

## Camel Farming in Pakistan

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### Abstract

Camel has great socio economic importance all over the world. Camel is kept for milk and draught purpose. Camels are bespoke to digest poor value of forage which increases its retention time in alimentary canal. Regarding Pakistan, most of the camels (about 41%) are present in Baluchistan. In Pakistan, camels are fed dry roughages and some quantity of concentrates. Dry roughages consist of Bhoosa and tree leaves. Concentrate allowance usual consist of half to 1 kg Moth flour or Bajra or barley flour and 350 to 400 gm Gur (molasses). Camels producing milk require large amount of water and milk consist of 90% water and the main nutrient required is protein. Common diseases like wry neck, tripanosomiasis and inflammation of soft palate.

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## Introduction

Camel enjoys internationally a unique environmental as well as socio economic status. It's unaccounted for service to the human beings under cruel climatic conditions and within highly marginalized bionetwork continues since ancient times. On global basis there are about 19.5 million camels [1]. Despite growing urbanization in several countries as well as in Pakistan, the population of camel has not shown a downward drift. Beyond to the extent of this article, it might be suffice to indicate that it can milked, ridden, loaded with baggage, eaten, hammersed to plough and used for other important agricultural operations. The adaptability of camel to survive and perform in the hard arid and semiarid regions and its unique physiological system should motivate the researchers to study it more closely to further utilize its potential. In Islam camel importance is described as, Abu umer reported, the prophet of Allah said, "the allegory of one who knows the Quran by heart is as the allegory of a possessor of hobbled camel if he remains cautious, he will retain it and if he neglects, it will go away" [2].

### Purpose of camel

This animal is used for milk production. Its meat is also utilized. Mostly in Pakistan it is use for draught purpose. It is also used for medicinal purpose. Its products are used for treatment of heart patients, hepatitis, and arthritis and diabetes patients [3].

### Camel breeds

Different camel breeds are present in world which use as draught purpose, milk purpose, and meat purpose like in Pakistan breeds like Mareecha and Breela are use for draught as well as for milk purpose and these are mostly present

at camel breeding and research station Rakhmani. Some other breeds like Bagri also called Booja. Cambalpuri and Kalachita are used for draught purpose. In Punjab camel population is 22%. In Baluchistan it is 41%. In Sindh it is 30%. In KPK it is 7% [4].

### Feeding management of camels

Camels are proficient in digesting Dry Matter, Fiber and Crude Protein as compare to other ruminants and household non-ruminants. Camels are bespoke to digest poor value of forage which increases its retention time in the alimentary canal. The main approach in feeding of camels concerning diet quality is to select green parts of plants with high protein and low cellulose [5].

### Feeding dry roughage

Camels are fed dry roughages and some quantity of concentrates. Different dry roughages are used in world for camel feeding like in Pakistan roughages consist of BHOOSA (straw) and tree leaves. Bhoosa of two leguminous crops as moth and gram or moth and mung is mixed, it is called MISSA BHOOSA. Bhoosa is mixed with dried leaves of trees such as KHEJRI or JHARBERI, is very appetizing and nutritive ration for camels.

### Concentrate feeding

Concentrate is very essential to camel as it is a main energy source for them. It is essential for milk production, meat production and for draught purpose. In Pakistan concentrate allowance usually consists of ½ kg to 1kg Moth flour or Bajra or Barley flour and 350 to 400 gm Gur (Molasses). In winter, mustard or sesame oil is given for 18 to 20 days to camels that are in poor body condition. Cereal or leguminous grains should be trodden and preferably flooded in water for about 7 to 9 hours before feeding. We can use oil cakes with quantity of 1/2 to 1 kg

daily in combination with small quantities of other concentrates and Gur (molasses). Cotton seed use 1/2 to 1 kg daily trodden and flooded in water along with approximately 500 gm crushed Moth, Guar or Grams. In Pakistan, during long journeys, camels are fed about 1-1.5 kg molasses along with 25-30 gm Pink Alum [4]. Molasses is a source of energy and Alum is given to neutralize the laxative effect of molasses [6].

#### **Salt offering to camel**

Camels totally on browsing do not need extra provision of salt [7]. Working camels are fed on Bhoosa or straw and concentrates, they require about 60 to 100 g salt/head daily which is mixed with flour or trodden grains.

#### **Feeding for milk producers**

Camels producing milk require large amount of water (milk consist of 90% water) and the main nutrient required is protein [8]. Brassica crops, Berseem and Pods of numerous varieties of Beans are said to capitulate good outcome when offered to milk producing camels. High protein type of feed given at about 250-300 gm per liter of milk produced proves appropriate for milk production.

#### **Feeding for working camels**

Large amounts of energy are obligatory in camels to execute work. Feeds high in carbohydrates or energy are required for transport and draught camels. Cereals are best source of energy, their by-products and molasses are also providing energy. More luxurious high protein feeds such as oil cakes should be avoided as they are better fed to other livestock for financial reasons [4].

#### **Feeding for racing camels**

Racing camels require a extra concentrated diet. To get a better power to weight ratio, immense feeds are restricted in them. Fats could make a useful payment to the racing camel diet. The camel has been reported to abide dietary fat to the level of 3-3.5% of dry matter without compromising rumen function. Racing camels should be effusive watered daily except straight away prior to fast work and racing (3 days) [9].

