

Abstract

Cassava is a drought-tolerant crop that can help ensure long-term food security in Kenya. However, various diseases and climatic variations pose significant challenges to its production. One of the most detrimental diseases affecting cassava is cassava mosaic disease (CMD), primarily caused in East Africa by two viral species: East Africa Cassava Mosaic Virus (EACMV) and African Cassava Mosaic Virus (ACMV). This study focused on agronomically screening different cassava varieties for diseases and examining their prevalence across Makueni, Machakos, and Kitui Counties in Kenya, using an experimental design. The aim was to determine the cause of abnormal morphological changes observed in some cassava varieties in the field. The investigation revealed that all cassava varieties grown in Kitui, Makueni, and Machakos counties were affected by CMD, except for the bitter cassava variety grown in Kitui County. Morphological confirmation of CMD was conducted by carefully examining the disease characteristics in the field, supported by literature on cassava leaf diseases. Statistical analysis showed no significant difference in the prevalence of ACMV and EACMV among the locations ($p = 0.3141 > 0.05$) and ($p = 0.1394 > 0.05$) or between the cultivars ($p = 0.3141 > 0.05$) and ($p = 0.1394 > 0.05$), respectively. Additionally, molecular analysis performed on randomly selected leaves confirmed the presence of ACMV and EACMV in the three counties. For improved management of cassava, further research should focus on bitter cassava to better understand the genetic traits that make it less susceptible to CMD and to inform future breeding programs.