

Energy and nutrient digestibility in dried distillers grain with solubles by growing pigs. H. H. Stein*, C. Pedersen, and M. G. Boersma, *South Dakota State University*.

Three experiments were conducted to measure energy and nutrient digestibility in dried distillers grain with solubles (DDGS) by growing pigs. In Exp. 1, apparent (AID) and standardized (SID) ileal digestibility coefficients of CP and amino acids (AA) were determined in four samples of DDGS using growing pigs equipped with a T-cannula in the distal ileum. Exp. 2 was an energy balance experiment that aimed at measuring DE and ME concentrations in four samples of DDGS and in corn, using the difference method. In addition, the apparent total tract digestibility coefficients (ATTD) for DM, GE, P, ether extract, NDF, and ADF were also measured in this experiment. The four samples of DDGS used in Exp. 2 were identical to those used in Exp. 1. The AID and the SID of CP and AA in ten samples of DDGS were measured in Exp. 3 using procedures similar to those employed in Exp. 1. Results of the experiments indicated some variation among DDGS sources in the AID and SID for most AA in DDGS. The most variable SID were obtained for Lys and Trp, where values ranged from 44 to 78% and from 46 to 80%, respectively. Methionine had the lowest variability for SID among the indispensable AA (74 to 89%), while values from 62 to 87%, 67 to 85%, and 66 to 84% were found for Thr, Ile, and Val, respectively. The average SID for Arg, His, Ile, Leu, Lys, Met, Phe, Thr, Trp, and Val in the 14 samples of DDGS were 79, 76, 73, 82, 60, 81, 79, 70, 73, and 72%, respectively. The four samples of DDGS that were used in Exp. 2 had average ATTD of DM, GE, P, ether extract, NDF, and ADF of 71, 75, 55, 76, 84, and 67%, respectively. Significant differences ($P < 0.05$) between samples of DDGS were found for ether extract, NDF, and ADF, but not for DM, GE, and P. The DE and ME concentration in the four samples of DDGS averaged 3,639 and 3,378 kcal per kg DM, respectively, and no significant differences between sources were observed. It is concluded that considerable variation in AID and SID for CP and AA among samples of DDGS exists. Future work should focus on identifying the reasons for this variation.

Key Words: Dried distillers grain with solubles, Pigs, Nutrient digestibility

Source: *J. Anim. Sci.* Vol. 83 (Suppl. 2) p. 79