

Abstract:

presence of head blight-causing *Fusarium* species. Fungal contamination was determined by isolation on agar media, while mycotoxin analysis was by direct competitive enzyme-linked immunosorbent assay (ELISA). The wheat grain samples were highly contaminated with fungi, especially *Epicoccum*, *Alternaria* and *Fusarium* species. The mean *Fusarium* infection rate varied from 13% to 18%, with the major head blight-causing species being *Fusarium poae*, *Fusarium graminearum*, *Fusarium equiseti* and *Fusarium avenaceum*. *F. graminearum* isolates were found to be highly virulent (79% disease severity) and significantly reduced kernel weight. Most grain samples were contaminated with mycotoxins, with a mean incidence rate of up to 75% for deoxynivalenol (DON) and 86% for T-2 toxin. Other mycotoxins detected were zearalenone and aflatoxin B1. Co-occurrence of DON, T-2 toxin and zearalenone was found in up to 35% of the samples. The results suggested the presence of *Fusarium* head blight and associated mycotoxins in Kenya. The presence of several mycotoxins, even at such low levels, could pose chronic adverse health effects to human and livestock fed on the contaminated wheat products.