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BOOK OF ABSTRACTS

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Physicochemical and microbiolgical characteristics of sugar beet fibres

Zita Šereš [1], Dragana Šoronja-Simović [1], Nikola Maravić [1], Cecilia Hodur [2], Ljubica Dokić [1], Ivana Nikolić [1], Miljana Đorđević [1]

[1]*Faculty of Technology, University of Novi Sad. RS*

[2]*Faculty of Engineering, University of Szeged. HU*

Email: maravic@tf.uns.ac.rs

Due to the balanced ratio of soluble and insoluble fiber, small amount of lipids and sugar, and the low energy value, sugar beet fibers provide excellent physiological benefits to human body and their physicochemical characteristics allow a better compounding whit the other ingredients of the product. Sugar beet fibers are derived from sugar beet pulp, which is obtained in the course of the technological processing of sugar beet following the process of extraction of sucrose from the sweet pulp. The aim of this investigation was the characterization of the sugar beet fiber for bread and toast production, as well as the definition of exact drying temperature of sugar beet fiber to reach the best physicochemical properties for implementation in bread.In all samples the chemical composition: soluble and insoluble fibers, ash and protein content are determined. During experimental work the physicochemical (water holding capacity, aw value, colour parameters), and microbiological characteristics (total number of bacteria, aerobe and anaerobe bacteria, yeast and mold) of sugar beet pulp dried on different temperatures: at 55, 65 and 75 °C in the chamber drier aredefined. The content of the total fiber content is about 75%, regardless of drying temperature. In sugar beet fibers dominate nonsoluble fiber. Samples dried in the chamber dryer have highwater holding capacity (from 488% to 524%) depend on temperature. By drying the samples in chamber dryer at55°C, the highest lightness of the dried sugar beet pulp were reached (L* =71). The presence of the sporogenaous aerobic and anaerobic bacterias are determinedin all samples.

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Keywords: Dried sugar beet fiber, Physico-chemical characteristic of dietary fiber, Convective drying, Microbiology of sugar beet pulp, Color.

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