

INCIDENCE OF REPRODUCTIVE DISORDERS IN DEONI CATTLE

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SUMMARY

This study explores the incidence of reproductive disorders in Deoni cows, utilizing data extracted from case registers at the Department of Veterinary Gynaecology and Obstetrics, Veterinary College Bidar, covering the period from January 2018 to January 2022. The overall incidence of reproductive disorders was recorded at 17.27%. Among specific disorders, repeat breeding, retention of placenta, anoestrus, endometritis, prolapse, pyometra, dystocia, cervicitis and abortion were observed with incidences of 16.77, 8.22, 17.43, 20.72, 8.55, 1.64, 20.06, 4.27 and 2.30%, respectively. Notably, endometritis exhibited the highest incidence among all reproductive disorders. Addressing these issues requires implementing sound nutritional, hygienic and managerial practices within the herd while also raising awareness among farmers regarding the economic consequences of reproductive problems.

Keywords: Anoestrus, Dystocia, Deoni cattle, Prolapse, Reproductive Problems

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Deoni cattle, primarily found in Maharashtra and adjoining Karnataka districts, are a dual-purpose breed known for their draught capacity, heat tolerance, disease resistance and adaptability to harsh climates (Suryavamshi *et al.*, 2000). Optimal reproductive performance is crucial for cows to produce healthy calves annually. Delayed sexual maturity and extended inter-calving intervals can result in economic losses due to reduced reproductive and overall lifetime productivity (White and Nichols, 1965). Reproductive disorders such as anoestrus, metritis, repeat breeding, pyometra, retention of placenta, and cystic ovaries contribute to financial losses to dairy farmers through medical treatments, extended service periods and increased management costs (Singh *et al.*, 2011).

Noakes *et al.* (2009) reported higher rates of repeat breeding in crossbred cows (17.57%) compared to buffaloes (12.74%) and indigenous cows (8.64%). Machado *et al.* (2011) found varying incidences of clinical endometritis, metritis and retained placenta, while Khan *et al.* (2016) highlighted the incidence of anestrus, repeat breeding, retention of fetal membrane and abortion. Goutam *et al.* (2009) emphasized the importance of timely resumption of postpartum uterine functions and creating awareness about reproductive problems and modern animal husbandry practices among farmers.

Study Design and Data Collection: This study was conducted using retrospective data obtained from case registers at the Department of Veterinary Gynaecology and Obstetrics, Veterinary College Bidar, covering the period from January 2018 to January 2022. The study aimed to assess the incidence of reproductive disorders in Deoni cows during this timeframe.

Incidence Calculation: The incidence rate of reproductive disorders was calculated by dividing the number of cows affected by a particular disorder by the total cases of reproductive disorders during the study period. The formula used for calculation was:

$$\text{Incidence (\%)} = \frac{\text{Number of animals affected by a particular disorder during the period} \times 100}{\text{Total number of reproductive disorders affected cases}}$$

Data Analysis: The collected data were analyzed to determine the proportions of cows affected by various reproductive disorders. The disorders investigated included repeat breeding, retention of placenta, anoestrus, endometritis, prolapse, pyometra, dystocia, cervicitis, and abortion. The results were then presented in tables to facilitate a clear understanding of the distribution of these disorders among Deoni cows.

Out of the total 1758 cases observed during the study period, 304 were diagnosed with various reproductive disorders, revealing an overall incidence rate of 17.27%. This aligns with the significance of maintaining reproductive health in Deoni cattle, as optimal reproduction is vital for the sustained productivity of dairy herds.

Among the diverse reproductive disorders, endometritis emerged as the predominant concern, affecting 20.72% of the cases. This high incidence is consistent with the findings of previous studies (Machado *et al.*, 2011), underscoring the critical role of uterine health in successful reproduction. Endometritis often stems from predisposing factors such as abortion, dystocia and retained fetal membranes, creating a conducive environment for abnormal uterine flora to proliferate (Noakes *et al.*, 2009). These findings reinforce the need for preventive measures

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Table 1. Year wise incidence of various reproductive disorder cases in Deoni cattle during the year 2018 to 2022.

Year	2018		2019		2020		2021		2022		Total	
	No	(%)	No	(%)	No	(%)	No	(%)	No	(%)	No	(%)
Repeat Breeder	17	26.56	12	24.00	10	13.51	04	10.00	08	10.52	51	16.77
ROP	02	3.12	05	10.00	07	9.45	05	2.50	06	7.89	25	8.22
Anestrous	26	40.62	10	20.00	08	10.81	05	12.50	04	5.26	53	17.43
Endometritis	10	15.62	08	16.00	09	12.16	13	32.50	23	30.26	63	20.72
Prolapse	02	3.12	03	6.00	10	13.51	03	7.50	08	10.52	26	8.55
Pyometra	03	4.68	01	2.00	0	0.00	01	2.50	0	0.00	05	1.64
Dystocia	02	3.12	05	10.00	25	33.78	06	15.00	23	30.26	61	20.06
Cervicitis	0	0.00	05	10.00	04	5.40	03	7.50	01	1.31	13	4.27
Abortion	02	3.12	01	2.00	01	1.35	0	0.00	03	3.94	07	2.30
Total RD (%)	64	15.80	50	18.18	74	10.64	40	19.95	76	19.94	304	17.27
Total Cases Presented	405		275		321		376		381		1758	

Table 2. Incidence of various reproductive disorders in Deoni cattle during the year 2018-2022.

S. No.	Reproductive Disorder	Affected Frequency (n=304)	Percentage of affected (%)
1.	Repeat Breeder	51	16.77
2.	ROP	25	8.22
3.	Anestrous	53	17.43
4.	Endometritis	63	20.72
5.	Prolapse	26	8.55
6.	Pyometra	05	1.64
7.	Dystocia	61	20.06
8.	Cervicitis	13	4.27
9.	Abortion	07	2.30

and early intervention to mitigate the impact of endometritis on reproductive performance.

Notably, the incidence of repeat breeding was recorded at 16.77%, indicating a significant concern in Deoni cattle. This observation is in line with studies conducted by Noakes *et al.* (2009), emphasizing the need for accurate estrus detection and proper timing of artificial insemination. Furthermore, it highlights the importance of addressing potential errors in breeding techniques to reduce the economic burden associated with repeat breeding.

The incidence of dystocia, at 20.06%, aligns with similar observations made by Kakar *et al.* (1997). Dystocia is influenced by herd and management practices and can significantly impact both maternal and neonatal health. Timely assistance during calving and proper management practices are crucial for minimizing the occurrence of dystocia and its associated complications.

Anoestrus, with an incidence of 17.43%, underscores the intricate link between nutrition and reproductive performance. This finding is consistent with the work of Goutam *et al.* (2009), who emphasized the essential role of timely postpartum uterine recovery in resuming reproductive

cycles. Negative energy balance and inadequate nutrition can prolong the anovulatory period, thus affecting the overall reproductive efficiency of the herd.

CONCLUSION

In conclusion, the study reveals a comprehensive overview of the reproductive disorders prevalent in Deoni cattle. The findings highlight the importance of prioritizing measures that promote uterine health, accurate estrus detection, and proper nutrition to mitigate the economic repercussions of reproductive disorders. Effective herd management practices, combined with farmer education, can lead to improved reproductive performance and overall herd productivity.

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