

INFLUENCE OF VARIOUS METHODS OF DECRYSTALLISATION ON ANTIBACTERIAL PROPERTIES OF BEE HONEYS

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A b s t r a c t

Apart from the requirements of Polish Standard PN-88 / A-77626 concerning natural honey, there is one more requirement - the one made by the consumer. Honey intended for trade should be liquid and without any traces of crystallisation. Obtaining such honey is only possible after previous heating. The test material consisted of 35 samples of various honey types. The botanical origins of the honeys were: acacia, buckwheat, lime, colza, heather, multifloral and honeydew.

In this study the use of bacteriological analysis and antibacterial properties of bee honey was tested for the evaluation of its decrystallisation process. Its antibacterial properties were studied in relation to *Staphylococcus aureus*, *Escherichia coli*, *Pseudomonas aeruginosa*. Bacteriological analysis showed the presence of: *Bacillus cereus*, *Escherichia coli*, *Bacillus sphaericus* and *Bacillus subtilis* in the analysed bee honeys.

The aim of the study was to determine the influence of natural bee honey decrystallization process carried out by various methods:

- with the use of microwaves,
- with the use of a new device for melting honey (Patent Application P. 323691 of 10 December 1997), on its antibacterial properties (on selected reference strains from the American Type Culture Collection - ATCC).

Antibacterial properties the decrystallization of bee honey in the tested device (Patent Application P.323691 of 10 December 1997) do not undergo any major changes after decrystallization in the tested device.

Keyword: honey, decrystallization, antibacterial activity.