IMPACT OF DRYING PROCCES ON PEACH QUALITY

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Peach is one of the fruits worldwide widespread, in temperate region being available only during summer season. In order to benefit throughout the year from the biologically active compounds that are found in peaches, it seems to be rational to dry them. The effect of drying process on the final quality of peach depends on drying type, temperature, airflow speed, etc. In this study, convective drying with four different temperature regimes (50, 60, 70 and 80 °C) was applied in order to dry peaches. The quality of dried peaches was studied in terms of sensory evaluation, total phenols content, carotenoids content, antioxidant activity and color parameters modification.

The results showed that the total phenol content is inversely proportional with drying temperature reaching the value of 13.05 mg GAE/g for the samples dried at 80 °C in comparison with 14.61 mg GAE/g for the peaches dried at 50 °C. It should be noted that the content of polyphenols in fresh peaches was 3.5 times less than in dried ones, which proves the benefits of proper drying of the fruits. The same downward trend, with increasing temperature, was also recorded for the antioxidant activity by inhibiting the DPPH free radical, it recorded maximum values (93.69%) for the peach samples dried at 50 °C and for samples dried at 80 °C, the antioxidant activity recorded a value of 90.81%. Concerning the carotenoids, the results show that the drying temperature slightly affected their quantity in the product. Color parameters L*, a*, b* and Δ E were significantly affected by the drying temperature, yet the sensory evaluation showed that all of the samples were acceptable by the panelists.

Thus, from the nutritional point of view, the most recommended drying regime for peaches would be 50 °C. However, it is not only the nutritional quality that determines the choice of drying method and regimen, there are also factors such as drying time, energy consumption, equipment cost, and carbon emissions.

Keywords: antioxidants, carotenoids, convection drying, peach, phenols

Acknowledgments: The research was funded by State Project 20.80009.5107.09 “Improving of food quality and safety through biotechnology and food engineering”, running at Technical University of Moldova.