

Texas Dairy Matters

Higher Education Supporting the Industry

DRY DISTILLERS GRAINS VARIATION

Sandra Stokes, Ph.D.
 Extension Dairy Specialist
 Department of Animal Science
 Texas A&M AgriLife Extension Service
 The Texas A&M University System

Co-products frequently are excellent feeds, but nutrient composition varies from load to load. Distillers grains are one example of a co-product that needs to be monitored. Distillers grains (DG) are made from a variety of grains including: corn, barley, rye, sorghum, wheat and mixtures of these grains. Although, in general, distillers grains are higher in protein, fat, neutral detergent fiber and ash, they usually are lower in starch than the grain used to make them.

Distillers grains may be made with or without the solubles and may be delivered wet (WDG) or dry (DDG). All influence the final nutrient analysis. When solubles are added, the crude protein is decreased and ash is increased.

Recently, Akayezu et al. compiled nutrient composition data on DG from a variety of grain sources and plants. The crude protein concentration by grain source is listed in the table.

Grain Source	% Crude Protein
Barley	28.7
Corn	32.9
70% Corn:30% Wheat	38.0
Sorghum	31.6
Durum Wheat	48.7
Spring Wheat	45.2
70% Wheat:20% Corn	40.2

The value for corn DDG given in the NRC's Nutrient Requirements of Dairy Cattle is 23% CP. Thus, if your nutritionist uses the book value from NRC, the crude protein provided from DDG would be underestimated and you spend more money than necessary on protein supplementation.

Many factors influence the composition of DG besides the type of grain used. The method of drying, whether or not solubles are added and how much solubles are added impact the nutrient analysis. In addition, the amount of protein that is rumen undegradable or bypass is influenced by the type of grain used, both the time and temperature used in drying, the amount of solubles added and the laboratory technique used to estimate the amount of bypass.



When purchasing co-products, such as DG, ask what the grain source was and what plant the product came from. Considerable variation exists from plant to plant as well as within a plant. Consider sampling the feed as it is delivered to your farm. Provide your nutritionist with the actual analysis to use in formulating the ration for your herd. Only accurate analysis can avoid costly errors of over or under feeding. Remember, the cheapest product isn't always what it appears.