

COLOR STABILITY OF YOGURT WITH NATURAL DYE OBTAINED FROM SAFFLOWER (*CARTHAMUS TINCTORIUS L*)

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Introduction. Currently, there is a growing concern among consumers about the consumption of natural foods, because people aspire to a healthier lifestyle. Therefore, much interest has been given to safety food additives, namely natural dyes [1]. In this study, the yellow dye obtained from Safflower was added to milk for producing of yogurt. The dye obtained from Safflower has a yellow color and can simulate the color of fruit yogurts, for example, with apricots or peaches. The dye obtained from Safflower was added to the yogurt samples at concentrations of 0.1; 0.2; 0.3 and 0.4% (w / w). The coloring capacity of the dye obtained from Safflower was compared with a synthetic dye (E102). The aim was to evaluate the color stability of yoghurt during storage of these products at temperatures of $4 \pm 2^{\circ}\text{C}$.

Materials and methods. The color stability of the yogurt was determined by the chromaticity coordinates (CIE L* a* b*) using a Chroma Meter CR-400/410 colorimeter (Konica Minolta, Tokyo, Japan). The pH was measured with a digital pH-meter at 20°C . Viscosity was determined with rotational viscometer Brookfield DV-III Ultra. Chemical analyses of yogurt samples was analyzed in according to the International Dairy Federation and International Organization for Standardization.

Results. The results of the above research indicate that Safflower dye is stable throughout the storage period at refrigerated temperatures, with no significant changes in any of the three color coordinates. The color differences ΔE of the yoghurt samples with dye over the entire storage period were ≤ 0.79 , indicating a high stability of the yellow dye from Safflower. The pH, viscosity and syneresis index values were measured during storage and no significant differences were observed in the parameters of the yogurt samples.

Conclusions. The results of this study contribute to encouraging the use of Safflower dye in natural foods. This study confirm, that Safflower petals - usually wastes, resulting of the Safflower growing - are valuable source for the production of harmless food dyes for the dairy industry of the Republic of Moldova.

Keywords: *chromaticity coordinates, color analysis, food additive, natural food.*

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References

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