Abstract

Like most viruses that cause plant diseases, the Banana streak virus (BSV) is dependent on several abiotic and biotic factors for its successful transmission and survival. Several BSV isolates are vectored by several mealybug species, including the oleander mealybug, Paracoccus burnerae (P. burnerae). However, the transmission mechanisms of this virus by the vector are poorly understood, yet the mechanisms are critical elements in the transmission of viruses by their putative vectors. This chapter presents a factorial experimental design results of studies conducted on three critical biotic factors that determine the successful transmission of the virus. The studies employed highly sensitive techniques such as immuno-capture polymerase chain reaction and rolling circle amplification to detect the BSV in the vector gut. The findings suggest that the virus is transmitted semipersistently by the P. burnerae vector through a noncirculative mode. These findings provide a new frontier for the development of novel control strategies for banana streak disease.