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Foreword

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For years, the Walloon Agricultural Research Centre (CRA-W), the Institute for Reference Materials and Measurements of the European Commission's Joint Research Centre (JRC-IRMM) and the Institute of Food Safety, RIKILT, have acquired a great expertise in the development and validation of analytical methods for the detection, identification and quantification of animal proteins and contaminants in feedingstuffs. In 2001, they worked together with seven other institutions in the framework of the FP5 European Project STRATFEED, "Strategies and methods to detect and quantify mammalian tissues in feedingstuffs", coordinated by the CRA-W. At the end of this project, in June 2004, a first international symposium entitled "Food and feed safety in the context of prion diseases" was organized in Namur.

After this project, the CRA-W continued to work on those topics together with the JRC-IRMM and RIKILT through the organization of several inter-laboratory studies and training sessions. In May 2006, the three institutions decided to join their efforts to create the Feed Safety Platform (http://www.feedsafety.org). This platform aims to gather institutes and stakeholders working to the use, development and validation of analytical methods for the feed sector. In December 2006, the three institutes met again for a new FP6 European Project entitled SAFEED-PAP "Detection of presence of species-specific processed animal proteins in animal feed", where 13 partners coming from different European countries and China are involved.

In the framework of this SAFEED-PAP project coordinated by the CRA-W, a second international symposium has been organized. This latter Symposium was no longer limited to issues related to transmissible spongiform encephalopathy but was extended to feed safety topics in general with the purpose to give an overview of the latest legislative, scientific achievements and industrial progresses. Over 120 people, coming from 25 countries covering Europe but also from the USA, Canada and China, attended the conference and shared their experiences. The 22 lectures and the 25 posters presented during this event can be viewed on the SAFEED-PAP website on http://safeedpap.feedsafety.org/fs2007. The present proceedings provide a reference book reporting the state of the art of some of the key research issues at the end of 2007.

A first part of these proceedings is lining out the context and the specificity of the feed safety by reviewing the current situation with regard to a total feed ban on the use of processed animal proteins for food producing animals within the EU. The scientific aspects surrounding the development of control tools are discussed. The overall objective is that the recent achievements in the development and validation of analytical tools are utilized to achieve a partial relaxation of the total feed ban in the near future.

A second section covers the ingredients and undesirable substances from animal by-products chain. Since the outbreak of bovine spongiform encephalopathy (BSE) in the UK in 1986, European legislation has become increasingly strict in the area of animal feed. However, the European Commission is considering amending some measures, without endangering health or BSE eradication policy. The scientific conditions to modify the total ban on animal meal requires the development and validation of analytical methods and tools to detect the presence of forbidden material and identify at the species level animal proteins in animal feed. Current methods do not enable such proteins to be accurately identified, and so the total ban cannot be lifted. Several studies carried out, amongst others, in the framework of the SAFEED-PAP project are being developed to find a solution to the problems of species-level detection of animal proteins in animal feed. This proceeding shows results achieved by improving the official analytical method, the microscopic examination technique, for the characteristics of lacunae in chicken bones of different types; or by using the microscopic methods in association with computer image analysis, in particular to distinguish poultry and mammal by-products. On

another way, in the livestock grazing systems, the using of compounds fertilizers and composts adulterated with MBM may cause potential BSE risk. A study shows how the near infrared reflectance spectroscopy (NIRS) can determine MBM content in such products.

A third section is dedicated to plant contaminants in feed. The actual status of enforcement and of the present occurrence of these botanic substances is reported in this proceeding through a survey carried out by the official control labs from all Member States of the European Union. Amongst those substances, traces of the rye ergot and the thorn apple were the most frequently identified. Two present-day problems are also described: the contamination of cereals by mycotoxins and the fraudulent addition of cereal by-products and N-rich organic compounds to maize gluten. To address those issues, in both cases, the electronic nose seems to be an efficient, fast and reliable technique for rapid identification of maize samples naturally contaminated with aflatoxins or for screening of falsified maize gluten samples. Finally another important aspect of the animal production chain is tackled: the carry-over of contaminants through the food chain from the feed to the animal and finally to the food products yielded by the animal, be it milk, eggs, meat or whatever. The compliance and consistency between food and feed limits for contaminants where this transfer is possible is discussed. The development of a Carry-Over Expert System, currently in development is proposed to simulate the contamination incidence from feed to food.

For more information, readers are invited to visit the website of the feed safety platform (www.feedsafety.org). It includes an overview of several feed safety issues: animal by-products, feed additives, banned additives, GMOs, veterinary drugs, botanical impurities, mycotoxins, heavy metals, dioxins, etc. Topics like legislation, analytical methods, available tools and publications are also discussed. This website offers links to European and national projects as well as Community Reference Laboratories involved on those topics. News and events are regularly fed by the web correspondents. An electronic newsletter, dedicated to people involved in the feed sector, is biannually published and dispatched. To provide a space where the researchers can communicate, share documents and work together on a feed safety issue, an Intranet has been also created. Different tools are available as the Feed safety mailing lists, an alert system and discussion boards. Sub-intranets allow to the project coordinators to manage their projects. The Feed safety staff is ready to collaborate with you, offering a complete platform with all the communication tools useful for the dissemination of your activities. We are open to receive your contribution to "feed" the Feed Safety Platform.