

M222 Standardized total tract digestibility of P in Dried Fermentation Biomass, Peptone 50, and P.E.P. 2 Plus fed to weanling pigs. J. K. Mathai*¹, R. C. Sulabo¹, J. L. Usry², B. W. Ratliff³, D. M. McKilligan³, and H. H. Stein¹, ¹*University of Illinois, Urbana*, ²*Ajinomoto Heartland, LLC, Chicago, IL*, ³*TechMix, LLC, Stewart, MN*.

Forty barrows (BW: 12.4 ± 1.3 kg) were used to measure the apparent (ATTD) and standardized total tract digestibility (STTD) of P in Dried Fermentation Biomass (DFB), Peptone 50 (PEP50), and P.E.P. Two Plus (PEP2+) fed to weanling pigs and to compare these values to those in fish meal. The DFB product (Ajinomoto Heartland LLC) is a co-product from AA production and PEP50 and PEP2+ (TechMix LLC) are produced from hydrolyzed pig intestines. Pigs were housed individually in metabolism cages and were randomly allotted to 5 diets with 8 replicate pigs per diet. Four diets were formulated with DFB, PEP50, PEP2+, or fish meal as the sole source of P in the diet. A P-free diet was used to measure basal endogenous P losses (EPL). Feces were collected for 5 d based on the marker to marker approach after a 5-d adaptation period. Analyzed total P in DFB, PEP50, PEP2+, and fish meal were 0.88, 0.74, 0.80, and 3.25%, respectively. Daily P intake of pigs fed DFB, PEP50, and PEP2+ were less (0.80, 0.82, 0.96 g/d; $P < 0.01$) than in pigs fed fish meal (1.77 g/d). Fecal P concentration (0.41, 0.57, 1.12, 2.56%) and daily P output (0.08, 0.09, 0.27, 0.62 g/d) were less ($P < 0.01$) in pigs fed DFB and PEP2+ than in pigs fed PEP50 and fish meal. The amount of P absorbed was different ($P < 0.01$) between all treatments (0.56, 0.72, 0.87, and 1.15 g/d in PEP50, DFB, PEP2+, and fish meal, respectively). The ATTD of P was greater ($P < 0.01$; SEM = 1.8) in DFB (90.4%) and PEP2+ (90.6%) than in PEP50 and fish meal (68.0 and 65.5%, respectively). The basal EPL was measured at 148 ± 63 mg/kg DMI in pigs fed the P-free diet. The STTD of P in DFB (96.9%) and PEP2+ (97.6%) were greater ($P < 0.01$; SEM = 2.2) than in PEP50 and fish meal (76.2 and 68.5%, respectively). Likewise, PEP50 had greater ($P < 0.01$) STTD of P than in fish meal. Therefore, DFB, PEP50, and PEP2+ had greater STTD of P, but lower concentration of P, than fish meal.

Key words: alternative feedstuffs, phosphorus, pigs