

logram of microbial phytase. To determine basal endogenous losses of Ca, a Ca-free diet was used. Feces were collected using the marker-to-marker approach. Results indicated that regardless of inclusion of microbial phytase, the greatest ($P < 0.05$) ATTD of Ca was observed in MCP diets and the greatest ($P < 0.05$) STTD of Ca was observed in basal and MCP diets. The DCP diets had greater ($P < 0.05$) ATTD and STTD of Ca than calcium carbonate, Vistacal, or Limex diets, but no differences were observed among the ATTD and STTD of Ca in calcium carbonate, Vistacal, or Limex diets. Inclusion of microbial phytase increased ($P < 0.001$) the ATTD and STTD of Ca in the calcium carbonate diet only. Regardless of Ca source, inclusion of microbial phytase increased ($P < 0.001$) the ATTD of P in all diets. Regardless of phytase inclusion, the ATTD of P was greater ($P < 0.05$) by pigs fed basal, MCP, or DCP diets than by pigs fed calcium carbonate, Vistacal, or Limex diets. Pigs fed calcium carbonate had greater ($P < 0.05$) ATTD of P than pigs fed Vistacal or Limex diets. In conclusion, diets supplemented with MCP had the greatest ATTD and STTD of Ca followed by DCP diets. Inclusion of microbial phytase in the diets increased the ATTD and STTD of Ca only if calcium carbonate was used.

Key Words: apparent digestibility, calcium supplements, standardized digestibility

GRADUATE STUDENT ORAL COMPETITION: PhD ORAL I

083 Effects of microbial phytase on apparent and standardized total tract digestibility of calcium in calcium supplements fed to growing pigs. J.

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An experiment was conducted to determine the apparent total tract digestibility (ATTD) and standardized total tract digestibility (STTD) of Ca in different Ca supplements and the effect of microbial phytase on the ATTD and STTD of Ca. One hundred four growing barrows (initial BW: 17.73 ± 2.53 kg) were allotted to a randomized complete block design with a 2×6 factorial arrangement. There were 13 dietary treatments and 8 replicate pigs per treatment. A basal diet containing corn, cornstarch, potato protein isolate, soybean oil, calcium carbonate, monosodium phosphate, vitamins, and minerals was formulated to contain 0.33% Ca. Five additional diets were similar to the basal diet, but monocalcium phosphate (MCP), dicalcium phosphate (DCP), calcium carbonate, Vistacal, or Limex were included in each diet at the expense of cornstarch to increase the concentration of Ca by 0.3 to 0.4% units. Six additional diets were similar to the previous 6 diets with the exception that they also contained 500 units per ki-