

337 Amino acid digestibility in corn and corn co-products fed to growing pigs. G. I. Petersen* and H. H. Stein, *University of Illinois, Urbana.*

Many alternative feedstuffs are co-products of corn milling and fermentation. Little is known about the standardized ileal digestibility (SID) of AA in most of these products such as hominy feed, corn gluten meal, corn gluten feed, and corn germ meal in pigs and it is not known how the SID of AA in these ingredients compare to the SID of AA in corn and in distillers dried grains with solubles (DDGS). Eight growing barrows (initial BW: 55 ± 0.85 kg) originating from the matings of line 337 boars to C22 females (Pig Improvement Company, Hendersonville, TN) were randomly allotted to an 8 x 8 Latin square design with 8 diets and 8 periods in each square. Diets contained corn, two different sources of DDGS, hominy feed, corn gluten meal, corn gluten feed, or corn germ meal as the sole source of protein and AA. An N-free diet was used to measure basal endogenous losses of AA and protein. Results showed that the SID of most AA were greater ($P < 0.05$) in hominy feed and in corn gluten meal than in the other ingredients, whereas the SID for most AA in corn gluten feed was lower ($P < 0.05$) than in the other ingredients (Table 1). The SID of Lys in one source of DDGS was lower ($P < 0.05$) than in the other source, but no differences between these 2 ingredients were observed for the other AA. The SID of Ile, Met, and Thr in corn germ meal were lower ($P < 0.05$) than in corn, but for the remaining AA, no differences between corn and corn germ meal were observed. In conclusion, corn gluten feed has a very low SID of Lys and most other indispensable AA, but other corn co-products have SID values for most AA that are comparable to or greater than in corn.

Table 1. Standardized ileal digestibility (%) of AA

Diet	DDGS1	DDGS2	Hominy	Corn Gluten Meal	Corn Germ Meal	Corn Gluten Feed	Corn
Ile	76.27 ^c	79.32 ^{bc}	87.13 ^a	85.60 ^a	77.11 ^c	64.27 ^d	80.93 ^b
Lys	46.10 ^c	65.39 ^b	79.55 ^a	76.39 ^a	61.01 ^b	28.59 ^d	67.12 ^b
Met	81.12 ^b	83.52 ^b	89.54 ^a	89.03 ^a	81.50 ^b	67.17 ^c	87.29 ^a
Thr	69.77 ^c	74.56 ^{bc}	79.90 ^{ab}	82.38 ^a	66.02 ^c	53.90 ^d	76.48 ^b
Trp	86.35 ^{ab}	86.42 ^{ab}	90.70 ^a	91.18 ^a	85.50 ^{bc}	58.31 ^d	80.68 ^c
Val	74.85 ^c	78.54 ^{bc}	86.03 ^a	84.18 ^a	75.66 ^{bc}	63.14 ^d	79.12 ^b

^{a, b, c, d} Means lacking common superscript in same row are different ($P < 0.05$).

Key Words: corn co-products, pig, standardized ileal amino acid digestibility