

Management of Okra Yellow Vein Mosaic Virus Disease Using Plant Extracts

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Okra (*Abelmoschus esculentus* L.), or lady's finger, is a member of the Malvaceae family and commonly referred to as the "villager's vegetable." It is valued for its high nutritional content, including essential minerals, vitamins, and fiber. In Sri Lanka, okra is mainly cultivated in the dry zone, particularly in the Jaffna region. However, its production is significantly affected by Okra Yellow Vein Mosaic Disease (OYVMD), a major viral threat to okra cultivation. The objective of this study was the management of the OYVMV disease and its vector through botanical extract application. The local okra variety (TV 7) selected for this study was grown in the field under RCBD with three replicates. Six treatments viz., Neem oil 2% , 2% Neem leaf extract, 2% onion bulb extract, Imidacloprid 350 g/l SC, control (no botanicals or chemical application), and water application. The quantitative data were subjected to Analysis of variance (ANOVA), and where significant differences were obtained (p-value of 0.05 or less), Duncan's multiple range test (DMRT) was employed to separate means. Among the treatments, neem oil, neem leaf extract and Imidacloprid 350 g/l SC were effectively reduced the disease incidence with the mean value of 24.47%, 25.97% and 21.14% at 50 days after planting (DAP) and 47.43%, 45.70% and 47.56% at 70 DAP respectively, compared to control. These three treatments also gave the better yields with the mean value of 9.91, 9.967 and 10.147 t/ha respectively. Plant extracts used as bio-pesticides were used to manage the disease to avoid the hazardous effects of chemicals on human health and being the eco-friendly. In conclusion, the okra growers are advised to apply plant extracts as bio-pesticides to control YVMVD diseases and their vector to enhance the okra production.

Keywords: Disease incidence, Management, Okra, Plant extracts, Yield