

ASSESSMENT OF PHYSICO-CHEMICAL INDICES OF DIFFERENT TYPES OF HONEY

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The consumer market demand is for fluid honey, which is why honey is often liquefied by heating. The application of these procedures leads to some drawbacks: honey treated in this way will recrystallize in a very short time, high temperature treatment leads to pronounced degradation, fructose decomposes forming furfural acids whose presence is not desired in honey. The aim of the research is to study the quality of different types of honey according to organoleptic and physico-chemical indices.

The maximum water content is an index regulated by official standards, for all honey varieties the index is 20-21%. The average moisture content detected by the laboratory was 16.66%, acacia and lime honey had the same water content, with a lower percentage observed in polyfloral honey. Mineral elements in honey come from natural sources such as soil, plants, atmospheric environment. Plumb is a mineral element considered also toxic; therefore, it is indicated to be determined in honey, its content should not exceed 0.1 mg/kg. The data obtained from the determination of toxic metal Pb content in the studied honey indicate a lower average presence of <0.02 mg/kg.

The acidity of honey depends on the content of organic acids. The normative requirements for honey acidity stipulate a maximum index of 4.0-5.0 milli-equivalents per 100 g of product. The acidity indices in the honey studied ranged from 0.8-1.6 milliequivalents per 100 g of honey, the average being 1.30 milliequivalents per 100 g, falling within the normative requirements.

Oxymethylfurfural is also an important indicator of honey quality. In fresh honey oxymethylfurfural is practically absent, but after storage and processing this substance increases and thus influences the quality. Honey under examination was within the requirements according to the oxymethylfurfural content varying according to the assortment in polyfloral honey - 2.0 mg/kg, in acacia honey - 9.4 mg/kg and in lime honey - 8.1 mg/kg, on average 6.50 mg/kg in the honey studied. This value of the indecision of oxymethylfurfural is also accepted by FAO/WHO and Codex Alimentarius standards.

The dry matter in honey consists of sugars which constitute invert sugar and sucrose. The invert sugar content in honey must be a minimum of 70% and the maximum sucrose content 10% according to the regulatory requirements. Thus, the honey samples studied showed a sucrose content of 1.0% in polyfloral honey, 2.2% in acacia honey and 0.7% in lime honey. These values are within the limits of the regulatory requirements for honey.

Keywords: chemical composition, honey, organoleptic indices, oxymethylfurfural.