

THE INFLUENCE OF *SEA BUCKTHORN* PUREE ON THE OXIDATION PROCESS OF LIPIDS IN MAYONNAISE

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Foods high in fat are prone to lipid oxidation. Mayonnaise is also rich in vegetable oil and is classified as a cold sauce in food technology. Antioxidants are the most effective lipid oxidation inhibitors, which can maintain product freshness and to prevent its discoloration or rancidity. Texture, colour and odour changes are negative effects of the lipid oxidation process.

To improve the quality of the mayonnaise, it has been proposed to add sea buckthorn puree to the mayonnaise formulations, as it is rich in antioxidants as carotenoids that have a positive impact on the final product.

In the presented work, samples of mayonnaise with partial replacement of vinegar by sea buckthorn puree in concentrations of: 3%, 5%, 7% were investigated during storage. During 28-day storage of mayonnaise samples with added sea buckthorn puree, the physicochemical characteristics showed improved results in comparison with control sample of traditional formulation.

Titrateable acidity values decreased from 0.13% in the control sample to 0.09% in the 7%-sea buckthorn sample. This tendency is also observed during storage in all samples in correlation with the concentration of sea buckthorn puree. The pH values of the sample with 5% addition of sea buckthorn puree showed constant values, with a non-significant decrease from 5.04 to 4.89 on days 21 and 28. This result demonstrates a good stability of the fat emulsion in the mayonnaise composition. The peroxide values were within the permissible limits of the regulations. The most relevant results showed the samples with 5% and 7%: respectively, 1.993 μmol active oxygen/kg and 1.738 μmol active oxygen/kg. These results shows that the higher concentration of sea buckthorn in the sample corresponds with the slower peroxide value increases during storage. The sample with the addition of 5% sea buckthorn puree showed good results in preventing oxidation of lipids in mayonnaise and appreciable sensorial properties.

Keywords: oxidation, sea buckthorn puree, mayonnaise, quality

Acknowledgment: The research was supported by the State Project of the Republic of Moldova 20.80009.5107.13 "Development of technology for production of sea buckthorn in ecological system and processing of fruit and biomass".