

Distillers Grains in Swine Feeds

Submitted by Dan Short, Livestock Agent

Recent discussions about the location and development of area ethanol plants have stimulated thinking about how to best use the distiller by-product. No surprise to anyone following the discussion that for obvious reasons alcohol plants locate in areas of great corn production. Produced from the distillation process is a wet (40% d.m.) by-product, distillers grains with solubles (DGS). This physical form itself presents a feeding challenge for most hog producers. Unlike Europe, where feed components are by comparison very expensive and liquid feed systems are employed, most U.S. producers utilize dry feeding programs. The question that remains, however, is that if it were cost effective to remove the moisture sufficiently to permit its inclusion in a dry feeding program, where would dried distillers grains (DDGS) best fit into swine feeding programs.

Dr. Vern Leibbrandt, UW-Extension Swine Specialist, recently completed a literature review about that subject. Here is what he had to say about the nutritional attributes, as they relate to swine feeding, and what would be the recommended feeding limits.

Nutritional Quality of DDGS

The metabolizable energy content of DDGS approaches that of corn (1485 vs 1535 kcal/lb). Although higher in fiber than corn (9% vs 2.3%) the increase in fat content, due to the fermentation process, compensates for the energy dilution that typically occurs when feeding feeds containing significant fiber.

From a protein perspective the 27% crude protein of DDGS would lead one to conclude it has potential as a protein supplement. Important to remember here is we are feeding single stomach animals here and protein quality is vitally important. If soybean meal were used as a referenced feed for comparison, you would find that the soybean meal contains more than twice the lysine content of DDGS and that the digestibility of the lysine found in both soybean meal and corn is better than that of DDGS.

On the positive side of feeding DDGS is that the phosphorus found in DDGS is quite available in comparison to corn. This can reduce inorganic supplementation and the phosphorus content of the resulting manure.

Dr. Leibbrandt's¹ article provides for recommended DDGS feeding levels to various classes of swine. These suggestions are the maximum percentage levels for inclusion in swine diets for each production phase.

Recommended Maximum DDG levels in swine feeds	
Nursery pigs	5%
Grower / finisher pigs . . .	15%
Gestating swine	40%
Lactating swine	10%

To evaluate more completely how best to include DDGS in your swine diets refer to the Pork Industry Handbook fact sheet PIH 112, “Relative value of feedstuffs for Swine and PIH 108 “By-products in Swine diets”. The complete article, or the PIH fact sheets are available from my Arlington Research Station office.

¹ Dr. Leibbrandt, after 25 years of service to the Wisconsin swine industry recently retired. We thank him for his dedication and commitment, and wish for he and his family nothing but the best.