

# Assessment of Total Aflatoxin (AFB<sub>1</sub>, AFB<sub>2</sub>, AFG<sub>1</sub> and AFG<sub>2</sub>) in Fish Feed and Feedstuffs by Using High-Performance Thin Layer Chromatography †

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**Abstract:** Aflatoxin contamination happens if the storage condition of feed is poor or low-quality ingredients are used for the preparation of feed. The present study aimed at evaluating the level of total aflatoxin contamination in the commercial fish feed and feedstuffs collected from Tamil Nadu, India. Total 70 samples comprising 20 fish feed, 10 corn, 10 sunflower meal, 10 soybeans, 10 wheat bran, 10 groundnut oil cakes were analyzed for the presence of total aflatoxin. Romer's all-purpose method was used for extraction, and aflatoxin levels were detected by HPTLC. The outcome of this study revealed that the fish feed and feedstuffs contaminated with aflatoxin B<sub>1</sub>, B<sub>2</sub>, G<sub>1</sub>, and G<sub>2</sub> were ranged between 10 - 80, 10 - 35, 10 - 25, 10 - 25 µg kg<sup>-1</sup> and the percentage of contamination was 88%, 84%, 70%, 54.4%, respectively. Out of 70 samples, 45 samples were contaminated with aflatoxin B<sub>1</sub>, and the detected levels were above the permissible limit recommended by EU and FDA. The study warrants the need for periodical monitoring of fish feed and feedstuffs to aflatoxin analysis, thereby advocating the need to establish a proper regulatory measure for aflatoxin level in aquaculture feed and feedstuffs to ensure food safety.

**Keywords:** aflatoxins; high-performance thin layer chromatography; feed safety; fish feed; feedstuffs.

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## **Conflicts of Interest**

No potential conflict of interest was reported by the authors.