

Screening for Potential Anti-Viral Compounds in Wild Papaya Genotypes for Eliminating Papaya Ring Spot Virus (PRSV) in Cultivated Papaya (*Carica papaya* L.)

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The study aimed to analyse the secondary metabolites in wild papaya genotypes for Papaya Ring Spot Virus (PRSV) resistance. In this study, two cultivated papaya varieties viz., CO.7, TNAU papaya CO.8 and two wild genotypes viz., *Vasconcellea cauliflora* and *Vasconcellea candamarcensis* with seven different solvents including polar (aqueous, ethanol, methanol, acetone and ethyl acetate) and non-polar (hexane and chloroform) were used for phytochemical analysis. The qualitative analysis for alkaloid, phenol, saponin, tannin, flavonoids, steroids, glycosides, and terpenoids and quantitative analysis for total phenol, tannin, alkaloid, and flavonoids were determined along with the characterization of secondary metabolites using Gas Chromatography and Mass Spectrometry (GC-MS). The results indicated that wild genera (*V. cauliflora* and *V. candamarcensis*) possessed extraneous phytoconstituents which were absent in cultivated papaya varieties (CO.7 and TNAU papaya CO.8). Among all the phytoconstituents examined in the study, it was concluded that three compounds viz., Dodecanoic acid, Squalene, and 9,12-Octadecadienoic acid were reported to possess antiviral activity against plant viruses.

Keywords: Anti-viral activity, Bioactive compounds, Papaya ring spot virus