FEEDS AND FEEDING OF DROMEDARY CAMELS: A REVIEW

Lokesh Gupta
Department of Animal Production Rajasthan College of Agriculture
Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan 313001, India

ABSTRACT
Camels are remarkable animals that have evolved with a ruminant like digestive system to enable them to survive on low quality feeds. Being browsers, camels are able to select high quality diets, which they can efficiently digest. Camels are pseudo-ruminants, with a simple chambered fore-stomach, and are unlike the four chambered stomach found in cattle and sheep. Nevertheless, camels can digest high fibre feeds via fermentation pathways similar to those in true ruminants. The camel can survive on all sorts of vegetation including shrubs, weeds, grasses, tree leaves etc. and maintains their body condition. But camel usually prefers to browse (feeding tree leaves and twigs) rather than to graze particularly when green grasses are available. The crude protein content of grasses ranges from 5.9 to 10.2% except blue panic (Panicum antidotale) which had 15.6% CP contents. The dromedary camels spend 6-12 hours grazing daily under natural range conditions and plant matter intake varies from 5 to 55 kg/d depending on the season and feed availability. The camels have lower energy requirements than ruminants, and have evolved an efficient mechanism for nutrient recycling. Vitamins are included in feed supplement of livestock and poultry but in most of camel farming systems, only vitamins present in the natural diet are available for the animals. The mineral deficiencies which are widely present in domestic species notably may occur in camel both for major or minor elements. In general, the camels under rangelands feeding systems are not fed sufficiently to meet their nutrient requirements for pregnancy, lactation and growth, therefore dromedary camels should be supplemented with concentrate mixture during physiological conditions.

Key words: Dromedary camels, feeds, feeding, nutrient requirements

Camels (Camelus dromedarius) are reared by nomadic pastoralists mostly in marginal eco-zones of semi-desert lands in India and world. However, these systems are undergoing rapid adaptive changes and transformations to cope with emerging demographic and economic factors (Hashi, 1991). The methods of camel keeping are now fast changing due to the shrinkage of natural grazing land as a result of the establishment of mechanised irrigated or rain-fed agricultural schemes in parts of the natural camel range lands as well as the very severe and historical drought that hit several camel producing countries. The long run impact of natural disasters had aggravated the situation and forced many camel herders to start settling even nearby cities (Abbas and Omer, 2005). With its unique bio-physiological characteristics, the camel has become an icon of adaptation to challenging ways of living in arid and semi-arid regions because of their unique features of adaptability, survivability and draught performance under adverse climatic conditions (Nagpal and Jabbar, 2005). Thus, camels have a vital role in the subsistence economy of large sectors of rural pastoral communities. Camels are good source of draught, milk and they constitute the most important source of meat in arid areas (Knoess, 1977 and Farah et al, 1992).

Moreover, to keep pace with the alarming nutritional crisis, to make the ration economic for sustainable camel production, lot of research has been carried out in India and abroad to formulate rations for camels using conventional and non-conventional feed resources. In the current review, an attempt has been made to present a comparative account of different aspects of camel nutrition for sustainable production.

Digestive Behaviour of Dromedary Camels

Digestive System: In spite of the fact that the camel ruminates, its ingested feeds are subject to microbial digestion and the final metabolic products are similar to those as in true ruminants, it is classified as pseudo-ruminant, but this classification is mainly due to the significant differences in the structure and function of the digestive system of camelids (Tylopods) and the true ruminants (Bhattacharya, 1986).