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Evaluation of the quality of eggs sold in supermarkets in the city of Garanhuns/PE under different types of storage

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The egg is considered a functional food due to its nutritional substances and because it is more affordable compared to other animal proteins. Requiring adequate storage conditions and temperature to maintain its quality. Inadequate storage conditions, especially temperature, accelerate chemical reactions inside the egg, promoting the loss of carbon dioxide and water through the shell pores, which transforms the dense albumen into liquid and promotes an increase in the albumen's pH. Therefore, determining ideal storage conditions is essential to maintain egg quality until consumption. Therefore, the present work aimed to evaluate the influence of storage time and temperature on the quality of eggs sold in supermarkets. To achieve this, 270 eggs were purchased under normal commercial conditions in the municipality of Garanhuns – PE. The acquisition was random, without observing the expiration date of the product and without taking into account the origin of the eggs, simulating the buyer. The eggs were weighed individually and, using a completely randomized design, were divided into two groups for storage at room temperature (26ºC) and refrigerated (5ºC). Every seven days (zero, seven, 14, 21 and 28), 30 eggs from each environment were evaluated, featuring a 2x5 factorial arrangement (two temperatures X five ages). The variables evaluated for internal quality were egg weight, albumen weight and yolk weight (g), yolk index and Haugh Unit (HU). The factors evaluated for external quality were shell weight (g) and shell thickness (mm). The data were evaluated considering a probability of 5%, when the means were significant for environments, the F test was used and for storage ages, regression was used. There was no interaction between the factors. The temperature of 26°C kept the albumen weight close to the weight of the fresh egg (38.28g vs. 39.61g); the temperature of 5°C promoted a reduction to 37.64g (P = 0.66). Yolk weight of eggs stored at 26°C decreased (15.41 vs. 19.42); chilled eggs had yolks close to their weight on the day of laying (20.60g) (P < 0.0001). The yolk index remained at a temperature of 5°C (0.28 vs. 0.29 for eggs on day zero); At a temperature of 26°C, the yolk index was 0.11 (P = 0.0000). Storage time promoted a decrease in yolk weight (P < 0.0001). Data analysis revealed that in eggs stored at a temperature of 5ºC there was a lower quality reduction when compared to eggs stored at a temperature of 26ºC. The results obtained in this work allowed us to analyze that in order to maintain the internal quality of eggs sold in supermarkets for up to 28 days, it is necessary to store them in a refrigerated environment (5ºC)

Keywords: egg quality, supermarket, Hugh unit, consumer.