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EVALUATION OF INDICATORS OF HONEY OF DIFFERENT ORIGIN

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Abstract. Recently, the development of the Ukrainian honey market creates opportunities for the development of agriculture and increasing the income of beekeepers. In particular, the increase in honey production can contribute to the development of other industries, such as the cosmetic and pharmaceutical industries, where honey is an important component. In general, the prospects for the development of the Ukrainian honey market are considered quite promising and favorable for the economic development of the country. The work is devoted to research on the determination of organoleptic and physicochemical parameters of honey of various origins. It was established that all experimental samples of honey (buckwheat, sunflower, floral and linden) meet the requirements of DSTU 4497:2005 "Natural honey. Technical conditions" (State standard of Ukraine) and are of high quality.

Keywords: organoleptic indicators, physical and chemical indicators, DSTU.

Introduction. Honey is a natural product obtained from the nectar of flowers collected by bees. This product has many health benefits and high nutritional value, which makes it very popular among consumers. Honey production in Ukraine is considered quite profitable. This is due to the fact that the demand for honey and other beekeeping products in developed countries exceeds the supply. In addition, growing consumer awareness of healthy lifestyles and natural products is

contributing to increased demand for honey.

Unfortunately, due to the high demand for honey and honey products, fraudsters are trying to make money from it by falsification it by adding cheap sweeteners. These sweeteners may include high fructose corn syrup, corn sugar syrup, invert sugar syrup, cane sugar syrup, palm sugar, high fructose syrup, inulin, etc. [1, p. 55].

Actuality of theme. With the growth of global trade in many countries, the problem of falsification of food products is growing, among which honey is particularly vulnerable [2, p. 7]. According to the author [2, p. 4], falsification of honey is a serious problem in the food industry, and the main methods of falsification are the addition of sugar, syrups, water and other substances to natural honey. These actions degrade the quality of the product and undermine consumer confidence in honey producers. In addition, falsification of honey leads to unfair competition and losses for legitimate honey producers. The most serious consequence is the possibility of harm to the health of consumers, since honey, which contains additional ingredients, artificial additives and preservatives, can be harmful to the human body [3, p. 224]. Therefore, falsification of honey is a significant problem for the food industry and has potentially harmful consequences for the health of consumers.

Analysis of the latest research. To detect falsified honey and impurities in honey, there are various analysis methods that are widely used in the food industry. These methods include NMR, IR spectroscopy, high performance anion exchange chromatography and differential scanning calorimetry. Using these methods allows to accurately detect the presence of impurities in honey, such as sugar, syrups and other additives.

Research materials and methods. The purpose of the research is to study the quality of honey of different botanical origin according to organoleptic and physico-chemical indicators. We researched honey of various botanical origins, namely buckwheat, sunflower, floral and linden honey from the Boryspil district of the Kyiv region. Standardized research methods were used to determine organoleptic and physico-chemical indicators. Determination of the diastase number of honey was

carried out by the standardized method specified in DSTU 4497:2005 "Natural honey. Technical requirements" [4, p. 21]. Organoleptic characteristics are important properties of the product that can be assessed using the senses, such as sight, smell, taste and touch [5, p. 157]. In the case of honey, these characteristics include color, aroma, taste, consistency and crystallization. Each type of honey has unique characteristics that depend on the plants used, climatic conditions, soil and other factors. The Goethe diastase number was determined from the physicochemical parameters. Goethe's diastase number (or simply diastase number) is an indicator of the activity of diastase in honey, which is responsible for the decomposition of complex sugars into simple ones. The diastase number in copper is measured in degrees Goethe, and the higher the number, the more active the diastase.

Research results. Organoleptic assessment of honey was carried out according to color, smell, taste and consistency. Buckwheat honey had a dark brown color, a pleasant aroma and taste without extraneous flavors, and a viscous consistency. Sunflower honey had a golden-yellow color, a bright and delicate aroma, a sweet taste without extraneous flavors, and a viscous consistency. Linden honey had a pale yellow color, a pleasant and delicate aroma, a sweet taste without extraneous flavors, and a viscous consistency. Floral honey had a light brown color, a pleasant aroma and taste without extraneous flavors, sweet and astringent, viscous consistency..

The results of physico-chemical indicators, namely the Goethe diastase number, are shown in Fig. 1.

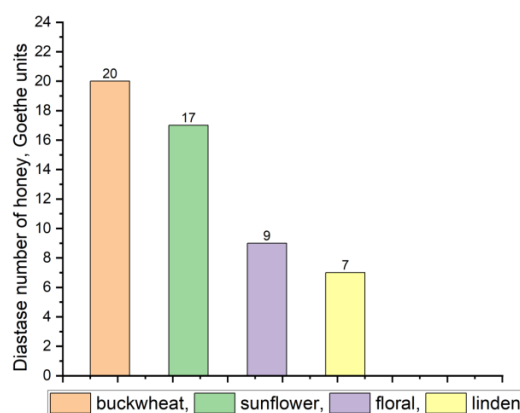


Fig. 1. Diastase Goethe number in honey samples

From the results of research (Fig. 1.) it was established that all samples of

honey (buckwheat, sunflower, floral and linden) that were examined meet the requirements of the standard DSTU 4497:2005 "Natural honey. Technical conditions" and are of high quality.

Conclusion. According to the research results, buckwheat and linden honey have higher quality and shelf life than sunflower and floral honey according to the Goethe diastase number. It was also determined from the organoleptic assessment that all experimental samples of honey (buckwheat, sunflower, flower and linden) meet the requirements of DSTU 4497:2005 "Natural honey. Technical conditions" and are of high quality.

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