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Composition of Metabolic Energy Value and Amino Acid Digestibility of Wheat, Wheat Screening and Barley Between Ileum and Faces of Broiler Chicken

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A broiler chick bioassay was carried out with forty eight 21-day-old Arian-broiler chickens to study the effect of site sampling on metabolizable energy (ME) and amino acid digestibility. The test diet contained corn and soybean meal as the major ingredients. Three next treatments were formulated to contain barley, wheat and wheat screening as the test ingredients at a level of 40% in the test diet. Chromic oxide was included in all diets as an indigestible marker. Apparent metabolizable energy (AME) and nitrogen-corrected apparent metabolizable energy (AMEn) based on excreta were significantly higher ($P <$ 0.05) than ileal AME and AMEn in barley. With the exception of histidine, digestibilities of amino acids based on excreta were numerically higher than the ileal value. Significant differences between ileal and excreta-based digestibility of aspartic acid, arginine, threonine, lysine, valine and methionine indicating on a net catabolism of these amino acids in the large intestine. The current study suggests that determination of amino acid digestibility and metabolizable energy based on excreta collection will overestimate amino acid and energy availabilities in all test ingredients.

Keywords: amino acids digestibility, energy value, excreta, ileal

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