Increased Rice Embryogenesis in Microspore Derived Callus Using Temporary Immersion System (RITA®)

Rice anther culture had proved to be a useful tool for developing breeding populations including broadening the genetic base. However, there a differential resolve between the rice types *japonica* and *indica*. The RITA® system (temporal immersion system) is a alternative for inducing embryogenic callus and subsequent regeneration of plants. Several phenotypes *indica* of Latin American were use to adjust the RITA® system. A significant higher callus induction was obtained when immersion was conducted for 1 minutes every 6 hr than every 4 hr and 8 hr independently of the genotype. *Japonica* rice showed about 7 fold more callus induction respect to the *indica* varieties. A significant higher number of embryogenic callus (95%) were obtained for both *indica* and *japonica* genotypes with RITA® respect to the permanent immersion system (45%, standard control). These results suggest that highly embryogenic callus is induced in RITA® system. For plant regeneration, callus pretreatment consisting of slow desiccation in MS medium with 1% agarose for 1 week and subsequent transfer to the same medium with 0.4% agarose increased regeneration efficiency by 50%.

Key words*:* RITA®, rice, anther culture

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