

20th World Congress on

NUTRITION & FOOD SCIENCES

May 14-16, 2018 Tokyo, Japan

Enhancement of biological value of honey by means of applying *Ganoderma lucidum* extract supported by surveying phenolic content, radical scavenging and antibacterial propertiesIman Mirazloun^{1, 2}, Szabolcs Horváth¹, Alexandra Szabo¹, Anett Szűcs¹, Erzsébet Némédi³ and Attila Kiss¹¹Kaposvár University, Hungary²Szent István University, Hungary³Expedit Nodum Ltd., Hungary

Background: Acacia honey is one of the most preferred honey types, thus it can be considered as a basic substance of favored functional foodstuffs. Reishi (*Ganoderma lucidum*) mushroom is a well-known species used as traditional Chinese medicine for centuries. Many of its medicinal and anti-oxidative effects have been proven recently.

Methodology & Theoretical Orientation: The most efficient extraction method has been selected. Total phenol content (TPC) and radical scavenging activity (RSA) of each concentrate have been assessed. TPC and RSA of honey supplemented with different concentrations of the extract (0.1, 0.25 and 0.5%) were studied. Different sensory parameters and visual appearance have been considered to establish the final supplementation dosage. Antibacterial effect of the samples was investigated in comparison with the samples supplemented with different concentration of lingzhi mushroom extract.

Result & Conclusion: The highest extraction yields were obtained for 50% ethanol (9.1%) and 50% methanol (9%), respectively. The highest TPC content though was recorded in case of extract obtained with 75% Methanol (100 mgGAE/g) and Ethanol (98.06 mgGAE/g) with no significant difference. The highest RSA (16.8% of DPPH) was recorded in the extract obtained for 75% Ethanol. Addition of 0.5% ethanolic extract to honey significantly increased the TPC content (from 72.22 to 282.22 mgGAE/kg honey). Marked increase (42%) was also observed in RSA for fortified honey. Supplementation of honey with 0.5% *Ganoderma* extract contributed to huge enhancement of antibacterial effect against such harmful bacteria as *Salmonella*, *E. coli* and *Streptococcus*.

Biography

Iman Mirmazloun has expertise in medicinal plants, natural product supplementation and novel food products. His main research area is on molecular mechanisms of plant secondary metabolites biosynthesis. He is currently involved in interesting research projects in Kaposvár University, Hungary to develop new functional food products with enhanced health promoting properties.

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