RESEARCH ARTICLE

STUDIES ON CYTOLOGICAL CHARACTERIZATION OF *CISSUS QUADRANGULARIS* ECOTYPES FOR ASSESSMENT OF PLOIDY LEVEL

S. Padmapriya*, K. Vinoth and K. Rajamani

Department of Medicinal and Aromatic Crops, TNAU, Coimbatore
Email: spadmapriyaa@yahoo.co.in

Received-06.11.2021, Revised-20.11.2021, Accepted-27.11.2021

Abstract: *Cissus quadrangularis*, commonly known as veldt grape, is one of the medicinally important perennial, climbing succulent, widely distributed in Africa, the Arabian Peninsula, Northern India, and Southeast Asia. The present investigation on cytological characterization of veldt grape was conducted at Department of Medicinal and Aromatics crops, Horticultural College and Research Institute, Tamil Nadu Agricultural University, Coimbatore from 2019 -2020. Fifty veldt grape ecotypes were collected from different geographical locations of Tamil Nadu and five morphologically superior ecotypes identified were subjected to ploidy level estimation bt using flow cytometry method. The mean FL1-H value varied from 1018.05 to 2896.2 for the five superior ecotypes selected. The highest mean value FL1-H were found in TNCq23 and the lowest mean value recorded in TNCq34 from the plot 4.CV value of the veldt ecotypes ranged from 217.38 (TNCq 23) to 334.00 (TNCq9). The histogram of the mean position of G1 phase of the selected veldt grape ecotypes using radish as the reference indicated that the mean position of G1 peak for all the five ecotypes (TNCq32, TNCq34, TNCq29, TNCq23 and TNCq9) exhibited diploid number (2n) of chromosomes.

Keywords: *Cissusquadrangularis*, Ecotypes, Ploidy level, Flow cytometry

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*Corresponding Author