



## Effect of Sugar Source for Anther Culture response of selected *Indica* Rice Varieties

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### Abstract

Anther culture is emerging as an effective technique in rice breeding. Extent of success of haploid induction by anther culture depends on a number of factors that include genotype, developmental stage of pollen, cultivated conditions of plants, components of culture medium, pre treatments etc. Exploitation of anther culture technique in breeding and genetics research is limited due to very low regeneration frequency of anthers of rice in general, and *indica* cultivars in particular. Therefore, different culture abilities can overcome the culture difficulties. In this study we evaluated the response of anthers of selected *indica* rice varieties, high frequency callus induction in different sugar source-supplemented media. AT 362, BG 379-2 and BW 267-3 varieties were tested for the high frequency callus induction. Panicles were cold pre treated at 10°C for 7days and anthers were cultured in three different culture media which have been prepared by N6 medium supplemented with 6% maltose (medium 1), 6% sucrose (medium 2) and 6% fructose (medium 3). Results showed that the highest callus forming frequency (3.07) in variety BW 267-3 among the *indica* varieties tested. Callus induction frequency of AT 362 and BG 379-2 were 2.80 and 2.83 respectively. All tested varieties were show a highest callus induction in medium one (N6 medium with 6% maltose) than medium two and three supplemented with sucrose and fructose respectively. This study revealed that sugar source of culture medium plays an important role in callus induction from anthers..

**Keywords:** *Anther culture, Culture medium, Haploid induction, Sugar source*

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