RESEARCHABSTRACT

ANIMAL SCIENCE — Nutritional Efficiency Consortium

Title: Influence of Rapid Introduction and Removal of Dietary DDGS on Pig Performance and Carcass Characteristics - **NPB #07-144**

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Scientific Abstract:

Influence of rapid introduction and removal of dietary corn distillers dried grains with solubles (DDGS) on pig performance and carcass characteristics. A.M. Hilbrands*[1], L. J. Johnston[1], G. C. Shurson[2], and I. Kim[2], [1]*University of Minnesota, West Central Research and Outreach Center, Morris,* [2]*University of Minnesota, St. Paul*

Due to price fluctuation the dietary inclusion of DDGS may only be economical intermittently throughout the growing-finishing period. A study was conducted to determine the effects of rapid introduction and removal of DDGS from growing-finishing pig diets on growth performance and carcass composition. Crossbred pigs (n = 216; BW = 51.3 ± 3.1 kg) were blocked by weight and assigned randomly to one of 24 pens (9 pigs/pen). Pens within a block were assigned randomly to one of 4 dietary treatments fed in 3 phases. Dietary treatments consisted of a corn-soybean meal control (D0), a corn-soybean meal diet containing 20% DDGS fed throughout the study (D20), D20 and D0 diets alternated bi-weekly (D20SW), and a 40% DDGS diet alternated bi-weekly with the D0 diet (D40SW). There were 5 bi-weekly feeding periods with pigs assigned to D20SW and D40SW treatments starting and ending the trial consuming DDGS diets. There were no differences in ADG among treatments but D20SW pigs tended to have heavier final BW ($P < 0.09$) than D40SW pigs. Pigs assigned to D40SW tended to have lower ADFI ($P < 0.07$) than D20 pigs. Pigs assigned to D20SW had better gain efficiency ($P < 0.05$) than D20 pigs. At harvest, D0, D20, and D20SW pigs had heavier HCW ($P < 0.01$) than D40SW pigs but 10th rib backfat depth, loin eye area and percent carcass lean were not affected by treatment. These results suggest that the rapid inclusion and removal of 20% DDGS from growing-finishing pig diets will not adversely affect pig performance or carcass characteristics but that at 40% DDGS inclusion levels it may reduce ADFI and HCW.

These research results were submitted in fulfillment of the Nutritional Efficiency Consortium research projects. Contributing organizations for 2007 include: Arizona Pork Council, DPI Global, Eli Lilly/Elanco, Iowa Corn Growers Association, Iowa Pork Producers Association, Illinois Corn Marketing Board, Illinois Pork Producers Association, Kansas Corn Commission, Kansas Pork Association, Lucta USA, Minnesota Pork Board, Missouri Pork Producers Association, Monsanto, Mississippi Pork Producers Association, Montana Pork Producers Council, National Corn Growers Association, North Carolina Pork Council, Inc., National Pork Board, Nebraska Pork Producers Association, Inc., Ohio Pork Producers Council, Pioneer Hi-Bred International, Inc., Utah Pork Producers Association and the Wisconsin Pork Association.

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