Table 240. Apparent total tract digestibility (ATTD) of Ca and P and standardized total tract digestibility (STTD) of Ca in meat and bone meal (MBM), meat meal (MM), poultry product meal (PBPM), and poultry meal (PM).

Item	ATTD Ca	STTD Ca	ATTD P
Without phytase			
MBM	74.54[b]	76.83[b]	76.00[b]
MM	74.61[b]	76.97[b]	76.01[b]
PBPM	85.34[a]	87.76[a]	78.30[ab]
PM	80.74[ab]	82.41[ab]	80.12[ab]
With phytase			
MBM	79.66[ab]	81.94[ab]	80.48[ab]
MM	83.25[ab]	85.75[ab]	75.79[b]
PBPM	83.51[ab]	86.66[ab]	85.99[a]
PM	74.31[b]	76.06[b]	77.11[ab]

were collected for 5 d using the marker-to-marker approach. Results indicated that if no phytase was used, the ATTD and STTD of Ca in PBPM were greater ($P < 0.05$) than in MBM and MM, but values for PM were not different from any other ingredients (Table 240). However, if phytase was added to the diets, no differences in ATTD or STTD of Ca among ingredients were observed. If no phytase was used, no differences among the 4 ingredients were observed for ATTD of P, but if phytase was added, the ATTD of P was greater ($P < 0.05$) for PBPM compared with MM. In conclusion, the addition of microbial phytase did not affect the digestibility of Ca and P in ingredients of animal origin, and only small differences among the 4 ingredients were observed.

Key Words: calcium, phosphorus, pigs

240 The effect of microbial phytase on the apparent and standardized total tract digestibility of calcium in feed ingredients of animal origin.

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An experiment was conducted to determine effects of microbial phytase on the apparent (ATTD) and standardized total tract digestibility (STTD) of Ca in meat and bone meal (MBM), meat meal (MM), poultry by product meal (PBPM), or poultry meal (PM). Four corn-potato protein isolate-based diets were formulated to contain 0.70% Ca using MBM, MM, PBPM, and PM as the sources of Ca. All diets also contained 0.33% STTD P with extra P being supplied by monosodium phosphate if needed. Four additional diets that were similar to the previous diets except that they contained 500 units of microbial phytase and a Ca-free diet were also formulated. Growing barrows (n = 72; initial BW = 14.91 ± 0.19 kg) were allotted to a randomized complete block design with 9 dietary treatments and 8 replicate pigs per treatment. Experimental diets were provided for 12 d with the initial 5 d being the adaptation period. Total feces