International Archive of Applied Sciences and Technology
Int. Arch. App. Sci. Technol; Vol 10 [4] December 2019 : 154-157
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[ISO9001: 2008 Certified Organization]
www.soeagra.com/iaast.html

IAAST
ONLINE ISSN 2277- 1565
PRINT ISSN 0976 - 4828

CODEN: IAASCA ORIGINAL ARTICLE

DOI: .10.15515/iaast.0976-4828.10.4.154157

Incidences of Repeat-Breeding at Organized Dairy Farms in Cattle

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ABSTRACT
The present study was carried out at organized Dairy farms at Ranchi. A total of 144 cows were selected .The highest incidence of repeat breeding (23.52%) was recorded during the month of February and the lowest (11.90%) during the month of June. The overall incidence of repeat breeding out of total number of 483 cases examined was 16.82 percent.The highest incidence of repeat breeding was observed during monsoon (23.80%) and lowest during summer (13.63%) season.The highest incidence of (42.85%) was observed in first calvers.
Key words: *Incidences, Repeatbreeding ,Cattle , infertility and Season*

Received 20.04.2019 Revised 21.05.2019 Accepted 03.06.2019

CITATION OF THIS ARTICLE
Dinesh Mahto and M.P. Sinha. Incidences of Repeat- Breeding at Organized Dairy Farms in Cattle.. Int. Arch. App. Sci. Technol; Vol 10 [4] December 2019 : 154-157

INTRODUCTION

The success of dairy cattle economics lies in ensuring proper and optimal reproductiverhythm of each individual female in the hard within the normal physiological limits. Any deviation in breeding rhythm results in progressive economic losses due to widening of dry Period calving interval as well as lactation during life time animals. Infertile cattle mean a loss in milk production whereas fewer calves reduce the efficacy of selection in dairy herd improvement. Sub-fertile and repeat breeding condition are most vexing problems in dairy cattle and account for huge economic loss to the farmer A wide variety of micro flora infect female genital tract and play a significant role in repeat breeding animal, by causing inflammation of endometrium. In addition metabolites of bacteria and inflammatory exudates after the P^H of uterine and vaginal fluid resulting in failures of conception due to death of spermatozoa or fertilized ovum [5, 6]. The incidence of repeat breeding is variable under different management conditions. Its varies month wise, season wise, parity wise and breed wise. Per parturient disease have been reported to influence the occurrence ofrepeat breeding in dairy cattle. These factors however have been reported separately and it is very difficult to assess their relative contributionto this problems. This study was designed to find out the incidence andmagnitude of repeat- breeding syndrome (RBS) in cross- breed cows in any organized dairy farmers.

MATERIAL AND METHODS

The present study was conducted on the animal of organized Dairy farms atRanchi. The general and breeding history and animals , presented for Gynecological checkup were recorded in respect of age of animal, number of calving, day past from last calving , nature of estrus cycle, number of insemination done without conception it's were noted.Animals observe to be in estrus for the first or second time were considered as normal or fresh

animal, and those coming to estrus. For third time or more after insemination were taken as repeat breeding animals.

Gynecological check up of animals

The hind quarters and external genitalia of the animals were properly washed and cleaned with 1:1000 Potassium perm agnate solution. Then these animals were subjected for through gynecological check up. Atfast the condition and external genitalia were examined and the internal genitalia organs were palpated for rectum and findings were recorded.

Selection of animals

After gynecological check up only these animals were selected which fell under true repeat breeding category that animals i.e. animal which have regular estrus cycle and estrus period and no palpable abnormalities could be recorded but failed to conceive following there or more A.I. with goodQuality semen from know fertile bull. Finally on the basis of breeding history and gynecological check up 144 cows selected from organized Dairyfarms at Jehanabad.

Examination of physical characteristics of cervical mucus:

The color and consistency of cervical mucus was noted after visual examination only those animal were selected which had clean and transparent cervical mucus discharger hanging from vulva. The animals harboring turbid, translucent, opaque cervical mucus or cervical mucus with flakes of pus were excluded from present study. The consistency of cervical mucus was classified as thin and thick [17]. This cervical mucus flowed easily on a glass slide kept inclined at 45 Degree angle where as thick cervical mucus remained sticky on glass slide when kept in inclined and 45 degree angle.

Statistical Analysis

Statistical analyses of the data collection during the study of different parameter were done by standard formulae and methods describes by Snedecor and Cochran [22].

