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# MACEDONIAN VETERINARY REVIEW

## DAYS OF VETERINARY MEDICINE 2015

*Proceedings of the 6th International Scientific Meeting*
*Days of veterinary medicine 2015*
*Struga, Macedonia*
*September 24-26, 2015*

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# CONTENT

for MA. In the EU national competent authorities of each member state are responsible for the MA of VD. The European Medicines Agency (EMA) operates as a decentralised scientific agency, as opposed to a regulatory authority of the EU. There are four procedures in which a VD can obtain marketing authorisation in the EU: centralized, national, mutual recognition and decentralized procedure. The choice of which procedure to follow depends on the number of countries in which the VD is going to be marketed and the type of VD concerned. Each procedure, as well as different types of application, were reviewed and discussed. In the EU many problems have arisen in connection with the free circulation of medicinal products due to different national procedures for marketing authorisation. Even if the European directive is completely implemented, the harmonisation process appears difficult in consideration of the different social, political and economical characteristics of the different countries.

Since Macedonia is a candidate country for membership into the European Union, it must follow the EU legislation. The national procedure is type of authorization for medicines which is only valid in Macedonia. In Macedonia, applicants have to submit an application to the Food and Veterinary Agency. Law on Veterinarian drugs is harmonized with the standards defined within the EU legislation, through Directive 2001/82/EK of the European Parliament and with the Directive of the Council from 6 November 2001 regarding the Codex for veterinarian drugs of the Community (32001L0082).

**P26**

## Validation of GC-MS method for determination of organochlorine pesticides in honey

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**Introduction:** Pesticides play a beneficial role in agriculture because they are intended for preventing, destroying or controlling any pest in plants. Honey maybe contaminated with pesticides on two ways: during collection of pollen and nectar by bees (cross-contamination) and through treatment of bee hives when the pesticides can migrate into honey (direct contamination). The residues of organochlorine pesticidesin honey are a potential risk for human health. Due to this fact, their usage in agriculture is banned. The aim of this study was validation of GC-MS method for determination of organochorine pesticides in honey.

**Material and methods:** For extraction of organochlorine pesticide residues from honey samples, multiresidue QuEChERS method was used. In this study the following pesticides were included: aldrin, dieldrin, α-hexachlorocyclohexan, hexachlorocyclobenzen, lindane, heptachlor, metoxychlor, DDT, α and β endosulfan, chlordane, endrin. Validation of the method was according to the Sanko 12571/2013. During the validation procedure linearity, limit of detection (LOD), limit of quantification (LOQ), precision and accuracy of the method were investigated. Analyses was performed on GC-MS (7890, Agilent, USA). For determination of organochlorine pesticides 74 samples of honey from R. Macedonia were analyzed.

**Results:** The linearity of the method showed good correlation for all standards and $r^2$ was from 0.9677 to 0.9999. LOD was between 0.40μg/kg and 7.04 μg/kg, and LOQ was from 1.22 μg/kg to 21.30μg/kg. Determined values for LOQ for all pesticides were less than Maximum Residue Level (MRL). The accuracy of the method was evaluated by determining the recovery of spiked honey samples on two concentration level at 10 μg/kg and 50 μg/kg. The recovery was from 78.03 to 114%, and from 74.01 to 107.14%, respectively. In addition, method showed good precision and coefficient of variation was from 6.02 to 12.06%. In the honey samples these pesticides aren't detected.

**Conclusion:** In our study the GC-MS method for determination of organochlorine pesticides in honey samples was validated. The performance of the method can meet the requirements of the domestic and international legislation and it's applicable in official control laboratories for determination of these pesticides in honey samples.

**P27**

## *Fusarium* mycotoxins and toxigenic moulds occurrence in maize from Albania

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Natural contamination of feedstuff with mycotoxins, toxic secondary metabolites produced by fungi is a permanent challenge in animal nutrition. Their presence would compromise both the animal health and the quality of derived animal food products. The aim of the presentationwas the study on *Fusarium* mycotoxins and the toxigenic moulds occurrence in maizefrom Albania. *Fusarium* mycotoxins are formed at the field prior to harvesting. Their presence in feed is regulated by Commission Recommendation 2006/576/EC on the presence of mycotoxins in products intended for animal feeding. Albania has adopted the EU legislation on