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BOOK OF ABSTRACTS

X International Scientific Agriculture Symposium
"AGROSYM 2019"
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EFFECT OF DRYING ON THE CHANGE OF SUGAR CONTENT IN PLUM FRUITS

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Abstract

Drying is one of the oldest methods of preserving fruit. In the course of drying process, there is a change in some components of chemical composition to a degree depending on food type, its composition, and drying process itself. The testing was performed in three replications using plum fruits of the 'Čačanska Lepotica', 'Mildora', 'Čačanska Rodna' and 'Stanley' cultivars, at the optimum ripening stage required for drying, based on soluble solid contents. Drying was performed at the experimental dryer using the convective (streaming) drying process, at two constant air temperatures, 90 °C and 70 °C, until attaining 75% of total dry matter in the prunes. In addition to the control, the fruits were subjected to a pretreatment consisting of dipping in boiling water. This paper reviews the values of total sugars, invert sugars and sucrose in fruits of fresh and dried plums (calculated in grams per 100 grams of total dry matter), as well as the change of these parameters in prunes in relation to the fresh fruits (expressed in percentages). Drying temperature affected the change of total sugars, invert sugars and sucrose content in fruit of the tested plum cultivars. On the other side, dipping as an applied pretreatment had no effect on the change of these parameters except in the cultivar 'Čačanska Rodna', which dipped fruits are found to have higher decrease of sucrose compared with non-treated fruits. During drying, hydrolysis of sucrose occurred, manifesting in a dramatic decrease of its content in dried fruits, in relation to the starting raw material in all of the tested cultivars. Intensity of changes was conditioned by varietal characteristics.

Key words: *prune, drying temperature, dipping, invert sugar, sucrose.*