SHORT COMMUNICATION

# Incidence of Reproductive Disorders in Cattle and Buffalo under Field Conditions in Eastern Plain Zone of Uttar Pradesh

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## Abstract

This study was conducted in the Barabanki district of Uttar Pradesh on reproductive disorders in cattle and buffaloes under field conditions. The information was generated from 120 farmers, 20 farmers from each of six selected villages, who had at least one milking dairy animal at the time of the investigation. The information was generated regarding reproductive disorders of indigenous cattle, crossbred cattle, and buffalo due to improper feeding, breeding, and healthcare management practices and was analyzed to explore the incidence rate of reproductive disorders faced by dairy farmers in three categories of animals. The overall incidence rate of reproductive disorders among indigenous cattle, crossbred cattle, and buffalo in the area surveyed revealed maximum incidence in buffalo (76.05 %) and minimum in indigenous cattle (48.77 %), the crossbreds being intermediate (72.62 %). Late maturity was the major problem in indigenous cattle and anoestrus in buffalo. The incidence of repeat breeding was the highest in crossbred cattle. Dystocia, prolapse and stillbirth were more in buffaloes, while abortion, RFM, and uterine infections were more in crossbred cattle. Reproductive disorders like dystocia, prolapse, abortion and stillbirth were mostly treated by veterinarians; however, remaining reproductive disorders like anoestrus, repeat breeding, uterine infection etc. were treated by dairy farmers and quacks through their own experiences by using different type of indigenous technical knowledge. There is a need to create awareness about scientific animal husbandry practices among dairy farmers of the region studied.

**Keywords:** Buffalo, Crossbred cattle, Dairy farmer, Incidence, Indigenous cattle, Reproductive disorders.

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## Introduction

Animal husbandry and livestock production is one of the major sources of income of Indian farmers, and it has an important role in the Indian agricultural economy. The large ruminants, namely cattle and buffalo, are integral parts of the livestock sector followed by other small ruminant species. More than 70% of Indian rural people rear livestock, and a majority of them are smallholders with less than 5 dairy animals (Birthal and Jha, 2005; Ghuman and Singh, 2009). Reproductive disorders are one of the major causes of poor productive performance in smallholder dairy farms (Arthur *et al*., 1996; Dhami *et al.,* 2018[a,b]). Among the major reproductive disorders that have a direct impact on the economy of dairy farmers are abortion, dystocia, retained fetal membrane (RFM), pyometra, metritis, prolapse (uterine and vaginal), repeat breeder, anoestrus etc. (Hadush *et al*., 2013; Haile *et al*., 2014; Parmar *et al.,* 2016). The impaired function of the reproductive system results in the failure of a cow to produce a calf yearly and regularly (Arthur *et al*., 1996; Shiferaw *et al*., 2005; Lobago *et al*., 2006). Many production constraints, mainly reproductive health problems, form a bottleneck in the production process and productivity in the livestock sub-sector. Therefore, this study was planned to generate information regarding the incidence of reproductive disorders in the Barabanki district (UP) to design problem-oriented management strategies.

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## Materials and Methods

The study was conducted in three blocks, namely Trivediganj, Ram Nagar and Masauli of Barabanki district of Uttar Pradesh during the year 2017. The blocks were selected randomly

**Table 1:** Incidence of reproductive disorders in indigenous cattle, crossbred cattle and buffaloes in Barabanki district (UP)

| *Reproductive disorders* | *Incidence (%)* | | | | | |
|---|---|---|---|---|---|---|
| | *Indigenous cattle (n=162)* | | *Crossbred cattle ( n=252)* | | *Buffalo (n=309)* | |
| | *No.* | *%* | *No.* | *%* | *No.* | *%* |
| Late maturity | 14 | 8.64 | 13 | 5.16 | 20 | 6.47 |
| Anoestrus | 11 | 6.79 | 18 | 7.14 | 52 | 16.83 |
| Repeat breeding | 12 | 7.41 | 40 | 15.87 | 24 | 7.77 |
| Dystocia | 09 | 5.56 | 12 | 4.76 | 19 | 6.15 |
| Abortion | 06 | 3.70 | 23 | 9.13 | 22 | 7.12 |
| Retention of placenta | 11 | 6.79 | 26 | 10.32 | 29 | 9.39 |
| Prolapse | 08 | 4.94 | 17 | 6.75 | 26 | 8.41 |
| Uterine infections | 07 | 4.32 | 20 | 7.94 | 23 | 7.44 |
| Stillbirth | 01 | 0.62 | 14 | 5.36 | 20 | 6.47 |
| Total disorders | 79 | 48.77 | 183 | 72.62 | 235 | 76.05 |

