ABSTRACT

Reproductive performance is an index of adaptation, genetic progress and profitability in dairy production system, thus vital for a successful dairy venture. The reproductive performance under farm and field conditions of Sahiwal and Jersey x Sahiwal (JxS) crossbred cows evolved in peninsular India, is illustrated in this paper, to provide empirical literature on this subject. The dam-breed Sahiwal is a superb dairy breed of north western dry region of India. The reproductive traits viz., age at first calving (AFC), gestation period (GP), dry period (DP), service period (SP), and calving interval (CI) of 12 cows each of Sahiwal and JxS at the Dairy Experimental Station (DES) of Sri Venkateswara Veterinary University (SVVU) at Tirupati, and in the farmers’ cattle herds (FCH) in Chittoor district of Andhra Pradesh, covering a period of four years from 2008 to 2011 were included in this study. The climatic condition of the study area was tropical semi-arid. The study revealed significant (P≤0.01) differences in AFC, DP, SP, and CI between the three genetic groups. The reproductive performance of JxS (Farm) was significantly (P≤0.01) better than JxS (Field) and Sahiwal, while Sahiwal was better (P≤0.01) than JxS (Field). The means of reproductive parameters of Sahiwal, JxS (Farm) and JxS (Field) were 1223.25±9.77, 985.17±11.40, and 1237.92±13.09 days respectively for AFC, 151.00±3.27, 123.33±5.28, and 198.25±3.77 days respectively for DP, 163.92±4.20, 148.00±5.97, and 270.00±5.06 days respectively for SP, and 446.58±4.16, 429.58±6.10, and 552.25±5.02 days respectively for CI. The phenotypic correlations (r) between DP & SP, DP & CI, and SP & CI, were 0.734, 0.710, and 0.992 respectively in Sahiwal, 0.938, 0.938, and 0.997 respectively in J x S cows at DES, and 0.997 between SP & CI in the farmers’ herds, were statistically significant (P≤0.01). This study revealed that superior reproductive performance of JxS cows at DES was due to the exotic sire (Jersey) genes in the crossbred. The mediocre reproductive performance of JxS cows in farmers’ herds is attributed to nutritional and management constraints under field condition.

KEY WORDS

Jersey x Sahiwal cow, Peninsular India, Reproductive traits, Sahiwal cow