UDC 619:636/637 CODEN MVPRE e-ISSN 1857-7415

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

Mac Vet Rev 2015; Volume 38; Supplement 1; Pages: 1-72

International Scientific Journal

MACEDONIAN VETERINARY REVIEW

An Official Publication of

the Faculty of Veterinary Medicine-Skopje
Ss.Cyril and Methodius University in Skopje

e-ISSN 1857-7415

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

Mac Vet Rev 2015; Volume 38; Supplement 1; Pages: 1-72

e-ISSN 1857-7415

International ScientificJournal
MACEDONIAN VETERINARY REVIEW
Vol. 38; Suppl. 1, Pages 1-72, 2015

The Mac Vet Rev is an international peer-reviewed, Open Access journal published two times per year.
Mac Vet Rev Online (e-ISSN 1857-7415) offers free access to all articles at http://www.macvetrev.mk.

Indexed/Listed in: AGRIS, Academic Journals Database, AkademicKeys, Bielefeld Academic Search Engine (BASE), CAB Direct, CAS (Chemical Abstracts), CiteFactor, CORE (COnect REpositories), CrossRef, Directory of Open Access Journals (DOAJ), Global Health, Directory of Research Journals Indexing (DRJI), EBSCO, EFITA, Genamics JournalSeek, GetInfo, Google Scholar, INDEX COPERNICUS, Scientific Index Service (SIS), IVIS, Journal Index.com, JournalTOCs, Journal Rate, L-Primo, Open J-Gate, Open Access Library (OALib), PERIODICOS, Ulrich's Periodicals Directory, SCOPUS, ScienceCentral.com, SHERPA/RoMEO, SUNCAT, Veterinary Bulletin, Veterinary Science Database, Virtual Science Library(VLC), Wanfang Data, WorldWideScience.gov.(http://www.macvetrev.mk/Indexed in.html)

Address
Macedonian Veterinary Review, Lazar Pop Trajkov 5/7, 1000 Skopje, Republic of Macedonia
Tel: ++389 2 3240 700; Fax: ++ 389 2 3114 619; e-mail: macvetrev@fvm.ukim.edu.mk; URL: www.macvetrev.mk

CONTENT

P14

Determination of sampling number and localisation about hygienic control of cheese vat, press clot and canvas

Aylin Kasimoglu Dogru

Kirikkale University Faculty of Veterinary Medicine, Department of Food Hygiene and Technology, 71451 Kirikkale, Turkey

Introduction: In cheese production, the surface of various tools and equipments such as cheese vat, press cloth and canvas are used as control points for hygienic controls. Also, cheese vat (66 000 cm^2), press cloth and canvas (125 000 cm^2) are very large surfaced tools and equipments. In some standarts (BS 4285, ISO 8086), it is indicated that sample is taken from the 900 cm^2 surface area. Nevertheless, there is no information about sampling number and localisation. Therefore, in this study we aimed to determine sampling number and localisation of cheese vat, press cloth, and canvas.

Material and methods: Washed vat, press cloth and canvas surface areas were divided into 900 cm^2 sampling areas 74, and 139, respectively. Then samples were taken from each sampling area separately by cotton swabs. This sampling was done in the same way after vapor application on the vat, press cloth, and canvas surface. All of the samples were analysed immediately for aerobic mesophilic count, micrococci-staphylococci, *Enterobacteriaceae*, coliform bacteria, yeasts and moulds. The microbiological results evaluated one way ANOVA and Duncan Test.

Results: We detected that there were statistically significant differences about microbiological results for each of the cheese vat, press cloth, and canvas among 12 sampling areas. These areas of vat localized on the side of where the staff mostly passed corridor. The different areas for press cloth and canvas were located to touched points where press cloth and canvas were inserted into vat by staff. Also, the microbiological levels of vat, press cloth, and canvas were significantly decreased after vapor application.

Conclusion: According to our results, it should be taken 12 samples from vat, press cloth, and canvas. These sampling localizations for the hygienic control should be prefered from the possible touched points near coridor which of passed by staff frequently. Moreover, it is important that vapour application to vat, press cloth, and canvas before use in manufacturing process.

P15

Studies on mycotoxin contamination level in pig feed

Biljana Stojanovska-Dimzoska*, Zehra Hajrulai-Musliu, Elizabeta Dimitrieska-Stojkovic, Risto Uzunov, Aleksandra Angeleska, Dean Jankuloski

Food Institute, Faculty of Veterinary Medicine, University Ss "Cyril and Methodius" Lazar Pop Trajkov 5-7, Skopje, R. Macedonia

Introduction: Mycotoxins, a series of secondary metabolites generated from molds, widely contaminate many agriculture commodities such as grain and feed, either in the field or during storage under favorable conditions. The most prevalent and predominant mycotoxins are aflatoxins, ochratoxin A and zearalenone. These toxins represent a serious threat to both human and animal health exerting carcinogenic, nephrotoxic, immunotoxic, teratogenic, genotoxic and mutagenic effects. Swine are generally the most sensitive among the animals. IARC made classification and most of mycotoxins are carcinogen to humans. Content of mycotoxins in feedstuffs is regulated by legislation worldwide with MRL in the range of 20-3000 μg/kg.

Material and methods: Total of 22complementary feeding stuffs for fattening pigs, 23 feed samples for sow, 12 samples for in-pig sow,15 samples for piglets, 15 corns and 10 wheat samples were analyzed in our laboratory for presence of mycotoxins. The HPLC-FLD with immunoaffinity column clean-up was the method used for determination of all three mycotoxins. The extraction and purification of samples was done according to several modified AOAC and ISO methods. The results were evaluated according to Macedonian legislation (Official Gazette 47/2012; 149/2012; 53/2013) which are in accordance with European regulations.