RESULTS AND DISCUSSION

During the present study an attempt was made to find out the incidence of repeat breeding in crossbreed cattle at organized dairy farms,Ranchi.The month- wise, season -wise and parity- wise incidence of repeat breeding were calculated. Month wise incidence of repeat-breeding animals has been presented table-1. The highest incidence (23.52%) was recorded dairy the month of February and the lowest (11.90%), during month of June. The overall incidence of repeat breeder out of the total number of 450 animals examined was 16.82% (table 1). During the present study 76 cases of repeat breeding were identified and the break of figure during different months had been show in table 2. Table 3 present the season -wise incidence of repeat breeding in crossbreed cattle. The highest incidence of repeat breeding has been observed during the monsoon season (23.80%) followed by winter (14.86%) and summer season (13.63%).

It is evident from table 4 that sequence of calving influenced repeat breeding first calves showed maximum incidence (42.85%) and fourth calvers the lowest (18.33%). Test of proportion showed that there was non- significant difference between heifer and first calves, heifer and second calvers, first calvers and second calvers, heifer & third calves, first calvers and third calvers, second calves& third calvers or heifer and fourth calvers. Significant values ($P< 0.05$) were obtained between second calvers and fourth calvers third calvers and fourth calvers significant value ($P<0.01$) were obtained between first calvers and fourth calvers (Table 4).

The animals (144) were analyzed for the incidence of repeat breeding. Out of which 76 animals were recorded as repeat breeder. The highest incidence (23.2%) of repeat breeding noted during the month of February and the lowest (11.90%) during the month of June. the overall incidence of repeat breeder was 16.52%. the present observation is in close agreement with the reports of Zemjanis [23], Lutke-Vestert [7], Bartlett *et al* . [1], Shukla and Pandit [16], Sharma *et al* . [14], Sreeramulu [21], Dhabale *et al.* [2], who also recorded the incidence of repeat breeding to vary from 15.79 % to 18.01% . However , the present observation differed from the finding of Sinha [19], Ronie [11], Sharma *et al.* [15], Dhami *et al.* [3], Gustasoon and Emanuclson [4], who reported comparatively lower incidence of repeat breeding (3.00% to 12.30%) . Rahman *et al.* [8], Singh *et al.* [18], Smad *et al.* [20], Satheshkumar and Punniamurthy [12] and Selvaraj *et al.* [13], who reported comparatively higher incidence (20.64% to 73.7%) of this condition . This variation in results might be due

to differences in breeds, Agro climatic condition, parity nutritional and management conditions.

Table 1: Month wise incidence of repeat breeding in cross breed cattle

Months	Total no. of estrous animal	No. Repeat breeding animals	Over all Incidence(%)
January	20	3(15.00%)	**16.82%**
February	37	8(23.52%)	
March	27	5(18.52%)	
April	35	6(17.14%)	
May	44	8(15.18%)	
June	42	5(11:90%)	
July	49	10(20:40%)	
August	73	6(13.96%)	
September	45	8(17.77%)	
October	39	6(15.35%)	
November	40	6(15.35%)	
December	32	5(15.62%)	
Total	**483**	**76**	

Figures in Parentheses are percent incidence of repeat breeding.

Table 2: Month wise distribution of repeat-breeding in cross breed cattle

Month	No. of repeat-breeding cases	Distribution (%)
January	3	3.97
February	8	10.52
March	5	6.59
April	6	7.59
May	8	10.52
June	5	6.57
July	10	13.15
August	6	7.83
September	8	10.52
October	6	7.59
November	6	7.59
December	5	6.57
Total	**96**	**100.00**

Table 3: Season wise incidence of repeat breeding in cross breed cattle.

Seasons	Total No. of estrus animal	No. of repeat breeding cases	Incidence (%)	Calculated chi-square at 3 d.f.
Winter (No to.feb)	148	22	14.86	5.672**
Summer (Mar to June)	176	24	13.63	
Monsoon (July to Oct)	126	30	23.80	

**P<0.01.

Table 4: Parity-wise incidence of repeat breeding in cross bred cattle.

Calving sequence	No or Repeat breeder cases	%of incidence	Proportion test			
			1st calving	2st calving	3st calving	4st calving
Heifer	20(65)	30.76	1.4531 NS	0.9210 NS	0.8060 NS	1.6072NS
1st calving	30(70)	42.85		0.5195 NS	0.682 NS	2.9988**
2st calving	25(65)	38.46			0.1123 NS	2.484**
3st calving	24(64)	37.56				2.396*
4st calving	11(60)	18.33				

*: P<0.05, **: P<0.01, NS: Non significant.

ACKNOWLEDGEMENTS

Authors acknowledge support and co-operation by Dairy farmers andDept of Animal Reproduction, R.V.C Ranchi ,during survey and sampling is duly acknowledged.

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