

SOMACLONAL VARIATION IN TISSUE CULTURE-DERIVED DATE PALM) *PHOENIX DACTYLIFERA*) TREES

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Somaclonal variants arose among populations of *in vitro*-derived date palm trees of Barhee and Khalas cultivars. Dwarfism and abnormal floral development were the most to occur. A total of 42 of Barhee from 234 trees (17.9%) in first plantation were dwarf with packed leaves around their trunk and 126 dwarf trees from a total of 1026 (12.3%) trees of Barhee in the second plantation, whereas, Khalas cultivar exhibited 53 (24.3%) and 72 (17.9%) dwarf trees with packed leaves, as well, from a total of 218 and 403 trees in the first and second plantations, respectively. Average height of dwarf trees of both cultivars varied from 36.1 to 102.7 cm after 4 years of transplantation while the height of normal trees varied from 152.6 to 214.3 cm. Leaves with albino stripes in their mid ribs and albino and variegated leaflets were also observed in Khalas cultivars with frequency of 0.25-1%. A large number of mature trees of Barhee trees in all plantations failed to set fruits in comparison to normal *in vitro* derived trees or offshoot-derived trees of the same cultivar. About 786 trees out of 1000 (78.6%) trees in the first plantation and 296 (59.2) out of 500 trees and 430 (86.0%) trees out of 500 trees transplanted in 1992 and 1993 in the second transplantation, respectively, were not able to set fruits. Supernumerary carpels (4, 5, and 6 carpels) developed with frequency of 7.8-16.9%, 2.4-7.7%, and 0.7- 3.5% for 4, 5, and 6 carpels, respectively. Very low frequency of twisted spikelets was also observed.