Repeatability estimates of growth traits in arbor acre broiler chickens fed graded level of probiotics enhanced Moringa oleifera seed meal diets


Abstract

Two hundred (200) Arbor Acre broiler chickens fed four different diets containing 0 (control), 4, 6, and 8% (unconventional) probiotics enhanced Moringa Oleifera seed meal (PEMOSM) were used to estimate repeatability (R) of growth traits during the starter (0-4 weeks) and finisher phases (5-7 weeks). The traits considered were body weight, body length, thigh length, drumstick length, shank length, body girth, wing length and keel length. The results showed low to moderate and high R estimates based on the diet fed to chickens and feeding phase (starter and finisher). Moderate to high R (0.47 to 0.99) estimates were obtained for most of the growth traits examined during the starter and finisher phases when the chickens were fed diets containing 0 and 4% PEMOSM, except shank length, thigh length, wing length, body girth and keel length that had low R estimates (0.32 to 0.43) during those period. When the chickens were fed higher levels of PEMOSM, low R estimates (0.30 to 0.47) were obtained for most of the traits except body weight which had 0.62 and 0.52 at 6 and 8% PEMOSM inclusion level during finishers' stage, and keel length with 0.55 at 6% PEMOSM during the starter phase. This findings indicate that nutrition play a major role as an environmental factor that have a significant effect on genetic parameters of chicken and should be taken into consideration when broiler chickens are been considered for genetic improvement.

Key words. Broiler chickens; Growth traits; Repeatability estimates; Nutrition.