#### **Standard ration combination followed in Pakistan**

Grams crushed	1.35kg
Barely	1.35kg
Misa bhoosa	8-9kg
Salt	0.15kg

#### **Suggestion for feeding of camels**

Do not abruptly feed the camel with grains if he is not inured to them because it can cause acidity or bloat problems in them. Do not starve the camel for long; this causes go-slow of cud chewing and then pain of the stomach. Do not offer grain or BHOOSA after a long fatiguing journey, especially if performed without feed and water. This may cause colic or impaction in them. A camel must not be taken for long fast riding after intense feeding, for he may develop colic or Tympany. Do not feed the camel total grains and seeds, especially barley, oats, gram, cotton etc. These should be fed after crushing and wet through in water for at least 7-9 hours.

#### **Water requirements of camel**

Water intake depends upon kind of grazing and environmental temperatures. Approximately 18-20 liters per day may be met by herbaceous plant intake. Shrubs or Bushes contain 75 to 80% water almost in all seasons. In Pakistan water is taken from any source like at old research stations it is taken from wells then put in water troughs for drinking of camels. Following schedule is followed in Pakistan to offer water to camels. Water is offered to Camels once per week in summer. In spring and autumn it is offered every 7 to 10 days. In winter it is offered every 3 to 4 weeks.

Camel may consume only 10% of the water consumed by the bovine in the same environment because camel excrete 20% less urine than bovines the other reason is there is very low fecal water loss in camels than bovines [10]. Water requirement increases with bustle of camel. Yarded camels need less water than grazing camels that may freely travel 35 to 70 km per day during browsing. Racing camels are almost regularly shorn of water 3 days earlier to competition in an attempt to improve power to weight ratio. Consideration of all the variables indicates that daily water stipend for camels should be 25 to 50 liters.

#### **Reproductive aspects of camel**

Camels are deliberate breeders with rather low reproductive rates [11]. Their reproductive mechanism is different than other animals. Their method to breed is different than other animals. During breeding season they show different behavioral signs which are unusual than other animals like rutting in them during breeding season.

**Puberty** in Camel occur at 3.5 to 4 years in both sexes, Sperm production is at low level at this

stage. Max out sperm production at 6 to 7 years [11].

### Semen Quality

Semen quality is analyzed through semen color, volume and sperm motility. Semen color is grayish-white, total volume ranges from 3 to 7 ml, Sperm concentration ranges from 255 to 440x10<sup>6</sup> per ml. Sperm Motility in untreated semen observed after 15 minutes was in range of 30 to 50% [3].

### Signs of Estrus

Sign of estrus consist of Restlessness, frequent Bleat and actively try to get close to the dominant male. The tail is raised and waved about and micturation. Foul smelling containing secretions from the vulva may be present. The vulva is relaxed and slightly engorged. Female try to find the male camel, may even sit in front of him. The strength of heat varies both individually and seasonally.

### Rut

Rut is an episodic sexual thrill of male camel. In Pakistan, December to March (Breeding Season) of camel. In this duration Androgen level increases in blood [2]. During the rutting period, the camel becomes hostile to other camels, to its trainer and can be extremely perilous. A rutting male grinds his teeth, lashes his tail, waves his head and neck, froths at the mouth and micturate, splashing urine all around. During rutting the frequency of fights among males in mixed herds is very high. After having reputable dominance, only the foremost bull, which is usually the oldest and heaviest, will display the characteristic behavior, while other males only illustrate a passive version or lose libido and go out of rut. The dominant bull radically loses condition due to loss of hunger and reduction in feed intake; at times diarrhea may escort. His abdomen is noticeably tucked up and hump gradually decreases in size.

A characteristic aspect of the rut is the outcropping of the soft palate or 'DULA', (Arabic name) present in both sexes, but more developed in male [12]. The palate is filled with air from the lungs, projects from side of mouth (mostly right side), pink to red color, balloon like structure. Gurgling sounds are attractive to the female. Rut is a period of strong sexual activity during a limited time most probably controlled by the level of testosterone.

### Common Diseases of camel Sura or Trypanosomiasis

This disease is caused by *trypanosoma evansi*. We can prevent this disease by Controlling vector which are flies named as *tobanus* and *stomoxis* [13]. For its Treatment, Any antiprotozoal drug can be used but mostly Suramine is used with the dose rate of 4mg/kg BW [14].

### Wry Neck

Twisting of the neck occur in this disease it is caused by *Capparis tomentosa* [13] and maybe also by other plant poisoning it can also result from fighting or other physical trauma. For its Prevention adequate minerals should be given with diet for proper nerve function. For its Treatment give multivitamin injection especially vitamin B complex to stimulate nerve regeneration [14]. For this purpose nurobion or neurocolene is used as perfect nerve tonic which boost up nerve cell syntheses.

### Inflammation of the Soft Palate

The camel is capable of protruding its soft palate beyond the lips. This balloon-like structure may sometimes be traumatized by sharp objects or during fighting, and infections may result. Clinical sign for this disease are the throat of affected animals becomes swollen. Camel may be unable to swallow. For its treatment Non steroidal anti inflammatory drugs are commonly used [14].

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