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# Scientific Program Abstracts

대전세계양봉대회 초록집

44<sup>th</sup>

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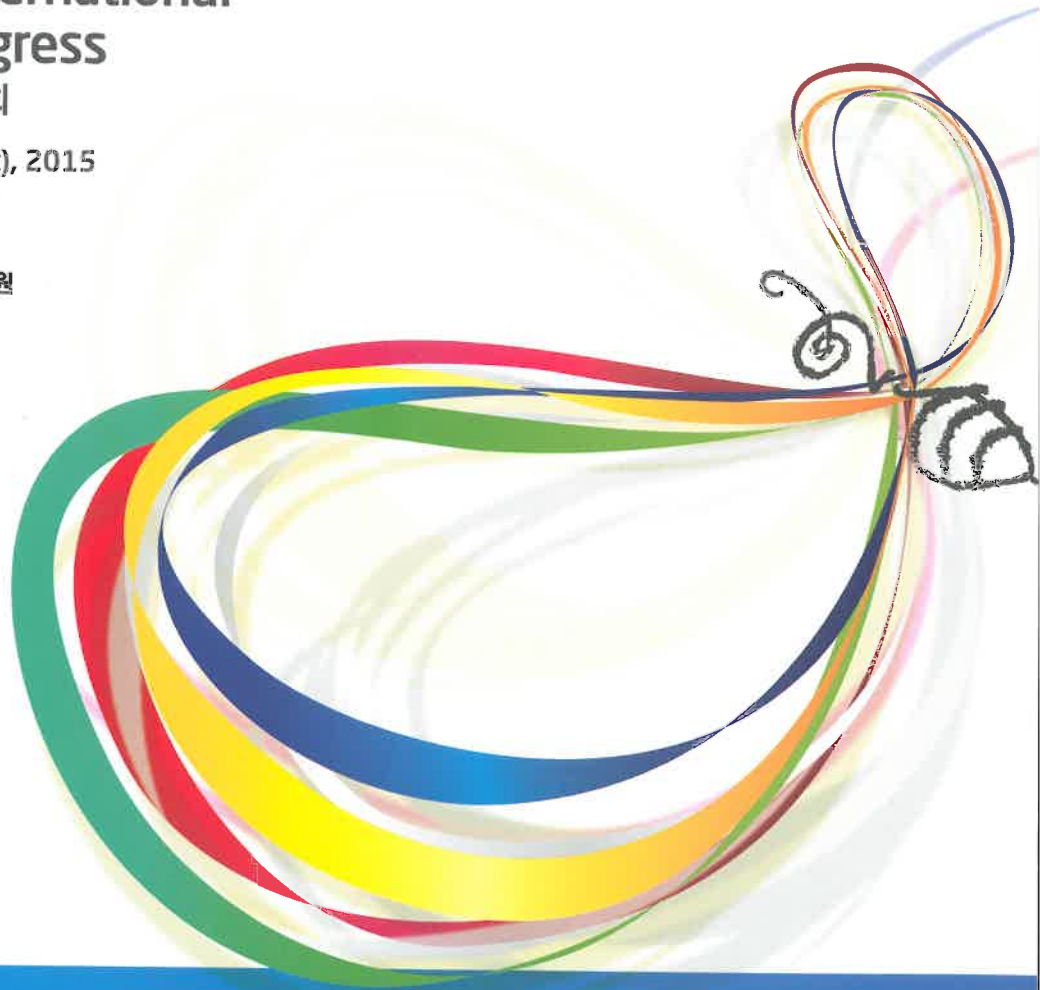
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Propolis is a resinous material produced by honey bees. It exhibits antimicrobial and antioxidant properties and is used in the preparation of foodstuffs and cosmetics. Its composition varies depending on the plant origin, the geographical location and the collection season, thus its standardized formulation is difficult. The active components of propolis are polyphenols, terpenes, steroids, as well as sugars and aminoacids. Due to the complexity of propolis structure, the extraction of propolis usually has several issues such as the low yield in polar solvents and the poor stability and bioavailability. In this study a new delivery system for the green extraction and simultaneous encapsulation of propolis' polyphenols in natural carriers was developed. The new system is standardized in polyphenol content and exhibits in vitro controlled release properties. Its toxicity and bioactivity profile (antioxidant, anti-mutagenic and anti-ageing potential) was assessed against normal human epidermal keratinocytes under normal and UV exposure conditions. The new system is currently further evaluated for its biological properties on a reconstituted skin model.

TQP-043

## The effect of different feedbee's concentration level on the bee colonies' development during the spring season

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To estimate the effect of use of different Feedbee's concentration level in the development of bee colonies during Spring Season, an experimental trial was carried out in an apiary in Tirana. For this trial, 21 bee colonies, similar towards strength and Queen's age, divided into three groups, were selected. The First Group (G1), during the whole trial's period, was fed with 4% Feedbee, the Second Group (G2) was fed with 10%, while the Third Group (G3) with 35%. The trial was organized into two phases, starting on January 20th through April 30th, each of them 45 days long. The feed consumption per each colony/phases was 2 kg. During both phases, the number of brooding frames and size of capped brood area in each group was measured. At the end of this trial, it was concluded that the application of different Feedbee's concentration level has not demonstrated any effect on the number of brooding frames. The application of the 10–35% concentration level of the Feedbee during the First Phase has stimulated a higher brooding rate up to 52% more, while during the Second Phase this effect is not evident, since the differences among the groups are not significant ( $p < 0.05$ ). Using the 10% Feedbee during the Phase 1, since the differences among the G2 vs G3 were not significant, 2.42 Euro/bee-colony will be saved. During the Second Phase the least concentration can be effectively applied, saving 3.4 Euro/bee-colony.

TQP-044

## Application of GIS in potential beekeeping assessment: Case study of Montesinho Natural Park (Portugal)

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Planners require solutions that address routine work needs and seems essential to improving efficiency and productivity. There are a great number of different factors related to beekeeper activity as well the quality and productivity of different bee products. The spatial analysis is a powerful tool for overlap and relates various levels of information on a map, and consequently a very useful for beekeeping activity planning. This work proposes and applies a methodology to potential beekeeping assessment in Montesinho Natural Park, a region in the northwest of Portugal. The beekeeping potential maps were developed with the following data sources: legal standards, vegetation, land use, topography, water resources, roads, electromagnetic fields, and some honey physico-chemical analysis. The design and implementation of spatial analysis model based on Geographic Information System (GIS) to beekeeping planning activities has already been described by Anjos et al (2014). Spatial analysis techniques allows to define the potential beekeeper map supporting the beekeeper management in this region. Anjos O, Silva G, Roque N, Fernandez P, 2014. GIS based analysis to support the beekeeping planning. Book of abstracts of the International Symposium on Bee Products 3rd edition – Annual meeting of the International Honey Commission (IHC), Faculty of medicine, University of Rijeka, p:61.

TQP-045

## Discovery of phytochemical biomarkers in propolis using 15t fourier transform ion cyclotron resonance mass spectrometry

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Propolis is a resin that bees collect from different plant sources and use for the defence of bee community. The intricate composition of propolis varies depending on plant sources from different geographical region and growing environment. Propolis is being widely used as dietary supplements, cosmetics, and toothpaste based on its anti-microbial and antioxidant activities but the activities have a wide fluctuation depending on the