Assessment of Maize Management Practices Predisposing Produce to Mycotoxin Contamination in Kirimari Ward, Embu County

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Abstract

Mycotoxin contamination in maize is a major occurrence that curtail optimal earnings and the quality of maize in Kirimari Ward, Embu County. Contamination of maize often occurs as a result of the maize ear rot diseases. Fumonisins and aflatoxins are the main mycotoxins that cause significant losses in maize in many developing countries, Kenya included. The understanding of mycotoxins contamination, their causes and effects is important as they are found all through the food chain, from field to fork once mycotoxin contamination occurs in stored grains. The research sought to describe the various maize management practices by farmers in the research area that could be contributing to mycotoxin contamination in maize. This study was of major significance since maize is a major food crop in Kirimari Ward, Embu County and its continuous contamination by mycotoxins could cause major health issues to animals and humans. The farmers in the study site had very minimal education levels and very small pieces of land. The farmers practiced traditional farming methods; they stored maize in traditional granaries, in polypropylene bags or plastic containers or stacked maize in the field for them to dry. From the collected data, maize management practices by farmers in the study site had a significant relationship to maize ear rots thus possible mycotoxin contamination of maize during storage. Also, the availability of training to the farmers was directly related to incidences of ear rot contamination in the research area being high in areas where training was limited. As per the findings of this research, mycotoxins could be associated with maize ear rot reported by the locals. This was mainly caused by the management practices that the farmers undertook. The researcher recommends the employment of different technologies such as use of aluminium silos to store their grains or even Aflasafe which was recently developed and is in use currently in use in West Africa for the control of aflatoxin.