P17. Chemical and microbiological stability of the low caliber apple slices prepared by osmotic dehydration

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ABSTRACT

Osmotic dehydration has received greater attention in recent years as an effective method for fruits and vegetables preservation. Process for preparation of Royal Gala apple slices using osmotic dehydration was standardized. The study was carried out with seleted apples of smaller caliber, produced in the Alcobaça region.

For this study apples were seleted by their degree of maturation and absence of mechanical damages. Fully apple fruits were peeled and slices of 4 mm thickness were prepared. The apple slices were immersed in a sucrose solution (50% w/w) and in sucrose/sodium chloride solutions with NaCl concentrations (1% and 3%). After 4 h soaking, quick washing, blotting, the samples where drying at 20°C up to constant weight. The dried products were packed in glass containers and stored at ambient conditions. The chemical and microbial and stability were monitored for 6 months. The osmo-dried apple slices prepared with 50% sucrose/1% sodium chloride showed an overall chemical acceptability (aw of 0.192; °Brix of 26.3; pH of 3.82; Na content of 0.51g/100g). Microbiologically the product was stable (aerobic mesophile osmotolerant or osmophilic bactéria counts < 2.75 log cfu g^{-1}; fungi counts < 1.75 log cfu g^{-1}) and safe (*Clostridium* spores and Staphylococcus were not confirmed in this study) up to 6 months of storage at ambient conditions.

KEYWORDS: Royal Gala apple, Osmotic dehydration, Chemical and Microbial stability

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