

Growth performance and carcass characteristics of grow-finish pigs fed increasing levels of distiller's dried grains with solubles. M.H. Whitney¹, G.C. Shurson¹, L.J. Johnston², D. Wulf³, and B. Shanks³. ¹University of Minnesota, St. Paul, ²University of Minnesota, Morris, ³South Dakota State University, Brookings.

Currently, the recommended maximum inclusion rate of distiller's dried grains with solubles (DDGS) in grow-finish swine diets is 10%. However, previous studies conducted at the University of Minnesota have shown that DDGS produced from new ethanol plants in the MN-SD region has higher nutrient levels and digestibility than reported in NRC (1998). Therefore, we conducted a growth performance and carcass evaluation study to re-evaluate the recommended maximum inclusion rate of DDGS in grow-finish diets when formulated on a total amino acid basis. A total of 240 ($28.4 \pm .8$ kg) crossbred pigs ((Y x L) x D) were randomly assigned to one of 4 dietary treatment sequences in a 5-phase grow-finish feeding program (24 pens, 10 pigs/pen, 6 reps/trt). Dietary treatments consisted of corn-soybean meal diets containing 0, 10, 20, or 30% DDGS. All diets were formulated to contain equivalent total lysine, ME, Ca, and P levels within each phase. Pigs were weighed and feed disappearance was determined bi-weekly. Time of changing to the subsequent diet phase was based on average pen weight within dietary treatment sequence. Pigs were slaughtered and carcass data were collected when average pen weight reached 115 kg. Pigs fed the 20 or 30% DDGS diets had reduced ADG ($P < .10$) compared to 0 or 10% DDGS, but ADFI was unaffected by dietary treatment ($P > .10$). Feed/gain increased when pigs were fed 30% DDGS ($P < .10$) compared to 0, 10, and 20% DDGS inclusion levels. Dressing % decreased linearly ($P < .03$) with increasing dietary DDGS level, but slaughter weight was also lower for pigs fed 20 or 30% DDGS ($P < .05$). Loin depth was lower in pigs fed the 30% DDGS diets ($P < .10$), but backfat depth and % lean did not differ between treatments ($P > .10$). Results from this study suggest that when grow-finish diets are formulated on a total amino acid basis, less than 20% DDGS should be included in the diet for optimal performance and carcass composition. Dietary inclusion levels of 20% or greater may provide satisfactory performance and carcass composition if diets are formulated on a digestible amino acid basis.

Key Words: Pigs, Distiller's Dried Grains with Solubles, Growth

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