

Production of *Ceratonia siliqua* Female Plantlets through Tissue Culture Technique

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ABSTRACT

Ceratonia siliqua is a multipurpose, economical tree that stands drought and is considered as a threatened tree. Therefore, a tissue culture technique was adopted to produce female plantlets vegetatively in a short period of time. Phenolic excretion problem of explants was overcome by several consequent steps, i.e., soaking in antioxidants (Ascorbic acid, 150 mg/l + Citric acid, 100 mg/l) overnight, dark treatment and in situ explant transfer. Explants were transferred into MS-solidified medium supplemented with 25 plant growth regulator treatments comprising; N⁶-benzyl-aminopurine (BAP), 6-furfuryl aminopurine (Kinetin), α -naphthaleneacetic acid (NAA) and indole buteric acid (IBA) at concentrations (0.0, 0.5 and 1.0 mg/l). Three types of explants, i.e., shoot tips, nodal cuttings and lateral buds were taken from recent suckers of a productive female tree and were subjected to this trial. Nodal cutting explants achieved the highest survival percentage (80%) and optimal shootlets formation (100%), when cultured on the most adequate supplements (BAP, 0.5 + IBA, 0.5) mg/l or (Kin, 1.0 + IBA, 1.0) mg/l.

Key words: *Ceratonia siliqua*, carob tree, phenolic excretion, tissue culture, suckers, female plantlets.