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Short Communication

Effect of genetic group of sire and dam and number of inseminations on conception rate in crossbred cows

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ABSTRACT

The study revealed that effect of genetic group of sire and dam on conception rate was non-significant (P > 0.05). About 80% females got conceived with maximum number of four inseminations.

Key words : Sire, dam, coneption rate, crossbred

Satisfactory level of conception rate is one of the important factor for successful breeding and profitable livestock industry. The important factors affecting the conception rate are the genetic group of sire and dam, and number of inseminations required for conception, hence, present study was undertaken.

The whole data based on 683 cows, which were inseminated and got conceived. The data were collected according to genetic group of sires viz., HG (50% Holstein-Friesian + 50% Gir), A (50% Holstein-Friesian + 25% Jersey + 25% Gir), IH (0% Holstein-Friesian + 50% Gir), R (Reciprocal crosses of FJg and JFG), M (Miscellaneous). Heifer and cow group and number of inseminations required or conception. The data was collected from "Research cum Development Project on Cattle" of this University for a period April 1995 to March, 1999. All the breedable population heifers and adult cows were maintained under the identical conditions of feeding, breeding and management. The artificial inseminations were carried out by liquid semen of the farm bred breeding bulls. Confirmation of conception was done by per-rectal examination two months after the date of insemination. The data was analyzed statistically by applying `t' test for studying the statistical significance (Snedecor and Cochran, 1967).

It is revealed from the Table 1 that HG bulls were having 50.07%, A 38.79% and M-Miscellaneous group 11.12% conception rate indicating superiority of the halfbreds over 3/4th breeds, but when data was analyzed statistically, genetic group of the sire used for insemination

Table 1. Effect of genetic group of sire on conception rate

Sl.No.	Genetic group of sire	No. of females conceived	Conception rate (%)
1.	A–	265	38.79^{NS}
2.	HG	342	50.07^{NS}
3.	M	76	11.12^{NS}

had no significant effect on conception rate (P > 0.05). These results are in agreement with Pachalag, 1984). It can be concluded from Table 2 that highest conception rate (42.45%) was observed in H, Intermediate (41.43%) in IH genetic group

Table 2. Effect of genetic group of dam on conception rate

Sl.No.	Genetic group of sire	No. of females conceived	Conception rate (%)
1.	IH	283	41043^{NS}
2.	H	290	42.45^{NS}
3.	R	105	15.37^{NS}
4.	M	05	0.73^{NS}

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and least conception rate in reciprocal crosses (15.37%). But, when the data was analyzed to study the effect of genetic group of dam used for insemination proved to had non-significant (P > 0.05) effect. These observations are in agreement with Belsare and Deshmukh (1992) and Kulkarni *et al.* (2001). Table 3 indicated that, cow and heifer group

Table 3. Effect of Heifer and cow group on conception rate

Sl.No.	Type of animal	No. of females conceived	Conception rate (%)
1.	C-cow	457	66.09^{NS}
2.	H-Heifer	226	33.08^{NS}

have 66.9%, 33.8% conception rate, respectively. Heifer and cow group on analysis revealed non-significant effect (P < 0.05) on conception rate in crossbreds. The reason might be due to pronounced expression of estrus due to adequate development of reproductive organs in mature cows. These observations are consistent with Ulmek and Patel (1992) and Kulkarni *et al.* (2001) while contrary to Sreemannarayana and Narsimharao (1993).

From the Table 4, it can be conclued that about 80% cows got conceived with maximum four numbers of inseminations (1st insemination 33.21%, IInd - 24.59%, IIIrd - 15.37% and on IVth - 10.24%, cows got conceived), while rest of the 20% females required 5th to 10th insemination for conception. These observations are consistent with Kumar (1988) who reported conception rate for first, second and third inseminations to be 35.42%, 42.54% and 29.09%, respectively indicating the maximum conception in first three inseminations.

Table 4. Effect of number of insemination on conception rate

Number of insemination	Number of females conceived	Conception rate (%)
1	220	33.21**
2	168	24.59**
3	105	15.37**
4	70	10.24**
5	45	6.58^{NS}
6	30	4.39^{NS}
7	11	1.61^{NS}
8	16	2.34^{NS}
9	10	1.46^{NS}
10	08	1.17^{NS}

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