

**UNIVERSITI TEKNOLOGI MARA**

**SCREENING METHOD FOR  
INITIATION AND MATURATION OF  
SOMATIC EMBRYOGENESIS OF  
*Hevea brasiliensis* MUELL. ARG. var.  
RRIM 600**

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**MSc**

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## ABSTRACT

The establishment of an improved protocol for direct and indirect somatic embryogenesis of *Hevea brasiliensis* Muell. Arg. var. RRIM 600 is reported. Two types of explant used in the experiment were taken from rubber plantation at Felda Kemendor, Jasin, Melaka. Induction of direct somatic embryogenesis was achieved by using red young leaf explants cultured on MS media supplemented with 0.8 mg/L 2,4-D and 0.5 mg/L KN. Maturation of embryo from direct somatic embryogenesis was achieved by cultured the globular and early heart-shape embryo into MS media supplemented with 0.3 mg/L GA<sub>3</sub>, 0.3 mg/L BA, 0.1 mg/L IAA and 500 mg/L casein hydrolysates. For indirect somatic embryogenesis, the callus was induced by using red young petiole and red young leaf explants cultured on MS media supplemented with (1.0 mg/L – 2.0 mg/L) 2,4-D together with (0.5 and 1.0 mg/L) KN in 24 hours of darkness. The induction of somatic embryos from callus was achieved when red young petiole callus cultured on MS media supplemented with 0.3 mg/L GA<sub>3</sub>, 0.2 mg/L BA and 500 mg/L casein hydrolysates. The cultured were maintained in 24 hours of darkness. Maturation of somatic embryos was achieved when the embryogenic callus cultured on MS media supplemented with 0.3 mg/L GA<sub>3</sub>, 0.2 mg/L BA, 0.1 mg/L IAA and 500 mg/L casein hydrolysates in 16 hours of light and 8 hours of darkness. Future work in germination, regeneration and mass production of somatic embryos from young red leaf and young red petiole explants of *H. brasiliensis* Muell. Arg. var. RRIM 600 will be suitable for this species.

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