STUDY OF CALLUS FORMATION AND REGENERATRION OF SELECTED RICE VARIETIES AND TRANSFER OF SYTHETIC*CRY*1 GENE RICE CALLUS

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Rice (Oryza sativa. L.) is one of the most important food crop of the world serving as a major staple food crop for about 3 billion people. In developing countries, 35%, 55% of the potential yield of rice is lost mainly due to pest and diseases. In South and Southeast Asia, the average yield lost due to insect pest is 18.5%. Mordern methods of important include gene transfer to obtain pest resistant varieties. Tissue culture is a principal tool in gene transformation.

In this study callus formation and regeneration of selected rice varieties Bg300, Bg304, Bg380, Bg352, Bg350 & IR8 were examined. Seeds were cultured on R2 medium with two 2, 4-D levels (1mg/l and 2 mg/l). Callus formation percentage was observed after 2 weeks of culturing, calli colour was observed at first subculturing and size was also measured prior to transfer to the regeneration medium. Rice calli (Bg352) were co-cultivated with Agerobaterium strain C58 carrying recombinant vector p $^{CAMBIA\ 1301}$ with synthetic cry 1 gene. Transformation efficiency was checked by the GUS assay.

Bg352 was the best in callus formation with favourable colour and favourable size. It is also the quickest to respond by becoming green when transferred to regeneration medium. Fifty three percent of the co-cultivated calli were GUS positive. T-DNA part of the p $^{CAMBIA\ 1301}$ has integrated successfully with a genome of Bg352.