

## Abstract:

The present study was conducted to characterize the yolk sac utilization in fast and slow-growing chicks, subjected to feed and water deprivation. Two experiments were carried out; using two hundred fifty broiler chicks (Lohmann) in the first experiment and two hundred fifty layer chicks (Bowen) in the second one. Ten recently hatched chicks were immediately selected from each strain at random, individually weighed and then killed. The yolk sac was removed from the abdominal cavity and then weighed. The remaining 240 chicks from both groups were randomly assigned to one of four experimental groups as follows: (A) provided with water but no feed, (B) provided with feed but no water, (C) provided with neither feed nor water and (D) provided with both feed and water. Water and feed deprivation continued for 48 h posthatch. Thereafter, all the groups were provided with normal feed and water. Body weight and yolk sac weight were measured for successive 6 days. Statistical analysis was carried out using general linear model procedure of Statistical analysis system. The obtained data indicated that, there was strain difference between broiler and layer chicks in yolk sac weight at hatch. Nevertheless, with the exception of day 3, the feed and water restriction had no effect on the yolk sac weight and residual yolk utilization. The efficiency of the yolk uptake in broiler chicks was significantly higher compared to layer chicks during the first 2 days posthatch. The finding of this study showed that, broiler and layer chicks, subjected to feed and water deprivation showed striking differences in their efficiency of yolk utilization