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Dietary starch influences growth performance, nutrient utilisation and digestive dynamics of protein and amino acids in broiler chickens offered low-protein diets

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Highlights

- The transition from standard to high starch/low protein diets compromised FCR
- Dietary inclusions of maize starch enhanced starch digestibility coefficients
- Maize starch depressed protein digestibility coefficients and disappearance rates
- Starch digestibility was negatively correlated with digestibility of 12 amino acids
- Significant differences in amino acid concentrations in portal plasma were observed

Abstract

A total of 288 day-old, male Ross 308 chicks were offered six dietary treatments from 7 to 28 days post-hatch. A standard maize-soy diet was compared with five low protein diets containing high inclusions of maize starch and various combinations of supplemental amino acids. The assessed parameters included growth performance, nutrient utilisation, digestibility coefficients and disappearance rates of starch, protein and amino acids in four small intestinal segments.

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