

**T358 Method evaluation for determining digestibility of rumen undegraded amino acids in blood meal.** S. E. Boucher\*<sup>1</sup>, S. Cal-samiglia<sup>2</sup>, M. D. Stern<sup>3</sup>, C. M. Parsons<sup>4</sup>, H. H. Stein<sup>4</sup>, C. G. Schwab<sup>5</sup>, K. W. Cotanch<sup>6</sup>, J. W. Darrah<sup>6</sup>, and J. K. Bernard<sup>7</sup>, <sup>1</sup>*Kemin AgriFoods North America Inc., Des Moines, IA*, <sup>2</sup>*Universitat Autònoma de Barce-lona, Bellaterra, Spain*, <sup>3</sup>*University of Minnesota, St. Paul*, <sup>4</sup>*University of Illinois, Urbana*, <sup>5</sup>*Schwab Consulting LLC, Boscobel, WI*, <sup>6</sup>*William H. Miner Agricultural Research Institute, Chazy, NY*, <sup>7</sup>*University of Georgia, Tifton*.

To evaluate various methods for estimating digestibility of rumen undegraded AA in blood meal (BM), 5 BM samples (2 bovine, 3 por-cine) were obtained. One bovine sample was heated at 125°C for 2 h to generate an additional bovine sample and one porcine sample was heated at 110°C for 2 h (n = 6). Samples were ruminally incubated in situ for 16 h in 3 lactating cows fed a 55% forage diet. Rumen unde-graded residues (RUR) were pooled by sample and analyzed for AA. Digestibility of AA in the RUR was determined via the mobile bag technique (MBT) in dairy cows, precision fed cecectomized rooster assay (CRA), modified 3-step procedure (MTSP), and homoarginine assay (HA; estimates available Lys). For the MBT, 0.8 g of each RUR was weighed into 24 polyester bags, soaked in a pepsin/HCl solution for 2 h, and introduced into 2 duodenally cannulated cows. Bags were collected from the feces and undigested residues were analyzed for AA. Digestibility of AA was calculated by disappearance. To calculate standardized AA digestibility using the CRA, RUR were tube fed to 4 birds per sample, and total excreta collected for 48 h and analyzed for AA. For the MTSP, 5 g of each RUR were weighed into 2 polyester bags and incubated (38°C) sequentially in a pepsin/HCl solution for 1 h then a pancreatic solution for 24 h in Daisy<sup>II</sup> incubator bottles. Digestibility of AA was calculated by disappearance. For the HA method, RUR were guanidinated and analyzed for Lys and HA con-tent. Percent Lys converted to HA was calculated. The REG procedure of SAS was used for data analysis. R<sup>2</sup> values for Lys digestibility using MTSP, CRA, and HA procedures compared with the MBT in cows (independent variable) were 0.89, 0.62, and 0.05, respectively, and the R<sup>2</sup> values for total essential AA (EAA) digestibility using MTSP and CRA compared with MBT were 0.89 and 0.92, respectively. Using MBT in dairy cows as a reference, it appears that HA method is not a good approach to determine available Lys in BM, CRA was adequate to determine digestibility of total EAA in BM, and MTSP is a good approach to estimate digestibility of both Lys and total EAA in BM.

**Key words:** blood meal, rumen-undegraded protein, mobile bag tech-nique