

O073 Energy concentration and amino acid digestibility in corn and corn co-products fed to growing pigs. M. Song¹, J. K. Mathai^{2,*}, F. N. Almeida², O. J. Rojas², S. L. Tilton³, M. J. Cecava³, H. H. Stein², ¹*Animal Sciences, Chungnam National University, Daejeon, Republic of Korea*, ²*Animal Sciences, University of Illinois, Urbana*, ³*Archer Daniels Midland Company, Decatur*.

Two experiments were conducted to determine DE and ME and the standardized ileal digestibility (SID) of CP and AA in corn and corn co-products (corn fiber, full fat corn germ [CG], a mixture of corn germ meal and liquid corn extractives [CGM-LCE], and liquid corn extractives [LCE]) fed to growing pigs. In Exp. 1, 40 barrows (initial BW: 33.4 ± 5.77 kg) were housed individually in metabolism cages. A corn basal diet was formulated and 4 additional diets were formulated by mixing corn with each of the corn co-products. Each diet was fed to 8 pigs per diet. Concentrations of DE and ME in corn fiber, CG, CGM-LCE, and LCE were less ($P < 0.05$) than in corn (DE: 3,204, 3,631, 3,567, and 3,485 vs. 3,986 kcal/kg DM, respectively; ME: 3,077, 3,336, 3,272, and 3,102 vs. 3,871 kcal/kg DM, respectively). Among corn co-products, the concentration of DE in CG was greater ($P < 0.05$) than in corn fiber, but the DE in corn fiber was not different from DE values in CGM-LCE and LCE. No differences were observed in the ME among corn co-products. In Exp. 2, 6 barrows (initial BW: 96.6 ± 1.16 kg) with a T-cannula in the distal ileum were randomly allotted to a 6 x 6 Latin square design with 6 diets and 6 periods. A N-free diet and 5 diets that contained corn, corn fiber, CG, CGM-LCE, or LCE as

the sole source of CP and AA were formulated. Each period lasted 7 d and ileal digesta were collected on d 6 and 7 of each period. The SID of CP and all indispensable AA except Lys and Trp was greater ($P < 0.05$) in corn than in all corn co-products. Among corn co-products, the SID of CP, Lys, and Val were greater ($P < 0.05$) in CG, CGM-LCE, and LCE than in corn fiber, and the SID of Arg was greater in CG and CGM-LCE than in corn fiber and LCE, but for the remaining AA, no differences among corn co-products were observed. In conclusion, the corn co-products used in these experiments contain less ME and have reduced SID of most AA compared with corn, but there are no differences in ME among corn co-products and only few differences in SID of indispensable AA among corn fiber CG, CGM-LCE, and LCE.

Key Words: corn co-products, digestibility, pigs