

Is the consumption time of honey important to preserve its quality?

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Abstract – The aroma and taste of honey are very important quality characteristics. However, the objective measurement of changes in aroma and flavor is more difficult because a large number of different substances (alcohols, aldehydes, organic acids and esters) that contribute to them are unstable components and evaporate easily at temperatures above 35°C. The aim of this study was qualitative evaluation of 9 organic honey samples preserved for two years in different conditions. To determine their quality, sensorial and HMF analyses were performed at the University Honey Laboratory. HMF was determined using the Harmonised Methods of the International Honey Commission. The analyses were made on 9 freshly extracted honey samples and after two years these analyses were repeated for the same samples stored at 22°C and 30°C. Results showed that storage at 22°C caused slight increase in HMF values, reduction of aroma and taste and also slight darkening of the color. However, storage at 30°C shows that 7 of the 9 analyzed samples differed significantly in aroma and taste with the same fresh samples. High temperature had caused almost total elimination of aroma, taste and darkness to all samples. This may have come by evaporation of important organic elements in the composition of honey thus influencing its qualities and darkening of it. Related to HMF, results show that storage of honeys at 30°C for more than two years increases the amount of HMF by exceeding the allowed limit (40 mg/Kg). The values of HMF for fresh honey samples ranged between 0.484-8.938 mg/kg, this ensures that honey is fresh and has not been overheated during processing. For the same preserved honey samples at 30°C the values of HMF ranged between 23.19-47.2 mg/kg, this ensures that honey storage for more than 2 years will have impact on addition of hydroxymethylfurfural (HMF) due to the large evaporation of fructose. As can be seen from the above results, changes in aroma and taste, in addition to simple loss by evaporation, are also made by heat. HMF content of honey samples has been affected significantly from storage time and conditions. Careless storage of honey could affect its quality, thus by consuming the honey within a year and by providing proper storage conditions, all quality criteria remain consistent.

Keywords – Consumption Time, Storage Conditions, Evaporation, Honey Qualities