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ORGANIZER

Institute for Animal Husbandry
Autoput 16, P. Box. 23,
11080, Belgrade-Zemun, Serbia
Tel: +381 11 2691 611; +381 11 2670 121; +381 11 2670 541;
Fax: + 381 11 2670 164;

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Zdenka Škrbić, PhD, Principal Research Fellow
Institute for Animal Husbandry, Belgrade-Zemun

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Institute for Animal Husbandry, Belgrade-Zemun, Serbia





Address:

Institute for Animal Husbandry,
Autoput 16, P. Box 23,
11080, Belgrade-Zemun, Serbia

Tel:

+381 11 2691 611

+381 11 2670 121

+381 11 2670 541

Fax:

+381 11 2670 164

E-mail: biotechnology.izs@gmail.com
www.istocar.bg.ac.rs

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QUALITY OF EGGS FROM BANAT NAKED NECK AND ISA BROWN LAYERS DURING STORAGE

Zdenka Škrbić¹, Miloš Lukić¹, Veselin Petričević¹, Simeon Rakonjac², Vladimir Dosković², Nataša Tolimir³, Danijel Milenković¹

¹Institute for Animal Husbandry, Autoput 16, 11080, Belgrade-Zemun, Republic of Serbia

²Faculty of Agronomy, University of Kragujevac, Cara Dušana 34, 32000 Čačak, Republic of Serbia

³Institute of Science Application in Agriculture, Bulevar Despota Stefana 68b, 11000, Belgrade, Republic of Serbia

Corresponding author: Zdenka Škrbić, zskrbic@istocar.bg.ac.rs

Abstract: The genotype of the hens, as well as the production system and the diet of the hens, determine the quality of the eggs that are best at the moment of oviposition. In addition to the initial quality of the eggs, the duration and conditions of storage are factors that determine the quality of the eggs that reach the consumer. The aim of the work was to determine the sustainability of the egg quality of the native Banat Naked Neck (BNN) hens and to compare it with the eggs of the ISA Brown (ISA) hybrid laying hens under the same conditions of production and storage. The eggs were stored in a refrigerator at a temperature of 8°C for 2 or 4 weeks, and in accordance with the Rulebook on Egg Quality (2019). Eggs were sampled in 3 repetitions, and two groups were formed: storage time 2 weeks (ST2) and storage time 4 weeks (ST4) each with 90 eggs, i.e. 45 eggs per genotype and duration of storage. The analysis of the initial quality of BNN and ISA eggs showed differences ($p < 0.01$) in the ratio of egg structural parts, that is, yolk and white, which were maintained throughout the entire storage period. The eggs of BNN had a higher share of egg yolk and a lower share of albumen compared to the eggs of ISA layers. Egg weight of BNN and ISA layers did not initially differ and was 62.06 g and 62.78 g, respectively. However, egg weight loss during the storage period was lower ($p < 0.01$) in BNN (1.20% after 2 weeks and 2.66% after 4 weeks) compared to ISA eggs (1.98% after 2 weeks and 4.24% after 4 weeks). Albumen height and Haugh Units (HU) showed higher values initially and after two weeks of storage ($p < 0.01$) in ISA laying eggs. After four weeks of storage, there were no significant ($p > 0.05$) differences between eggs of BNN and ISA layers in terms of albumen height and HU. In accordance with the mentioned parameters of egg freshness, the pH value of the albumen was higher ($p < 0.01$) in BNN hens after two weeks of egg storage. After four weeks of storage, these processes were more moderate and the determined differences between the eggs of BNN and ISA layers were at a lower level of significance ($p < 0.05$). In conclusion, BNN eggs during the storage period have more moderate processes of loss of freshness and egg weight compared to eggs of ISA layers, which after four weeks of storage brings them into an equal relationship in terms of quality, although the initial quality of eggs of ISA layers was better.

Key words: egg quality, storage, laying, Banat Naked Neck, ISA Brown

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