

CALLOGENESIS OF IMMATURE ANTHHER EXPLANTS OF COCONUT (*Cocos nucifera* L.)

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A study was conducted to find out the suitability of immature anthers of *Cocos nucifera* excised before four months of inflorescence opening (-4 stage) as a source of explant. Presently the unfertilized ovaries are used as explants, but are available in less numbers. Variation of male flowers maturity could be seen along the rachilla and within diads. In this study, the effects of anther maturity, physical condition of anthers (crushed and uncrushed) and different basal media formulations with different growth regulator levels on callogenesis were evaluated.

As basal media FG, CRI 72 and AA were tested with different levels of 2,4-D, TDZ, CPPU and NAA. Although the callus initiation was not observed, it showed a browning or formation of growth structures. The histological observations revealed the meristematic activity of these callus like structures (CLS) indicating the possibility of callus induction by subculturing or maintaining further. The results revealed a significantly higher percentage of CLS in immature male flowers (56.17%) than the mature male flowers (43.83%). Uncrushed explants gave a significantly higher percentage of CLS (61.17%) than crushed explants (38.83%). Significantly high percentage (67.09) of CLS was obtained from anthers from middle part compared to basal part (32.91) of the rachilla. Higher percentage of CLS with 200 μ M 2,4-D (55.19%) than 300 μ M 2,4-D (44.81%) in FG media and 125 μ M 2,4-D (62.9%) than 215 μ M 2,4-D (37.1%) in 72 medium was observed.

Therefore the use of immature, uncrushed anther explants cultured in CRI 72 medium with 125 μ M 2,4-D gave higher percentage of CLS with the possibility to induce callus.

Key words: Callus like structures (CLS), *Cocos nucifera* L, Diads, Immature anthers