EVALUATION OF CONTAMINATION OF WHEAT AND BREAD BY FUNGI AND MYCOTOXINS IN FEZ REGION OF MOROCCO

EL MADANI Hakima
Laboratory of Bioactive Molecules Faculty of Sciences & Techniques/ University Sidi Mohamed Ben Abdellah, Fez, **MOROCCO**

TAOUDA Hasnae
Laboratory of Bioactive Molecules Faculty of Sciences & Techniques/ University Sidi Mohamed Ben Abdellah, Fez, **MOROCCO**

AARAB Lotfi
Laboratory of Bioactive Molecules Faculty of Sciences & Techniques/ University Sidi Mohamed Ben Abdellah, Fez, **MOROCCO**

ABSTRACT

The purpose of this study was first the determination of compliance of bread sale points in Fez city to hygienic principles and second analyze of bread sailed to mycotoxin and fungal contamination. The study was realized between January 2014 to April 2014.The results obtained show that the compliance for the five hygienic programs was 89.5% for personnel, 83.3% for commodity, 78.5% for method, 41.2% for environment and 23.52% for Materiel. For fungal analysis, the results indicated that the majority of samples were contaminated by *Aspergillus niger* and *Debaryomyces sp.* The level of aflatoxins (AF), deoxynivalenol (DON) and fumonisin toxins was determinate by using ELISA. The predominant contamination of bread was for aflatoxins with an average of 81.24µg/Kg in 88.8% of studied samples. For DON and fumonisin, about 38.8% of bread samples were contaminated by DON and 58.3% contaminated by fumonisin without exceeding the EU regulation. The wheat flours used to produce bread was analyzed and revealed same high contamination by Aflatoxins. In same conditions we have observed that local wheat flour from new harvest didn't contain any detectable Aflatoxins. In conclusion, these results, showed an important contamination of bread consumed by Moroccan by fungi and mycotoxins. This was related to origin of wheat used to produce bread and to incompliance to hygienic principles. The amelioration the good hygienic practices and the reduction of cereal storage period may probably reduce in future these contaminations observed.

Keywords: Hygienic programs – Mycotoxins – Cereal products- ELISA.