



Frequency of fungal and aflatoxin B₁ contaminants in cattle feed

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Abstract : Background Fungal contamination of animal feed is extensively widespread as those fungi are ubiquitous in nature. Among those fungi is *Aspergillus* which produce aflatoxins when favored conditions of temperature and humidity are available. There are four major types of aflatoxins B₁, B₂, G₁ and G₂. Aflatoxin B₁ which considered as the most dangerous naturally occurring toxin have carcinogenic effect on both human and animals. **Method** Sixty finished cattle feed samples from Giza governorate were examined for the presence of fungi and aflatoxin B₁ contaminants. Total mould count (TMC) was performed by pour plating technique while aflatoxin B₁ detection was done using thin layer chromatography (TLC) technique. **Results** The total mould count / gm was calculated with mean \pm standard error $5.58 \times 10^4 \pm 2.96 \times 10^4$. Our results showed that the most commonly isolated fungal genera was *Aspergillus* (85%). Among *Aspergillus* genus, *A. flavus* was the most frequently isolated species as it was isolated from 71.7% from total samples. TLC analysis of aflatoxin B₁ revealed its presence in 18.3% from the total examined samples with range between 1.5-72.4 ppb and finally the mean \pm standard error was 24.15 ± 8.16 **Conclusions** In conclusion, Regular monitoring for the presence of aflatoxin B₁ in animal feed is crucial for implementing perfect feed safety programs as aflatoxin B₁ consumption can increase susceptibility to diseases, impair the reproductive performance and it can be excreted in milk in the form of aflatoxin M₁ which considered of major public health concern.

Keywords: Animal feed, Total mould count, Aflatoxin B₁, TLC.

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