

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

PROCEDURES FOR ESTIMATING FORAGE MASS AND CANOPY HEIGHT IN TANZANIA GRASS PASTURES

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The best methods of evaluating forage mass are those that represent pasture conditions and require reduced labor. The choice of sampling, depend on the variability, botanical composition, structural characteristics of canopy and the required accuracy. In this context, the aim of this study was to evaluate three procedures to estimate forage mass (FM) and canopy height (CH) in a homogeneous Tanzania grass pasture, based on their cumulative variation coefficients (VC). The experiment was conducted at Institute of Zootechnics Farm, at Federal Rural University of Rio de Janeiro, Seropédica - RJ, under a completely randomized design, with 7 square samples of 1.0 m², representing 0.5% total area of each plot (1260 m²). The random sampling (RS) was performed by throwing randomly the frame in the plot area. For the systematic sampling (SS), the plot was demarcated in three internal parallel lines, with distance of 10 meters between them. The "induced" sampling (IS) was performed based on the choice of representative points of the average height of the plot (110 cm), obtained after 20 previous measurements. All heights were obtained with ruler graduated in centimeters, by the average of 3 measurements per sample. The results were submitted to analysis of variance by the free software R and the means compared by Tukey test, at 5% probability. Pearson correlation between CH and FM was obtained with aid of the program GraphPad Prism version 7.03 for Windows. There was no difference between CH for the three sampling methods, however, a lower VC was observed for IS. Higher FM ($P < 0.05$) and lower VC were obtained under IS in relation to the others. There was a high and positive correlation between CH and FM for RS ($r = 0.78$, $p = 0.036$) and SS ($r = 0.88$, $p = 0.009$), indicating a high association between these variables. This justify the lower VC results for IS, since the choice of sampling points as a function of height, possibly, reduced sampling variability and increased experimental accuracy. The "induced" sampling procedure allows a more accurate estimation of forage mass and canopy height in homogeneous pastures of Tanzania grass.

keywords: experimental accuracy, sampling, variation coefficient.

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