

Modélisation de la cinétique de consommation en fonction du poids chez le porc en croissance selon le mode d'expression de l'ingéré

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Modeling growing pig feed intake as a function of body weight, according to the expression of daily intake

Increasingly, modeling approaches are used as an alternative to animal testing. In pigs, growth can be simulated using the different available feed intake relationships to body weight and growth curves with age. The aim of the present study was to compare four types of feed intake relationships (linear, power, exponential or a gamma function), when different units were used to describe daily intake (expressed in kg, MJ of digestible energy or net energy (NE)). Seven batches of 144 growing barrows and gilts each, originating from crossbred LWxLD sows and eight purebred or crossbred sire lines, were used. The pigs were weighed at 10, 13, 16, 19, 21 and 23 weeks of age and their individual feed intake was recorded daily through an automatic feed dispenser. For each equation and each unit, daily intake model was fit to the data and the quality of the prediction was evaluated by the root mean square error of prediction (RMSEP) obtained for each animal. Adjustments were available on 916 pigs. The RMSEP was not significantly affected by the unit used to express or describe daily intake. In contrast, a significant difference was observed among equations. According to our calculations, the gamma function provided the most precise predictions, regardless of genotype or gender.