B-41 Plant regeneration from callus induced on caryopses of two *Indica* rice cultivars

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High frequency callus induction and efficient plant regeneration are prerequisites for the use of biotechnological approaches such as genetic transformation and somaclonal variation for rice improvement. Callus induction and plant regeneration capacity of 2 *Indica* rice genotypes (a natural dwarf mutant of Basmati rice isolated at University of Ruhuna and BW 267-3) were compared in the present study.

Dehusked mature seeds were sterilized, washed with autoclaved distilled water and cultured on a solid Murashige and Skoog (MS) medium supplemented with 0.15mg l^{-1} Benzylaminopurine (BAP) and 4 concentrations (1, 1.5, 2 and 5 mg l^{-1}) of 2,4-dichlorophenoxyacetic acid (2,4-D). After incubation in the dark at 25°C for 4 weeks, the calli were transferred to a soild MS medium supplemented with 0.05 mg l^{-1} -naphthalenacetic acid and 0.5 mg l^{-1} BAP. The cultures were maintained at 25°C at a 12 h photoperiod. Callus induction rate from caryopses of BW 267-3 was significantly greater (74.4%) than in the Basmati mutant (54.0%). Media supplemented with 2,4-D at concentrations of 1 and 1.5 mg l^{-1}, produced the highest callus % in both genotypes. Plant regeneration ranged from 62.5 to 100% in calli arising from different treatments. The number of plantlets produced per explant ranged from 9 to 24. Plantlets at the stage of 2 leaves were transferred to semi-solid, half-strength MS medium. At a height of about 15 cm, plantlets were transferred to 1 : 1 soil and coir dust medium for acclimatization before planting under normal greenhouse conditions.

The protocol is being used for improvement of *Indica* rice varieties using somaclonal and induced variation.