Effects of full fat or defatted rice bran and microbial xylanase on growth performance of weanling pigs. G. A. Casas and H. H. Stein, University of Illinois at Urbana-Champaign.

The objective was to determine effects of increased concentrations of full fat rice bran (FFRB) or defatted rice bran (DFRB) in diets without or with supplementation of a microbial xylanase on growth performance and concentrations of tumor necrosis factor-α (TNF-α) and IgA in plasma of weaned pigs. A total of 532 pigs (initial BW: 9.3 ± 0.5 kg) were allotted to 14 diets in a randomized complete block design using 4 blocks and 2 replicate pens per diet in each block. A diet containing corn, soybean meal, and whey powder, and 6 diets containing corn, soybean meal, whey powder, and 10, 20, or 30% of either FFRB or DFRB were used. All diets were prepared without or with 16,000 units per kg of microbial xylanase (Econase XT-25, AB Vista, Marlborough, UK). All diets also contained 1500 units per kg of microbial phytase. On the last day of the 23-d experiment, blood samples were collected from one pig per pen to determine TNF-α and IgA. Results indicated that ADFI decreased linearly ($P < 0.05$) as inclusion of FFRB increased in diets, and that there was a tendency ($P = 0.08$) for reduced ADFI as DFRB increased in the diets. Pigs fed diets containing DFRB had greater ADFI ($P < 0.05$) than pigs fed diets containing FFRB, but ADG increased and then decreased (quadratic, $P < 0.05$) with increasing concentrations of FFRB or DFRB, in the diets. The G:F ratio was not affected by inclusion of DFRB in the diets but increased linearly and quadratically ($P < 0.05$) as the inclusion of FFRB increased, and G:F was greater ($P < 0.05$) in pigs fed diets containing FFRB than in pigs fed diets containing DFRB. There was a tendency for the concentration of TNF-α to decrease linearly ($P = 0.09$) as the inclusion of FFRB increased in the diet, but that was not the case when DFRB was added to the diets. Addition of xylanase had no effect on the variables evaluated. The concentration of IgA was not affected by inclusion of FFRB or DFRB in the diets. In conclusion, both FFRB and DFRB may be included in diets fed to weanling pigs from 2 wk post-weaning by at least 20% without compromising growth performance.

Key Words: pigs, rice bran, xylanase