

High protein corn distiller dried grains as a feed ingredient. C. Abe*¹, N. J. Nagle², C. Parsons³, J. Brannon¹, and S. L. Noll¹, ¹*University of Minnesota, St. Paul*, ²*National Bioenergy Center, Golden, CO*, ³*University of Illinois, Urbana*.

Hydrolyzed distillers dried grains (HDG) were obtained from the National Renewable Energy Laboratory. The sample was submitted for determination of proximate components, sugar, starch, amino acid, and minerals. For digestible amino acid determination, cecectomized chicken roosters were used. Growing turkeys were used for the determination of TMEn. HDG was evaluated for feeding value by inclusion into a basal diet at 0, 5, 10, 15, and 20%. The corn-soybean meal based turkey starter diet was formulated to provide similar levels of ME, digestible lysine (lys) and methionine (met), calcium, and phosphorus. Male poults (Large White) were fed a commercial starter diet until 3 d of age. At 3 d of age, they were weighed and assigned into cages such that there was an equivalent cage body weight. Poults were fed the experimental diets to 18 d of age (Ten replicate cages/seven poults/cage). At the end of the trial, two poults per pen were randomly selected, euthanized, and internal organs (spleen, heart, liver, gastrointestinal tract, bursa) weighed. Results (as fed) for ash, DM, fat, fiber, protein, starch and sugars were 1.43, 95.9, 10.7, 3.9, 57.8, 1.6, and 2.0%, respectively. Lys, arginine (arg), tryptophan (trp), threonine (thr), cystine (cys) and met content as % of protein were 1.99, 2.63, 0.34, 3.14, and 2.1%, respectively. Digestibility coefficients of lys, arg, trp, thr, cys and met were 68.1, 79, 64, 75.2, 78.3 and 85.9% respectively. TMEn was 2692 ± 78 kcal/kg as is. There was significant linear decrease ($P < 0.01$) at 11 day of age in average daily gain (ADG) and feed intake as HDG level was increased and a cubic effect ($P < 0.02$) in ADG during 11 to 18 days. In conclusion, up to 10% of HDG can be included in turkey starter diets although higher levels may be possible after two weeks of age.

Key Words: Turkey, Corn, Distillers Dried Grain

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