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Abstracts Book



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Food Microbiology & Biotechnology

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EFFECT OF THE TEMPERATURE IN THE HONEY QUALITY

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Honey is the natural sweet substance produced by *Apis mellifera* bees from the nectar of plants, secretions of living parts of plants, or excretions of plant-sucking insects on the living parts of plants, which the bees collect, transform by combining with specific substances of their own, deposit, dehydrate, store and leave in the honeycomb to ripen and mature.” (Decreto-Lei nº214/2003). This product can suffer alterations if the conditions of conservation and storage are not appropriate. The objective of this work was to evaluate the effect of the temperature in the physical-chemical and microbiological parameters of monofloral honeys stored for 4 months.

The evaluated physical-chemical parameters were: moisture, pH, free acidity, electrical conductivity, ashes, reducer's sugars, apparent sucrose, hydroxymethylfurfural (HMF), diastase activity and color. Relatively to the moisture none of the samples exceeded the legislated limits. The maximum value obtained for the pH were 4.92 for the heather honey maintained to room temperature and the minimum were 3.77 for the rosemary honey in the same storage conditions. Free acidity decreased in all samples, and all storage conditions. Relatively to electrical conductivity and ash, it was found that, for rosemary and cherry honeys, independently of storage conditions, the values obtained were within legal limits. Regarding to heather and chestnut honeys, the values obtained for the mentioned above parameters exceeded the stipulated by law. In all of the analyzed samples an increase of HMF was verified along the time, being this more accentuated to 45°C. In this case, the obtained values exceeded broadly allowed it by law. Relatively to the reducer's sugars and the sucrose it was verified, in most of the samples a progressive decrease during storage, however, in all cases, the obtained values located inside of the legislated. In most of the samples, the diastase activity decreased over the time. The storage caused a darkening of the honey, especially for the chestnut honey, stored to 45°C.

Relatively to the microbiological analysis, the aerobics mesophylics were found in some of the analyzed samples; however they never exceeded the limits stipulated by law. The moulds and yeasts just were present in the chestnut tree honey stored in the freezer. The indicators of sanitary quality and the toxigenic species were absent in all of the samples in study.