COMPARISION OF SINGLE AND MULTI-STAGE INCUBATORS ON INCUBATION, CHICK QUALITY PARAMETERS AND BROILER PERFORMANCE AT BAIRAHA FARMS PLC

M.D.F. Sufina[1], G.A.S.N. Gamlath[2] and A.M.J.B. Adikari[1]

[1]Department of Animal and Food Sciences, Faculty of Agriculture, Rajarata University of Sri Lanka, Puliyankulama, Anuradhapura
[2]Bairaha Farms PLC, Ellakkala, Pasyala

Different types of incubators are used by commercial hatcheries to hatch eggs. This study was carried out to compare the effects of single and multi-stage incubators on incubation, chick quality parameters and broiler performance. 1200 eggs (57-64 g) from MX male x Cobb 500 female (35-40 wk) were collected from the breeder farm. The experiment composed of two treatments each, with four replicates and each replicate consisted of 150 eggs. Eggs were incubated in Single Stage (SS) and Multi-Stage (MS) incubators, separately. At the end of incubation period, moisture loss of eggs, hatchability and chick quality parameters were measured. Chicks were reared in an open house for a period of 40 days. Data were statistically analyzed, using two sample t-test in SAS and growth performance (final body weight and feed conversion ratio (FCR) and carcass quality parameters (yield and dressing percentage) were presented using Microsoft Excel. The initial egg weight and hatchability were not significantly different ($p>0.05$) while moisture loss of eggs significantly ($p<0.05$) differed between the two incubators. The eggs hatched in MS incubator reported a higher moisture loss. Chick quality parameters such as chick length, chick weight and Pasgar score were not significantly different ($p>0.05$) between chicks hatched from both incubators. The highest average body weight and lowest FCR were observed in birds hatched from MS (1.72 kg and 1.84), compared to SS incubators (1.64 kg and 1.85). However, average yield and dressing percentages of birds were higher in SS (79.6% and 76.2%) than in MS (79.1% and 75.6%) incubator. The results revealed that, moisture loss during incubation is higher in MS incubator while hatchability and chick quality parameters did not show much difference between the two incubators.

Keywords: Chick length, FCR, Incubation, Pasgar score