Abstract

Sorghu (Sorghum bicolor (L.) Moench), finger millet (Eleusine coracana (L.) Gaertn) and maize (Zea mays L.) comprise the major components of human diet in Africa. Other crops such as wheat, groundnuts, pulses (cowpeas and beans) and bananas are also important food crops but to a lesser extent. The objective of this study was to identifying Fusarium species associated with sorghum and finger millet grains in Western Kenya. There were 19 morphologically distinct Fusarium species isolated from sorghum and finger millet grains. These included; Fusarium compactum, F. equiseti, F. thapsinum, F. verticillioides, F. longipes, F. andiyazi, F. nygamai, F. pseudonygamai, F. brevicanulatum, F. chlamydosporum, F. heterosporum, F. napiforme, F. graminearum, F. pseudograminearum, F. oxysporum, F. solani, F. subglutinans, F. semitectum and F. proliferatum. Fusarium compactum (14.40%) and F. equiseti (9.60%) were the most isolated species in all the districts in both grains while F. thapsinum and F. verticillioides were isolated in sorghum varieties from all the districts. The overall incidence of Fusarium species was 29.66% and 4.87% in sorghum and finger millet respectively. Nyamira district had the highest incidences (62.23%) and Kakamega had the lowest (11.12%). Wagiita variety of sorghum had the highest incidences (28.92%) while Esila had no infection. All finger millet varieties had a low incidence of Fusarium of less than 8%. The Fusarium species isolated from sorghum in this study coincide with those isolated from other countries but finger millet had fewer Fusarium species than in other countries and this could be due to the traditional varieties sampled that have chemicals and a hard seed coat which prevents fungal penetration. The presence of fumonisin producing species like F. verticillioides and F. thapsinum could pose cancer related problems to the people consuming these grains.