**Influence of Egg Weight and Breeder Age on Hatchability and Chick Quality of Cobb 500 Broiler**

K.C.S.Pieris1,M.A.J.PMunasinghe1\*, K. A. T. C. Kulawansa2

*1Department of Livestock Production, Faculty of Agricultural Sciences, Sabaragamuwa University of Sri Lanka, Belihuloya, Sri Lanka*

*2. NLDB Miriswatta farm, Millewa, Horana*

[*\*jagath@agri.sab.ac.lk*](mailto:*jagath@agri.sab.ac.lk)

For hatcheries as well as broiler producers, the quality of day old chick is very important. This study was made to compare chick quality indicators such as Tona score, chick weight and incubation parameters among two different breeder age and three egg weight categories. Hatching eggs from the two flocks of Cobb 500 broiler breeder (36 and 49 week of age) at three egg weight categories A (58-63g), B (64-69g), and C (70-75g) were obtained. A total of 5550 eggs were obtained from all two age groups and selected 600 hatching eggs, 100 eggs for each treatment. Incubation and chick quality parameters were measured and egg breakout analysis was done. The result of the study shows that the main effect of age and egg weight with chick quality parameters is not significant (p> 0.05). Also, the interaction effect of the flock age and egg weight is not significant (p>0.05). Chick weight influenced by egg weight and higher chick weights were resulted from 49 week age. Thirty six week old age group showed the higher result of hatchability and hatch of fertile comparing to 49 week age group. The highest hatchability and hatch of fertile resulted in 36 week old 58-63g weight group. Moisture loss increased with the egg size and flock age. Embryonic mortality and infertile egg number were higher in 49 week old age group. In conclusion, age group difference of broiler breeders and weight group difference of eggs are fair predictors of incubation and chick quality parameters while 36 week old aged flock and 58-63g weight group showed the best hatchability among all groups.

**Keywords:** *Broiler breeder****,*** *Chick quality parameters, Cobb 500, Hatchability, Incubation parameters*