Apparent and true ileal amino acid and energy digestibility and weanling pig performance of five sources of distillers dried grains with solubles. N. D. Fastinger* and D. C. Mahan, *The Ohio State University*.

An experiment evaluated the apparent and true ileal amino acid digestibility of distillers dried grains with solubles (DDGS) from five plants. The experiment involved a total of 12 pigs in a 6 X 6 Latin Square design in 2 replicates (BW = 21.2 kg). Pigs were cannulated at the distal ileum with a simple T cannula. Five diets contained 60% DDGS as the only protein source while the sixth diet was a low protein casein diet used to determine endogenous amino acid losses. Two plants had a lower apparent ($P < 0.05$) and true ($P < 0.05$) lysine digestibility (27 and 67%) when compared to three plants with apparent and true lysine digestibilities of 48 and 75%, respectively. In Exp. 2 a weanling pig performance trial determined the growth responses of the same DDGS sources to validate the amino acid digestibility responses of Exp 1. The performance trial was conducted with 128 pigs (initial 4.7 kg BW) in a RCB in 4 replicates. Three treatments contained a C-SBM mixture at 0.45, 0.65 and 0.85% lysine (total). Five C-SBM diets with 20% DDGS (contributed 0.15% lysine (total)) contained 0.60% lysine (total). Gain:feed and ADG responded linearly (R^2 =.96) to the C-SBM diets and were used to estimate the biological efficacy of lysine from DDGS. The results demonstrated that plants from Exp 1 with low lysine digestibilities had weanling pig responses similar to the 0.45% lysine (total) C-SBM diet, whereas the three plants with higher lysine digestibilities had higher ($P < 0.05$) pig responses than those fed the 0.45% lysine C-SBM diet. These results demonstrate that there is a wide range in lysine digestibilities between DDGS processing plants, but those plants producing higher quality products had higher digestibilities with greater pig performances than DDGS from plants producing a lower quality product. Growth performances resulted in a similar pattern of DDGS quality as the ileal digestibility trial.

Key Words: Digestibility, Distiller's Grains, Lysine

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