Incidence du rapport phosphore : énergie de l'aliment sur les caractéristiques du radius mesurées au scanner à rayons X

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Incidence of dietary phosphorus to net energy ratio on radius characteristics measured by the CT scanner

The effect of the dietary digestible phosphorus (Pdig) to net energy (NE) ratio was assessed on pigs over the 27-113 kg bodyweight range. Previously tested ratios between 25-65 kg bodyweight and 65-115 kg bodyweight (0.22 and 0.18 g of Pdig/MJ NE, respectively) were compared to higher recommended ratios (0.25 and 0.20 g/MJ NE, respectively) at 9.2 and 9.8 MJ NE/kg using a CT scanner measurements of the radius. The pigs (n = 160, five per pen) were housed in single-sex groups and fed *ad libitum*. During the trial, no pig was removed due to leg weakness or slow growth, and only one pig died. As previously observed, higher dietary NE content improved significantly the average daily gain of the pigs, but also increased fat content of their carcass. Dietary Pdig content also had a slight influence on performances and carcass characteristics. The surface of the radius with higher X-ray absorption was significantly increased with high dietary NE and Pdig content, revealing a higher bone mineralization with this diet, while no difference was obtained among the others. In fact, a higher bone mineralization could be observed when the dietary content of calcium and Pdig is above the level that maximizes performance. However, as no differences in performances and carcass characteristics were obtained between diets, 0.22 and 0.18 g Pdig/MJ NE could be recommended between 25-65 and 65-115 kg bodyweight ranges, respectively. Also, a method to compare digestible P diet levels based on the utilization of CT scanner could be proposed.