

RESEARCH ARTICLE

In vitro study on salinity screening in rice

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SUMMARY

Two moderately resistant rice cultivars, White ponni and BPT – 52904 were used to selection of promising saline tolerant callus lines through screen for salinity tolerance under *in vitro* condition. Embryogenic calli was obtained when tissue culture basal media supplemented with 2 mg L⁻¹ 2,4-D along with 0.5 mg L⁻¹ kinetin and 1 mg L⁻¹ NAA. A significant reduction in callus growth rate (Relative growth rate) and callus induction per cent was noticed in media supplemented with different concentration of saline treatment, from 0.5 to 1.0 and 1.5 per cent NaCl. But the time elapsed for callus induction was increased with higher concentration of salt in the medium. A significant number embryogenic calli was survived in lower concentration, 0.5 and 1.0 per cent of NaCl showed good regeneration capacity in regeneration media. Few promising saline tolerant plants were recovered and transferred to the rooting media before adapting to acclimatization. Hence, this *in vitro* technique with different NaCl stress could have been used effectively to screening for salt screening in rice, rather than the field screening.

Key Words : Relative growth rate, Embryogenic calli, Regeneration, Plantlets, Salinity screening

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