Kipkorir K. G. Kiptoo. Aflatoxin in Raw Milk, Animal Feed and Potential Impacts on Human Health in the Greater Uasin Gishu District, Kenya

The worldwide contamination of food and feeds with aflatoxin is a significant problem. Aflatoxins are secondary metabolites of molds that have adverse effects on humans, animals, and crops that result in illnesses and economic losses. Aflatoxins are produced by certain strains of the fungi *Aspergillus flavus* and *Aspergillus parasiticus*. Factors influencing the presence of aflatoxins in foods or feeds include environmental conditions related to storage that can be controlled. Other extrinsic factors such as climate or intrinsic factors such as fungal strain specificity, strain variation, and instability of toxigenic properties are more difficult to control.

This study seeks to find out the level of aflatoxin contamination in animal feeds, raw milk of dairy cows and potential impacts to milk consumers. The study area is greater Uasin Gishu District which has optimal environmental condition for the growth of aflatoxin. Uasin Gishu District has several dairy farmers and produces a lot of maize and wheat which are the main ingredients used for making of animal feeds. The objective of this study is to evaluate the occurrence of aflatoxins in feedstuff used in feeding dairy herd in Uasin Gishu District and the presence of AFM1 in the milk produced by these animals and to establish measures to control contamination of milk by aflatoxin. Samples of raw milk, silage and commercial feeds will be collected for analysis of aflatoxin level from dairy farm selected by stratified sampling method. A questionnaire will be administered to the farmers to show the level of understanding on the impacts of aflatoxin. Feed sample will be collected and analyzed for aflatoxin level and aflatoxin type. Blood sample will be collected for DNA analysis and aflatoxin mechanism. The samples will be prepared for analysis of AFM1 using competitive Enzyme-linked ImmunoSorbent Assay (ELISA) method. Correlation coefficients will be used to establish the relation occurrence of aflatoxin in milk and feeds. Standard deviation and significant tests (t-test) will also be performed between the means of aflatoxin level in raw milk and feed samples. The expected results will be used to recommend appropriate intervention measures of control and prevention of aflatoxin contamination in feeds.