

PREDISPOSING FACTORS TO AFLATOXIN CONTAMINATION OF MAIZE IN EASTERN KENYA

¹Mureithi*, B. K., ²Muthomi, J. W., ²Chemining'wa, G. N. and ²Mutitu,
E. W

¹Ministry of Agriculture, P.O. Box 30028, Nairobi, Kenya.

²Department of Plant Science and Crop Protection, Faculty of Agriculture,
University of Nairobi, P. O. Box 30197, Nairobi, Kenya

*Corresponding author: mureithibk@yahoo.com

Abstract (C2055)

Maize is the staple diet of majority of Kenyan population but repeated outbreaks of mycotoxin poisoning in Eastern Kenya is a major food safety constraint. This study was conducted to determine maize production and handling practices that contribute to aflatoxin contamination in maize in Eastern Kenya. A survey was conducted in Makueni, Machakos, and Kitui districts of Eastern province during 2008 and 2009 cropping seasons. Information gathered included agronomic practices, harvesting, drying, storage materials and structures used, transportation, processing and weather conditions during harvesting and storage. Such practices included planting of uncertified seeds, harvesting maize before safe moisture content, drying grain on bare ground, storage in living houses and use of synthetic or polythene bags. Aflatoxin B₁ was detected in maize and maize products at levels above the national legal limit of 10µg/kg. Some of the maize production and handling practices in Eastern Kenya such as unfavourable drying and storage practices, planting uncertified seeds, harvesting maize with high moisture content and storage in living houses may predispose maize to fungal and mycotoxin contamination. In addition, high temperatures and periodic drought contribute to the higher fungal and aflatoxin contamination. Therefore, there is need for continued mycotoxin awareness campaigns to educate farmers, traders, transporters and processors on proper handling practices during harvesting, drying, storage and transportation of maize to avoid contamination with aflatoxin.

Key words: Aflatoxin, eastern Kenya, handling, maize, mycotoxins, production