Results: Total of 97 pigfeed samples were analyzed for mycotoxin contamination level. Among them 48 samples were with aflatoxins, OTA and ZEA concentration below LOD (49.5%). One (1) corn sample was positive on aflatoxins in accordance with legislation (MRL is 20 μg/kg) and 1 feed sample for piglets was also positive (MRL is set on 10 μg/kg). Forty nine (49) feed samples showed presence of aflatoxins in the concentration range of 2.72-24.69 μg/kg; OTA in the range of 2.95-17.58 μg/kg and ZEA in the concentration range of 58.9-172.31 μg/kg. Most of the samples, especially complementary feeding stuffs for fattening pigs, show co-occurrence for all three mycotoxins (5 of 9 samples) and feed samples for sow (3 of 6 samples).

Conclusion: Forty nine (49) pig feed samples (50.5%) were found to be contaminated with mycotoxins (aflatoxins, OTA and ZEA) with levels ranging from 2.72-172.31 μg/kg for different commodities and different mycotoxin. Although only 2 samples surpassed the legislation limits suggested by the official agencies, it should not

be neglected the overall presence of mycotoxins in feed samples. The following attention and strategies should be directed to reduce the exposure of humans and animals to mycotoxins in the continuous food chain for providing food and feed safety.

P16
Determination of radioactivity exposure in terms of radium equivalent and radiation risk index in the surrounding of the city of Skopje

Aleksandra Angeleska*,
Elizabeta Dimitrieska-Stojkovic,
Risto Uzunov, Zehra Hajrulai-Musliu,
Biljana Stojanovska-Dimzoska,
Dean Jankuloski, Romel Velev

Ss. Cyril and Methodius University, Faculty of Veterinary Medicine, Food Institute, Skopje, Macedonia

Introduction: The naturally present radionuclides have biological, radiotoxic and radio-pathogenic effects on the human organism. For this reason it is necessary to determine the content of radionuclides in the environment, and furthermore to calculate the dose that humans receive. Even though the majority of the population is settled in the city of Skopje and its surrounding, so far such studies have not been conducted; therefore this type of investigation is of particular interest.
Material and methods: The objective of this study was to determine the exposure to radiation due to distribution of ^{226}Ra, ^{232}Th and ^{40}K in the soil in the surrounding of the city of Skopje. Data were used from already measured activity concentrations of ^{226}Ra, ^{232}Th and ^{40}K in 14 soil samples using HPGe gamma spectrometer and the technique for registration of the fission monitoring. The exposure to radiation was defined in terms of radium equivalent - Ra_{eq} (Bq/kg) and radiation risk index - H_{eks}, calculated for each sampling location with the formula proposed by Beretka et al. (equation 1 and 2):

$$Ra_{eq}\ (Bq/kg) = A_{Ra} + 1.43A_{Th} + 0.07A_{k} \quad (1)$$

$$H_{eks} = A_{Ra}/370 + A_{Th}/259 + A_{k}/4810 \quad (2)$$

Results: The data obtained show that the mean value of radium equivalent revealed in this research is 142.81 Bq/kg and is far below the value of 370 Bq/kg, which corresponds to a dose for the population of 1 mSv. However this value is somewhat higher than the world's average, being 129.7 Bq/kg. The mean value of the radiation risk index is 0.40, which shows that there is no high radiation risk for the population in the city of Skopje. By comparison of the results from this study and values measured in other countries, it was concluded that there is no significant difference in the radioactivity exposure in terms of Ra_{eq} and H_{eks}.
Conclusion: The knowledge for the concentration of natural radioactivity is essential for the assessment of the present and estimation of the future radioactive pollution in the environment. On the basis of data measured and calculated, one may conclude that there is no high radiation risk for the population in the city of Skopje. However, continuous and systematic examination is necessary in order to assess any changes in the level of natural and artificial radioactivity. The results obtained within this study are useful as basis for radiological mapping of the area studied, as well as for enrichment of the world's data bank.

P17
Overview over chemical composition of some selected feeds for sheep and lambs

Ana Cvetanovska*, Radmila Chrcheva Nikolovska, Zehra Hajrulai - Musliu, Dean Jankuloski

Food Institute, Faculty of Veterinary Medicine University of "Ss. Cyril and Methodius" Skopje, R. Macedonia

Introduction: The proper nutrition plays a major role in the overall productivity, health, and well-being of the sheep flock. The daily diet of the youth must be adapted to their need for development and the nutrient requirements of the sheep vary with differences in age, body weight, and stage of production. During the grazing season, sheep are able to meet their nutrient requirements from pasture and additional nutrient supplementation is required during the winter period. Poor nutrition can lead to reduced fertility, poor lamb survival, low growth rates and can contribute to ewe and lamb mortality.
Material and methods: As an object of analysis in this research are 20 randomly selected fodder mixtures from 8 different manufacturers in Republic of Macedonia in which are included 14 fodder mixtures for lambs and 6 fodder mixtures for sheep, by examining the most significant parameters in accordance with the Regulation for Quality of animal feed such as: protein concentration (ISO standard 5983-2:2005), moisture content (ISO standard 6496:1999), mineral matter (ISO standard 5984:2002), fiber content (ISO standard 6865:2000) and fat content (ISO standard 6492:1999).
Results: The results from this study show a clear picture about the quality of the animal feed which is used during different stages of ewe's production and lamb growth. After lambing, the energy and protein requirements of the ewe increase by 30 and 55 %, respectively. Reduced intake may results in excessive body weight loss, low milk production, mismothering, and poor lamb gains. In examined samples, total protein content is between 13.3-18.7% which is in accordance with the Regulation for Quality of animal feed. Fibers are an energy source that is important for the rumen function and it's concentration in the tested samples is between 4.9-12.2% depending