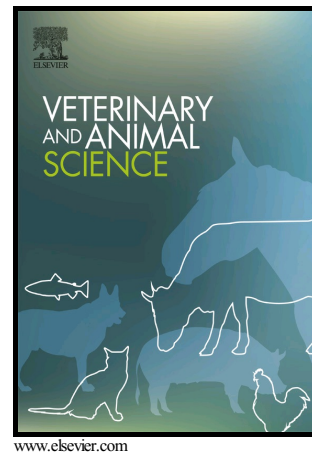


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Serum Chemistry and Gut morphology of Two Strains of Broiler Chickens to Varying Interval of Post Hatch Feeding

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Responses of two broiler chicken strains to varying intervals of post-hatch feeding: Serum bio-chemistry
and gut morphology

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Abstract

This trial was carried out to determine the responses of two broiler strains of chicken to different post-hatch access to feed. 180-day old chicks (Arbor acre and Marshal strains) with initial weight range of 39.36-42.24g were used for this study. Each strain was divided on weight equalization into three treatment groups consisting of three time-period access to feeds (4hrs, 24hrs, 48hrs) post hatch in a 2 x 3 factorial experiment after which they were fed *ad-libitum*. Thirty (30) birds were assigned to each treatment which comprised of three replicates of ten birds. Data collected on serum biochemical constituents and gut morphology were measured and subjected to analysis of variance in a completely randomized design. Marshal strain recorded a higher ($p < 0.05$) final live weight (2420.00g/bird) than the Arbor acre strain (2218.30g/bird). Birds fed at 4 hours and 24 hours post-hatch recorded higher ($p < 0.05$) final live weights (2,402.00 and 2,391.00 g/bird) than those fed at 48 hours post-hatch (2133.00g/bird). Interaction effect showed Marshal strain fed at 4 hours post-hatch had the highest ($p < 0.05$) final live weight (2594.00g/bird). Highest ($p < 0.05$) serum total protein and albumin (37.3 and 22.8g/l) were recorded in birds fed at 4 hours post-hatch at 4 weeks of age. Furthermore, birds fed at 4 hours and 24 hours post-hatch recorded higher ($p < 0.05$) serum total protein and albumin than those fed at 48 hours post-hatch. Birds fed at 4 hours post-hatch recorded the highest ($p < 0.05$) duodenal villus height at 4th and 8th week of age and highest ($P < 0.05$) jejunal villus height at 2nd week

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