

LIII-08

Simultaneous determination of pesticide residues, mycotoxins and plant toxins in soya meal samples employing UHPLC-MS

J. Hajslova, T. Cajka, O. Lacina, M. Zachariasova, M. Kostelanska, M. Tomaniova

Institute of Chemical Technology, Prague, Department of Food Analysis and Nutrition, Technicka 3, 166 28 Prague 6, Czech Republic

E-mail: Jana.Hajslova@vscht.cz



In this study, the optimization and validation of target analysis of pesticide residues (300+), mycotoxins (50+) and plant toxins (10+) in soya meal samples was performed. Two extraction procedures have been evaluated for the extraction of multiple analytes: (i) aqueous acetonitrile extraction followed by a partition step and (ii) aqueous acetonitrile extraction. For the instrumental analysis, ultra-high performance liquid chromatography (UHPLC) coupled to high-resolution time-of-flight mass spectrometry (HRTOFMS) was tuned. The parameters involved were: (i) composition of mobile phase for separation (solvents and modifiers); (ii) ionization polarity (positive and negative electrospray); (iii) selection of



quantification and identity confirmation ions; (iv) tuning of collision energies for MSE experiments (selection of fragment ions). Also, the possibility to use the acquired data for the early control of non-conformity of soya meal samples on the bases of non-target screening was tested.

Keywords LC–MS;pesticide residues;mycotoxins;plant toxins;soya meal;validation

Acknowledgement The research leading to these results has received funding from the European Community's Seventh Framework Programme (FP7/2007-2013) under grant agreement n° KBBE-265702 (QSAFFE)

This communication is under the responsibility of the authors and does not reflect the view of the European Union Commission.