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Abnormal Calving Effect on Post Partum Reproductive Traits of Crossbred Cattle

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Abstract: With onset of the crossbreeding in India the incidence of abnormal calving in crossbred are concerned to be very light i.e. more than 50%. To study effect of abnormal calving on sub sequent post partum reproduction trait the present study was under taken at RCDP on cattle MPKV, Rahuri.

In all 1004 records of calving was collected cow analyzed by L.S.Q. technique. To study the effect of type of calving, on reproductive traits was significant ($p < 0.001$) on all traits under study. The overall L.S.Q. means for open period, service period, number of services per conception and calving interval were 84.80 ± 4.14 days, 165.83 ± 8.12 days, 3.76 ± 0.23 and 430.35 ± 9.39 days respectively.

The cow calved normally showed lowest open period (73.43 ± 1.71) days, service period (124.19 ± 3.35) days, number of services per conception (2.43 ± 0.10) and calving interval (420.14 ± 3.87) days. On the contrary the highest open period and calving interval were observed in the cows showed the problem of placenta retention (91.99 ± 2.32 days and 447.13 ± 9.39 days), respectively. Highest service period and number of service per conception (198.78 ± 16.33 days and 5.25 ± 3.17 , respectively) were recorded in the cows given the still births.

Key words: Abnormal Calving (AB), Open period (OP), Service Period (SP), Number of Services per Conception (no. of S/C), Calving Interval (CI), Retention of placenta (RP)

INTRODUCTION

India Possesses an enormous cattle population (209.5 million) which constituents about $1/6^{\text{th}}$ of the worlds population Though India ranks first in milk

production the average milk production per cow is far below than the world average. Adoption of cross breeding of non descriptive indigenous cows with exotic breeds like Holstein Friesian and Jersey resulted in to improvement in production and

reproduction performance of crossbreds, but reproductive and productive efficiency of a crossbred generated is very sensitive to environment and management. One of the important factors affective these economic traits is types of calving showed adverse effect on reproductive efficiency.

The present study was under taken with view to know the effect of various types of calving on reproductive traits of cross bred cows.

MATERIAL AND METHODS

Data pertaining to 1004 calving of cross bred cattle's maintained at R.C.D.P. on cattle, Mahatma Phule Krishi Vidyapeeth, Rahuri, Dist. Ahmednagar was utilized for present investigation. Data pertaining to different reproduction trait viz. open period, service period, number of services per conception and calving interval was collected and classified according to different types of calving Viz. normal abortion, still birth, dystokia and retention of placenta. For

studying different type of calving under study the data was statistically analyzed by using the least squares analysis technique of fitting constant (Harve, 1991) with following model.

$$Y_{ij} = \mu + N_i + e_{ij}$$

Where,

Y_{ij} = Value of reproductive traits under study of j^{th} individual belonging to i^{th} calving

μ = Population mean

N_i = Effect of type of calving.

e_{ij} = The random error, NID with mean and various $(0, 0^2 e)$ respectively.

RESULT AND DESCUTION

The analysis of variance showing the significance of various effect is depicted in Table.1 and the least squares means for various type of calving is presented in Table 2. It was revealed from table-1 that the type of calving exerted significant effect ($P < 0.01$) on all

Table 1
Analysis of Variance indicating significant of various types of calving on post partum reproduction trait

Source of variation	Degree of freedom	MSS for reproductive traits			
		Open period (days)	Service period (days)	No. of Services per Conception	Calving Interval (days)
Types of calving	4	16206.43**	129387.28**	124.71**	41084.46**
Error	999	1352.15	5207.83	4.27	6951.38
Total	1003	8194.83	27306.99	13.80	191389.82

** Significant at 1 % level.

Table 2
Least square means for post partum reproduction trait as affected by various types of calving

Types of calvings	Total number of observation	Open period (days)		Service period (days)		No. of Services per Conception		Calving Interval (days)	
		Mean	±SE	Mean	±SE	Mean	±SE	Mean	±SE
Normal	464	73.43	1.71	124.19	3.35	2.43	0.10	420.14	3.87
Abortion	77	86.61	4.19	183.36	8.22	4.71	0.23	407.82	9.51
Still birth	20	85.44	8.22	198.78	16.33	5.25	0.43	441.01	16.64
Dystokia	193	86.53	2.65	155.00	5.19	3.17	0.14	435.63	6.00
RP	250	91.99	2.32	167.82	4.56	3.25	0.13	447.13	5.27
Overall mean	1004	84.80	4.14	165.82	8.12	3.76	0.23	430.35	9.39

the post partum reproduction traits under study viz. OP, SP, no. of S/C and CI. The open period was the lowest (73.43 ± 1.71 days) for the cows calved normally, while the highest open period (91.99 ± 2.32 days) was recorded in cows suffered by retention of placenta. The OP for various abnormal calving viz. abortion, still birth and dystokia was around 86 days Kharche et.al. (1982) reported non significant effect of types of calving on OP and which was 54.63 days in normally calved cows.

The highest service period of 198.78 ± 0.01 days was noticed in the cows given still birth followed by 183.36 ± 8.22 days in abortion cases, 167.82 ± 4.56 days in the cows suffered from retention of placenta, 155.00 ± 5.19 days in case of dystokia cases and the lowest SP of 124.19 ± 3.35 days was recorded in the cows calved normal. The contradictory non-significant effect of types of calving on SP was reported by Mandal and Sachdeva (2000).

The number of services per conception were in the range of 2.43 ± 0.10 (normal calving) to 5.25 ± 0.46 (still birth), the results were in agreement with the results reported by Muller and Owens (1973), Pelissier et al. (1970).

The highest calving interval (447.13 ± 5.27 days) was noticed in the cows suffered from RP and the lowest CI (407.82 ± 9.51 days) was noticed in

the abortion cases. Same results reported by Roy and Tripathi (1989).

The result under present study indicates that to maintain the reproductive efficiency of the crossbred cows, it is very essential to provide due care and management to pregnant cows to get maximum incidence of normal calving.

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