kg or 0.25 to 0.5 lb) of concentrate.

Common mistakes made when feeding a concentrate 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, etc.) seen in overweight miniature horses. As with 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 (e.g., growth), production status (e.g., stage of gestation or lactation), and use of miniature horses, which is similar to other breeds (NRC, 2007).

Miniature horses may succumb to many of the nutrition-conditions seen in other breeds but may be more prone to enteroliths and hyperlipemia (Golenz et al., 1992; Moore et al., 1994; Cohen

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et al., 2000). Caregivers should be cognizant of normal horse-feeding practices and adopt well-conceived, basic feeding programs.

Ponies

Ponies are equines less than 147 cm (14.2 hands or 58 in) at the withers. Pony breeds typically have shorter heads with broader foreheads, thicker necks, wider barrels, and shorter legs as compared to other horses. These breeds are used as pet, show, riding, and working animals. There are many distinct breeds of ponies with varying uses, and these uses help determine proper feeding programs.

Because of both size and availability, ponies have been used in many equine nutrition trials. Therefore, much information is available in the scientific record specifically discussing pony nutrition (Kane et al., 1979; Goodson et al., 1988; Cuddeford et al., 1995; Vermorel et al., 1997; Pearson et al., 2001). Still, feeding practices used for nutritional support of other light breeds are usually applicable to ponies (NRC, 2007).

Many pony breeds will reach 75% of mature weight by 12 months of age, while Thoroughbred horses only reach approximately 69% of mature weight at the same age (NRC, 2007). Therefore, feeding practices should be adjusted for ponies as compared to other breeds for the faster growth rate. Because most ponies were selected for and evolved under conditions of sparse or poor-quality pasture and rugged terrain, they tend to be easier to maintain than other horses. With the possible exception of working, lactating, and growing ponies, most ponies will rarely require concentrates and easily become obese and predisposed to the development of metabolic conditions (Hughes et al., 2002; NRC, 2007; Treiber et al., 2009).

Caretakers should be cautious and utilize high-energy feedstuffs only when necessary. Fat supplementation with soybean oil at 10% of the dry matter intake is associated with glucose intolerance in Shetland ponies (Schmidt et al., 2001). When providing a concentrate or high-energy feedstuff, the BCS should be continuously monitored to minimize obesity.

Ponies appear to have a higher voluntary intake than do other horse breeds (Pearson et al., 2001; Argo et al., 2002; NRC, 2007). In one study, ponies consumed 3.9 kg (8.6 lb) of alfalfa hay per 100 kg (220 lb) of body weight (Pearson et al., 2001).

As with miniature horses, ponies should be fed good-quality forages at 1 to 1.8% of their body weight in dry matter daily. Body condition scores should be estimated for ponies as done for other breeds, with diet modifications implemented to maintain body condition score near 5 or 6 (1 to 9 scale). Mature, idle ponies usually can survive on only hay or grass pastures, while those used for light work may require 20% of their intake in the form of a concentrate. Feed should be withheld from ponies only under conditions of strict observation. Prolonged periods of inadequate energy intake result in hyperlipemia, with this condition exacerbated by preexisting conditions, pregnancy, or obesity (NRC, 2007).

Draft Horses

Draft horses are traditionally thought of as working animals or beasts of burden. Presently, these animals are still used as working animals and are also maintained for trail riding, cart pulling, showing, and other recreational uses.

There are approximately 30 breeds of draft horses found in the world today. These large horses (550 to 1,180 kg or 1,400 to 2,600 lb) are utilized in farming and logging industries, blood/plasma donation for veterinary use, biological and pharmaceutical production, advertising campaigns, and as carriage horses, show horses, and pets. Of the most popular breeds of draft horses used in the

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United States, the Belgians, Clydesdales, Percherons, and Shires all originated in Western Europe. In order to haul sizable loads, these breeds were selected for their overall tall stature, heavy bone/frame structure, muscular hindquarters, and calm temperament.

Traditionally, these large working animals were thought to have a similar nutrient metabolism to ponies, so caregivers have historically fed them as if they require slightly less feed per kilogram of body weight than light breeds. The most recent NRC suggested that idle, mature, healthy draft horses could subsist on 30.3 kcal of digestible energy (DE)/kg of body weight daily (2007). This energy requirement is slightly lower than the 33.3 kcal/kg of body weight daily recommended for light horse breeds. Obviously, during work, growth, lactation, or other periods of increased energy expenditure, the requirements would be greater. The total energy requirement would be greater for draft horses (700 kg body weight or more) than for light horse breeds (Thoroughbreds, Quarter Horses, etc.), as these breeds may weigh substantially less (425-480 kg). Mature draft horses should be fed a minimum of 1.5% of their body weight in roughage daily, with a total intake between 1.5% and 3.0% of their body weight daily. Still, these breeds can be fed by using many of the general guidelines applicable to lighter breeds of horses (NRC, 2007). Good-quality grass/legume mixed pastures or hay will usually suffice for idle horses. The caregiver should always be cognizant of plant growth and carbohydrate concentrations in the forage, as with any breed of horse, to minimize the risk of colic and laminitis.

Feeding to attain a body condition score (BCS) of 5 to 6 is optimal in most circumstances. The energy density of the diet and/or use of supplemental high-energy feedstuffs (e.g., concentrates) should be adjusted to support growth, production, lactation, late gestation, work, and other instances of increased energy use with the goal of maintaining a BCS between 5 and 6. Total energy required will depend on the type of work, duration of work, and weight of loads or amount of force exerted to perform the work. Again, body condition should be used to adjust energy intake to meet demands and maintain moderate BCS.

Unfortunately, draft horses may be prone to polysaccharide storage myopathy (PSSM), equine metabolic syndrome (EMS), and other diet-related conditions (Valentine et al., 1997; Valentine et al., 2001; NRC, 2007). Thus, the supplementation of diets high in carbohydrates should be done with extreme caution and only when necessary. Overall, these breeds seem less prone to metabolic bone diseases (Stromberg, 1979; Riley et al., 1998; NRC, 2007). Of the draft horses, Clydesdales and Percherons appear to be the most affected with metabolic bone diseases (Riley et al., 1998). The caregiver is cautioned to apply feeding practices that minimize these conditions.

The large size of draft horses presents other management issues that directly affect feeding. Veterinarians have observed more catastrophic outcomes when draft horses develop laminitis and more difficulty tolerating heat stress when obese, as compared to lighter breeds. The caregiver should strive to maintain a BCS of 5 or 6 and carefully monitor obese animals, particularly in times of stress or when laminitis is a concern. Due to their impressive body weight, draft horses sometimes require up to 24 gallons (91 liters) of fresh, clean water daily. Dehydration may result if caregivers are unable to meet these extreme demands, which increases the risk of developing impactions and other potentially life-threatening conditions.

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