

Development of media for shoot proliferation of *Oryza sativa* L (Rice) caryopsis culture

Plant regeneration in Indica rice using tissue culture techniques is more difficult compared to Japonica rice. Development of plant regeneration protocols for rice tissue culture is important for selection of somaclonal variants, micropropagation, *in vitro* Mutation induction and selection as well as for transformation with aelian genes.

Present study was carried out to compose the effect of Chlorophenoxy acetic acid (CAP) with the standard protocol of using 2, 4 Dichlorophenoxy acetic acid (2, 4-D) for callus induction and subsequent plant regeneration in mature caryopsis culture of rice variety At 353. Effect of Thidiazuron (TDZ) was also compared with that of Benzylamino purine (BAP) for multiple shoot induction *in vitro*.

Seeds were dehusked, sterilized and cultured on basal MS (Murashige and Skoog 1962) medium supplemented with different concentrations of CAP, 2, 4-D, TDZ and BAP. 2.202 mg/ L (10 μ mol/ L) TDZ, recorded the highest number of shoot (14 Plants/cultured seed) and the growth of shoots and roots were also promoted by 2.202 mg/ L (10 μ mol/ L) TDZ, BAP failed to produce multiple shoots. Callus induction in MS medium supplement with 3.732 mg/ L (20 μ mol/ L) CAP was similar to that with 2.25 mg/ L (10 μ mol/ L) 2, 4-D.

However, more shoots were produced in the regeneration medium from callus induced in CAP supplemented media, giving up to 36 shoots when the basal MS medium was supplemented with 0.3 μ mol/ L BAP for plant regeneration for callus. The results indicate that callus using CAP can regenerate more plantlets than callus induced using 2, 4-D.