Micropropagation and attempts to develop RAPD molecular markers for salt tolerant cultivars of pearl millet

Mohammed Naji, Suruchika Soni Gaur, *Bilal Abdul-ma'abood, *Mahmoud Al Ghazali
College of Biotechnology
University of Modern Sceiences
Dubai, UAE

Dr. M .Nazir & Dr. T.V. Rajya Lakshmi
Assistant Professor,
College of Biotechnology, UMS
Dubai, UAE.

Abstract - Differences were observed among four salt tolerant cultivars of pearl millet to in vitro culture media. Among the four cultivars, Cv IP 6098 is the most salt sensitive had maximum number of multiple shoots (15)/ seed, and the more salt tolerant cvs IP 6106 and IP 22269 developed 3-6 shoots/seed while cv IP 19612 the seeds remained single shooted in MS+3.0mg/L media up to 7 months. The multiple shoots 20% of cv IP 6098, flowered in 5 months with the reduction in hormone concentration (MS+1.0 mg/L BAP) whereas, the other three cultivars did not flower under the tested conditions.

The present study was carried to detect genetic differences among the four cultivars of pearl millet at molecular level through RAPD PCR markers. RAPD analysis was carried with 12 primers, each 10-mer, only 7 primers were amplified showed polymorphism for the four cultivars. Primer OPM 16 revealed a single unique band of ≈485bp in the genotype IP 22269 and three polymorphic bands in the genotype IP 6106. The results were repeatable, and further studies in this direction may enable to link the single band in the genotype IP 22269 to a morphological trait or physiological condition like salt tolerance.

***Index Terms*— Pearl millet, cultivars, *in vitro* flowering and Molecular marker.**

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