

Metabolizable Energy Value for Corn Distillers Dried Grains with Solubles

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Reported ME values for corn distillers dried grains with solubles (DDGS) varies considerably. A grow-finish trial was conducted with turkeys to confirm the appropriate energy value of DDGS to use in diet formulation. Commercial male turkeys (Large White, Hybrid strain) were fed diets varying in level of DDGS (10 or 20% DDGS) and formulated using different levels of MEn assigned to the DDGS during 6 to 19 wks of age. The ME assignments (E) were (kcal/kg): previously determined TMEn in young growing turkeys of 2980; previously determined AMEn with young turkey poults of 2760; and, the NRC (1994) book value of 2480. The basal diet was composed of primarily corn, soybean meal, poultry byproduct meal and .05% supplemental thr. Diets were formulated on a digestible amino acid basis. A control diet with no DDGS was included. Each diet was fed to 10 replicate pens of turkeys (10 birds/pen). The higher inclusion level of 20% depressed body weight in comparison to the control ($P < .01$) at 11 (7.95 vs. 7.85 kg), 14 (11.99 vs. 11.80 kg), and 19 wks of age (17.35 vs. 17.11 kg) while performance was similar for the control and 10% DDGS diet. The depression with a 20% inclusion level is in contrast to our previous data (Noll et al., 2004) that showed that a level of 20% gave similar performance to that of the control diet series. A reduction in diet protein level through the use of supplemental thr may have negatively affected the performance response. Cumulative 6-19 wk feed efficiency (f/g) was poorer for turkeys fed 20% DDGS diets in comparison to 10% DDGS (2.552 vs. 2.522) but neither dietary treatment was different from the control (2.53). Diets varying in E did not affect turkey body weight. When the TMEn value was used in formulation, cumulative 6-19 wk f/g was poorer as compared to the NRC value (2.56 vs. 2.52) ($P < .05$). Determination of energy by TMEn resulted in an overestimation of the energy value of the DDGS when using feed efficiency as the response criteria. While there was no difference in response for the NRC or AMEn energy value, use of the lower NRC energy value could have a large effect on diet cost.