

Assessment of aflatoxins, ochratoxin A and zearalenone in breakfast cereals

ABSTRACT

Aflatoxins (AFs), ochratoxin A (OTA) and zearalenone (ZEN) were analysed in 237 breakfast cereal samples collected from central areas of Punjab, Pakistan. According to the results, 41% of the samples were found contaminated with AFs, out of which 16% and 8% samples were found to be above the European Union (EU) maximum content for AFB1 and total AFs, respectively. About 48% samples were found contaminated with OTA and 30% samples were found to be above the EU maximum content. The results have shown that 53% samples of breakfast cereals were found contaminated with ZEN and 8% samples were found to be above the permissible limit of EU. The highest mean level of AFB1 and total AFs were found in semolina i.e. 3.60 and 4.55 $\mu\text{g}/\text{kg}$, respectively. Similarly, semolina was the highest contaminated breakfast cereal for OTA (3.90 $\mu\text{g}/\text{kg}$), while cornflakes (brand B) was found highest contaminated with ZEN (13.45 $\mu\text{g}/\text{kg}$).

Keyword: Mycotoxins; Aflatoxins; Ochratoxin A; Zearalenone; Breakfast cereals