135B

Evaluation of production and reproductive performance of Murrah and Surti breeds and crossbred buffaloes under Mid Country Intermediate Zone

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Evaluation of production and reproductive performance of different breeds and crosses at different agro-ecological zones is a prerequisite to breeding policy planning. This study was conducted at a state buffalo farm in the Mid Country Intermediate Zone to evaluate the production and reproductive performance of pure Murrah (**MH**) and Surti (**SU**) breeds, MurrahxSurti crossbreds (**MS**) and crosses of the pure breeds with local buffaloes (**LC**) under semi intensive system of rearing. Information on breed/cross, sex and birth weight of calf, calving dates, and parity of cow, total lactation yield, and days in milk were extracted from 10 years of farm records. Edited data included 137 complete lactation records and 141 calving records. Moving averages was used to define calving seasons. Chi-square test was used to find the association between calving month and genotype with frequency of calving. Total milk yield was standardized to 305-day yield by truncating the excess daily records. Effects of genotype and parity of cow, calving month and year (fixed effects) on standardized yield and days in milk were determined. Means were compared using DNMRT test (P=0.05). Sex of calf was an additional fixed effect in determining the effect on calf birth weight.

Seasonality of the calving pattern was significant with about 76.4% of the calvings occurring during September-February (Maha) season. This indicates the effect of climatic factors and feed availability on reproduction of buffaloes in the area. Breed effect was not significant on calving frequency indicating that the seasonality was common to all breeds. Calf birth weights ranged from 18 to 43 kg with a mean value of 31.26 kg. Calf birth weight did not depend significantly on breed/cross, sex of calf, and month or year of calving partly due to high residual variation caused by feeding and management. Mean 305-day standardized milk yields of MH, SU, and MS (1168.00, 1185.00 and 1182.00 litres, respectively) were not significantly different among each other (P>0.05). However LC showed significantly lower yields (1009.3 litres). Effects of parity, calving month or year were not significant on standardized yield (P>0.05). Mean lactation length of the farm was 306.3 days though very short (28 days) and very long (400 days) lactations were present. Thus, both Murrah and Surti breeds performed well under the conditions stipulated and local buffaloes could be continuously upgraded to any of those improved breeds to enhance their milk yield.

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