Enzyme-based protein digestibility (IDEA™) assay accurately predicts poultry *in vivo* lysine digestibility for distiller's dried grain and solubles (DDGS). C. Schasteen*[1], J. Wu[1], and C. Parsons[2], [1]*Novus International, Inc.*, [2]*University of Illinois*.

IDEA™ is a patented enzyme-based assay designed for rapid prediction of amino acid digestibility of poultry feed ingredients including soybean meal, meat and bone meal, poultry byproduct meal, and feather meal with assay times from 2 hours to < 1day for animal and plant proteins, respectively. The objective of this study was to evaluate the applicability of IDEA™ technology to predict the amino acid digestibility of distiller's dried grains and solubles (DDGS) produced for animal feed. Commercial North American DDGS samples (n = 28) were collected and IDEA™ analysis run as well as determination of true amino acid digestibility determined in the precision-fed cecectomized rooster assay (Fernandez and Parsons, 1994). True lysine digestibility varied in this sample set from 59.1% to 83.6% with an average of 70.3%. IDEA™ analysis of these samples indicated a strong correlation of IDEA™ values with the true lysine digestibility determined in roosters (r^2 of 0.88). Crude protein in this sample set ranged from 24.5% to 30.2%. Other amino acid true digestibilities determined for this sample set did not vary to the same extent as lysine (25%), with cysteine having the next greatest variability (20%) and methionine and alanine showing the least variation (8%). IDEA™ analysis showed poor correlation (r^2 of < 0.5) for amino acids other than lysine. Results of this study suggested that variations in poultry *in vivo* lysine digestibility existed among US commercial DDGS products and that other amino acids did not show the same variability. IDEA™ provided a good prediction of *in vivo* poultry digestibility of lysine for DDGS. Extension of IDEA™ to test the prediction of true ileal digestibility of DDGS amino acids in swine is underway.

Key Words: DDGS, IDEA™, Digestibility

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