

Note on Preliminary Observations on Growth of Cross Bred (Kankrej & Jersey) Calves

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To bring white revolution in shorter time, cross breeding of indigenous cattle with exotic breed has been started and adopted as a national breeding policy. The cross bred cattle matures early, takes less time to conceive and has a shorter calving interval. It produces 53% and 34% more milk in first and second lactation respectively as compared to Zebu cattle, (Chopra, Bhatnagar and Gurnani, 1973). Efficiency of feed conversion of cross bred is also higher than that of indigenous cattle. As the data regarding cross bred of Kankrej $\times$ Jersey calves are not available, preliminary observations were made on growth of cross bred (Kankrej $\times$ Jersey) calves at the Animal Nutrition Department.

Four Kankrej cows were inseminated by pure Jersey bull semen and when they calved they had given birth to two male and two female calves. Data regarding body weight from birth weight to the period of 100 weeks and reproductive behaviour were recorded. Feeding schedules for cross bred calves were as follows:

Feeding schedule for cross bred calves.

Weeks	Milk suckled kg/day	Concentrate mixture fed kg/day	Green fodder	Dry fodder
0 to 4	2.7	0.2	—	—
5 to 25	1.8	0.9	Ad lib.	—
26 to 50	0.9 (upto 40 weeks)	1.7	„	Ad lib.
51 to 75	—	2.0	„	„
76 to 100	—	2.7	„	Ad lib.

From the weekly body weight data ten weekly gain in weights for individual calves have been worked out and the results are presented in Table -1.

TABLE 1

Ten weekly gain in body weight (kg) of cross bred (Kankrej $\times$ Jersey) calves.

Ani. No.	Female			Male		
Weeks	74-16	74-23	Average	74-13	74-7	Average
Birth Weight	26.0	25.0	25.5	21.0	23.0	22.0
10	50.7	19.5	35.1	44.3	35.5	39.9
20	25.4	25.8	25.6	36.3	28.6	32.5
30	46.7	25.9	36.3	41.7	35.8	38.7
40	15.5	41.7	28.6	20.9	34.0	27.5
50	31.8	44.0	37.9	22.7	38.2	30.4
Total gain	170.1	156.9	163.5	165.9	172.1	169.0
Gain g/day	486	448	467	474	492	483
60	37.1	1.4	19.3	56.2	30.8	43.5
70	3.7	22.6	13.1	21.8	10.0	15.9
80	41.7	26.3	34.0	7.3	22.6	15.0
90	33.6	44.5	39.0	8.1	18.2	13.1
100	29.0	29.9	29.5	19.1	14.5	16.8
Total gain	315.2	281.6	298.4	278.4	268.2	273.3
Gain g/day	450	402	426	398	383	390

Birth weight:

From the data given in Table-1 it is observed that average birth weight of female and male calves were 25.5 and 22.0 kg respectively. In the present study it is observed that Kankrej $\times$ Jersey female calves birth weights are higher than the birth weight of male calves. This is quite reverse than in case of Kankrej breed where birth weight of male calves are usually higher than those of female calves. Panda and Sadhu (1973) reported that average birth weight of Deshi Bengal $\times$ Jersey and graded Haryana $\times$ Jersey heifers were 20.8 and 26.2 kg respectively. Birth weights of Haryana $\times$ Jersey bull and heifer calves were 18.7 and 17.4 kg respectively (Ranjhan, 1977). In present study the birth weights of Kankrej $\times$ Jersey calves are about 25% or more than the birth weights of the Haryana $\times$ Jersey calves.

Growth rate:

The total gain in body weight during 100 weeks period were 298.4 kg and 273.3 kg for female and male calves respectively. For overall period of 100 weeks average gain in body weights were 426 and 390 g/day for female and male calves respectively. While during the first 50 weeks period the gain in body

weight were 467 and 483 g/day for female and male calves respectively. Panda and Sadhu (1973) observed the daily gain of 279 and 323 g from 0 to 12 month period for Deshi Bengal $\times$ Jersey and graded Haryana $\times$ Jersey cross bred heifers respectively, which are considerably lower than observed under present study. Gain in weight of pure Jersey dairy calves upto 3 months and 3 to 1 year were 290 and 500 g/day respectively.

The age at first conception of female No. 74-16 and 74-23 was 16 and 24 months respectively. From these observation it can be seen that if cross bred calves (Kankrej $\times$ Jersey) are properly managed and fed they mature early, which will indirectly reduce rearing cost and help in economical milk production.

(Received on February 1, 1978)

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