

Assessment of Functional Properties and Antioxidant Capacity Murta (Ugni molinae T.) Berry Subjected to Different Drying Methods

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Abstract : Murta (Ugni molinae T.) is an endemic fruit of Southern Chile, possesses qualities exceptional as its high antioxidants content, that make it increasingly more appreciated for marketing. Dehydration has the potential providing safe food products through the decreased activity water while maintaining their functional properties. The objective of this study was to evaluate the effect of different drying methods on the antioxidant capacity (AC), total flavonoid content (TFC), rehydration indexes and texture the dried murta berry. Five drying technologies were used: convective drying, vacuum drying, sun-air drying, infrared drying and freezing-drying. The antioxidant capacity was measured by the ORAC method, CFT was determined by spectrophotometry, rehydration capacity (CR) and water retention (WHC) by gravimetry, texture profile (TPA) by a texture analyzer TA-XT2 and microstructure by SEM. The results showed that the lyophilized murta had smaller losses AC and TFC with values of 2886.27 routine mg rutin/ 100 g dm and 23359.99 $\mu\text{mol ET}/100\text{ g dm}$, respectively. According to the rehydration indexes, these were affected by the drying methods, where the maximum value of WHC was 92.60 g retained water/100 g sample for the vacuum drying, and the lowest value of CR was 1.43 g water absorbed/g dm for the sun-air drying. Furthermore, the microstructure and TPA showed that lyophilized samples had characteristics similar to the fresh sample. Therefore, it is possible to mention that lyophilization achieved greater extent preserving the characteristics of the murta samples, showing that this method can be used in the food industry and encourage the consumption of dried fruit and thus give it greater added value.

Keywords : antioxidant, drying method, flavonoid, murta berry, texture

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