

Identification and characterization of spontaneous mutants in the 'Sunki' mandarin group

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Mandarins of the 'Sunki' [*Citrus sunki* (Hayata) hort. ex Tanaka] group have great potential for diversification of citrus rootstock in Brazil, with emphasis on the 'Tropical' selection of 'Sunki', obtained by Embrapa Cassava and Fruits, a natural mutation of nucellar origin, from a common clone of this mandarin. The 'Tropical Sunki' is characterized by high number of seeds per fruit (~ 19), high percentage of polyembryony (~ 100) and moderate resistance to *Phytophthora* root rot, characteristics that are not present in the 'Common Sunki'. Natural mutations can be caused by changes during DNA replication, by insertion of transposable elements, or due other factors. In the present work, one population of 160 nucellar seedlings (plants originated from seed) of 'Common Sunki' and 202 nucellar seedlings of 'Sunki of Florida' were evaluated in an equipment with yellow and violet laser in order to identify variation in the wavelength of chlorophyll. This equipment has been used with success in the detection of Huanglongbing - HLB (ex-greening) and also in the differentiation of genotypes in citrus. Afterwards, the seedlings that showed different behavior in the pattern in all evaluated genotypes, as to wavelength, together with 10 nucellar seedlings of standard behavior, were genetically evaluated through primers based on transposable elements (retrotransposons), the IRAP (Inter-Retrotransposon Amplified Polymorphism). Eight primers were tested (IRAP 1, IRAP 2, IRAP 4, IRAP 6, NIKITA, SABRINA, STOW-AWAY e SUKULA), six of which showed polymorphic bands. The results obtained with molecular markers ratify the data of biophotonic analysis, indicating changes in the levels of DNA. Among the 10 evaluated seedlings that showed standard behavior as to wavelength, and one, from the 'Sunki of Florida' group, showed genetic alteration. Financial Support: CAPES and Macroprograma II (Embrapa)