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Prevalence of Postpartum Anoestrus in Cattle in Jabalpur

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ABSTRACT

The present research work was planned to study the prevalence of anoestrus in cattle in and around Jabalpur. A total of 157 cows reared under field conditions (76 from organized and 81 from unorganized) in different villages situated in Jabalpur during the period of six months (June to November 2021) were surveyed and calving and breeding history of animals provided by the dairy owners was recorded. Per-rectal examination of genitalia (cervix, uterus and ovary) was also done to know the reproductive status of the animals. The observations were recorded in a prescribed proforma. The cows with a history of not showing the signs of oestrus for 90 days or more postpartum were considered for the study of the prevalence of anoestrus. The prevalence of anoestrus in postpartum cows was 19.10 per cent (30/157). The prevalence of anoestrus in organised and unorganized dairy farm was recorded to be 15.78 and 22.22 per cent, respectively. Write a conclusion based on the findings. Good managemental practice as in organized dairy farms decrease the incidence of anoestrus in cows as compared to unorganized dairy farms.

Key words: Postpartum anestrus, Anestrus Buffaloes, Organized dairy farms, nutritional deficiency

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INTRODUCTION

The optimum production from dairy animals is dependent upon efficient reproduction and is measured by the number of offspring per breeding animal per unit of time (Dutta *et al.,* 2019). Infertility negatively affects the productivity and the return on investment of the farmers. Bovine anoestrus is one of the most prevalent reproductive disorders of dairy cows (Verma *et al.,* 2020). It results in significant economic loss due to prolonged calving intervals, reduced calf crops and short productive life (Kumar *et al.*, 2020). Anoestrus is still one of the most prevalent reproductive disorders in dairy cows despite technological advances in animal husbandry (Kumar *et al.*, 2013). True anoestrus is a kind of infertility broadly signifying a lack of oestrus expression at an expected time. More significantly it means quiescent, functionless ovaries and reproductive tract. It is commonly observed either at postpartum or fol-

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lowing service as post-service anoestrus when conception does not occur.

In general, incidence of anoestrus in India has been reported between 9.09–82.50 percent in indigenous cattle (Thakor and Patel, 2013). Anoestrus is a multifactorial problem but its occurrence signals inadequate nutrition, environmental stress, uterine pathology and improper managemental practices. The reproductive efficacy of farm animals largely depends on their nutritional status, particularly micronutrients, which are often sub-optimal in developing tropical countries (McGrath *et al.,* 2018). Keeping the above facts in the mind the proposed study was designed to study the prevalence of anoestrus in cattle in and around Jabalpur.

MATERIALS AND METHODS

The present study was conducted at Livestock Farm Adhartal (Nanaji Deshmukh Veterinary Science University, Jabalpur), Jabalpur, and organized and unorganized dairy farms in and around Jabalpur from June to November 2021.

A total of 157 postpartum cows aged between 5-8 years (2 to 4th parity), irrespective of breed, having body condition score >2.5 were selected for the present study after . These animals were checked for anoestrus on the basis of calving history, breeding records and per-rectal examination 10 days apart to confirm ovarian activity and genital status (cervix, uterus and ovaries).A survey was carried out and the cows which have not exhibited apparent clinical signs of oestrum, normal genital tract and the inactive ovaries for at least 90 days postpartum were considered as anoestrus cows. The entire information collected was recorded in a designed proforma. The results of prevalence of postpartum anoestrus in cows are expressed in percentage.

RESULTS AND DISCUSSION

The prevalence of anoestrus in postpartum cows in organized and unorganized dairy farms is shown in Table 1. The prevalence of anoestrus in cows was recorded as 19.10% (30/157). The prevalence of anoestrus in organised and unorganised dairy farms recorded to be 15.78 and 22.22%, respectively.

The incidence of anoestrus in India has been reported between 2.13–67.11 and 9.09–82.50% in indigenous cattle (Selvaraju *et al*., 2005; Thakor and Patel, 2013), respectively. Naidu and Rao (1981) and Sinha *et al*. (1987) reported an incidence of 12.37 to 64.66% in heifers. Pandit (2004) reported an incidence of anoestrus to be 53.14% in cows in Madhya Pradesh while Thakur (2018) reported an incidence of 34.40 per cent in postpartum cows in the Rewa district of Madhya Pradesh.

