

Some hematological studies in broiler chicks as affected by using dried distiller's grains with solubles in their diets

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A total number of 256 unsexed, one day old Arbor acres broiler chicks were used to study the effect of using distillers dried grains with solubles (DDGS) at levels (0, 5, 10, 15%) treated without or with enzyme (avizyme 1500) at level 0 and 1gm / kg diet on some blood parameter of broiler chicks. At the 6th week of age, blood samples were collected from wing vein of four chicks from each experimental groups to study some blood hematological study. Birds fed dietary 15% DDGS recorded the highest ($P \leq 0.01$) values of RBC's, PCV%, Hb, MCH and MCHC compared to other treatments. The greatest ($P \leq 0.01$) value of MCHC was recorded for birds fed dietary 5% and 15% DDGS. While, birds fed 15% DDGS recorded the highest ($P \leq 0.01$) value of PCV%. Hemoglobin (Hb) concentration increased by using DDGS at all levels compared to control group. Adding enzymes to broiler diet improved ($P \leq 0.01$) Hb and MCV values.

The principle reason for broiler producers to select dietary ingredients is economy, because feed represents approximately 70% of the live production cost. In feed formulation, nutritionists consider a wide range of ingredients and attempt to develop feed formulas that provide the desired level of nutrients at minimum cost. In formulating diets the nutritionist must consider not

only cost and nutrient content of the ingredient, but also the quantity available for use and consistency of supply (Wang et al., 2007). Therefore, many attempts are usually made to reduce feed cost without adversely affecting performance and/or product safety by using some Un-traditional ingredients in the diets. In developing countries, there is a shortage of both energy sources and feedstuffs with acceptable protein content for animal production. In view of the worldwide demand for additional feed sources. Moreover, enzymes were used most commonly to aid digestion of diets where improvements are seen in dry matter digestibility. There is also current interest in enzymes designed specifically to improve soybean meal digestibility (Lesson and Summers, 2005).

Recently, increased emphasis on ethanol production as biofuel in the United States and other countries has and will continue to lead to significant increase in the amount of dried distillers grains with solubles (DDGS) available to the feed industry (Batal and Dale, 2003). DDGS has been a by-product of the beverage industry, for the most part, with several different grains used in the fermentation process. In the late 1930s, feed producers began to incorporate DDGS into livestock rations, but before this, it was a by-product with limited value (Scott, 1970). The beverage industry was not the only source of DDGS; ethanol plants also produced this ingredient. Production of ethanol from 100 kg of corn using the dry-milling method produces approximately 34.4 kg of ethanol, 34.0 kg of carbon dioxide and 31.6 kg of distillers dried grains with solubles (Renewable Fuels Association, 2005).

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