W186 Effects of sulfur concentration in diets containing distillers dried grains with solubles on carcass characteristics and tissue mineral concentrations in growing-finishing pigs. B. G. Kim*[1], D. Y. Kil[2], D. C. Mahan[3], G. M. Hill[4], and H. H. Stein[5], *[1]Konkuk University, Seoul, Korea, [2]Chung-Ang University, Anseong-si, Korea, [3]Ohio State University, Columbus, [4]Michigan State University, East Lansing, [5]University of Illinois, Urbana.*

The objective of this experiment was to determine if concentration of S in diets containing distillers dried grains with solubles (DDGS) affect carcass characteristics, loin quality, and tissue S, Se, and Cu concentrations in growing-finishing pigs. A total of 120 growing barrows (34.2 ± 2.3 kg BW) were allotted to 3 dietary treatments with 10 replicate pens and 4 pigs per pen in an 84-d experiment. The control diet was based on corn and soybean meal (0.14% S, 0.19 mg/kg Se, and 15.3 mg/kg Cu). The DDGS diet was formulated with corn, soybean meal, and 30% DDGS (0.16% S, 0.32 mg/kg Se, and 14.0 mg/kg Cu). The DDGS-S diet was similar to the DDGS diet, except that 1.10% CaSO4 (16.2% S) was added to this diet (0.37% S, 0.35 mg/kg Se, and 13.8 mg/kg Cu). Organ weights and loin quality, 24-h pH, drip loss, loin subjective color, marbling, and firmness did not differ among treatments, but loin redness (a*) was greater ($P < 0.05$) for pigs fed the control diet than for pigs fed the DDGS-S diet. Concentrations of S in hair, liver, heart, loin, and all other tissues did not differ among treatments, but urinary S concentration was greater ($P < 0.05$) for pigs fed the DDGS-S diet than for pigs fed the other diets. Pigs fed the DDGS diet or the DDGS-S diet had greater ($P < 0.01$) Se concentrations in hair, liver, heart, and loin than pigs fed the control diet, but liver concentrations of Cu did not differ among treatments. In conclusion, inclusion of 30% DDGS in diets fed to growing-finishing pigs does not influence carcass characteristics or tissue S concentrations regardless of S concentration in the diet, and excess dietary S is excreted in the urine. In contrast, because of the greater concentration of Se in DDGS compared with corn and soybean meal, tissue concentrations of Se are increased if DDGS is included in the diet. However, liver concentrations of Cu are not influenced by dietary DDGS.

Key Words: distillers dried grains with solubles, selenium, sulfur