

**EVALUATION OF REPRODUCTIVE PERFORMANCES OF COWS
DELIVERED BY ARTIFICIAL INSEMINATION AT
KAHATAGASDIGILIYA VETERINARY DIVISION,
ANURADHAPURA, SRI LANKA**

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Artificial insemination (AI) is an important reproductive technology used by the dairy industry. Herd profitability is determined by cow reproductive performance, however poor performance leads to a lower reproductive efficiency. This study aimed to assess the reproductive performances of artificially inseminated cows at the *Kahatagasdigiya* veterinary division in the *Anuradhapura* district. Reproductive records such as number of male and female calves born, number of services required for successful conceptions and sources of animal sperm were extracted from the divisional veterinary office, *Kahatagasdigiya* from 2016 to 2020. Birth rate of female calves and services per conception rate were calculated by descriptive analysis and analysis of variance were adapted to analyze data using SPSS software. According to the findings, the average birth rate of female calves was 55%, with a maximum of 62% recorded in 2020 and a minimum of 48% in 2016. The services per conception ratio, which is the ratio of total services to the total number of animals conceived was 1.45, with a maximum of 1.57 in 2020 and a minimum of 1.34 in 2017. The analysis of the variance test revealed that there is no significant difference between the sperm sources in terms of the reproductive indices studied. Direct economic loss was quantified based on the previous information available at the Department of Animal Production and Health (DAPH). According to the estimates, service charges increased by 45% while revenue generated by milk production decreased by 45% due to the negative performance of the AI. The birth rate of female calves and services per conception rate in the study area remained low when compared to the recommended levels, emphasizing the need for corrective measures. The complexity of the determinants of AI performance suggests that a collaborative effort among farmers, veterinarians and government agencies is required to improve the reproductive performance in the study area.

Keywords: Artificial insemination, Economic loss, Service charges, Services per conception, Sperm source