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Detection of *Aspergillus* section *Flavi* and aflatoxins in locally formulated fish feeds from south-western Nigeria

Olorunfemi Momodu Foluke^{1,2}, Odebode Adegboyega C¹, Ezekiel Chibundu N³, Sulyok Michael⁴ and Krska Rudolf⁴¹University of Ibadan, Nigeria²Nigerian Stored Products Research Institute, Nigeria³Babcock University, Nigeria⁴University of Natural Resources and Life Sciences Vienna, Austria

Aflatoxins are potent carcinogenic secondary metabolites produced by the *Aspergillus* spp. *Aspergillus* section *Flavi* (ASF) is a group of molds associated with aflatoxin production. They are responsible for aflatoxicosis in humans and animals through the feed-animal-food-human chain. Detection of ASF and aflatoxins were carried out on 94 randomly collected fish feed samples from different fish farms in south-western Nigeria. ASF were detected in all samples with 1873 ASF isolated. *Aspergillus flavus*, *Aspergillus parasiticus*, unnamed taxon and *Aspergillus tamari* isolated was 1806 (96.40%), 12 (0.64%), 3 (0.16%) and 52 (2.78%) respectively. Aflatoxin B₁ was detected in 92% of samples followed by Aflatoxin G₁ (85%), Aflatoxin B₂ (81%), Aflatoxin M₁ (75%) and Aflatoxin G₂ (36%). Highest aflatoxin concentration was at 550.8 µg per kg for aflatoxin B₁ while highest total aflatoxin concentration recorded was 826.9761 µg per kg. Percentage of samples having total aflatoxin concentration higher than the Maximum Allowable Limit (MAL) in animal feeds as recommended by USFDA (20 µg/kg) was 79.79%. Considering the high incidence of ASF and aflatoxin contamination of sampled fish feeds, the fish industries in south-western Nigeria may be at risk of economic losses due to aflatoxicosis in the fish species.

Biography

Olorunfemi Momodu Foluke is currently a PhD student at the University of Ibadan in Nigeria. Her research interests lies in the study of moulds, mycotoxin research, foods and feeds safety and finding methods for extending shelf life of agricultural produce. She is an awardee of Organization for Women in Science for the Developing World (OWSD) in Italy and has published 9 papers. Currently she is on a Research Visit to Chemistry Department of Rhodes University, South Africa, where she is developing tools to help in ameliorating multi-mycotoxins in fish feeds.

olorunfemi@gmail.com

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