



The prevalence of aflatoxin and *Aspergillus parasiticus* in Egyptian sesame seeds

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Abstract : Sesame is usually contaminated with many fungi where some of them are mycotoxigenic causing economic and health problems. Therefore, the aim of this study was to detect and identify the mycoflora associated with Egyptian sesame seeds and to detect the aflatoxigenic isolates genetically as well as to evaluate some measures to decrease fungal load and mycotoxin contamination. Results indicated that several fungal genera were isolated, whereas *Aspergillus* was the most predominant genera. Results also indicated that higher increase in fungal counts was recorded for samples stored at higher water activity (a_w 0.95) compared with those stored at lower (a_w 0.90). The molecular identification was carried out to detect the presence of *aflR* genes in fifty *A. parasiticus* isolates, and results revealed that fourteen isolates were able to produce aflatoxin B₁(AFB₁). The highest level of AFB₁(42.37 and 66.74 µg/kg) in sesame was detected in Dakahlia and El-Behera governorates respectively. Meanwhile, roasting and microwave treatments showed the potential way in the elimination of mycotoxins. It could be concluded that sesame seeds are susceptible to invasion by several fungal species where some of them are mycotoxigenic.

Keywords: Sesame seeds; *Aspergillus parasiticus*; *aflR* genes; aflatoxins; detoxification; microwave; roasting.

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