



Food, Agriculture and Fisheries, and Biotechnology
Knowledge-Based Bio-Economy (KBBE)

Relationships between the quality and safety of feed and food

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topic - KBBE.2010.2.4-03: Quality and safety aspects of feed



FP7 KBBE Brokerage Event 2010
20 October 2009, Lisbon/Portugal





Laboratory for Chemical Contaminants in Food and the Environment



Faculty of Technology, University of Novi Sad,
Novi Sad, Republic of Serbia

EXPERTISE:

- ✓ *analytical methods – AAS, GC, HPLC, UPLC, MS/MS,*
- ✓ *chemometrics,*
- ✓ *analysis of persistent organic pollutants, heavy elements and emerging pollutants in different abiotic and biotic matrices*
- ✓ *risk assesment*

- **the only Serbian lab that has participated in the proficiency tests on PAHs analysis in foodstuffs organized by EC-JRC-IRMM, Geel, Belgium;**



Experience

Our skills are:

- participation in and coordination of national and international projects dedicated to various aspects of the food safety and quality;
- strong experience in preparatory and analytical methods in food safety; highly equipped laboratory for the organic and inorganic contaminants analysis
- high publication scores (334 publications/64 in the international journals from the SCI list)

JOURNAL OF
AGRICULTURAL AND
FOOD CHEMISTRY

J. Agric. Food Chem. 2005, 53, 2171–2175 2171

Principal Component Analysis of Trace Elements in Serbian Wheat

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Available online at www.sciencedirect.com



Journal of Chromatography A, 1108 (2006) 279–284

Short communication

Prediction of the Lee retention indices of polycyclic hydrocarbons by artificial neural network

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Arch. Environ. Contam. Toxicol. 52, 466–474 (2007)
DOI: 10.1007/s00244-006-0137-9

Distribution of Chlorinated Organic Pollutants in a Wide Variety of Soils from Europe and Asia: A Multivariate Statistical Approach

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Received: 30 June 2006 / Accepted: 9 October 2006

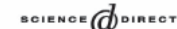
Arch Environ Contam Toxicol (2008) 54:628–636
DOI 10.1007/s00244-007-9061-x

Levels of Organochlorine Pesticides in Crops and Related Products From Vojvodina, Serbia: Estimated Dietary Intake

B. Škrbić · Z. Predojević



Available online at www.sciencedirect.com



Chemometrics and
intelligent
laboratory systems

www.elsevier.com/locate/chemolab

Discrimination between linear and non-linear models for retention indices of polycyclic aromatic hydrocarbons in the so-called Lee's scale

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used to describe the retention indices of polycyclic aromatic hydrocarbons (PAHs) expressed in so-called Lee's scale. As a training set, experimental retention data of 16 PAHs and 6 model compounds were used. The best statistical model was

Available online at www.sciencedirect.com



FOOD
CONTROL

Food Control 18 (2007) 338–345

www.elsevier.com/locate/foodcontrol

Analysis of microelement contents in wheat cultivated in Serbia (2002)

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Involvement in previous / ongoing projects in the area:

☞ coordination of the FP7 project **CEFSE**R, GA. 229629, 2009-2012, *the proposal has been evaluated with 15/15;*
www.tf.uns.ac.rs/CEFSErweb/CEFSErindex.htm

CEFSER

☞ coordination of a multipartner research project funded by the Serbian Ministry for Science and Technological Development, No. 152001B, *Sources identification and correlations amongst the elements and organic compounds in abiotic and biotic matrices: risk analysis and a contribution to the monitoring and improvement of the environmental status, 2008-2010.*

☞ coordination of the multipartner research project funded by the Serbian Ministry of Science, No. BTN-321004B, Baked goods and flour confectioneries with addition of industrial plant seed, 2006-2007.

☞ coordination of the multipartner research project funded by the Serbian Ministry for Science, Technologies and Development, No. 1775, Development of methods for identification of chemical residues and contaminants in major food crops, 2002-2005.



The KBBE-2010-4 topics we are interested in are:

KBBE.2010.2.4-03: Quality and safety aspects of feed

KBBE.2010-2-4-01: Improving integration in food safety research

KBBE.2010.2.4-02: Identification of the effect of processing on food contaminants

KBBE.2010.2.6-01: Strengthening cooperation in food safety research in the enlarged European Union

- The possible name of the project is

Relationships between the quality and safety of feed and food

(Acronym: SaFEed)

Keywords related to the proposal: *feed quality and safety, animal origin food, feed-to-food transfer*



Project

- The aim of the project is to promote high-quality and safe feed as a pre-request for the food of the same characteristics through exploration of the conventional, unconventional/emerging feed and its influence on the food quality and safety, including the feed-to-food transfer and the relationships between quality of feed and quality of food of animal origin.



Content of the Project in Brief

- ➔ The project should focus on joint research on different kinds of feed and feed ingredients, including the quality and safety parameters simultaneously with investigation of quality and safety parameters of chosen food of animal origin.
- ➔ Within the project **our team** would be **responsible** for the safety aspects of feed and food, including analysis of **mycotoxins, pesticides, veterinary drugs, emerging pollutants like perfluorinated compounds, developing and harmonization of the analytical methods, risk assessment, modeling of data.**



The objectives of the proposal are

- ➡ **To qualify conventional and unconventional feed with respect to the safety aspects, including chemicals that are detected at high frequency, emerging pollutants and compounds which are not satisfactorily covered by current analytical methods.**
- ➡ *To understand how chemicals are transferred to feed and how the chemical residues are further transferred from feed to food by finding the relationships between their qualities.*
- ➡ **To identify ways how to enhance the feed safety to reduce human exposure through the food of animal origin.**



Workpackage List

WP	Deliverables
Consortium management	Reports, meetings
Feed quality-joint research	Feed characterization (selected feeds and feed ingredients)
Feed safety-joint research	Characterization of residues in different kind of feed (selected feeds and feed ingredients)
Feed-to-food relationships	Transfer of chemical residues from feed to food (selected animal origin food items); technologies and tools how to enhance the food safety
Dissemination	web site, workshops, round tables, trainings, joint research project proposals, databases etc.



Possible Partners

An idea of the existing partnership:

- The possible partners for this project can be
 - **From Academia and From Research Institutes-** those involved previously in the research projects dedicated to the feed and food quality and safety issues
 - **From industry-** certainly this partner should be chosen carefully, to represent a known feed manufacturer
 - **Possible SMEs-** the inclusion of SMEs involved in feed production possible from every region involved in the project would give an extra value



... expressing the interest for the inclusion of our Lab in the consortium:

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Thank you for your attention!