

## **MORPHOMETRIC ANALYSIS OF THE FEMALE BOVINE REPRODUCTIVE TRACT OF COW FROM SLAUGHTER HOUSE SPECIMENS**

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### **Executive Summary**

Reproduction is a vital factor in determining the efficiency of animal production. The primary reproductive organ in female animals is the ovary, which performs dual roles of oogenesis and steroidogenesis by producing ova and ovarian steroids respectively. Other reproductive organs include the oviduct, uterus, and cervix have very important roles in female reproductive capacity and functioning. Under normal anatomical and physiological conditions, all these parts work in collaboration and synergistically to achieve maximum reproductive capacity in female animals. Morphometry deals with the shape, weight, and dimension (length, width, and thickness) variation of an organ. The knowledge of the reproductive organs morphometry of female animals is crucial and may determine the extent to which these organs can perform their physiological roles. Genotype greatly affects the biological effectiveness of dairy cows. Different genotypes of cows react to environmental changes differently. A biometrical study was conducted on the reproductive organs of cows of different genotypes (Local, Holstein Friesian  $\times$  Local and Sahiwal  $\times$  Local) available in slaughterhouse from July 2022 to March 2023. Immediately, following the slaughter, the reproductive organs of cows were gathered from a local abattoir in Dhaka, Bangladesh. The comparison of morphometric values of most of the parameters of the reproductive tract observed in different genotypic cows showed significant differences ( $p < 0.05$ ). Holstein Friesian  $\times$  Local had significantly higher values ( $p < 0.05$ ) on most of the parameters of genitalia measured, followed by the Sahiwal  $\times$  Local, and Local respectively. Holstein Friesian  $\times$  Local had the longest uterine horn, uterine body, cervix and vagina. However, the biometry of the tubular parts of genitalia in Holstein Friesian  $\times$  Local and Sahiwal  $\times$  Local cows are suggestive of the selection of crossbred dairy cows to get maximum benefits from crossbreeding with respect to reproductive performance and also for genetic improvement through artificial insemination.

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