

**EFFECT OF PRE-INCUBATION STORAGE ON
FERTILITY, HATCHABILITY,
AND BROILER CHICK QUALITY**

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by

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Abstract

A total of 3,528 incubating eggs produced by a commercial flock of Cobb broiler breeders of age week 50 – 54 of age was used to determine the effects of pre-incubation storage duration (1 day to 7 day) on spread of hatchability, fertility, chick malformation and average chick weight and embryonic mortality after 21st day of incubation period. The eggs in 60-70 g of weight category were used for experiment. Chick quality was determined by the variation of other performances with the different treatments with the control sample.

Three replicates were used and each consisted with control sample (3 days of pre-incubation period) and six samples as T 1, T 2, T 4, T 5, T 6, and T 7. Each sample was stored for different pre incubational periods as 1 day, 2 days, and 4 days, 5 days, 6 days and 7 days respectively.

Hatchability, fertility, embryonic mortality, chick malformation rate and average chick weights were calculated. Hatchability, embryonic mortality and average chick weight were not significantly affected ($P < 0.05$) by different treatments. Fertility and chick malformation rate were significantly ($P < 0.05$) affected by the different treatments.

Eggs can be kept for pre-incubation up to 6 days without drop of hatchability and can be kept up to 7 days without losing average chick weight and with lowest embryonic mortality. Eggs can be kept up to 5 days without loss of fertility and eggs kept up to 3 days result the minimum malformation rate.

When the mean values are compared, it is profitable to keep eggs up to 4 days which produce high quality broiler chicks without loss of chick quality, but maximum quality chicks can be obtained by keeping eggs up to 3 days of pre-incubation.

Key words: pre-incubation, broiler breed, fertility, hatchability, malformation, embryo mortality, incubation