

Effects of fibrous ingredients on pig performance and body composition.

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An experiment was conducted to measure effects of including 30% soybean hulls (SBH) or 30% wheat middlings (WM) in corn soybean meal based diets. Forty growing (initial BW: 25 kg) and 40 finishing (initial BW: 85 kg,) barrows were randomly allotted to 5 treatment groups within each stage of growth with 8 pigs per group. Two groups (16 pigs) at each stage of growth served as the initial slaughter groups (ISG) and were harvested at the initiation of the trial. The remaining 3 treatment groups were randomly assigned to 3 experimental diets that were provided on an ad libitum basis for 28 d in the grower phase and for 35 d in the finisher phase. All pigs were harvested at the conclusion of the feeding period. Results showed that during the grower phase, ADG and G:F were greater ($P < 0.05$) for pigs fed the control corn-soybean meal diet (1.15 kg and 0.56 kg/kg) than for pigs fed the SBH (0.97 kg and 0.47 kg/kg) or the WM (0.89 kg and 0.48 kg/kg) diets. However, during the finishing phase, no differences in ADG or G:F were observed among treatments. In growing pigs, hot and chilled carcass weights and the dressing percentage were lower ($P < 0.05$) for pigs fed the SBH and WM diets compared with pigs fed the control diet, but weights of blood and viscera did not differ among treatments. The percentage and the total amount of fat in the carcass was lower ($P < 0.05$) for pigs fed the SBH and WM diets than for pigs fed the control diet, but the concentration and amount of protein in the carcass was not different among treatments. The percentage and total amount of fat in the carcass was lower ($P < 0.05$) in ISG pigs than in pigs fed the treatment diets. In finishing pigs, no differences in carcass concentrations of fat or protein were observed among treatments, but the total concentration of fat was greater ($P < 0.05$) in pigs fed the control diet (41.45 kg) than in pigs fed the SBH or the WM diets (35.0 and 36.7 kg). The ISG pigs had a lower ($P < 0.05$) concentration of fat, but a greater concentration of protein ($P < 0.05$) than pigs fed the treatment diets. In conclusion, the inclusion of SBH and WM affects performance and body composition more in growing pigs than in finishing pigs.

Key words: pig, fibrous ingredients, performance, body composition