

Digestible and metabolizable energy in ten samples of DDGS fed to growing pigs.

C. Pedersen, M. G. Boersma, and H. H. Stein, *South Dakota State University*.

An experiment was conducted to measure digestible (DE) and metabolizable (ME) energy concentrations in ten samples of distillers dried grain with solubles (DDGS) fed to growing pigs. A corn-based basal diet was formulated. Ten diets consisting of 50% of the basal diet and 50% of each of ten sources of DDGS were also formulated. Each diet was fed to 11 growing pigs that were placed in metabolism cages and allotted to an 11 X 11 Latin square design. Total collections of urine and fecal materials were performed over a 5-d period. The total balance of energy, N, and P were calculated for each diet and the concentrations of DE and ME in each of the ten DDGS sources were calculated using the difference procedure. The apparent total tract digestibility (ATTD) of N and P were also calculated for each source of DDGS. Results of the experiment showed that the DE and ME for corn (4,090 and 3,989 kcal per kg DM, respectively) was not different from the average DE and ME in DDGS (4,191 and 3,871 kcal per kg DM, respectively). However, the values measured for DE in DDGS varied ($P < 0.001$) from 4,015 to 4,555 kcal per kg DM. Likewise, the values for ME in DDGS varied ($P < 0.001$) from 3,678 to 4,255 kcal per kg DM. The values for N-absorption from the ten sources of DDGS varied ($P < 0.006$) from 118 to 167 g over the 5-d collection period. However, pigs fed the corn-diet only absorbed 62 g of N which was less ($P < 0.001$) than the values for all the DDGS sources. The retention of N also was greater ($P < 0.001$) from DDGS (54.5 to 74.3 g) than from corn (25.5g), but there were no differences among sources of DDGS for N-retention. The average values for the ATTD of GE, N, and P in DDGS were 76.8, 83.0, and 59.1%, respectively. As with DE and ME, variations ($P < 0.01$) among the samples of DDGS were observed (73.9 to 82.8, 77.1 to 87.5, and 50.1 to 68.3%, respectively for the ATTD of GE, N, and P). It is concluded that the concentration of DE and ME in DDGS may vary among sources, but in general is close to the DE and ME in corn.