

Abstract

Sweet potato is a food and cash crop in the coastal region of Kenya but the sweetpotato virus disease is also prevalent in the area. Selection of sweetpotato varieties resistant to SPVD and with desirable consumer traits is an economically feasible strategy that can sustain sweetpotato production. Seventeen sweetpotato varieties were screened for resistance/tolerance against sweetpotato virus disease in three sites in Coastal Kenya. The experimental design was complete randomised block design replicated three times in the three sites. Disease incidence and vector populations were assessed using standard procedures. The sweetpotato virus disease (SPVD) was present in the three sites and varied across sites and among sweetpotato varieties. In the first season disease pressure (%) was highest in Lukore and lowest in Mtwapa while in the second season it was highest in Mtwapa and Lowest in Mwaluvanga. Varieties, jewel and 440015 were the most susceptible across the three sites while Jonathan, Zapallo and Japanese proved to be resistant across the three sites in both seasons. The disease incidence (%) was lower in the first season than in the second season and the most susceptible cultivars were the most affected. There was a negative relationship between disease incidence and tuber yield and as well between harvest index and the root dry matter (%). The number of whiteflies varied across the sites with Lukore recording the highest number and Mtwapa the lowest in the first season with no significant difference in the second season. No aphids were observed in the three sites in both seasons. A breeding program should be put in place to breed for sweetpotato virus disease (SPVD) resistance varieties with consumer preferable traits in the region. There is need to establish the physiological basis of resistance in the resistant sweetpotato varieties.