

**COMPARISON OF BROILER CHICKS
PERFORMANCE IN SINGLE STAGE
INCUBATION AND MULTI STAGE INCUBATION**

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by

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Abstract

The study was conducted to determine performance of broiler chicks incubated in single stage and multi stage incubators. The study was conducted at the Bairaha Farms PLC at Pasyala, using their Petersime vision control 1152S Single stage (SS) and Multi-stage (MS) setter and hatcher machine. General hatchery procedure and broiler farm procedure was followed until brooding time throughout the research. The suitable eggs for the hatching were collected from the 54 – 65 weeks age of broiler breeders from UP (Urapola) breeder farm. Grade III eggs (64 – 80 g) were selected. Eggs were stored in cool room for 3- 4 days until setting to setter machine.

The selected egg weights were measured individually. Setter trolleys were loaded to SS machine and MS machine separately. The second weight measuring was done to calculate the weight loss percentage at egg transferring. Hatched residuals and chick samples were collected separately. The chick weight and length were measured. Pas gar[®] scoring method was followed to analyze the quality of the chicks. Hatch residuals were broken and evaluated. Chicks were brooded for two weeks and body weight gain, FCR and mortality were measured separately SS and MS incubated chicks. Data was statistically analyzed through One-way analysis of variance (ANOVA) in Minitab 16 software at 5% level of significant.

There was no significant different between initial egg set for the two machine type. Hence, there was no significant effect to results obtained throughout the experiment. SS incubation was shown 9.1% and MS incubation shown 11.5% of moisture loss. There was a significant different between moisture loss. The MS incubated chicks were shown 48.4 g of body weight and the SS incubated chicks shown 47.1 g body weight. There was no significant different between chick length. SS incubated chicks had higher quality. SS incubated broilers shown a higher body weight gain of 287.75 g. SS incubated birds shown a better FCR. There was no significant different between mortality, hatchability and fertility.

MS incubated chicks have higher chick weight and incubation has effect on the broiler performances. SS incubated chicks were shown high quality and higher weight gain at the brooding time incubation has effect on quality and body weight gain.

Key words: incubation, chick weight, chick length, pas gar[®] score, FCR, mortality