Table 1: Farmwise prevalence of anoestrus in postpartum cows

Dairy Farm	Cows examined (n)	Prevalence (n)
Organised	76	12 (15.78%)
Unorganised	81	18 (22.22%)
Total	157	30 (19.10%)

The prevalence of anoestrus in the present study was found to be lower as compared to the reports of Nishi *et al.* (2018) who reported the prevalence of anoestrus to be 40.20% in dairy cattle. The results of the prevalence of anoestrus in cows might have varied due to environmental conditions, nutrition, managemental practices, lactation, season, age, parity, the breed and / or geographical area.

The incidence of anoestrus was higher in unorganized (22.22%) as compared to organized (15.78%) dairy farms. This might be due to nutritional deficiency and different managemental practices in the unorganized rearing system. Moreover, in villages and unorganized dairy farms calves are not weaned after parturition thus suckling results in delayed resumption of postpartum cyclicity, probably due to the negative effect of the prolactin that is released in response to suckling (Noakes *et al.,* 2009; Kumar *et al*., 2013). Further, the postpartum anoestrus period is higher in the unorganized sector as there is a common belief among the villagers that the milk yield would be reduced; if they bred their animals during the early lactation period. Among the organized farms, the incidence of anoestrus was lower which might be due to better managemental practices including housing, feeding and breeding being followed at an organised farm.

CONCLUSIONS

It was concluded that good managemental practices in organized dairy farms decrease the incidence of anoestrus in cows as compared to unorganized dairy farms.

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CONFLICT OF INTEREST

None.

REFERENCES

Dutta, L.J., Nath, K.C., Deka, B.C., Bhuyan, D., Borah, P., Saikia, G.K. Bharali, C.A.D. (2019). Therapeutic management of true anestrous crossbred cows through nutritional and hormonal intervention. *J. Entomol. Zool.*, **7**(3): 09-12.

Kumar R., Butani, M.G., Kavani, F.S., Dhami, A.J., and Shah, R.G. (2013). Influence of hormonal and nonhormonal therapies on fertility and serum progesterone, metabolites and minerals profile in anoestrus crossbred cows. *GAU Res. J.*, **38**(2): 112-118.

Kumar, J., Srivastava, S., and Kumar, R. (2020). Effect of herbal, homeopathic and hormonal drug on hematology, ovarian cyclicity and conception rate in postpartum anoestrus cows. *Indian J. Vet. Sci. Biotechnol.*, **16**(1):17-21.

McGrath, J., Duval, S.M., Tamassia, L.F., Kindermann, M., Stemmler, R.T., de Gouvea, V.N. and Celi, P. (2018). Nutritional strategies in ruminants: A lifetime approach. *Res. Vet. Sci.*, **116**: 28-39.

Naidu, K.V. and Rao, A.R. (1981).Incidence of infertility among crossbred cattle of Andhra Pradesh. *Indian J. Anim.*, **51**: 829–831.

Nishi, S. A., Sarder, M. J., Islam, M. H., Josimuddin, M. and Sharmin, S. (2018). Managemental Factors Influencing Anestrus Problems in Dairy Cows. *J. Vaccines Vaccin.*, **9**(393): 2.

Noakes, D.E., Parkinson, T.J. and England, G.C.W. (2009). Veterinary Reproduction and Obstetrics, 9 th Edn., WB Saunders Company, London.

Selvaraju, M., Veerapandian, C., Kathiresan, D. and Chandrahasan, C. (2005).Incidence of bovine reproductive disorders. *Indian Vet. J.*, **82**: 556.

Sinha, B.P., Sinha, S.N. and Singh, B. (1987).Incidence of anoestrus in crossbred cattle in field and farm conditions. *Livest. Advisor.*, **12**: 43–48.

Thakor, D. and Patel, D. (2013). Incidence of infertility problems in cattle and buffaloes. *Dairy Cattle.*, **2**: 15-18.

Thakur, R. (2018). Comparative efficacy of different synchronization protocols for oestrus induction in postpartum anoestrus cows. M.V.Sc.& A.H. thesis (Veterinary Gynecology and Obstetrics), NanajiDeshmukh Veterinary Science University, Jabalpur.

Verma H.C., Singh R.K., Kumar R. and Diwakar R. P. (2020). Knowledge of dairy farmers and incidence rate of reproductive disorders in dairy animal under field condition in eastern plain zone of Uttar Pradesh, India. *J. Entomol. Zool*, **8**(2): 1352-1356.