THE ANTIOXIDANT ACTION OF THE BETA CAROTENE IN PRODUCING SUGARY BISCUITS

Bratu Magda Gabriela, Daniela Avram

Valahia University of Targoviste, Faculty of Environmental Engineering and Biotechnologies
Unirii Street, no. 18-20, Targoviste, gabriela_brt@yahoo.com

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SUMMARY

During storage, the sugary biscuits are susceptible of degradation by decreasing the sensorial qualities and even by alteration (mouldiness, enzymatic degradation). The sugary biscuits, because of their high level of lipid components (12-20%), can suffer an oxidation at an inadequate storage (2).

The preservation of the sugary biscuits from the point of view of the stability of lipid components is more complex than the preservation of fat, because there are other factors that compete by the nature and by the composition of the oxidative substratum, the biscuits humidity, the packing kind, the technological parameters and the display manner. The extension of kipping length redounds to the degradation of biscuits quality (2).

For increasing the stability of lipid components there are used a lot of antioxidants.

The paper refers at the antioxidant action of beta carotene used in producing sugary biscuits with a purpose to prevent the oxidation of the lipid components in order to maintain the sensorial qualities and the physical and chemical properties during the validity period (3). The beta carotene has been chosen to be used like as antioxidant, knowing the fact that it is liposoluble and stable in alkaline medium (1) (the alkalinity of biscuits is about 20).

In this study we have realized two samples of sugary biscuits: a sample control and a sample with pharmaceutical beta-carotene, by vegetal origin. The samples were analyzed periodically during the validity period (for 6 months), every two months. The fat from the two samples was extracted by biscuits, using the cold extraction with petroleum ether. It was determined as a chemical indicator the index of peroxide of the samples, using the volumetric method (thiosulphatometry) and the efficiency of the antioxidant used.

It was proved that the efficacy of the antioxidant increase from the initial value of 9,1% to the value of 31,08%, at the end of validity period. It is confirmed by the results that the antioxidant activity of beta carotene and the efficacy of his utilisation increase the stability of the sensorial properties and the physical and chemical properties of the sugary biscuits. Studying the results obtained we can underline the beneficial effect of using the natural antioxidant beta-carotene for stabilizing in time the biscuits produced and for their sensorial qualities.

REFERENCES