

Reproduction in Buffalo

- There are two distinct types of domestic buffalo, which named according to whether they wallow in stagnant water (**swamp buffalo**) or in running water (**river buffalo**).
- The swamp buffalo is stocky in stature with a rounded conformation; it has a **chromosome configuration of 48**. And is mainly used for draught purposes and meat.
- The river buffalo which has **chromosome configuration of 50**. Provides milk for human consumption. River buffaloes are larger in stature than swamp buffalo, angular in shape and of shy disposition.

Female reproduction:

- The structure and location of the internal reproductive organs of the buffalo are similar to those of cattle.
The clitoris is more developed and the cervix is less conspicuous, and comprises 4-5rings of tissue.
The uterine horns are smaller and more coiled and the number of caruncles is lower than.
In cattle.
The ovaries are ovoid in shape and smaller in size, than in cattle. And are located in Pelvic cavity, caudal and lateral to the uterine horns.
The genital tract and ovaries, including developing and mature follicles (> 10 mm),and the cyclic corpus luteum (CL) can be palpated by rectal route.

Note: follicular atresia is greater in the buffalo and there are many factors controlling follicular atresia, which include;

- Age.
- Stage of reproductive cycle.
- Pregnancy.
- Lactation.
- Extra and intra ovarian hormones. Besides to nutrition.

Puberty:

- The buffalo attains puberty later than cattle.
- In the female of swamp buffalo is about 21-24 months.
- In the female of river buffalo is about 15-18 months.
- Most first pregnancies occur when the buffalo heifer weighs about 250-275 Kg.

Breeding season:

Season affects the reproductive process directly through the environmental temperature and photoperiod and indirectly through the quality and quantity of feed.

In river buffalo, decreasing day length and cooler ambient temperature, favor normal cyclic ovarian activity. Whereas long day length and high summer temperatures depress the cyclic ovarian activity. Maximum breeding activity occurs during September to January, with peak during October to November.

most of buffaloes calve during July to November.

Since swamp buffaloes are mainly distributed in parts of world with a constant, very humid tropical climate and the permanent availability of green fodder, seasonal influences on the reproduction are minimal.

Estrous cycle:

The estrous cycle averages 21 days.

Standing estrus is usually less than 24 hours.

Estrus usually commences towards late evening, with peak sexual activity during late evening to early morning.

Ovulation is spontaneous, and occurs 15-18 hours after the end of estrus.

Short estrus cycles have been recorded in river buffalo, and are associated with reduced secretory activity of the CL or premature luteolysis.

Estrus signs:

Overt signs of estrus in the buffalo are not as pronounced as in cattle.

Heterosexual behavior particularly, standing to be mounted by the bull is most reliable signs

Whereas homosexual behavior such as standing to be mounted by other females is observed only occasionally.

Signs such as **swelling of the vulva, a clear mucoïd vulvar discharge, bellowing, spontaneous milk let down, restlessness, frequent urination and raised tail** vary in occurrence and intensity from animal to animal, and in relation to standing estrus

Pregnancy:

Gestation length: the buffalo has a longer gestation than cattle.

In swamp buffalo is 320- 340 days.

In river buffalo is 305- 320 days.

Male calves are carried 1-2 days longer than female calves.

River × swamp hybrids have an intermediate gestation length of 315 days.

The incidence of right horn pregnancy is higher than the left horn, and transmigration of the embryo is very rare.

A few buffaloes show behavior signs of estrus during pregnancy.

The CL is maintained throughout gestation.