116 **Effect of diets formulated based on standardized total tract digestible phosphorus fed to growing pigs.** J. J. Abelilla[1,*], R. C. Sulabo[1], H. H. Stein[2], S. P. Acda[1], A. A. Angeles[1], M. C. R. Oliveros[1], F. E. Merca[3], *[1]Animal and Dairy Sciences Cluster, University of the Philippines, Los Baños, the Philippines, [2]University of Illinois, Urbana, [3]Institute of Chemistry, University of the Philippines, Los Baños, the Philippines.*

The standardized total tract digestibility (STTD) of P was determined in corn (53 and 73%), soybean meal (SBM; 46 and 73%), and full fat rice bran (FFRB; 50 and 64%) without and with phytase in our previous experiment. An experiment was conducted to validate the STTD of P for these ingredients by analyzing growth performance of pigs. A total of 36 barrows (PIC L337 × C24, initial BW = 33.0 ± 2.7 kg) were individually housed and randomly allotted to 4 corn-SBM based diets following a 2 × 2 factorial arrangement in a randomized complete block design. Factors were 2 levels of phytase (0 and 500 units/kg; Optiphos 2000, Enzyvia, Sheridan, IN) and 2 levels of full fat rice bran (0 and 10%), with initial BW as a blocking factor. All diets were formulated with same batches of corn, SBM, and FFRB and to contain 0.31% STTD P, same ME and standardized ileal digestible (SID) AA. Vitamins and minerals were included in the diets to meet or exceed the requirements for growing pigs (NRC, 2012). The diets were fed ad libitum to growing pigs for 28 d. Monocalcium phosphate (MCP) was included in corn-SBM diets at 0.86 and 0.50% (without and with phytase, respectively) and in corn-SBM-full fat rice bran diets at 0.48 and 0% inclusion rate (without and with phytase, respectively). There was no phytase × FFRB interaction in any of the growth parameters measured.

Table 116. Effect of full fat rice bran and phytase on growth performance of growing pigs.[1]

Diet:	Corn-SBM		Corn-SBM-FFRB		
Item Phytase, FTU/kg:	0	500	0	500	SEM
Initial BW, kg	32.7	33.4	32.9	33.1	0.94
Final BW, kg	58.8	62.0	60.1	61.2	1.59
ADG, kg	0.93	1.02	0.97	1.00	0.05
ADFI, kg	2.22	2.22	2.26	2.27	0.03
G:F	0.42	0.46	0.43	0.44	0.02

[1]FTU, phytase units.

There was also no difference in ADG, ADFI, G:F or final BW between pigs fed diets without and with phytase and diets with 0 or 10% FFRB. In conclusion, the values for STTD of P in corn, SBM, and FFRB were accurately analyzed in previous experiment. If rice bran and/or phytase are used, the inclusion of MCP can be reduced or removed in corn and SBM based diets for growing pigs.

Key Words: phosphorus, phytase, rice bran