Effects of Age of Broiler Breeders and Egg Storage on Egg Quality, Hatchability, Chick Quality, Chick Weight and Chick Post-Hatch Growth.

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Abstract

Nutritional and environmental conditions influence broiler flock performance. Besides these factors, other less-well-understood factors, such as incubating egg characteristics, affect the embryonic life of chicks. This study demonstrated that egg storage depressed egg albumen Haugh units (HU) and chick quality; these effects of storage were greater in egg and chicks from old breeders. Absolute weight gains (AG) during the first 7 d of rearing were negatively affected by storage and age of breeders. However, the effect of storage was more obvious in chicks from eggs of younger breeders. Field reports indicate that chick weights during the first 2 wk of rearing were lower for chicks from eggs of younger hens but were not affected by the storage time. At the end of the third week, chicks from fresh eggs were heavier than those from eggs stored for 7 d, and this difference increased until 42 d. During the same period, age of hens did not affect broiler weights. Average daily weight gain (ADG) was negatively affected from the end of fourth or fifth week of rearing by egg storage or increasing age of hens, respectively. There was a significant positive relationship between 7- to 35-d-old weights and broiler weights at slaughter age (42 d). It was concluded that growth potential of chicks 1 d posthatch is partly linked to the incubating egg quality and other characteristics that can be linked to the physiological stage of breeders (e.g., age).

Keywords:

Broiler Breeder, Broiler Performance, Egg Quality, embryonic, Environmental Conditions, Negative Affect, Daily Weight Gain, Weighted Averaging, Weight Gain