depressed with reduced age at first calving among the Red Sindhi and Sahiwal cattle. The present study was undertaken to explore the fact of the matter among the Sahiwal cattle maintained under Pakistani environmental conditions. Attempts have been made to investigate the effect of age at first calving on first lactation milk yield and also upon lifetime production. These findings would provide an idea about the extent to which reduction in age at first calving could be brought about without affecting milk production.

MATERIALS AND METHODS

Data on the lactation records of Sahiwal cows maintained at Allahdad Cattle Farm, Jahanian, Multan during the years 1926 to 1966 were used for the present study. Incomplete lactations for any recorded reason or lactations showing any kind of abnormality were excluded from the analysis. Lactation records of less than 6 months duration were also not included in the analysis. Data on age at first calving and milk production of 928 Sahiwal cows were utilized in this study. Correlation coefficient between age at first calving and 305-day first lactation milk yield was calculated. Effect of age at first calving on lifetime production and number of lactation completed in life of an animal was also determined.

RESULTS AND DISCUSSION

The average age at first calving and first lactation yield was 1465.80 ± 12.85 days and 4537.40 ± 20.36 pounds respectively. Table 1 provides information about the effect of age at first calving on first lactation yield and lifetime production. It indicated that no definite trend existed between age at first calving and first lactation yield.

TABLE 1 *Effect of age at first calving on lactation yield in Sahiwal Cows.*

Age at first calving (days)	No. of observations	Av. first lactation yield (pounds)	Av. lifetime production (pounds)	Av. No. of lactation completed
900-1000	10	4585	23995	4.98
1000-1100	18	4233	21785	4.87
1100-1200	47	4516	22202	4.65
1200-1300	82	4582	22578	4.29
1300-1400	191	4541	21516	4.46
1400-1500	231	4670	19778	4.09
1500-1600	139	4386	20677	4.18
1600-1700	83	4610	19458	3.89
1700-1800	57	4508	16776	3.18
1800-1900	36	4349	17324	3.26
1900-2000	14	4667	16551	3.21

The cows calving for the first time at the age of 1000 and 1900 to 2000 days had an average first lactation yield of 4585 and 4667 pounds, respectively.

The correlation between age at first calving and first lactation yield was found to be 0.027+0.033 whico accounted for 0.07 per cent of variability associated with these factors. These results suggested that first lactation yield was little affected by the age at first calving. The lifetime production however, tended to decrease with increasing age at first calving. The lifetime production for the cows calving for the first time at the age of 900 to 1000 days and 1900 to 2000 days were 23995 and 16551 pounds respectively. The average number of lactations completed in life of a cow also decreased with an increase in the age at first calving (Table 1),

The results of the present investigation were in line with those reported in the literature. Sundaresan *et al.* (1954) and Mahadevan (1955) also reported low correlations between age at first calving first lactation yield among the Red Sindhi cows kept in India and Ceylon, respectively. Singh and Sinha (1960) and Singh and Choudhury (1961) observed no marked effect of age at first calving on first lactation yield in the cows of Sahiwal and Tharparker breeds. Puri and Sharma (1965) found a small negative correlation of -0-18 for the said traits among the Red Sindhi cows. Hussain (1966), Singh and Acharya (1969), Singh and Prasad (1969) and Bhasin (1969) noticed non-significant effect of age at fiirst calving on milk yield in Sahiwal, Hariana, Bachaur and Mewati cows respectively.

The results of this study, however, differed from those reported by Puri and Sharma (1965) who reported significant but negative correlation between the two traits for Sahiwal and Red Sindhi breeds. Kushwaha and Misra (1969) also found a signficant effect of age at first calving on first lactation yield among 245 Sahiwal cows maintained at Kanpur, India. Contrary to the present findings Venkayya and Anantak-rishnan (1956) found significant correlation of O.44 and O.78 between the two traits from different herds of Red Sindhi cattle kept at Banglore and Hosur in India. The differences noticed might be due to the environmental conditions including feeding, management and climate under which various breeds and herds were maintained.

The results of present study suggested that there is amplo scope for reducing age at first calving in Sahiwal cattle maintained under Pakistani conditions without depressing their lactation yields. There would be rather an increase in the lifetime production and the number of lactations completed in the life of a cow. Therefore, efforts must be made to reduce the age at first calving by proper selection, better feeding and management.

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