

Investigation of Calving Performance of Crossbred Murrah Buffaloes in a Large-Scale State Farm in Polonnaruwa District

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Calving performance of dairy buffalo is crucial for productivity of the dairy industry. The objectives of this study were to evaluate the calving performances of crossbred Murrah buffaloes under large scale semi intensive management conditions in the Dry Zone and to estimate heritability for calving traits of such a herd for genetic selection. A crossbred Murrah herd ($\geq 50\%$ Murrah) in a large-scale Government farm in Polonnaruwa district was selected for the study. The records on animal ID, birth date, parity group (PG = 1, 2, 3, 4, >4 parities), age at first calving (AFC), calf birth weight (CBW), sex of calf (SOC), birth month and calving interval (CI) were collected on 298 Murrah crossbred buffalo cows covering the calf birth year period from 2017 to 2021. Mean values (\pm SE) of CBW, AFC and CI of the herd were 24.79 ± 0.09 kg, 88.67 ± 1.36 months, and 457.50 ± 6.17 days, respectively. ANOVA procedure followed by Duncan's Multiple Range Test showed significant differences ($P < 0.05$) in CBW between male calves (25.48kg) and female calves (24.81kg). The CBW of fourth and fifth parity groups were significantly ($P < 0.05$) higher (25.62 and 26.33kg, respectively) than those of first, second and third parities (24.36, 24.85, and 25.23 kg, respectively). There was no significant effect of parity of the cow or SOC born on subsequent CI of cows ($P > 0.05$). Chi square analysis showed that calf birth type (normal, abortions and still birth) was not significantly associated with PG ($P > 0.05$). December-May season had significantly higher calving than June-November season ($P < 0.05$). Half sib analysis showed that heritability estimates for CBW and CI were 0.46 and 0.47, respectively. These results show the existence of sufficient additive genetic variation to launch within herd selection and the potential to enhance the performance further through improved management conditions.

Keywords: Age at first calving, Birth weight, Calving interval, Heritability, Murrah buffalo

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