

Abstract

## Effect of prestorage incubation and frequently warming during storage on egg characteristics, embryonic development, hatchability, and chick quality

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**Egg storage beyond 7 days decreases hatchability and chick quality. The sensitivity of the embryo for prolonged egg storage may depend on the stage of embryonic development or the number of viable cells. This experiment investigated whether prestorage incubation (PSI) and frequently warming during storage (FW) affected egg characteristics, embryonic development, hatchability, and chick quality when storage time was prolonged.**

Eggs from a Ross (308) broiler breeder flock of 36 weeks were used. Eggs were incubated for 7 hours (PSI) to increase the stage of embryonic development. Eggs were warmed 6 times for 30 minutes in water of 37.8°C (FW) to increase the number of viable cells without affecting the stage of embryonic development. The experiment was a 2 x 2 completely randomized design. Eggs were stored for 15 days at 16°C and 75% relative

humidity. Results showed that PSI and FW both increased the stage of embryonic development and the number of viable cells, but had no pronounced effect on albumen height, albumen pH, and yolk pH at the end of storage. PSI and FW shortened incubation time by 3 and 5 hours, respectively, but did not affect hatchability and chick quality at day of hatch.