

Presence of Veterinary Drugs in Livestock samples

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Abstract

The use of veterinary drugs in animal husbandry worldwide is of great concern nowadays within the One Health Approach [1]. The presence of residues of veterinary drugs and certain substances in live animals and animal products may pose a risk factor for public health, animal health and welfare, and the environment. Within the European Union, the Member states are requested to implement National Residue Control Plans (NRCPs) in order to protect the public health from the presence of residues of veterinary medicinal products (VMPs) (or pharmacologically active substances) in live animals and animal products such as Antibiotics, Coccidiostats, Non-Steroidal Anti-inflammatory Drugs (NSAIDs), Hormones, Resorcylic Acid Lactones, and Thyreostats. The control plans follow the European Union legislation namely Regulations 2022/1644/EU [2] and 2022/1646/EU [3]. As it is indicated in the NRCPs, the official control laboratories routinely analyze these substances in animal products to verify that the residue levels are below Maximum Residue Limits (MRLs) set by the Regulation 37/2010 [4]. In Europe, Cyprus, Italy, and Spain have the greatest use of Veterinary drugs on a regular basis for treatment and prevention of diseases in animals in commercial livestock farming. Cyprus state report summarizes the monitoring data from 2019 till 2023 on the presence of residues of veterinary medicinal products in live animals and animal products in Cyprus [5].

The aim of this research is to review the existing situation in Cyprus and to identify the existing compounds present in live animals and animal products originating from the National Residue Control Plans under the European Legislation. The review outcome indicated the major veterinary drug classes to be investigated are: Antibiotics, Coccidiostats, Hormones, Non-steroidal Anti-inflammatory drugs, Hormones, Resorcylic Acid Lactones and Thyreostastics which are encountered from samples originating from the pork, bovine, goat, sheep, chicken, and rabbit farms. The most widely used VMPs are antibiotics and coccidiostats.

In recent years, the use of macrolides, cephalosporines, quinolones, and other microbials and their use did not contribute to a higher percentage number in the positive sample for antibiotics. The presence of RALs in animal urine is originating from the contaminated feed and the presence of thiouracil attributed to the animal diet from cruciferous plants. The EFSA 2022 report states that the results on the levels of residues from veterinary drugs and other substances found in animals and animal products remain low in the European Union [6].

References

- [1] WHO (2024) World Health Organization, One Health Approach: https://www.who.int/health-topics/one-health#tab=tab_1
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- [6] EFSA, Report for 2022 on the results from the monitoring of veterinary medicinal product residues and other substances in live animals and animal products, 26 February 2024