

510 Amino acid digestibility in blood products fed to weanling pigs. F. N. Almeida*¹, J. K. Htoo², J. Thomson³, and H. H. Stein¹, ¹University of Illinois, Urbana, ²Evonik Industries AG, Hanau, Germany, ³Evonik Degussa Corp., Kennesaw, GA.

Blood products are commonly used in diets for nursery pigs, but different processing techniques may result in differences in AA digestibility among these ingredients. Thus, the objective of this experiment was to compare values for the standardized ileal digestibility (SID) of AA in spray-dried animal blood (SDAB; 89.4% CP), spray-dried blood cells (SDBC; 92.6% CP), spray-dried plasma protein (SDPP; 77.7% CP), roller dried avian blood meal (ABM, 88.4% CP), and roller dried porcine blood meal (PBM, 94.6% CP), when fed to weanling pigs. Seven weanling barrows (initial BW: 11.5 ± 1.1 kg) were equipped with a T-cannula in the distal ileum and allotted to a 7 × 7 Latin square design with 7 diets and 7 periods in each square. One of the diets was based on casein, and 5 diets were based on a mixture of casein and each source of blood product. A N-free diet that was used to measure basal endogenous losses of AA and protein was also formulated. The SID of AA in each blood product was calculated by the difference procedure. The Mixed procedure of SAS was used to analyze the data. The model included diet as the main effect whereas pig and period were random effects. Results indicate that the SID of AA in SDAB, SDBC, and in SDPP is close to 100% and not different from casein. The SID of AA in ABM and PBM is less ($P < 0.05$) than those calculated for the 3 spray dried blood products, which indicates that the drying procedure used to prepare these products may have reduced the SID of AA.

Table 1. Standardized ileal digestibility (%) of AA

Item	SDAB	SDBC	SDPP	ABM	PBM	Casein	SEM	<i>P</i> -value
Ile	110 ^a	64 ^{cd}	99 ^{ab}	67 ^{bcd}	34 ^d	97 ^{abc}	13	<0.01
Leu	100 ^a	98 ^a	98 ^a	67 ^c	76 ^b	99 ^a	3	<0.01
Lys	100 ^a	98 ^a	98 ^a	74 ^b	79 ^b	97 ^a	2	<0.01
Met	102 ^a	98 ^a	98 ^a	^b	70 ^b	98 ^a	3	<0.01
Phe	100 ^a	98 ^a	98 ^a	67 ^c	76 ^b	99 ^a	3	<0.01
Thr	104 ^a	96 ^a	98 ^a	72 ^b	69 ^b	94 ^a	4	<0.01
Trp	99 ^a	94 ^a	97 ^a	69 ^b	77 ^b	96 ^b	3	<0.01
Val	100 ^a	98 ^a	98 ^a	67 ^c	76 ^b	97 ^a	3	<0.01

^{a-c}Values within a row lacking a common superscript letter are different ($P < 0.05$).

Key Words: amino acid digestibility, blood products, pigs