

Summary

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The subject of the doctoral dissertation:

„The use of physicochemical methods to assess the quality and confirm the authenticity of national varietal honeys”

The quality of honey, just like other food products is multidimensional. This quality consists not only of physicochemical parameters, but also the perception of these features by the consumer. In order to verify the quality of honeys and confirm their authenticity it is used a lot of research methods, resulting from the Minister's Ordinance.

However, there is still no reliable, repeatable and faster methodology that will be cheaper than the existing methods. Therefore, an attempt was made to create a cheaper, faster, repeatable method of honey quality assessment and its varietal identification based on a multidimensional model of varietal honey quality.

Therefore, the main premise for undertaking the research presented in this paper was the thesis that it is possible to develop a multidimensional model for assessing the quality and authenticity of varietal honeys, based on the results of measurements of physicochemical parameters, in conjunction with the sensory evaluation and fluorescence.

In addition to the literature review on quality assessment and the methods used for multidimensional quality assessment and confirmation of the authenticity of quality honeys, complex empirical studies were also carried out. The research was divided into three stages.

1. The first stage concerned research in the field of assessment of the basic physicochemical parameters of varietal honeys used to assess their quality according to the Minister's Ordinance.
2. In the second stage of the research, instrumental measurements were made of such parameters as: color measurement in the CIE L^* , a^* , b^* system and measurement of fluorescence from the free surface of the liquid honey sample.
3. In the next part of the research, the sensory quality of varietal honeys was assessed by a trained sensory panel.

Each of the steps was summarized by determining the relationship between the physicochemical and sensory properties as well as the fluorescence spectra. This analysis was performed at each stage separately and all at the same time.

The obtained research results made it possible to verify the quality of domestic varietal honeys, and the selected determinants constituted the basis for a comprehensive assessment of their quality. As a result, the main research goal of this work has been achieved. A multi-criteria model using physicochemical methods, sensory evaluation and fluorescence measurement was developed to assess the quality, identify and confirm the authenticity of domestic varietal honeys - however, it is only a theoretical model, which was presented in the dissertation.

Keywords: honey, honey varieties, quality, authenticity

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