200 Concentrations of analyzed or reactive lysine, but not crude protein, may predict the concentration of digestible lysine in distillers dried grains with solubles fed to pigs. B. G. Kim*[1], Y. Zhang[2], and H. H. Stein[1], [1]*University of Illinois*, *Urbana*, [2]*National Corn-to-Ethanol Research Center*, *Edwardsville, IL*.

The objective of this experiment was to investigate procedures that may be used to predict the concentration of standardized ileal digestible (SID) Lys in distillers dried grains with solubles (DDGS) fed to pigs. Twenty-one sources of DDGS were analyzed for CP (23.8 to 33.6%; CV = 8.3%), Lys (0.69 to 1.17%; CV = 12.4%), and furosine (0.02 to 0.22%; CV = 91.4%) on an as-fed basis. The concentration of reactive Lys (%), calculated as analyzed Lys (%) – furosine (%) × 0.40 ÷ 0.32, ranged from 0.47 to 1.15% (CV = 20.7%) in the 21 sources of DDGS. Twenty-one diets that each contained 60% of 1 source of DDGS as the sole source of CP and AA were formulated. An N-free diet was also formulated and used to measure basal endogenous losses of CP and AA. Twenty-two barrows with an initial BW of 45.2 kg (SD = 3.14) were used. Pigs were fitted with a T-cannula in the distal ileum and allotted to a 22 × 10 Youden square design with the 22 diets and 10 periods. The SID of CP and AA were calculated for each diet. The SID of CP ranged from 69.8 to 79.6%, and the SID of Lys from 45.3 to 74.1%. The concentration of SID Lys in the DDGS sources was highly correlated with the concentration of analyzed Lys (SID Lys, % = –0.482 + 1.148 × analyzed Lys, %; $P < 0.001$, $r^2 = 0.849$) and with the concentration of reactive Lys in the samples (SID Lys, % = –0.016 + 0.716 × reactive Lys, %; $P < 0.001$, $r^2 = 0.898$). However, the concentration of SID Lys in the DDGS sources was not correlated with the concentration of CP in the samples ($P = 0.558$, $r^2 = 0.021$). In conclusion, the analyzed Lys, but not CP, may be used to predict the concentration of SID Lys in DDGS fed to pigs. The analysis of furosine in addition to Lys and subsequent calculation of reactive Lys may slightly improve the prediction accuracy of the digestible Lys concentration in DDGS.

Key Words: distillers dried grains with solubles, furosine, lysine digestibility