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Modelação do volume de chorume produzido por matrizes, nas fases de maternidade e gestação, no Brasil: uma abordagem inicial

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Abstract: An initial model was developed to predict the volume and composition of sow manure in the gestation and maternity phases, based on studies. The model was validated using data from a project (14 months) on farms in southern Brazil. Water and feed flows were used as inputs to predict the amount of manure produced. This model takes into account the effects of each phase, animal performance, feed and the building. The gestation model was validated on 29 batches of sows (2490 sows in individual housing [G1] and 1790 in collective housing [G2]), with a total measurement of five weeks per batch. The estimated results of the maternity model were validated on the basis of 26 batches, with a total of 862 sows, considering the same time period as the gestation batch. Daily manure production per sow during gestation was 15.2 ± 3.1 liters for G1 and 5.7 ± 1.5 liters for G2. In maternity, it was 18.9 ± 2.4 L/d sow. The models proved to be reliable and robust for predicting the volume of manure produced during gestation (R2 =0.80) and maternity (R2 =0.64), and are considered suitable for use in real production conditions on farms located in southern Brazil.

Keywords: Pig Production; Modeling; Slurry production; Estimating the volume of slurry produced.