The effect of acute heat stress on biochemical parameters of hens

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Abstract

The objective of this paper was to evaluate the effects of acute heat stress period on biochemical parameters of hens. Heat stress generally causes a decrease in feed intake. The hypothesis that feed intake, egg production, egg quality measures, acid-base status (pH, pCO₂, HCO₃⁻) of hens would be influenced by the high temperature period was tested. Twenty four Isa Brown hens at 64 weeks of age were used in this experiment and hens were randomly separated into 2 equal groups. Each group contains 12 hens. First control group was housed at 20.1 - 21.2°C and 60 - 65% relative humidity. Experimental group was housed for 2 weeks at 20.5°C and 60 - 65% relative humidity in experimental box, and then exposed to 36.8 - 37.3°C and 57 - 60% relative humidity for 4 week, and then allowed to recover for 2 week at 20.5 °C and 60% relative humidity. All production parameters and egg quality were significantly affected by heat stress. Feed intake during first week heat period was significantly reduced (32%). In next week was feed intake increasing, with reduction 27.4 and 26.3%, respectively. Blood pH values were significantly higher from 1 week of exposure (7.501; 7.481; 7.472; 7.477) and (7.362; 7.370; 7.364; 7.377) - control group.

Key words: heat stress, temperature, hen

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