

4th International Conference on

Fisheries & Aquaculture

November 28-30, 2016 San Antonio, USA

Detection of *Aspergillus section flavi* and aflatoxin in locally formulated fish feeds from South-Western Nigeria

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Aspergillus section flavi (ASF) is a group of molds associated with aflatoxin production. They are responsible for aflatoxicoses in humans and animals through the feed-animal-food-human chain. Aflatoxins are potent carcinogenic secondary metabolites produced by the *Aspergillus* spp. Their presence in fish feeds reduce feed quality and feeding inefficiencies leading to low productivity, poor growth and untimely deaths. 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 550.8 µg/kg for aflatoxin B₁ while highest total aflatoxin concentration recorded was 826.9761 µg/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 aflatoxicoses in the fish species.

Biography

Olorunfemi Momodu F is pursuing her PhD at University of Ibadan in Nigeria. Her research interests includes "The study of moulds, mycotoxins 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 nine papers on subjects in her research field. 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.

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