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CONTENT

the range from 5 to 250 µg/kg. The LODs and LOQs were estimated at concentration levels with S/N ratio of at least 3:1 and 10:1, respectively. Accuracy was tested spiking blank bovine liver at two concentration levels, 10 and 50 µg/kg (n=5).

Results: The linearity determination revealed regression coefficients values higher than 0.99 for all pesticides tested.The estimated LODs and LOQs were lower than 10 µg/kg, with exception of diazinone, for which, LOQ value of 12.4 µg/kg was obtained. However all values estimated are lower than the established maximum residue levels for liver. Recoveries obtained were in the range 71.9 -115.9 % and 70.2 – 98.8 %, for spiked levels of 10 µg/kg and 50 µg/kg, respectively. The determined precision for all pesticides within the method scope was lower than 20%. Validation parameters estimated are in line with the respective legislative requirements, proving that the method is suitable for performing official pesticides control.

Conclusion: It was presented that QuChERS sample preparation, with some modifications, may be successfully applied for pesticides determination in liver samples with UHPLC-Tandem mass spectrometry. In accordance with the legislation requirements, the method proposed may be used for pesticide analysis within the Monitoring program for residues in animal products.

P20

Aflatoxins occurrence in peanuts and products containing peanuts

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Introduction: Aflatoxins are highly toxic, cancer causing metabolites of certain strains of the fungi *Aspergillus flavus*and *A. parasiticus*, that cause immune-system suppression, growth retardation, liver disease and death in both humans and domestic animals throughout the world. They are a group of closely related compounds with small differences in chemical composition. Aflatoxins of concern are designated B1, B2, G1,G2 and are usually found together in various foods and feeds in various proportions, of which aflatoxin B1 is considered the most prevalent and the most potent form. In accordance to EU Commission Regulation (165/2010) groundnuts (peanuts) intended for direct human consumption or use as an ingredient in foodstuffs, should comprise maximum concentration of 2.0 µg/kg of AFB1 i.e. 4.0 µg/kg of sum of B1, B2, G1 and G2.

Material and methods: HPLC method with fluorescence detection was used for investigation of quantitative determination of aflatoxins in peanuts and products containing peanuts, after their clean-up on immunoaffinity columns. This method is in accordance with ISO 16050 and AOAC Official Method 991.31. In duration of 21 consecutive months (2013, October – 2015, June), 38 samples of peanuts and products containing peanuts were analyzed. Among them: 19 samples raw peanuts, 7 samples roasted peanuts, 6 samples salty sticks with peanut butter, 4 samples peanut flips, 1 sample peanut paste and 1 sample peanut skins. Limit of detection (LOD) is 0.005 µg/kg.

Results: Aflatoxins concentration was below LOD in 26 (68.42%) samples: in 21 out of 26 peanuts samples and in 5 out of 12 products containing peanuts.Aflatoxins were detected in 12 (31.58%) samples, in a concentration range between 3.21 µg/kg and 61.42 µg/kg. Aflatoxins concentration detected was: 3.21 µg/kg, 10.6 µg/kg, 12.8 µg/kg and 14.2 µg/kg in 4 samples raw peanuts; 2.12µg/kg in a roasted peanuts sample; 61.42 µg/kg in a peanut paste; 4.98 µg/kg and 5.7µg/kg in 2 samples salty sticks with peanut butter; 16.83 µg/kg, 21.11 µg/kg, 22.68 µg/kg and 37.2 µg/kg in 4 samples peanut flips. Ten of the samples exceeded maximum limit of aflatoxins concentration i.e. 26.31% of total investigated samples.

Conclusion: Relative high percent of aflatoxin occurrence in investigated samples points out that further examinations on this topic are necessary. Thus it is highly recommended to increase the monitoring of aflatoxins in commodities.Beside this, proper agricultural and agronomic practices have to be imposed to reduce susceptibility and exposure of commodities to fungal invasion during pre-harvest, storage and processing periods.

P21

Comparison of extraction methods in HPLC-FD analysis of ochratoxin-A in swine kidney

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Introduction: OchratoxinA (OTA) is amycotoxin which is produced by fungi *Asperillus* and *Penicillium* species. OTA is found in foodcommoditiesand several animal products. The toxin is known as etiologic agent of Balkan Endemic Nephropathy disease. OTA was classified in Group 2B as a possible carcinogen in humans by The International Agency for Research on Cancer. The aim of this study was to make comparison between three extraction methods (immune-affinity column extraction (IAC), liquid-liquid extraction (LLE) and solid phase