

**Somatic embryogenesis and subsequent plant regeneration from zygotic embryo derived callus of rubber (*Hevea brasiliensis* Muell. Arg).**

**ABSTRACT**

A protocol has been developed for induction, maturation and germination of the zygotic embryo derived callus of the rubber tree (*Hevea brasiliensis* Muell. Arg.). The influence of plant growth regulators (PGRs) including 2,4-D,  $\alpha$ -NAA, picloram, GA3 and TDZ on MS and MMS were studied. Optimum calli were induced on MS supplemented with 2.0 mg/l 2, 4-D. The best callus growth and proliferation was recorded on MS fortified with 2.0 mg/l 2, 4-D + 2.0 mg/l BAP + 0.5 mg/l NAA. The maximum embryonic calli were induced on MS + 2.0 mg/l 2, 4-D + 2.0 mg/l Kn medium. Embryo induction, differentiation and maturation were obtained on MMS (MS +Vit B5). The rooted plantlets were produced on half strength MS without any supplements. The novelty of this study is the induction of embryos and plant regeneration from zygotic embryo explants of *Hevea* for the first time. The protocol developed in this study will facilitate mass propagation of high yielding rubber clones as well as to develop transgenic rubber plants with desired genes through genetic transformation.

**Keyword:** *Hevea brasiliensis*; Zygotic embryo; Somatic embryogenesis; Regeneration