HatchTech
INCUBATION TECHNOLOGY

Abstract

Effect of the warming profile at the start of incubation on hatchability and chick quality in short stored eggs

Oral Presentation at the XIVth European Poultry Conference, June 2014, by Inge van Roovert-Reijrink

I. A. M. van Roovert-Reijrink*, C. W. van der Pol*, C. M. Maatjens*

* HatchTech B.V., P.O. Box 256, 3900 AG Veenendaal, the Netherlands

Storage of hatching eggs is a common procedure at breeder farms and hatcheries. Previous trials showed that a warming profile at the start of incubation, of which the increase in temperature from 29.4°C to 37.8°C was controlled, reduced early embryonic mortality in long stored eggs (>7 days) in comparison to no controlled warming profile. The current trial investigated the effect of warming profile on hatchability and chick quality for short stored eggs (< 7 days) of a young, prime, and old flock.

Per flock age (Ross 308), 4,800 eggs were warmed from storage temperature (18°C) to an eggshell temperature (EST) of 37.8°C with 4 warming profiles: warming as fast as possible (profile Fast), linear increase of 5 hours to an EST of 29.4°C, followed by a linear increase of 5 hours to an EST of 37.8°C (profile 5-5), profile 5-12, and profile 5-18.

Hatchability and chick quality in terms of body weight, chick length, and navel quality were measured. For the young flock, hatchability was 4.7% higher for profile 5-12 than for profile Fast (P=0.02). Chick length was higher for profiles 5-5, 5-12, and 5-18 than for profile Fast (P<0.001).

For the old flock, percentage of completely closed navels was 19.6% higher for profile 5-5 than for profile Fast (P=0.04).

It can be concluded that controlling the warming profile from 29.4°C to 37.8°C is not only beneficial for long but also for short stored eggs. The optimal warming profile depends on flock age

19_314_HAT113