COMPENDIUM

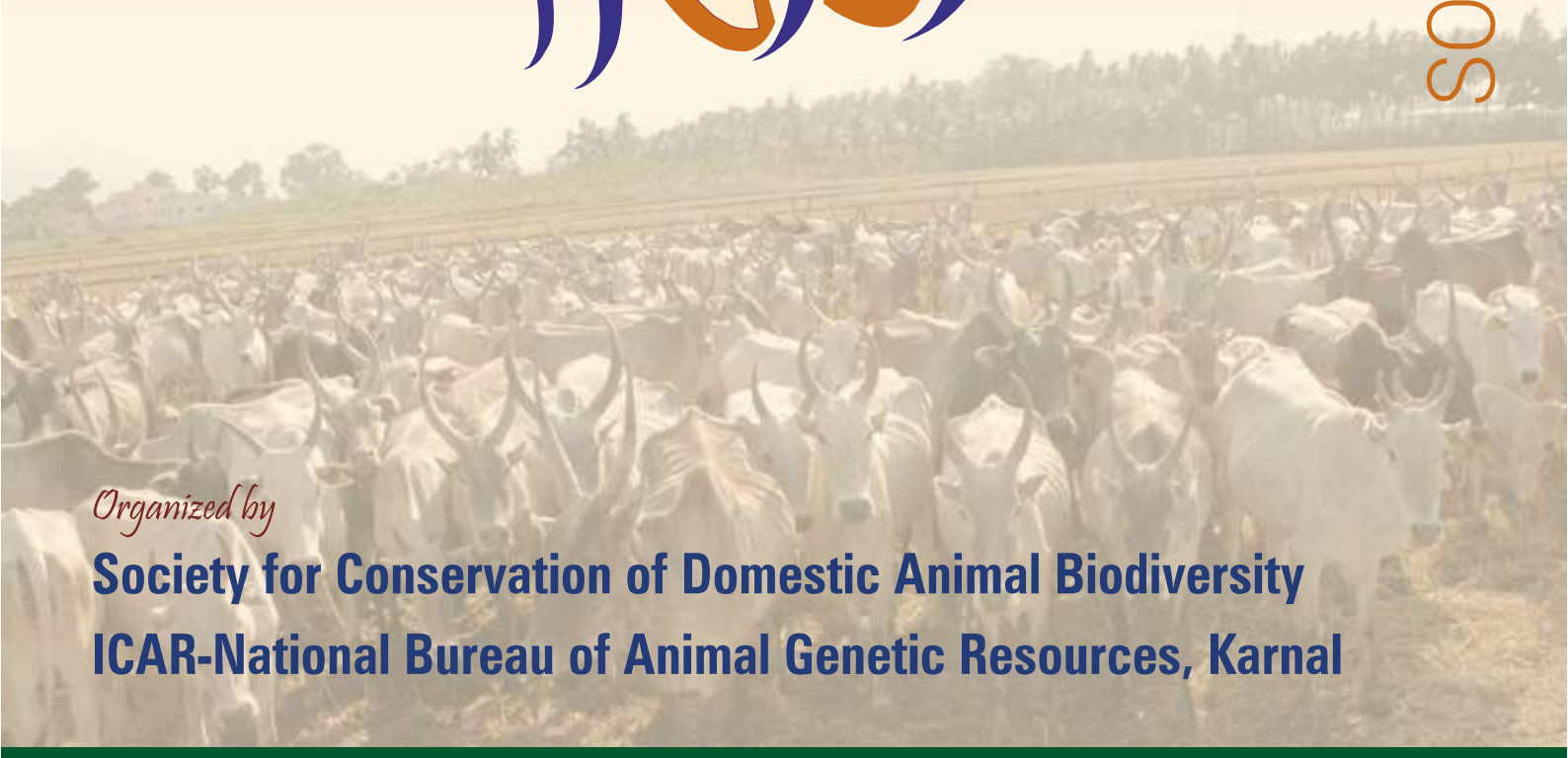
XVI NATIONAL SYMPOSIUM

Animal Genetic Resources for Food and Social Security

February 7-8, 2019

ICAR-NBAGR, Karnal

SOCDAB - 2019



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Kachchhi and Jaisalmeri available at ICAR-National Research Centre on Camel, Bikaner. Two teat milk records from 2012-16 and four teat milk records from 2017-18 was analyzed. Combined average daily milk yield of all four breed was 2.40±0.004 kg under two teat milk recording and 4.24±0.01 kg under four teat milk recording system. The breed wise average daily milk yield under two teat milk recording system was 2.33±0.007kg for Bikaneri, 2.34±0.007 kg for Kachchhi, 2.80±0.011kg for Jaisalmeri and 2.27 ±0.007 kg for Mewari camel. The breed wise average daily milk yield under four teat milk recording system was 4.00±0.02 kg for Bikaneri, 4.78±0.03 kg for Kachchhi, 4.06±0.02 kg for Jaisalmeri and 4.26 ±0.02 kg for Mewari camel. From both the milk recording system differences in milk yield for different breed was observed. Average milk yield recorded under four teat recording system was 1.77 times higher than milk yield under two teat recording system. This also differed between breed and four teat milk yield was 1.45 (Jaisalmeri) to 2.04 (Kachchhi) time higher in different breed compared to two teat milk yield. It can be concluded that doubling the milk yield under two teat recording system can lead to overestimation or underestimation of actual milk yield of the camel.

SOCDAB-2019/Abst/I-012

ESTIMATES OF GENETIC PARAMETERS FOR JUVENILE TRAITS IN A LONG-TERM SELECTED COLOURED BROILER FEMALE LINE (PB-2)

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PB-2, a synthetic coloured broiler female line, is being used as female parent line for producing commercial coloured broiler terminal cross (Krishibro™), which is a popular broiler for semi-intensive system of rearing in rural areas. This line has been maintained under selection pressure for higher 5 week body weight and higher 40 week egg production for the past 26 generations in the experimental farm of