

Camelid Wellness



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KEYWORDS

- New World camelid • Nutrition • Feeding plans • Shelter • Acclimation
- Body condition scoring • Enrichment • Desensitizing

KEY POINTS

- Camelid feeding management for optimal health and performance is integral to individual and herd health.
- Basic shelter from storms and inclement weather should always be provided for camelids.
- Finding the right balance in feeding camelids is critical to their health and performance, and maintaining a camelid within the ideal weight range can be managed with proper attention to nutrition and exercise.
- Camelids are shy by nature and have not been selected over their 6000 years of domestication for close contact with humans.

DIET AND NUTRITION CONSIDERATIONS

New World camelids (NWCs) are represented by 4 species: alpaca, guanaco, llama, and vicuna. The alpaca and llama are the domesticated NWC species and are the focus of this article. Although frequently classified among ruminant species, camelids are not true ruminants because they have 3 distinct stomach compartments (C-1, C-2, C-3) as opposed to the 4 distinct stomach compartments of ruminants.^{1,2} However, the expanded first compartment is similar in many ways to the rumen because it is the location where the microbial fermentation of feed occurs and provides for remastication, or cud chewing.² As with ruminants, dietary considerations concern not only the health of the overall animal but also the health of the microbes in the first stomach compartment.^{3,4} In the South American Andes, NWCs survive in the harsh environment by foraging on grasses, legumes, and forbs, and browsing on woody species, including the leaves, buds, and twigs,⁵ depending on what is available to them. This behavior holds true wherever they are found.

Camelid feeding management for optimal health and performance is integral to individual and herd health. The selection of feedstuffs to meet camelid nutritional needs should

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be based on the geography of their location, its abundances and deficiencies, as well as the management of the herd (free choice grazing vs dry lot). Each animal, and its health status, including age and intended purpose, dictates the specific nutritional requirements of that individual.⁶

A proper feeding regimen for NWC should always include a sustainable forage source, clean fresh water, and proper vitamins and minerals. Additional supplementation may be required to balance the diet or to address individual animal health conditions, as discussed later.

Forage nutritional profile measures include protein, carbohydrate, and fat content, as well as certain significant minerals (eg, calcium, phosphorus, potassium and magnesium). Hays and pastures are analyzed for nutritional components such as crude protein (CP), total digestible nutrients (TDN; a measure of energy), neutral detergent fiber (a measure of digestible fiber), and acid detergent fiber (a measure of indigestible fiber). CP and TDN are some of the most commonly used measures to determine feed quality. As found in North American hays and pastures, the estimated NWC requirements of CP and TDN are 8% to 14% and 50% to 70%, respectively. The lower values address the nutrient requirements for maintenance and the higher values are appropriate for early growth or lactation in camelids.⁵

It is typically advised to separate animals into like groups and feed them based on their individual needs, to ensure that each animal receives the proper amount and quality of nutrients. Examples of different living and feeding groups include breeding males, pregnant females, lactating females, nonreproductive females and geldings, and crias/weanlings. Also consider that weaker, thinner animals may be driven away from the food, whereas the stronger, more dominant animals may receive more than what is required for them. The following list provides a feeding approach based on certain animal groups and their specific nutrient needs. CP and TDN are frequently noted and discussed because they are often easily measured feed components from which to determine feed composition and quality.⁷ They are not the only considerations, but do provide a guide from which to begin to build an appropriate diet.

ANIMAL GROUPS AND SUGGESTED FEEDING PLANS

- Lactation⁶
 - Nursing dam with cria: highest nutrient needs; high-quality forage plus supplementation, including minerals and vitamins as appropriate
 - From 12% to 14% CP, 60% to 70% TDN
- Growth⁶
 - Weanlings up to 1.5 years: highest nutrient needs; high-quality forage plus supplementation, including minerals and vitamins as appropriate
 - From 14% to 16% CP, 55% to 65% TDN
- Maintenance⁶
 - Males older than 1 year: low nutrient needs, unless working/actively breeding (adjust accordingly); low-quality to moderate-quality forage
 - Pregnant females in months 1 to 8: low nutrient needs, maintain body condition; low-quality to moderate-quality forage plus protein, minerals, and vitamins as appropriate
 - Breeding females: low nutrient needs, maintain body condition (not overweight or loss of proper condition); low-quality to moderate-quality forage, minerals and vitamins as appropriate
 - From 8% to 10% CP, 50% to 55% TDN (up to 60% TDN for breeding males)

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