

MICROPROPAGATION OF *Murraya koenigii* Spreng

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ABSTRACT

Shoot tips from in vitro grown plants of *Murraya koenigii* were cultured in Murashige and Skoog's medium supplemented with 5 levels of BAP viz., 0.25, 0.5, 0.75, 1.0 and 1.25 mg/l. Elongated shoots from proliferating cultures were harvested and cultured in different carries namely soilrite, sand, FYM, soilrite + FYM, and soilrite + sand. Observations were recorded 4 weeks after culutre in both the cases. This is the first report of tissue culture in curry leaf.

Key words: *Murraya Koenigii*, Micropropagation, Benzyl Aminopurin Tissue culutre

Curry leaf (*Murraya koenigii* Spreng) is one of the important perennial shrub and leaves are used mainaly for seasoning and flavouring the food stuffs and also is an important constituent of curry powder, which is being exported on large scale to England (Lalitha et al., 1995). Besides its medical value leaves are nutritious and rich in mineral content like calcium (813 mg/100g) (Annon, 1980). Bark, leaves and roots are as a tonic,. It is generally propagated by seeds. But seeds are not available at all season besides it losses its viability in storage. Therefore an attempt has been made to develop a economic micropropagation technique.

Mature seeds washed with running tap water after adding few drops of Tween 20 for an hour. Seeds were disinfested with mercuric chloride (0.1 % w/v) fo 15 minutes and rinsed for 4 to 5 times with sterile distilled water in a laminar air flow. Seed coats from seeds were removed and culutred in Murashige and Skoog's (1962) medium. The media contained 3% sucrose and pH and adjusted to 5.8 before autoclaving for 20 minutes at 20 psi and solidified with 0.8 % agar. Shoots obtained *in vitro* were excised aseptically and cultured in MS medium supplemented with varying concentrations of Benzyl Amino Purine (0.25, 0.5, 0.75, 1.0 and 1.25 mg/l). 10 culture tubes formed one replication and replicated thrice in randamised block design. The culutres were maintained at $25 \pm 1^{\circ}\text{C}$, 16 hour light and 2000 lux at culutre level. Shoots of about 2.5 cm long were harvested aseptically and 3-4 shoots were put in each bottle (450 ml capacity) filled upto one third with different carriers viz., soilrite, sand, FYM, soilrite + FYM soilrite + sand. The bottles were filled upto one third with these carriers and one fourth strenght of MS salt solution was added depending on its capacity of absorption before autoclaving at 15 psi. The bottles were placed in culture room condition upto rooting of the microshoots. Then they were transfered to mist house for transfer to polythene bag. The data presented in table 1 revealed significant response to BAP. Highest number of elongated shoots were obtained

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Table 1: Effect of BAP on morphogenic characters of curry leaf

BAP (mg/l)	Culture Weight (mg)	Shoot length (cm)	Shoot number	Callus weight (mg)
0.0	28.840	3.480	1.000	2.120
0.25	59.900	3.180	2.800	3.540
0.5	78.600	2.620	3.000	3.400
0.75	108.120	3.200	3.600	3.720
1.0	87.920	2.640	2.800	7.140
1.25	73.120	2.500	3.200	8.160
SEm	6.328	0.189	0.317	0.476
CD(0.05)	18.668	0.559	0.936	1.405

Table 2: Effect of different carriers on microshoots of curry leaf.

Carriers	Shoot length (cm)	Leaf number	Root length (cm)	Days of root initiation
Soilrite(SR)	3.260	7.200	1.240	14.800
Sand (SD)	2.960	6.200	1.040	19.200
Farm yard manure (FYM)	2.500	5.400	0.000	0.000
SR+FYM	3.480	7.200	1.280	15.600
SR+SD	3.040	6.600	1.180	15.000
SEm	0.119	0.374	0.089	1.176
CD(0.05)	0.319	1.003	0.239	3.154

in BAP concentration of 0.75 mg/l. Similar findings were also recorded in citrus by Parthasarthy and Nagaraju (1993). Higher concentration of BAP, 1 mg/l and above resulted in profuse callusing. Abscise of BAP resulted in single shoot as recorded in other genus of rutaceae (Baruah et al., 1995). At reduced levels of BAP multiple elongated shoots with minimum callus was recorded. The table 2 revealed significant differences among carriers. Soilrite induced faster root initiation (14.8 days) while soilrite with FYM induced long roots (1.28 cm). The use of FYM as a carrier proved unsuccessful because of rotting microshoots after a few days of culture. Soilrite topped over sand was better than sand. The best carriers for rooting of microshoots was soilrite. Similar finding was reported Hidaka and Kajiura (1989) in citrus.

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