STUDY OF THE ELEMENTAL COMPOSITION OF THE ALCOHOL PROPOLIS EXTRACT BY THE ICP/MS METHOD

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Propolis is a beekeeping product of plant origin. It is a complex-component product collected from various plants, so its chemical composition is different, but its biological activity is quite stable. Bee propolis composition: 50 - 60% resinous components and aromatic acids, 6% balsams, 5 - 15% essential oils, 30% wax, 5% pollen, etc. substances Thanks to them, propolis has a pronounced antimicrobial, anti-inflammatory effect, is an antioxidant - it slows down the processes of aging, decay, reduces the harmful effects of ionizing radiation, antitumor, immunomodulatory effect, normalizes metabolic processes in the human body. The issue of the presence of heavy metals in the extract is relevant, which is one of the safety standards for its further use in products. This is the reason for studying the trace element composition of the alcohol extract of propolis [1-3].

The object of research is the alcoholic extract of propolis. The trace element composition was studied by mass spectrometry (MS) (mass spectrometry) (MS) with inductively coupled plasma (ICP/MS) on an Agilent 7500 CE ICP/MS System (USA). 2 ml of the original propolis tincture was taken with a Hamilton syringe (the dry residue of 4 ml of the original propolis tincture is 0.1752 g = 175.2 mg (43.8 mg/ml) and diluted in a 200 ml volumetric flask with bidistilled water during acidification, which was filtered through a Millipor 0.45 μm (μm) filter and the trace element composition was determined by the ICP/MS method according to the developed methodology.

As a result of research, it was established that propolis extract contains a trace element composition of 24 elements. Trace content includes Be, Co, Cd and other elements <0.1; Cs, Bi <0.069; T1 - <0.05; U - <0.037 μg/l. The concentration of toxic elements is within the permissible limits and will not pose a threat to the target product.

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