

## **The Effect of Pre-incubation Storage Duration on the Embryonic Development and Hatch Weight in Cobb 500 Broiler Hatching Eggs**

M.M.P. Yasas<sup>1\*</sup>, N.M.N. Nambapana<sup>1</sup>, D.K.D.D. Jayaseena<sup>1</sup> and P. Kumara<sup>2</sup>

<sup>1\*</sup>*Department of Animal Science, Uva Wellassa University, Badulla, Sri Lanka*

<sup>2</sup>*New Anthoney's Farms (Pvt.) Ltd., No 13, Tittapattara, Hanwella, Sri Lanka*

It is a common practice of storing hatching eggs until they are finally placed in an incubator. The effect of pre-incubation storage duration on embryonic development and hatch weight has not been fully investigated. This study was conducted to identify the effect of pre-incubation storage duration on embryonic development, hatch weight, and to determine the best pre-incubation storage duration that gives the highest embryonic development, hatch weight in broiler hatching eggs. Broiler hatching egg samples with the weight range of 64-67g and approximately similar colour and shape index from the Cobb 500 strain were randomly selected from 8 a.m. to 9.30 a.m. for the experiment and stored under 16-18°C and 75% relative humidity. Six experiments were carried out and each experiment consisted of the 15 treatments and 3 replicates. Day 1 storage of the egg samples was considered as the control and day 2 to day 15 of the storage were the rest of the treatments. The embryonic development was measured by the diameter of the blastoderms, the diameter of the blood rings, the highest distance between air sac, and the area of blood vessels spread and the weight of 15 days old embryos. The hatch weight was measured at the initial and the post stages of the hatching. Collected data were subjected to the One-way ANOVA technique independently for each experiment. The embryonic development was decreased ( $p < 0.05$ ) from day 8 of the storage and the hatching weight was decreased ( $p < 0.05$ ) from day 9 of the storage. The maximum embryonic development and the hatching weight were observed on day 3 of the storage. The reason for delay the development after 3rd day of storage can be the delay of initial embryonic development due to cold storage. In conclusion, broiler hatching eggs can be stored up to 7 days without reducing embryonic development ( $p < 0.05$ ) and up to 8 days without reducing hatch weight ( $p < 0.05$ ). The maximum embryonic development and the hatching weight were obtained on day 3 of the storage.

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