

**Title:** Comprehensive evaluation of lysine digestibility in DDGS – NPB #09-142

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## Scientific Abstract

The variability of lysine digestibility in DDGS has made it difficult to formulate swine diets with DDGS. Therefore searching for an accurate in vitro indicator for lysine digestibility of DDGS in swine becomes imperative in order for swine producers to better utilize DDGS without observing variation in performance of pigs. We examined five in vitro methods for DDGS testing including the measurement of color, the immobilized digestible enzyme assay (IDEA), the enzymatic pepsin-pancreatin procedure, acid detergent insoluble nitrogen (ADIN) measurement, and front face fluorescence method. The values for DDGS obtained from each procedure were compared with the standardized ileal digestibility (SID) of lysine of DDGS in swine diet obtained from a previous study, and the results showed that, (1) no linear correlation has been observed between the color of DDGS or the the IDEA value of DDGS and the SID of lysine of DDGS (both correlation coefficients lower than 0.3); (2) the in vitro enzymatic assay or ADIN did not predict in vivo standardized ileal digestibility of CP and Lys in DDGS fed to pigs (both correlation coefficients lower than 0.2); (3) accurate SID Lys prediction models can be developed to provide good estimates within a defined data set but does not accurately predict SID Lys using data from samples not included in the model. We concluded in this study that more research is needed to identify methods that can adequately predict lysine digestibility of DDGS in swine diet.

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Contributing organizations for 2009 include: AgriSolutions, Inc., DPI Global, Iowa Pork Producers Association, Illinois Corn Marketing Board, Illinois Pork Producers Association, Kansas Pork Association, Missouri Pork Producers Association, Mississippi Pork Producers Association, National Pork Board, Nebraska Corn Board and the Utah Pork Producers Association.

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