

Estrus Detection in Buffaloes at Field Level

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INTRODUCTION

The word estrus originated from Greek word “Oistros”, which means gad fly, sting, frenzy or rage to describe “period of sexual desire in female” and Heape used the term estrus for the first time. The duration of the estrous cycle in buffalo ranges from 17 to 26 days with a mean of around 21 days. The duration of estrus in buffaloes, varies between 5 and 27 h, and ovulation occurs about 24–48 h (mean 34 h) after onset of estrus, or 6–21 h (mean 14 h) after the end of estrus.

Estrus Behavior in Buffaloes: Buffaloes are considered shy or poor breeder. Buffalo are polyestrous and are capable of breeding throughout the year. However, depending on climatic conditions in India, buffaloes are generally seasonally polyestrous, expression of heat being limited to eight months of the year with peak season from October to February and remains sexually inactive from March to June. Generally in buffaloes, estrus commences towards late evening and the peak sexual activity occurs during hours of darkness.

Methods of Estrus Detection

Estrus detection still remains a challenge at field level among farmers and subsequently poor conception causes a huge impact on economic conditions of farmers. Several methods which can be used for estrus detection are following:

- External symptoms observation: Estrus behavior in buffalo is difficult to detect because of has a lower intensity of symptoms. Acceptance of the male is the most reliable estrus indicator in buffalo. The main behavioral signs in buffaloes are cervical mucus secretion, restlessness, bellowing, changes in vulvar lips appearance, inappetance, reduced milk yield and frequent voiding of small quantities of urine. However, homosexual behavior between females evident in cattle, is rare in buffaloes.

- **Bull presence:** The presence of a bull in the vicinity of the females will stimulate estrus behavior and if the bull is in approachable vicinity, then buffaloes in estrus will generally migrate towards the bull.
- **Examination by veterinarian:** The uterine horns are turgid and coiled and have marked tone during estrus which can be detected by a vet during rectal palpation.
- **Breeding Record Analysis:** record keeping has always been an impractical job for Indian farmers but nowadays awareness is increasing and various veterinary institutes help farmers in record keeping and also various schemes of the government requires online data entry of animals. By analyzing the heat breeding/ reproduction records of the individual buffalo, probable date of incoming heat can be known.
- **Close circuit television Observation:** Although CCTV in past was an expensive mean to detect the sexually active buffaloes during estrous period, but presently several Wifi cameras are available in the market which are relatively cheap and can also be connected to mobile of farmers.
- **Change in Temperature:** Rise in vaginal temperature (about 0.5-0.80C) during estrus is the main characteristic feature in many species including buffaloes and can be easily measured by farmers with help of digital thermometers available in the market.
- **Bull parading, chin ball marking device, electronic heat mount detector, KaMaR Heat Mount Detector, laboratory tests, laparoscopic technique, painting of tail, pedometer, trained dogs, use of androgenized cow and vaginal probe** are other methods which can be used but these may require special instruments, vet help or specially prepared or trained animals and therefore these tests are seldom used in the field.

CONCLUSION

Farmer's income is likely to be increased if they increases efforts to detect estrus in buffaloes.