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Improvement of the regeneration medium for embryo derived calli of some selected Indica rice varieties

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Oryza sativa is one of the major food crops in Asia. In the struggle to increase the world food production to meet the demand for increasing population, biotechnology has become an important tool in improvements of food plants. As a biotechnological process, tissue culture with other molecular biology techniques are used extensively for the improvements of crop plants including *O.sativa*. In tissue culture, the regeneration capacity of monocotyledonous plants including rice is generally low compared to dicotyledonous plants. The prime objective of this research was to select the optimum concentration of 6-Benzylaminopurine in Murashige and Skoog (MS) medium that is one of the regeneration medium used in tissue culture. Three of improved Indica rice varieties (Bg 406, Bg 300, Bg 379-2), and two of traditional rice varieties (Dahanala, Kaluheenety), were selected for the study and their mature seeds were used as explant materials. It was found that the regeneration medium with the BAP concentration of 2.5 mg/l was optimum for calli greening in all the rice varieties used whilst the maximum percentage of plantlet formation in all the five varieties was occurred in the medium with the second highest concentration *i.e.* 1.5 mg/l of BAP.

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