Détermination du besoin en histidine et leucine chez le porcelet

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Histidine and leucine requirements in weaned piglets

Histidine (His) and leucine (Leu) are essential amino acids for growth in piglets. A consequence of the reduction of the crude protein content of piglet diets by using L-Lysine (Lys), L-Threonine, DL-Methionine, L-Tryptophan and L-Valine is that His and Leu may be limiting for growth, although information on the requirements for these amino acids is scarce. The objective of this study was to determine the effect of supplementing a low crude protein diet with L-His and L-Leu on feed intake and growth to estimate the His and Leu requirement of 10-20 kg pigs. In each of four experiments, 14 blocks of six pigs each were allotted to six levels of, respectively, standardized ileal digestible (SID) His:Lys (20, 24, 28, 32, 36, and 40%), His:Lys (21, 24, 27, 30, 33, and 36%), Leu:Lys (70, 78, 86, 94, 102, and 110%), and Leu:Lys (80, 90, 100, 110, 120, and 130%). The estimated SID His:Lys and Leu:Lys requirements were respectively 32 and 102% for maximizing daily gain and 29 and 97% for maximizing feed efficiency using a curvilinear-plateau model. When His and Leu levels were 10% below the requirement estimate, daily gain was reduced by 3%. The results of the present study indicated that the SID His:Lys and Leu:Lys requirements in 10-20 kg pigs were determined to be 32 and 102%, respectively.