

ORAL PRESENTATION

Quality and drying behavior of organic fruit products

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Abstract

Drying prevents food spoilage and decay through moisture removal due to simultaneous heat and mass transfer from food, which may be stored for long period with minimal deterioration occurring. However, drying technology is not always paired with good/excellent organoleptic, nutritional and/or functional properties of food. In fact, during drying the heat-sensitive substances are often destroyed and degradation processes may be exacerbated due to various and concurrent reaction mechanisms. Based on authors' best knowledge, drying degradation kinetics of biological materials are usually pseudo first-order or first order reactions (i.e. carotenoids degradation in carrots) and may be affected by the initial quality of the product itself. Authors refer to results from the impact of hot-water and microwave thermal pre-treatments on the drying behavior and the final quality of carrots (cv Romance) and apples (cv Gala), respectively. Pre-treatments significantly affect the hot-air drying periods, the final color, size, shape and texture. Results were useful to identify the drying phases as cluster by performing the unsupervised analysis of the state variables.

Keywords: hot-water blanching, microwave blanching, carrots, apples

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