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Determination of mycotoxins in foods and feeds in Africa: The role of Pegasus-HRT for mycotoxin exposure assessment

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Increased occurrence of mycotoxins in various food and feed commodities continues to impact negatively on animal and human health and the economy. This is typical in the case of Africa, where environmental conditions for the proliferation of mycotoxigenic fungi exists. Therefore, exposure to mycotoxins in this part of the world is alarming and cases of mycotoxin poisoning with lethal consequences among humans and animals resulting from exposure to them at extremely high levels have been reported (particularly in Kenya and South Africa) driving the need for effective and proper routine analysis of food and feeds and to estimate exposure levels among humans and animals of these naturally occurring toxicants. With this in mind, the Pegasus-HRT 4D gas chromatography time-of-flight mass spectrometry (Pegasus-HRT 4D GC×GC-TOF-MS) can provide adequate analysis of mycotoxins and their biotransformation products in foods, feeds and other biological materials where applicable. Its exceptional speed (200 spectra/sec), accurate molecular mass determination, full mass range acquisition, ultra-high resolution (50, 000 FWHM) and low detection limits positions makes it as an effective tool for mycotoxin analysis in food and feeds. Its rich analytical capacity and high confidence-analyte identification also makes it a viable option for exposure studies and identification of mycotoxin metabolites. This presentation will provide up-to-date data on mycotoxin contamination of food and feeds as well as the degree with which humans and animals are exposed to them in Africa. It also provides some detailed information on the applicability of Pegasus-HRT in assessing exposure.

Biography

Patrick Njobeh is a Senior Lecturer in Department of Biotechnology and Food Technology at University of Johannesburg. Currently, he is supervising more than 18 post-graduates. He serves at Joint FAO/WHO Expert Committee on Food Additives (JECFA) and has received some grants amounting over 1,200,000 Euros. He has also established research collaborations both nationally and internationally and has been part of the EU Framework 6 Biotracer project and currently the FP7 Marie Curie International Research Staff Exchange Scheme (FP7-PEOPLE-2012-IRSES–316067 of EU). He has been invited to deliver public lectures at various universities. He serves as an Editorial Board Member and a regular Reviewer for over 14 journals and various funding bodies.

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