

mine Ca digestibility in feed ingredients and then to determine the requirements for digestible Ca by different groups of pigs. Therefore, the objective of this experiment was to determine the digestible Ca requirement by 25 to 50 kg pigs. Two hundred and forty pigs (initial average BW:  $24.70 \pm 1.27$  kg) were randomly allotted to 20 diets in 6 blocks with 1 pen per diet in each block using a  $4 \times 5$  factorial design. There was 1 gilt and 1 barrow in each pen. Twenty corn-soybean meal based diets were formulated with diets containing 4 levels of standardized total tract digestible (STTD) P (0.15, 0.31, 0.39, or 0.47%) and 5 levels of STTD Ca (0.13, 0.27, 0.42, 0.57, or 0.72%). Pigs were allowed ad libitum access to feed for 28 d and individual BW of all pigs was recorded at the beginning and at the conclusion of the experiment. Results indicated that G:F linearly decreased ( $P < 0.05$ ) as the STTD Ca increased if diets contained 0.15% STTD P (Breakpoint =  $0.33 \pm 0.14\%$  STTD Ca; plateau = 0.43kg/kg). Increasing levels of STTD Ca did not affect the G:F if diets contained 0.31% STTD P. The G:F linearly increased ( $P < 0.05$ ) as the STTD Ca increased if diets contained 0.39% STTD P (Breakpoint =  $0.55 \pm 0.25\%$  STTD Ca; plateau = 0.49kg/kg) or 0.47% STTD P (Breakpoint =  $0.29 \pm 0.05\%$ ; plateau = 0.49kg/kg). In conclusion, increasing levels of STTD Ca had a negative effect on G:F if diets contained 0.15% STTD P, but that was not the case if diets contained 0.31% STTD P. If diets contained 0.39 or 0.47% STTD P, G:F was maximized at 0.55 or 0.29% STTD Ca, respectively. These observations indicate that the requirement for STTD P and Ca for 25 to 50 kg pigs may be greater than currently estimated.

**Key Words:** digestible calcium, growth performance, requirements

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## 220 Digestible calcium requirements for 25 to 50

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Currently, diets for pigs are formulated using total Ca values to meet Ca requirements. However, feeding excess Ca has negative effects on the digestibility of P, which may result in reduced growth performance. There is, therefore, a need to deter-

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