

Energy and AA digestibility in dried distillers grain with solubles by growing pigs.

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Three experiments were conducted to measure energy and AA digestibility in dried distillers grain with solubles (DDGS) by growing pigs. In Exp. 1 and 2, apparent (AID) and standardized (SID) ileal digestibility coefficients of AA were determined in four and ten samples of DDGS, respectively, using the direct procedure. A N-free diet was included in both experiments to measure endogenous losses of AA and a corn diet was also included in Exp. 2. Five pigs were used in Exp. 1 in a 5 x 5 Latin square design while 12 pigs were used in Exp. 2 in a 12 x 8 Yuden square design with 8 periods. All pigs were prepared with T-cannulas in the distal ileum and feed was supplied in daily amounts equal to 3 times the estimated energy requirement in both experiments. There were five and eight observations per treatment in Exp. 1 and Exp. 2, respectively. Results of the two experiments demonstrated that there is a considerable variation among samples of DDGS in the AID and SID for most AA. The most variable AA are Lys and Trp, where values for SID 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%). 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. Experiment 3 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. Five pigs were used in a 5 x 5 Latin square design with five observations per treatment. The daily feed allotment to the pigs was equal to 2.5 times the estimated energy requirement of the pigs. The DE and ME concentration in the four samples of DDGS averaged 3,569 and 3,314 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.

Keywords: DDGS, Nutrient digestibility, Pigs.