

Mineral Composition of Distiller's Dried Grains with Solubles

**A.B. Batal and N.M. Dale
Poultry Science Department
The University of Georgia
Athens, GA 30602**

Increased emphasis on ethanol production in the United States has and will continue to lead to significant increases in the amount of distiller's dried grains with solubles (DDGS) available to the feed industry. One of the primary concerns with DDGS by poultry nutritionists is the nutrient content variability among ethanol plants. For proper feed formulation accurate information on the nutrient content of DDGS is essential. Twelve samples of commercially prepared DDGS were obtained from the north central United States and analyzed for mineral composition, with primary emphasis placed on the sodium content. The levels of sodium listed by the NRC (1994) for distiller's dried grains (DDG) (0.09%), distiller's dried grains with solubles (0.48%), and dehydrated distiller's solubles (DDS) (0.26%) appear to be inconsistent and illogical. Analysis indicated an enormous range in sodium content of the 12 samples, ranging from 0.09 to 0.57%. The average value is 0.23%; however it is emphasized that use of this value in feed formulation is to be discouraged. The source of the extraordinary variation noted in the sodium content of DDGS samples is not immediately clear. A simple consideration of the sodium content of corn grain and the multiplier effect (3x) resulting from starch fermentation adequately accounts for sodium values of DDGS in the 0.09 to 0.12 range, but not the higher levels which were observed in some samples. The average composition of many of the other minerals (except Ca) agreed with projected values based on a 3 fold increase of the levels found in yellow corn grain, NRC (1994). Nutritionists need to properly characterize the mineral content of DDGS from respective suppliers prior to incorporating into balanced rations.

Keywords: distiller's dried grains with solubles, mineral composition, sodium, feed ingredients