

CHARACTERIZATION OF FRUIT YOGHURT WITH APPLE CUBES OSMODEHYDRATED IN MOLASSES

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Abstract

In this investigation fruit yoghurts were produced by adding apple cubes, osmotically dehydrated in sugar beet molasses, in different quantities. The aim was to investigate effects of added fruit on nutritional and sensorial properties of obtained products.

Osmotic dehydration process involves immersion of food materials in hypertonic solutions. This treatment has important advantages compared to the other drying methods: low temperature and energy requirements, low waste material and good quality of final product. During osmotic treatment, apple cubes are not exposed to high temperatures, minimizing, in that way, sensory characteristics changes, and preserving nutritional values of the fresh apple: vitamins, minerals, etc. Osmotic dehydration of apple was conducted in concentrated sugar beet molasses (80%w/w), during 5 hours under constant conditions (20 °C and atmospheric pressure). Fundamental chemical composition was determined by SRPS ISO methods, and mineral content was determined using Atomic absorption spectroscopy - AAS.

High content of solids in molasses provides high osmotic pressure and allows great loss of water from immersed apple cubes during this process. On the other hand, chemical analysis showed that sugar beet molasses, due to its complex composition, improved nutritional value of dehydrated apple, which is primarily related to the increase of mineral content. Content of sucrose in dehydrated apple (compared to fresh apple samples) was increased from 5.14 ± 0.02 (g/100g) to 12.22 ± 0.14 (g/100g). Content of K, Na and Mg was increased about three times, and content of Ca about two times, in comparison to the fresh apple.

Therefore, the addition of apple dehydrated in molasses, directly affects the improvement of the nutritional profile of fruit yoghurt. Sensory analysis revealed satisfactory results, for all investigated fruit yoghurts.

Key words: *Fruit yoghurt, Apple cubes, Osmotic dehydration, Sugar beet molasses.*