Effect of Non-Genetic Factors on Semen Production traits of Jersey Crossbred Bulls in Tamilnadu, India

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Data on 106197 ejaculates of 310 crossbred Jersey (CBJY) bulls maintained at three frozen semen stations in Tamil Nadu were collected from 2002 to 2014. The effect of non-genetic factors such as farm, ejaculate, period, season and age of the bulls on semen production traits were analysed using least-squares model. The overall least-squares means for semen volume, sperm concentration, mass activity, initial sperm motility, post-thaw motility and number of doses per ejaculate were 4.03 ml, 1056.18 million per ml, 2.31, 67.08 per cent, 51.04 per cent and 172.58 doses respectively. The effects of farm, ejaculate, period, season and age of the bulls were significant (P<0.01) on sperm concentration, mass activity and initial sperm motility. Whereas, the semen volume, post-thaw motility and number of doses per ejaculate were significantly (P<0.01) influenced by farm, ejaculate, period and age of the bulls and not by season. The farm x season and age x season interaction effects were found to have highly significant (P<0.01) effect on all semen production parameters in CBJY bulls. The overall least-squares means for age at first semen collection (AFSC), semen production period (SPP) and lifetime production of frozen semen doses per bull were 736.87 ± 19.16 days, 1795.38 ± 118.91 days and 83703.67 ± 10456.30 respectively in CBJY bulls. The overall mean annual production of frozen semen doses per CBJY bull was estimated to be 17016.92. The period had a significant effect (P<0.01) on AFSC, SPP and significant effect (P<0.05) on lifetime production of frozen semen doses per bull, whereas farm and season did not influence these traits significantly.

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Jointly organized by Tamil Nadu Veterinary and Animal Sciences University, INDIA
and Washington State University, Pullman, USA