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The efficacy of a new phytase in low-phosphorus corn-soybean meal rations on growing pig bone strength, bone ash, and growth performance

Weaned crossbred barrows (n=126) were used to investigate the effect of four different levels of a new Zymetrics Inc. phytase (100 Units (U); 500 U; 2,500 U; or 12,500 U) on low phosphorus corn-soybean meal diets. This tested the theory that supplementation of higher phytase amounts to a low phosphorus diet will increase bone strength as well as maintain growth performance at a higher rate than those of lower or no phytase supplementation. Pigs were adjusted to a common Phase I diet for two weeks post-weaning before allocation to 1 of 6 dietary treatments for 4 weeks. Increasing supplemental phytase showed a linear increase in ADG ($p < .01$) and also showed an linear increase in overall body weight (BW) during the growing and finishing stages of the experiment. Daily feed intake and feed efficiency showed a linear increase ($p < .01$) and overall breaking strength increased linearly with phytase supplementation. Gain to feed ratios in pigs with 2,500 U and 12,500 U showed better performance than that of the positive control (PC) diet. Overall, it was found that supplementation of 2,500 U or 12,500 U of the Zymetrics phytase met or exceeded the PC diet in all areas.