

Role of Camel in Food Security: A Perspective Aspect

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Abstract

The camel which was well known as ship of the desert and famous as the beast of the burden. Population pressure and intense needs has changed the concept about camel. Now the animal is playing an important role in the diversified ecosystem. Camel provides valuable food and has a peculiar role in the food chain. It has the provision of food to the people living in the harsh climate especially to the deep deserted population. It has special attributes which enable him to survive in the harsh, hostile and warm as well as cool climates where the other animals do not. It has the ability to perform and thrive well in those climates where even the survival of other livestock species is difficult. These virtues have given the animal a keen importance that it could be the future hope to bridge the prevailing food shortage for the population.

Keywords: Camel; Food; Desert; Pastorals; Ecosystem

Introduction

The virtues of camel are well extoled in Quran “Do they not look at the the camel how they are made” [1]. God gifted cow and camel to Prophet Hazrat Saleh (A.S) some 3500 BC back to drink the milk. It is said that, the desert dwellers when turned to God in complaint about the climate and lack of food, God heard their please and came to their aid; “He sent them the she camel to drink her milk and they became well” [2].

Food security has become a major issue in the world due to explosion of human population. Pakistan is 10th largest country in population and definitely challenged with food security. Exploring new resources is a big challenge. Camel is a future hope as it is an important addition to the food chain. Camel is playing an important role in the national economy and food security for some countries in the world. Camel is a future hope for dry areas and arid environments [3]. It has nourished the bedouins, nomads and pastoral people since centuries. Camel is a source of food, fiber, riding, draft power and recreation. It is a potential source for future food production especially for pastoralists and people in arid and semi-arid areas [4].

Counting the numbers

Worldwide camel population is 26 million. About 70 % camel population of Asia are in India and Pakistan. Pakistan ranks 8th in the world with 1.1 million numbers (Table 1) [5,6].

Camel attributes

Camel can utilize poor quality forages with much more efficiency, as it retains fiber in its fore stomach for long as 70 h [7]. It performs reutilization of urea from kidneys for microbial protein synthesis [8].

Country	Camel Population (million heads)
Somalia	7.2
Sudan	4.8
Kenya	3.2
Niger	1.7
Chad	1.6
Mauritania	1.5
Ethiopia	1.2
Pakistan	1.1
Mali	1

Table 1: Camel population of different countries in the world.

Camels can use water economically for almost all metabolic functions. The body temp can fluctuate between 34°C and 41°C; thereby reducing sweating [9]. It can digest dry matter and crude fiber better than other ruminants. Dehydrated camel maintains lactation with over 90% water contents in milk. It has special feet, the toes spread out to keep it from sinking into the sand. It has special nostrils which close to keep out sand during wind storms. Its fatty hump stores food and energy in the form of fat. It has aability to survive in a hot, harsh and arid environment. It can tolerate many stresses like heat, scarcity of water, water with high salinity and shortage of feed. In short camel has fascinated mankind [10].

Feeding requirements for Camels

Camels can go without food or water for as long as up to 5-7 days in the summer, 50 days in the winter. Camels don’t need water if they are supplied with moisture-rich pasture. Camels eat herbs, shrubs, grass and thorny plants which other animals could not intake.

Camel milk

Camel milk is liked due to its nutrient richness and therapeutic peculiarities [11]. It was given as a gift to the Bedouins. Reported average daily milk yield is 3-10 kg with a lactation period of 12-18 months. Camel has a longer lactation period than other dairy animals. As the pastorals reside in the deep desert so it’s an important source of food in desert ecosystem. Whenever a man needs milk, just tie its legs and after few minutes she-camel will be ready for milking. It has higher milking frequency than any other milking animal. Camel contributes up to 30% in annual caloric diet of pastoral community [10]. Camels have excellent milk production ability, capable of producing high (↑) milk per kg body weight than cattle and buffalo [12]. Camel milk has lot of richness as it has three times more vitamin C and ten times more iron contents. Vitamins and minerals are high (↑) in camel milk than cow milk. Camel milk lacks β lacto globulins which is a powerful

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allergen [13]. Camel milk contains a greater content of antimicrobial components such as lysozyme, lactoferrin and immunoglobulin than bovine milk [14].

Camel meat

Demand for camel meat appears to be increasing due to health reasons. It produces carcasses with low (\downarrow) fat (1.2-1.8% vs. 4-8%) than cattle meat and high water contents (5-8% more). It has relatively high (\uparrow) poly unsaturated fatty acids (PUFA) contents than cattle meat [15]. It is being used as remedial purposes in the treatment of many diseases like jaundice, long bone pain, arthritis, diabetes, spleen infections and liver disorders. It is also used as an aphrodisiac [16].

Conclusion

Exploding population, growing needs and emerging awareness has changed the notion "ship of the desert" to "a food security animal" regarding camel. Pakistan is not exception to this where Camel is of prime importance and playing its pivotal role in the social economy of the pastoral people and in the desert ecosystem. It can meet the milk and meat demands of pastorals, nomads and rural poor of the country. Thus it is good candidate of food security in changing climate in the desert ecosystem in diverse eco zones.

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