

Physical-chemical indices of different types of bee honey from the Republic of Moldova

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Abstract

In this study (2020-2022), the physico-chemical parameters of different types of honey collected from different soil and climatic zones of the Republic of Moldova were studied. The physico-chemical indices of honey were determined in the Animal Products Testing Laboratory within the premises of the Republican Veterinary Diagnostic Center, the content of amino acids was determined in the accredited Laboratory of Psychosomatic Relationships of the Institute of Physiology and Sanocreatology, and micro- and macroelements and the presence of heavy metals in honey were determined by atomic absorption spectrometry at the Institute of Chemistry, State University of Moldova, Chisinau. It was revealed that the mass fraction of water in acacia honey averaged 16.93%, linden - 18.05% and sunflower - 17.05%, invert sugar, respectively - 77.18%, 78.8% and 77.65%. The content of sucrose in these types of honey was in the range of 1.71-2.5%, hydroxymethylfurfural 3.0-4.0 mg/kg. The largest value of the diastase number is 16.25 units. Gote was in sunflower honey, linden - 11.75 units. Goth and in acacia honey - 8.56 units. Gotha. It has been established that in acacia honey the total amount of microelements (manganese, zinc, copper, iron, chromium, nickel) averaged 18.0 mg/kg, lime - 9.92 mg/kg and sunflower - 9.49 mg/kg. The total amount of macroelements (calcium, magnesium, potassium, sodium, phosphates) in acacia honey was 483.81 mg/kg, linden - 1148.38 mg/kg and sunflower - 930.14 mg/kg. In the honey data, the amount of lead (Pb) was - <0.5 mg/kg, cadmium (Cd) - <0.06 mg/kg. The total amount of amino acids in acacia honey was on average 1.352 mg/g, linden honey 1.756 and sunflower 1.741 mg/g. Proline has the largest share - 17.9-23.65%, glutamic acid - 9.76-16.95%, taurine - 11.10-21.89% and aspartic acid - 9.89-11.39% of the total amount of amino acids.

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