

STUDY ON THE THERMAL AND NON-THERMAL SHRINKAGE EFFECT OF TWO POLIMER FILMS AND ITS INFLUENCE ON SELECTED CHEMICAL AND COLOUR PARAMETERS DURING STORAGE OF PORK CHOPS IN VACUUM PACKAGING

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Abstract

Extension of the shelf life of meat on the market is one of the most important requirements that are placed in front of the meat industry because, in addition to safety and quality, contains and significant economic momentum. This paper presents a part of the examination of the project III 46009, funded by the Ministry of Education, Science and Technological Development of Republic of Serbia. The aim of the study was to observe the effect of thermal shrinkage on the differences in the sustainability of the application of these two packaging procedures.

In summer and winter cycle were conducted tests for sustainability of pork chops in a vacuum packaging of 7 and 9 layered foil. Samples were transported immediately after packing using the vehicle with Thermo King and stored in conditions of 1 - 3 °C. In the first cycle, the packaging is done with a thermal shrinkage, while in the second cycle subsequently thermal shrinkage after vacuuming was not done.

There were registered statistically significant differences in terms of TVB-N, pH and aw values between these two cycles ($p < 0.001$), and the values of color (L^* , a^* and b^* ; $p < 0.001$), measured using Konica-Minolta device, between the two types of films in both cycles. Looking at the days between these two cycles when the test was done, we registered a statistically significant difference ($p < 0.001$) between the acid value and the value determined by TBK test (Malon-aldehyde content).

The results indicate significantly prolonged sustainability of pork chops packed in vacuum packaging. Unpackaged pork chops were sustained up to 5 days. Under the conditions of our test, better results were obtained when, after vacuuming, is not done thermal shrinkage, because pork chops were sustained for 15 days, regardless of the type of film used, consistent with the sensory quality.

Key words: Sustainability, Pork chops, Vacuum packaging, Multilayer films, Thermal shrinkage.