Le besoin en valine des porcelets

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Valine requirements of weaned piglets

A dose response study was performed with weaned piglets to determine the relationship between the standardized ileal digestible (SID) dietary Valine:Lysine (Val:Lys) ratio and growth performance in 9-25 kg piglets. The experiment comprised a negative control (NC) diet with a limiting valine level (SID Val:Lys ratio of 61%), and four treatments: NC diet supplemented with L-Valine with higher SID Val:Lys ratios of 65%, 70%, 75% and 80 %. The experiment was performed with 10 replicates (pens) per treatment, with 6 piglets per pen resulting in 60 piglets per treatment. A randomization process was used to allocate piglets to replicates based on weaning weight, sex and litter. The experimental period was divided into two periods: a phase 1 period of one week (first week post-weaning) during which all piglets received the same commercial phase 1 diet and a subsequent phase 2 period lasting four weeks during which the pigs received the respective treatment diets. The SID Val:Lys requirements for maximum growth performance were estimated at 66% using the linear-plateau model; the estimate based on the curvilinear-plateau model was 74%. The requirements for minimum FCR could not be estimated due to a high residual variance. When considering possible sources of variation and different interpretation of the models, a minimum of 70% SID Val:Lys was recommended.