ABSTRACT

Occurrence of *Fusarium* Head Blight of Wheat and Associated Mycotoxins in Narok and Nakuru Counties, Kenya

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Fusarium head blight (FHB) is an important disease of small grain cereals. This study assessed the incidence and severity of FHB of wheat at hard dough stage, and levels of deoxynivalenol and T2-toxin at harvest by direct competitive enzyme linked immuno-sorbent assay. Wheat ears were randomly sampled from 51 farms in Narok County and 51 farms in Nakuru County at hard dough stage while wheat kernels were sampled at harvest. Prevalence of FHB in both Counties was 100%. The mean incidence of FHB was 28.4% and 20.5% in Narok and Nakuru Counties, respectively with 16.9% and 11.7% corresponding severity. Over 14 Fusarium spp. were isolated from wheat ears and kernels with F. avenaceum, F. poae and F. graminearum being isolated in the highest incidence. Levels of DON in the kernels ranged from below limit of detection n (<LOD) to 623 µg/kg while the concentration of T-2 toxin ranged from <LOD to 69 µg/kg. The levels of DON and T2-toxin in wheat kernels in the two Counties were within the limits set by the European Commission and the United States Food and Drug Administration. The relatively low incidence and severity of FHB correlated with the low levels of DON and T-2 toxin in harvested wheat grains. There is however need to continuously monitor occurrence of FHB and toxin levels in wheat which varies among seasons due to variability in climatic conditions.

Keywords: *Fusarium* Head Blight, Deoxynivalenol, T2-Toxin, Wheat