ICAR-DPR, Hyderabad. Many of the published genetic parameter estimates on juvenile growth traits were derived from the sire models that did not take in to account other affects like maternal and permanent environment. In the present study an effort has been made to estimate the variance and covariance components due to additive and maternal effects for juvenile growth traits by determining the most appropriate animal model. (Co)variance components and genetic parameters for various juvenile growth traits were estimated by Restricted Maximum Likelihood (REML), fitting six animal models with various combinations of direct and maternal effects. Data of 18,083 chicks descended from 297 sires and 1357 dams over a period of 5 generations (S-23 to S-27) were utilized. Direct heritability estimates (from best model as per likelihood ratio test) for weight at hatch (BW0), 2 weeks (BW2), 4 weeks (BW4) and 5 weeks of age (BW5) were 0.062±0.03, 0.19±0.03, 0.145±0.03 and 0.143±0.02, respectively. Maternal heritability estimates (m^2) for body weight at hatch (BW0) was 0.32±0.05. Coefficients of maternal environmental effect (c^2) for BW0, BW2, BW4 and BW5 were 0.17±0.03, 0.076±0.01, 0.066±0.01 and 0.054±0.01, respectively. Covariance components and genetic correlations were estimated using a bivariate analysis based on the best model determined by a univariate analysis. Between weights at hatching (BW0) and at five week of age (BW5), the correlations of direct additive genetic variance, permanent maternal environmental variance and phenotypic variance were 0.32, 0.40, and 0.11, respectively. Corresponding correlations between weight at two weeks (BW2) and five weeks (BW5) were 0.66, 0.78 and 0.51, respectively. Genetic trend line was plotted by average of breeding value of body weight at 5 weeks of last five generations. The genetic gain of 7.8g per generation was obtained. The study concluded that inclusion of maternal effects (both genetic and environmental) would improve the accuracy of genetic evaluation for early age body weights. Positive genetic gain is indicating the selection was effective in traits under selection.