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Popular Article

## Repeat Breeding: Incidence, Risk Factors, Diagnosis and Treatment in Buffaloes

Ravindra Jadav<sup>1</sup>, Keshav<sup>1</sup>, Birth Patel<sup>2</sup>, Anand Parikh<sup>2</sup>

<sup>1</sup>Assistant Professor, Department of Veterinary Gynaecology & Obstetrics, M. B. Veterinary College, Dungarpur, Rajasthan

<sup>2</sup>Assistant Professor, Department of Veterinary Medicine, M. B. Veterinary College, Dungarpur, Rajasthan

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Buffalo are crucial to the upkeep of a sustainable food production system. However, due in significant part to inadequate management of health, nutrition, and breeding, buffalo productivity remains low (Warriach et al., 2015). Anestrus and repeated breeding are the two main reasons of infertility in buffaloes, according to clinical examinations. Animals that exhibit continuous cyclicity and more than three or four inseminations after calving, but were unable to conceive, are classified as repeat breeders. Repeat breeding is still an issue for veterinary professionals as well as breeders. Long service periods and intercalving intervals caused by repeat breeding syndrome result in low milk and calf production, which increases the financial losses to the dairy sector.

### Incidence

The incidence of repeat breeding is low in buffaloes however in different studies the incidence varied from 0.70% to 30%. Because of seasonal suppression of fertility repeat breeding in buffaloes should be limited to the breeding season (Chandra Shekher and Purohit. 2016).

### Risk Factors

There are several important risk factors for repeat breeding in buffaloes, including including age, parity, peri-parturient disease, season, herd size, milk yield and poor fertility.

### Economic implications

Reproductive disorders such as repeat breeding can lead to economic losses in terms of reduced fertility, low life time production, longer calving interval, increased culling in buffaloes, reduced calving and additional cost on management.



## **Etiology**

Two possible causes of repeat breeding in buffaloes are early embryonic mortality and fertilization failure. It also includes external factors such as environmental stress and poor breeding management, uterine infection, precocious luteolysis, congenital anatomical defects of reproductive tract, improper ovarian function and incorrect artificial insemination. In buffaloes, ovarian cysts and irregularities in their ovulation are rare and the clinical appearance of the cysts is usually poor.

## **Diagnosis**

Rectal palpation, vaginoscopy, uterine cytology, ultrasonography and in vivo imaging method could be significant methods of diagnosis. In many places, clinicians are still limited to using palpation and vaginoscopy to diagnose the most common causes of repeat breeding. However, ultrasonography can significantly improve diagnostic accuracy, particularly when treating individual cows or buffaloes.

## **Treatment**

Nutritional deficiencies lead to the endocrine imbalances that result in delayed fertility in dairy animals due to negative energy balance. So, additional supply of protein, particularly rumen degradable protein increases fertility rate.

Antimicrobial treatments (chloramphenicol, gentamicin, enrofloxacin, tetracycline, or nitrofurantoin) could improve the reproductive indexes.

Gonadotropin-releasing hormone (GnRH) treatment was shown to increase the rate of conception in cows and buffaloes that had dominant follicles in their ovaries. PGF<sub>2</sub> $\alpha$  treatment increased the pregnancy rates in repeat breeder buffaloes and heifers with prominent corpus luteum and sufficient body condition score. When the Ovsynch protocol (GnRH-PGF<sub>2</sub> $\alpha$ -GnRH-AI) is initiated during the mid-diestrus, or days 5-12 of the estrus cycle, the conception rate often increases.

GnRH are synthetic hormones that follow the body's natural hormone gonadotropin-releasing hormone. These are injected at estrus detection and prior to insemination. Studies show that this is helpful in reducing the incidence of repeat breeding in buffaloes.

## **Conclusion**

Hormone therapy is thought to be the most effective method for treating repeat breeding condition in India. Limit the parasite burden, timely insemination, proper nutrition, appropriate care, periodic deworming and bull mating management are all part of the initial therapy phase.



## References

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