

776 Apparent and true ileal digestibility of acid hydrolyzed ether extract in various feed ingredients fed to growing pigs. B. G. Kim*, D. Y. Kil, and H. H. Stein, *University of Illinois, Urbana.*

An experiment was conducted to measure the apparent (AID) and true ileal digestibility (TID) of acid hydrolyzed-ether extract (AEE) in extracted corn oil (CO), high-oil corn (HOC, 7.1% AEE), full-fat soybeans (FFSB, 21.4% AEE), distillers dried grains with solubles (DDGS, 11.8% AEE), corn germ (CG, 18.1% AEE), and high protein-distillers dried grains (HP-DDG, 6.8% AEE). The ileal digestibility of AEE in these ingredients was determined using 19 barrows (initial BW: 52.2 ± 3.81 kg) that were fitted with a T-cannula in the distal ileum. Pigs were allotted to a 19 × 12 incomplete Latin square design with 19 diets and 12 periods. A basal diet (0.67% AEE) based on cornstarch, casein, sucrose, and corn bran was formulated. Fifteen additional diets were formulated by adding 2.0, 4.0, or 6.0% AEE from CO (2 to 6%), HOC (24 to 72%), FFSB (9 to 28%), DDGS (17 to 51%), and CG (11 to 33%) to the basal diet at the expense of corn starch, casein, and corn bran. In the remaining 3 diets, 1.1, 2.2, and 3.2% of AEE was added to the basal diet by including 16, 32, and 48% HP-DDG, respectively. The AID of AEE increased with increased concentrations of AEE from CO and FFSB ($P < 0.05$; linear and quadratic), and from DDGS and HP-DDG ($P < 0.05$; linear). However, the inclusion level of AEE from HOC and CG did not affect the AID of AEE. The average AID of AEE was 85.8, 48.1, 76.6, 59.8, 49.4, and 66.5% (SEM = 1.68) in CO, HOC, FFSB, DDGS, CG, and HP-DDG, respectively. The ileal endogenous excretion of AEE was 0.695, 0.112, 0.525, 0.137, -0.021, and 0.427 g/100 g DMI, and the TID of AEE was 96.8, 50.8, 86.1, 62.6, 48.9, and 76.3% (SEM = 1.63) for CO, HOC, FFSB, DDGS, CG, and HP-DDG, respectively. In conclusion, the digestibility of AEE in DDGS and HP-DDG is greater than in HOC or CG, implying the distillation process may improve the digestibility of AEE in corn. However, all the sources of intact corn oil that were used in this experiment had lower AID and TID values for AEE than extracted corn oil.

Key Words: acid hydrolyzed ether extract, ileal digestibility, pigs