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BOOK OF ABSTRACTS

8TH

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“VETERINARY SCIENCE AND PROFESSION”

//// OCTOBER 10TH - 12TH 2019 ////

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///// • THURSDAY OCTOBER 10TH 2019 - STUDENT'S HALL /////

POSTER PRESENTATION I - STUDENT'S HALL

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QUALITY CONTROL OF HONEY PRESENT ON MACEDONIAN MARKET

Tome Nestorovski¹, Zehra Hajrulai Musliu¹, Ana Angelovska¹, Risto Uzunov¹, Stefan Jovanov¹

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Honey is an important foodstuff whose popularity increases continually, and due to this it is a potential subject of adulteration. In order to protect consumers from such fraudulent honey, the Macedonian government has implemented a Directive compliant with the European Directive 2001/110/EC. The aim of this study was to analyse the honey present on the Macedonian market, to see if it meets the criteria set by the Government and do a side-by-side comparison of two methods for sugar content determination: gravimetric and HPLC.

For this study, 50 honey samples were analysed for their electrical conductivity, free acid, reducing sugar and sucrose content, moisture, water insoluble and hydroxymethylfurfural (HMF) content by using standard methods, previously validated and accredited.

The results showed that all the honey samples were compliant with the Directive for their moisture, water insoluble and free acid content, and electrical conductivity. As for the reducing sugars, values ranged from 38.96 g/100 g to 79.60 g/100 g, of which 3 honey samples and 1 product labelled as flower nectar had values lower than the minimum values of 60 g/100 g. The HMF content in the samples varied from 0.10 mg/kg to 77.72 mg/kg, with 1 sample exceeding, with 327.98 mg/kg. Of the analysed samples, 2 exceeded the 40 mg/kg limit for non-tropical climate honeys with values of 79.60 g/100 g and 327.98 mg/kg.

In conclusion, from the 50 analysed samples, 5 failed to meet the Directive requirements, 4 of which had reducing sugar content lower than 60 g/100 g and 1 had HMF content higher than 80 mg/kg, which is the maximum level allowed for honey of tropical climate origin. Comparing the two methods (gravimetric and HPLC), the results for the reducing sugar content were on par with each other, with minor variations of ± 2.1 g/100 g. The results varied more significantly when determining the total sugar content by using the gravimetric method, most likely due to the increasing reduction potential after hydrolysis with HCl.