

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

EQUATIONS AND CORRECTION FACTORS FOR BODY WEIGHT ESTIMATION IN MANGALARGA MARCHADOR HORSES

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Body weight (BW) is a parameter used in many Mangalarga Marchador (MM) breed nutritional and sanitary management practices. The most precise way to obtain BW is through scale weight; however, BW estimate methods are more adequate than the common visual examination. The objective of the current work was to evaluate and compare the efficiency of both methods on the body weight estimates of young MM breed (males and females) and adults (males, non-pregnant females and pregnant females). Three hundred and eighteen MM animals of different genders (males, n = 94; non-pregnant females, n = 134; and pregnant females, n = 90), ages (six - 12, n = 36; >12 - 24, n = 40, >24 - 36, n = 25, >36 - 60, n = 53; and >60 months, n = 74) and gestational stages (up to six months, n = nine; six - eight months, n = 43; and >eight - 11 months, n = 38). BW was checked by scale and estimated by mathematical methods proposed by Crevat and Quetelec (Method A – $BW (kg) = TP^3 \times 80$, where TP is the thoracic perimeter or chest girth in meters) and by Hall (Method B – $BW (kg) = TP^2 \times BL / 11900$, where TP is the thoracic perimeter and BL is the body length, both in centimeters). Statistical analysis were performed by applying R Software. Means were compared to the actual BW through paired t test ($p < 0.05$), mean predicted error (MPE), and coefficient of determination (R^2). Specific correction factors were also calculated and tested by the paired t test ($p < 0.05$) for both A and B methods. Estimated weights were different from scale weights in all gestational stages as well as in male and female age classes, except for 12, and 24-36 year-old males on method A. Correction factors were calculated based on the differences found between scale BW and estimated BW. In the case of method A correction factors 77, 72, and 73 were obtained for males, non-pregnant females and pregnant females, respectively; whereas for method B these factors were 10635, 10978, 10658, respectively. The formulas proposed by Hall, Crevat and Quetelec are not recommended for the BW estimate, hence, it is necessary to apply correction factors to accurately determine MM breed BW.

Keywords: age, gender, gestational stage, nutrition

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