and from each block, two villages were selected by applying simple random sampling technique. For the present study, information was generated from 120 farmers, 20 farmers from each of six selected villages, who had at least one milking dairy animal at the time of the investigation. The primary data was collected by personal interview method using a structured interview schedule. The collected data were tabulated, scored, and analyzed in the light of the objective. The incidence of various reproductive disorders among 162, 252, and 309 indigenous cattle, crossbred cattle, and buffaloes surveyed, respectively, was worked out.

The ideal age of sexual maturity for crossbred cattle, indigenous cattle, and buffaloes is 12 months, 18-22 months and 24-36 months, respectively, but under field condition age of sexual maturity was operationalized as 18-24 months, 28-40 months and 30-40 months for crossbred cattle, indigenous cattle, and buffaloes respectively. The period beyond these criteria was considered as late maturity. Similarly, the cases of anoestrus, repeat breeding (beyond 130 days postpartum), abortion, dystocia, stillbirth, retained fetal membranes (RFM, failure to expel the RFM within 12 hrs after calving), uterine infection (metritis, endometritis, pyometra) etc. were recorded, and frequency was calculated.

## Results and Discussion

The incidence of various reproductive disorders recorded in indigenous cattle, crossbred cattle, and buffaloes of the study area is shown in Table 1. A total of 414 cattle (162 indigenous and 252 crossbred) and 309 buffaloes were surveyed for reproductive disorders. Out of 162 indigenous cattle, the overall incidence of reproductive disorders was 48.77%, which included late maturity, anoestrus, repeat breeding, RFM, dystocia, prolapse, uterine infections, abortion, and stillbirth in descending order. Likewise, amongst 252 crossbred cattle, the overall incidence of reproductive disorders was 72.62%. The incidence of repeat breeding was the highest, followed by RFM, abortion, uterine infections, anoestus, prolapse, stillbirth, late maturity, and dystocia in descending order (Table 1). These findings were in agreement with the observations of Subhash Chand (2011) from the Alwar district of Rajasthan. Parmar *et al.* (2016) and Dhami *et al.* (2018[a]), however, recorded a higher frequency of infertility cases as compared to obstetrical cases presented in different camps both in cattle and buffaloes of middle Gujarat.

The data reflected that crossbred cattle were more prone to repeat breeding, abortion, RFM, stillbirth, and uterine infection as compared to indigenous cattle, while the cases of late maturity were more in indigenous cattle than crossbreds (Table 1). Parmar *et al.* (2016) recorded comparable incidence of anoestrus, but higher repeat breeding and much lower obstetrical problems in both crossbred cattle and buffaloes from the coastal belt of South Gujarat than the present findings.

Further, the overall incidence of reproductive disorders in buffaloes (n=309) was 76.05%, which was closer to that of crossbreds (72.62%), but higher than in indigenous cattle (48.77%). The incidence of anoestrus was the highest in buffaloes, while the incidence of all other reproductive disorders was more or less similar. The higher incidence of reproductive disorders in dairy animals in the research area may be either due to less awareness among the dairy farmers regarding the feeding of mineral mixture and concentrates on their animals or the deficiency of minerals in the soil of the region studied. Subhash Chand (2011) also recorded an almost similar frequency of various reproductive disorders in animals of the Alwar district in Rajasthan. Moreover, the incidence of anoestrus and repeat breeding was also comparable with reports of Butani *et al.* (2008) and Dhami *et al.* (2018[a]) in cattle and buffaloes from Gujarat. Further, Selvaraju *et al.* (2005) from Tamil Nadu and Modi *et al.* (2011), Parmar *et al.* (2016) and Dhami *et al.* (2018[b]) from different parts of Gujarat recorded more or less comparable incidence

of anestrous, repeat breeding and other kinds of reproductive disorders in cattle and/or buffaloes.

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