

M112 Digestibility of CP, AA, and energy in a novel yeast product by pigs. H. H. Stein*¹, M. L. Gibson², M. G. Boersma¹, and C. Pedersen¹, ¹*South Dakota State University, Brookings*, ²*Dakota Gold Research Association, Sioux Falls, SD*.

Two experiments were conducted to measure the digestibility of CP, AA, and energy in a novel yeast product that was produced by extraction from ethanol by-product streams. In Exp. 1, eight barrows that were equipped with a T-cannula in the distal ileum were randomly allotted to a 2-period switch-back design and fed a yeast-based diet and a N-free diet. Both diets were provided in daily amounts equivalent to three times the energy requirement for maintenance. Ileal digesta were collected from the cannulae and the standardized ileal digestibility coefficients (SID) for CP and AA were calculated. Results of this experiment showed that the SID for CP was 74.8%. The SID for Lys, Met, Thr, Trp, Ile, Leu, and Val were 82.2, 88.6, 71.1, 82.2, 79.5, 84.0, and 74.5%, respectively. The average SID for all indispensable AA was 81.4% while the average for the dispensable AA was 75.5%. Exp. 2 was designed to measure the concentration of DE and ME in the yeast product. Six growing barrows were placed in metabolism cages and randomly allotted to a 2-period switch-back design. A corn-based diet (98% corn, 2% vitamins and minerals) was formulated. A second diet consisting of 40% yeast and 60% of the corn-based diet was also formulated. Both diets were supplied in a daily amount equivalent to 2.5 times the energy requirement for maintenance. Collections of feces and urine were performed and the energy balance for each of the two diets was calculated. The energy concentration in the corn was calculated from the corn-based diet while the energy concentration in the yeast was calculated from the corn-yeast diet using the difference method. Results of this experiment showed that the concentration of DE and ME in yeast (5,600 and 5,350 kcal per kg DM, respectively) is higher ($P \leq 0.001$) than in corn (4,071 and 3,992 kcal per kg DM, respectively). It is concluded that the yeast product extracted from ethanol by-product streams has a high digestibility of AA and a high concentration of energy. This product may be well suited as an energy and AA source in diets for swine.

Key Words: AA Digestibility, Pigs, Yeast