

## **Abstract:**

The effect of Land Use Types (LUTs) on distribution and diversity of *Fusarium* species in soil were evaluated in Taita Taveta district, Kenya. Soil samples were collected from sixty points across a land use gradient covering six different LUTs, at 0 to 10 and 10 to 20 cm soil depths. Using *Fusarium*-selective media, a total of 1865 *Fusarium* isolates were recovered from the soil samples which resulted into 26 *Fusarium* species with *Fusarium oxysporum* and *Fusarium solani* being the dominant species in this area. Difference in *Fusarium* abundance, diversity and richness across the LUTs was significant ( $P < 0.001$ ) with horticulture being the richest and the most diverse LUT. The top soil layer had significantly higher *Fusarium* abundance and richness ( $P < 0.05$ ). A Principal Component Analysis (PCA) based on the relative *Fusarium* species abundance differentiated the LUTs with 79.69 %. There were significant positive correlation between P and pH levels with *Fusaria* abundance, richness and diversity ( $P < 0.001$ ). Abundance and diversity of *Fusarium* was also positively correlated with soil Mg and K ( $P < 0.05$ ). However, a significant negative correlation between exchangeable acidity and abundance ( $r = -0.605$ ), richness ( $r = -1.317$ ) and diversity ( $r = -0.16$ ) was observed ( $P < 0.05$ ). Negative correlation was also observed between Nitrogen and richness ( $r = -2.94$ ) and diversity ( $r = -0.67$ ) of *Fusarium* species.