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

**KCS Pieris1\*, MAJP Munasinghe1, KATC Kulawansa2**

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

*2NLDB Miriswatta farm, Millewa, Sri Lanka*

*\*chamodini1st@gmail.com*

For hatcheries as well as broiler producers, the quality of day-old chick is very important. This study was conducted to compare chick quality indicators such as Tona score, chick weight, and incubation parameters among two different breeder ages and three egg weight categories. Hatching eggs from two flocks of Cobb 500 broiler breeder (36 and 49 week of age) at three egg weight categories; A (58-63 g), B (64-69 g), and C (70-75 g) were obtained. A total of 600 hatching eggs were selected from all two breeder age groups for the six treatments. Incubation and chick quality parameters were measured and egg breakout analysis was done. Data were processed with the online statistical software package, SAS Demand for Academic, version 9. The result of the study showed that the main effect of breeder age and egg weight on chick quality parameters was not significant (p> 0.05). Also, the interaction effect of the flock age and egg weight was not significant (p>0.05). Chick weight was influenced by egg weight and higher chick weights were resulted from birds of 49 week age. Thirty six week old breeders showed a higher hatchability and hatch of fertile compared to 49 week age group. The highest hatchability and hatch of fertile was 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*