



Camel: Gladiator of The Desert

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Abstract

Camel belongs to ungulata order of class Mammalia. It is mainly adopted to arid and semi-arid climate of deserts. Dromedarius camel and Bactrian camel are two major species of camels in the world. India has 25 lakhs camel with 9 distinct breeds which are mostly found in desert land of Rajasthan and Gujarat. Being popular as “Ship of dessert” camels also ensures food safety in terms of milk and meat. Camel milk is not only a source of vitamins, protein and fat but also have some medicinal

Keywords: Camel, Camel breeds, Camel milk

Introduction

Camel is an even-toed ungulate in the genus *Camelus* with unique fatty deposits on its back known as "humps". Camels are working animals that are well-suited to their desert environment and are an important mode of transportation for both persons and cargo. There are three living camel species. The one-humped dromedary accounts for 94 percent of the world's camel population, while the two-humped Bactrian camel accounts for 6 percent. The Arabian camel (*Camelus dromedarius*) has one back hump, whereas the farmed Bactrian camel (*Camelus bactrianus*) and the wild Bactrian camel (*Camelus ferus*) have two. Camels do not use hooves for walking. Weight is carried on two enormous toes on each leg, which stretch apart to prevent the animal from sinking into

the sand. Camels were domesticated around 3000-2000 BCE in Arabia, and the Bactrian camel by 4000 BCE in Central Asian steppes (Herbison and Frame, 2022).

The majority of today's 13 million domesticated dromedaries and 97 domesticated breeds are found in India and the Horn of Africa. India is near the eastern edge of the one-humped camel's range (*Camelus Dromedarius*). The total Camel population in India is 0.25 million during 2019. Camel populations do not thrive east of the Aravalli Hills because they have adapted to dry environments. As a result, In India, they are found only in Rajasthan (home to about 80% of the camel population), Gujarat, and Haryana. Although camels can be observed in other states on occasion,

but breeding is limited to Rajasthan and Gujarat (Köhler-Rollefson, 2018).

Breeds and census of camel

The National Bureau of Animal Genetic Resources has registered nine camel breeds, five of which originated in Rajasthan (Bikaneri, Jaisalmeri, Jalori, Marwari, and Mewari), two (Kutchi and Kharai) in Gujarat, one (Malvi) in Madhya Pradesh, and the Mewati breed in both Rajasthan and Haryana. The Nubra valley of Ladakh also has a small population of double-humped camels. Kharai is a breed that is native to the coastal portions of Gujarat's Kutch region and is well-known for its swimming skills (NBAGR, 2021).

In Rajasthan the camel is most strongly identified with the Raika/Rebari community. Historically, the Raikas followed various taboos when it came to camels, such as never slaughtering or eating their meat, and never selling milk, wool, or female camels. Traditionally, they could only sell male camels once a year during the Pushkar, Nagaur, and Tilwara animal fairs. The 19th Livestock Census, conducted in October 2012, found that the Indian camel population has declined by 22.48 percent since 2007, with only 2.13 lakh camels left in Rajasthan, in response, the cabinet designated the camel the state animal of Rajasthan on June 30, 2014.

Breeding and management

In camel breeding and administration female camels and their offspring make up the majority of breeding herds, with only one male camel necessary for breeding. The management strategy varies depending on area and rainfall. Breeding occurs during the winter season (from Diwali to Holi). The male camel's rut at this time of year, and the baby camels are born. The ability of a camel to save water and survive dehydration. A camel can last four to seven days without drinking in extreme heat, but it can go ten months without drinking at all if it is not

working and the forage provides enough moisture. After a long drink, the body rehydrates quickly, absorbing over 100 litres (25 gallons) in 5-10 minutes. Another adaptation is to reduce perspiration. The fine woolly coat insulates the body and helps to reduce heat gain. In the summer, camels drink about 40–50 litres of water per day. In Rajasthan camel browsing is primarily on drought-resistant desert plants and bushes, or on Aravalli hills trees during the wet season (BAHS 2019; Köhler-Rollefson, 2018).

Utilities of camel

"Ships of the desert" have long been prized as pack or saddle animals, as well as for milk, meat, wool, and hides. Camels have been domesticated for a long time, and as livestock they supply food (milk and meat) and textiles (fiber and felt from hair). Bactrian camels are capable of carry more than 200 kg (440 pounds) for 50 km (31 miles) in a day, while dromedaries may carry up to 100 kg (approximately 220 pounds) for 60 km (37 miles) if employed at night (Herbison and Frame, 2022).

Properties of camel milk

The vegetation that camels eat influences the flavor and quality of the milk they produce. Some plants, such as bordi and unt-kantalo, makes the milk sweeter, while others, such as neem, make it bitter and salty. Camel milk contains a high concentration of antioxidants, which help prevent cell damage that can lead to major diseases like cancer, diabetes, and heart disease. It also contains vitamins A, B, C, D, E, calcium, and so on. One cup of camel milk has 107 calories, 5.4 g of protein, 4.6 g of fat, 3 g of saturated fat, 11 g of carbohydrates, and 8 g of suga (Farah, 1993; Jilo and Tegegne, 2016; Yadav et al., 2015).

Camel milk is nature's closest match to human mother's milk. It has a number of health benefits, including protection against milk allergies, reduction in diabetes risk as it improves diabetes

symptoms by controlling blood sugar levels, lowering fasting blood sugar, lowering cholesterol and reducing insulin resistance. Camel milk contains compounds that appear to fight a variety of pathogens. Lactoferrin and immunoglobulins are the two main active components in camel milk, proteins that may provide camel milk its immune-boosting effects. (Ho et al., 2021; Jilo and Tegegne, 2016; Mirmiran et al., 2017; Yadav et al., 2015)

Although camel milk may treat neurodegenerative disorders such as Parkinson's and Alzheimer's. Camel milk is fairly versatile and can be substituted for other types of milk in most situations. It is, however, difficult to convert into cheese, yoghurt, and butter. As a result, these products are hard to come by. Though it has many advantages, camel milk has certain disadvantages. Camel milk is more expensive than other forms of milk because demand in most Western countries outweighs supply. Because raw milk is frequently sold, it bears a significant risk of dangerous germs. Additionally, some customers have ethical concerns. We may conclude that camel milk plays an essential role in the treatment of many major diseases in many regions of the world due to its high concentration of bioactive chemicals.

Conclusion

Camels play a vital role in human life, particularly in arid places, due to their versatile nature and remarkable ability to adapt to severe situations. The camel is unique among domesticated mammals because it is well suited to the harsh desert environment. It is a versatile animal that is utilized for dairy production, racing, and transportation. Camel milk has long been a staple of nomadic diets. In more developed countries, it has recently acquired popularity as a health food. According to research, those with lactose intolerance and cow's milk allergies tolerate camel milk better. It may also reduce blood sugar, enhance immunity, and help with certain behavioral and

neurodevelopmental problems such as autism. Despite this, this milk is significantly more expensive than other types and is frequently unpasteurized, posing a health risk, especially in high-risk populations.

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