

عنوان مقاله:

Research Article: Pathological effects of *Aspergillus* toxicity on gill structure of *Litopenaeus vannamei* in Iran by two different toxicological investigations

محل انتشار:

مجله علوم شیلات ایران، دوره 22، شماره 6 (سال: 1402)

تعداد صفحات اصل مقاله: 26

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خلاصه مقاله:

This histological study was conducted to discover the response of *Litopenaeus vannamei* to various levels of aflatoxigenic fungi (*Aspergillus*) toxicity. For this purpose, ۴۰۰ specimens of live shrimp were gathered from a shrimp culture site in Iran. According to the results of the high-pressure liquid chromatography (HPLC) analysis, *Aspergillus parasiticus* had a higher production capability of total aflatoxin (TAF) ($1073.804 \text{ ng g}^{-1}$) compared to *Aspergillus flavus* ($292.349 \text{ ng g}^{-1}$). Two experiments with different toxicities of *Aspergillus* were assayed. In both experiments, the shrimps in ۶ experimental groups were exposed to ۰, ۱, ۵, ۱۰, ۱۵, and ۲۰ ml of fungal spore suspension (FSS) in the feed (E₁) and culture medium water (E₂) in triplicate in each group for ۴ weeks. The histopathology results of the gill tissue in the control group were normal. However, the inflammation, hemocytic infiltration, melanization, edema, and necrosis (as the main histopathological changes in the gill tissue) were observed after ۲۸ days of the experiment when the toxicity of both experiments reached $18 \mu\text{g kg}^{-1}$ total aflatoxin and ۱ ml FSS in E₁ and E₂, respectively. Furthermore, (it was recognized that the histological alterations index (HAI) of gill was higher in E₂ (۰-۱۳۰) than in E₁ (۰-۷۴).

کلمات کلیدی:

Aspergillus parasiticus, *Aspergillus flavus*, Aflatoxin, Gill, *Litopenaeus vannamei*

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