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Regeneration of Plantlets from Cultured Anthers of Tea [*Camellia sinensis* (L.) O. Kuntz.]

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ABSTRACT. A study was conducted to obtain haploids from cultured anthers of Tea [Camellia sinensis (L.) O. Kuntz.] of clone TRI 2025. Anthers excised from sterilized buds at various lengths were cultured on semisolid media, both in light and dark to select a suitable stage of micro spores which initiate the callus. Subculturing was done once a month. Number of anthers that induced callus was recorded at 2nd month. Anther containing mid-uninucleate micro spores was found to be the most responsive for callus induction. Further studies were carried out using anthers of the selected stage.

To determine the suitable media for callus formation, anthers were inoculated on seven media with various combinations of auxin and cytokinin and then incubated separately in dark and light. Two subculturings were done at 1st and 2nd month. The weight of callus was measured at the 4th month.

Half Murashige and Skoog (MS) medium (0.4% agar) with 2,4-D (2.0 mg l^{-1}) in combination with kinetin (1.0 mg l^{-1}) or kinetin (1.0 mg l^{-1}) and IAA (1.0 mg l^{-1}) cultured in dark or BAP (1.0 mg l^{-1}) cultured in light were found to be more suitable for callus growth. Yellow and greenish compact calli were obtained in light but whitish calli in dark. Calli formed in these media were transferred to MS medium without and with hormones.

Callusing was observed in all media tested but their growth was not found continuously. Embryoid and meristemoid like structures were observed on the calli formed in dark and light, respectively. However, plant regeneration did not occur during the 5 month period on the shoot growth medium.

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