

IN-VITRO REGENERATION OF PEARL MILLET FROM MATURE EMBRYO DERIVED CALLUS

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ABSTRACT

A modified protocol was developed for the in-vitro regeneration of *Pennisetum glaucum* by somatic embryogenesis and organogenesis. The mature embryo (seed) of *Pennisetum glaucum* (L.) R.Br. cv. ICTP-8203 was cultured on MS medium supplemented with a combination of 1.1-2.2 $\mu\text{M/l}$ 6-Benzylaminopurine (BAP) and 1.34-5.37 $\mu\text{M/l}$ 1-naphthalene acetic acid (NAA) for callus induction. The primary calli obtained were subcultured on MS media supplemented with decreasing concentration of BAP and NAA combination. Maximum frequency of callus induction was observed with 1.1 $\mu\text{M/l}$ BAP and 5.37 $\mu\text{M/l}$ NAA combinations. The shoots regenerated via organogenesis were elongated and rooted on MS media supplemented with Indolebutyric acid (IBA) 0.5 $\mu\text{M/l}$. The rooted plantlet was hardened and transferred to soil.

KEYWORDS: *Pennisetum Glaucum* (L.) R. Br., Callus, Mature Embryo, 1-Naphthalene Acetic Acid, 6-Benzylaminopurine.