



## Frequency of fungal and aflatoxin B<sub>1</sub> 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 B<sub>1</sub>, B<sub>2</sub>, G<sub>1</sub> and G<sub>2</sub>. Aflatoxin B<sub>1</sub> 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 B<sub>1</sub> contaminants. Total mould count (TMC) was performed by pour plating technique while aflatoxin B<sub>1</sub> 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 B<sub>1</sub> 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  $24.15 \pm 8.16$  **Conclusions** In conclusion, Regular monitoring for the presence of aflatoxin B<sub>1</sub> in animal feed is crucial for implementing perfect feed safety programs as aflatoxin B<sub>1</sub> consumption can increase susceptibility to diseases, impair the reproductive performance and it can be excreted in milk in the form of aflatoxin M<sub>1</sub> which considered of major public health concern.

**Keywords:** Animal feed, Total mould count, Aflatoxin B<sub>1</sub>, TLC.

Mona, El-Enbaawy *et al* /International Journal of PharmTech Research, 2016,9(10): 81-88.

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