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## Abstract

The study aimed to investigate Determinants of the mature body weight of Black Bengal goat (BBG) under semi-intensive systems of rearing. A cross-sectional survey was conducted in the BBG households using a structured questionnaire for a period of three months from 1st February to 30 April, 2021. Results indicated that the average herd size of BBG reared under semi-intensive system was 8.08. Goat houses were mostly open type, tin-shed, bamboo and wood supported earthen floor with facilities for night shelter and feed supply and in very few cases brick-cemented with concrete floor. Feeding system was open grazing with variable amount of homemade concentrate mixture. The mature body weight, body condition score and daily milk yield of the Black Bengal doe under semi-intensive farming system were 22.9 kg, 3.4 and 0.5 kg respectively. The age at the first service of the BBG was 22.14 d, age at first kidding 396.32 d, kidding interval 199.66 d and postpartum estrus interval 39.06 d. The service per conception and litter size were 1.33 and 2.84, respectively. The average birth weight and weaning weight of the kids were 1.09 kg and 4.4 kg for the male 1.04 kg and 4.36 kg for the female, respectively. The most prevalent disease was parasitic infestation followed by nutritional deficiency, PPR, keratoconjunctivitis, acidosis and fibrous osteodystrophy. The average mortality of the BBG kids was 0.78% in the study area. The main determinants ( $P < 0.05$ ) of the mature body weight of BBG were birth weight of male goat, type of concentrate feed provided, height of goat house, width of goat house, deworming practices, owner's exposure to training, additional feeding of pregnant dam, horn pattern, rearing system, weaning weight of male kid, kidding interval, age at first kidding and amount of roughage supply.

**Keywords:** Black Bengal goat, mature body weight, semi-intensive system