

## **Detection of mycotoxins in opaque beer production**

Marume P., Ndlovu N., Manhokwe S. and Ndlovu C.

### **Abstract**

In Zimbabwe opaque beer is one of the most common alcoholic beverages. This study was aimed at detecting aflatoxins and Ochratoxin A (OTA) in commercial opaque beer brewing. Aflatoxins and OTA are mycotoxins produced by fungi. Maize, sorghum malt and opaque beer samples were used for microbiological plating and multi mycotoxin extraction. Aflatoxins, OTA, *Aspergillus* spp, total viable count, coliforms, *Lactobacillus* spp, *Salmonella*, *Shigella*, *Staphylococcus aureus* were assessed. Mycotoxins were separated using an High Performance Liquid Chromatography (HPLC). Aflatoxins were not detected in all the samples. OTA concentration for malt was 18 µg/kg, 5.2 µg/kg in beer and absent in maize. Fungi identified in maize were *Aspergillus flavus*, *Aspergillus niger*, *Aspergillus carbonarius*, and *Aspergillus fumigatus*. Malt contained *Aspergillus flavus* and *Aspergillus carbonarius*. Fungi observed in beer were *Aspergillus flavus* and *Aspergillus niger*. The beer may need heat treatment methods in order to remove the microorganisms identified and prolong shelf life of the product.