

APOMIXIS INDUCTION POSSIBILITY EXPLORED IN DATE PALM (*PHOENIX DACTYLIFERA* L.)

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A primary problem in multiplication of date palm (*Phoenix dactylifera* L.) is the current obligatory and slow vegetative propagation by offshoots as well as the dangerous diseases (Bayoud), genetic erosion and genetic heterogeneity of the male palms. Date palm culture is in need of other strategies of multiplication. The possibility of *in situ* parthenogenesis induced by irradiated pollen was explored in date palm. The experiment included two male genotypes (T106 and T23) and four females (Deglet Nour, Allig, Kentichi and Menakher) in Tozeur (South of Tunisia). Pollen was irradiated with 0,25 Gy to 5000 Gy doses. The results showed that pollen was capable of germination even after irradiation at 4000 Gy. A high radio-resistance level was noted and 5000 Gy was the lethal dose for date palm pollen. Diploid plants produced were planted in the field. The second way explored for apomixis induction was treatment with GA3. Results showed that the application of GA3 on unpollinated female inflorescence gave a high frequency of fruit set. Seeds, obtained through GA3 treatment, developed normally and contained a kernel and a viable embryo. First results showed, by histology, that self pollination can be ruled out and isoenzymes profiling indicated that both homozygotes and heterozygotes are obtained among the “apomictic plants”. These results and additional RAPD data are consistent with the existence of doubled haploid in the apomictic progenies. AFLP technique is recently introduced in our laboratories and was used to clarify the induced phenomenon.