Fusarium head blight (FHB) is a worldwide disease of wheat and other small grain cereals caused by several *Fusarium* species that reduce yield quantity and quality. A study covering 120 farms was done in July-November, 2008 in Nyandarua North, Imenti North and Narok districts of Kenya to determine level of fungal genera inoculum and mycotoxin contamination. FHB incidence was determined as the proportion of diseased heads per 10,000. Isolation of the fungus was done from stems, heads, grains, heads and soil samples on PDA. In vitro activity of COTAF®, Folicur®, PEARL®, Thiovit®, Epicoccum, Alternaria, Trichoderma, Penicillium was determined by paired cultures method in completely randomized design. T-2 toxin mycotoxin contamination in grains was determined by direct competitive Enzyme-Linked Immunosorbent Assay (ELISA). Effect of antagonistic microorganisms, fungicides, varieties and lines on FHB severity and mycotoxin content was tested by co inoculating *F. graminearum* and *F. poae* together with each of the microorganisms, fungicides and lines.

*Fusarium* head blight was found to be highly prevalent with an incidence of 87 percent. Maize was the other crop grown mostly besides wheat by up to 70 percent. Dimethoate® and Folicur® were the mostly chemicals used by up to 43 percent and 75 percent respectively. Fungal genera isolated from wheat, wheat residues and soil were *Fusarium*, *Trichoderma*®, *Alternaria*®, *Epicoccum* and *Penicillium*®. High levels of *Alternaria* and *Epicoccum* showed low levels of *Fusarium*. The major causal *Fusarium* species isolated from wheat, wheat residues and soil were *F. stilboides*, *F. graminearum*, *F. poae*, *F. heterosporum*, *F. fusarioides*, *F. tricinctum* and *F. verticilloides*. Low levels of *Fusarium graminearum* indicated low levels of *Fusarium poae*. Mycotoxin T-2 toxin detected in the grain samples of up to 23 ppb from areas that had higher isolation rates of *F. poae*.

In vitro activity of fungicides had 100 percent pathogen growth inhibition. Antagonists in vitro reduced pathogen growth up to 50 percent. In vivo activity of antagonists and fungicides did not completely control *Fusarium* head blight but only reduced to low levels of up to 30 percent. Folicur® was the most effective fungicide while *Trichoderma* was the most effective antagonist in reducing disease severity. All wheat lines and varieties were susceptible to *Fusarium* head blight and mycotoxin contamination thus posing a threat to human and animal health. Njoro bw1 and Njoro bw2 were less susceptible to FHB compared to Mbuni, KIBIS and R1104. Results indicated that *F. poae* was more prevalent in all the samples analyzed. The main causal agents were *F. poae* and *F. graminearum* while the major contamination was T-2. Integration of crop rotation, cultural, microbial agents, fungicides and host resistance could be used to manage the disease. Planting of less susceptible varieties to FHB and also use of Folicur® in management of FHB. Field trial of the fungicides and microbial agents in the management of FHB should be undertaken.