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EVALUATION OF CONSERVATION CONDITIONS ON NUTS PROPERTIES

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Dried fruits like nuts are very much appreciated, but because of their low water activity may be susceptible to undesirable changes during storage. Therefore, this work was undertaken to study the effect of different storage conditions on three types of nuts commonly consumed in Portugal (almond, hazelnut and walnut). The samples were originated from different countries and while most had the internal skin on, one sample had it off. The storage conditions tested were: ambient temperature, high temperatures (50 and 50 °C) and low temperatures (refrigeration at + 2 °C and freezing at – 15 °C). The characteristics evaluated were water activity, moisture content, colour and texture.

The results obtained in the present work allowed concluding that the storage conditions that best preserve the characteristics of nuts are those at low temperatures, because, while the treatments at high temperatures induced in general more changes, the refrigeration and freezing systems had a lower effect on the products characteristics, particularly moisture, water activity, hardness and friability. Also the results indicate that the nuts stored under all conditions tested had values of water activity lower than 0.6, thus guaranteeing stability at the microbial and enzymatic levels. It was further concluded that the internal skin had a great influence on the characteristics of the nuts, particularly texture and colour, for all treatments tested.

Keywords: almond, colour, hazelnut, walnut, texture.

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