

Reproductive Characters in Camels

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Introduction

Camels have peculiar reproductive characters when compared to bovines and equines. Camels are multipurpose livestock species uniquely adapted to harsh arid and semi-arid areas that can be used for meat, milk, wool, and hide production and transportation. In desert areas, they serve both as a food source and as a medium of transport (Ship of the Desert).

Characteristics of Camel Reproduction:

- Both Male and female camels are seasonal breeders

Breeding season for Males:

In India, Mid-September to mid- February (Sharma et.al., 1981) November to February (Singh et.al., 1964)

October to March (Rai et.al., 1988)

Breeding season for Females:

In India, Mid-September to February (Sharma et.al., 1981)

- Males exhibit rutting behavior in breeding season or rutting period, like estrus behavior in females though the behavior is different from females and unique to males



Rutting Behavior in Males:

1. Aggressive
2. Loss of Appetite and kicks
3. Protrudes the dulla outside of the mouth, and accompanied by frequent gargling sounds. Grinds its teeth and large quantities of foam can be seen in the oral cleft.
4. The hind legs are spread, and the tail is then beaten against the penis.
5. Drops of urine are deposited on the tail and spread over the back.
6. A dark foul-smelling substance is secreted from the poll glands

Estrus Behavior in Females:

1. Mounting other females
2. Restlessness
3. Frequent urination
4. Swelling of the vulva with a very scanty mucus discharge
5. Receptivity to the male
6. Moves her tail up and down in rapid succession
7. Seeks male and stands besides male

The length of the estrus cycle is normally 2-3 weeks. The actual heat lasts for 3-4 days.

- Asymmetry in the length and size of horns in a non-gravid uterus, right horn 6-10 cm, left horn 8-15 cm.
- Most importantly camels are induced ovulators, ovulation occurs 30-48 hrs after mating.
- Oviducts are characterized by the presence of Protuberant papilla at utero-tubal junction, 3-5mm in height, which is very muscular and presents a sphincter muscle at its apex, function is unknown but might play important role in selective transport of embryos from oviduct to uterus.

Mating:

- The female sits down and keeps the external genitalia open thus allowing the male to copulate.
- The whole sexual act takes about 5-20 minutes and is accompanied by gurgling and frothing by male and bleating by the females.



Pregnancy:

- The period of gestation is from 365 to 410 days (average 370 days).
- In camel, 99% of pregnancy occurs in left uterine horn.

Diagnosis of pregnancy:

1. Bedouin method:

On the fourteenth day of post service, the she-camel will be brought to the bull-camel again. If she refuses to kneel and raise the tail and coil. This would be a strong indication of pregnancy. However, this response has been noted in unmated animals treated with exogenous progesterone and also in younger animals that may be alarmed by the male.

2. Cervical mucous:

Mucous during estrus is less viscous, become whitish and scanty in early pregnancy, and difficult to collect at 2 months of pregnancy.

The pH varies between 6.74 and 7.36 during the follicular cycle in non-pregnant camels but it becomes more alkaline during early pregnancy, increasing from pH 7.05 after mating to as high as 8.2 at the beginning of the sixth week of gestation.

3. Rectal palpation:

This can be done in a sitting position or while standing in a stock. The membrane slip test, described in cattle pregnancy diagnosis, is not possible in Camelidae because of the diffuse type of placentation. Therefore, positive pregnancy diagnosis can only be achieved if the CL and fetus are palpated.

4. Ultrasonography:

Early detection of pregnancy occurs at 17 days when small amount of fluid is seen in the uterine lumen.

- The embryo can be seen at 20-21 days.
- Heart beats is seen at 22-25 days.
- Fetal parts are identified at 55 days.

5. Progesterone assay:

A level of serum progesterone of more than 1.0 ng/ml indicates the presence of CL. If this level is maintained between 12-15 days, it is more likely that the animal is pregnant.



6. Chemical test:

Cuboni test and Barium chloride test.

7. Biologic test:

Detection of gonadotrophins and vaginal cytology

Camels are good source for human food in areas where traditional livestock would not thrive and in the areas of racing sport and beauty show, a good racing or beauty camel in the Gulf area could fetch as three to four million dollars. This signifies their importance and need for detailed study of their reproduction.

References

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