A PRELIMINARY STUDY ON IN VITRO *OVARY CULTURE OF TEA*

(*Camellia sinensis* (L.)

Thayamin[1] H Seran, 1.K. Hirimburegamma[2] and V. Shanmugarajah[3]

[1]Department of Agronomy, Eastern University, Chenkalady, Sri Lanka
[2]Department of Botany, University of Colombo, Sri Lanka
[3]Division of Plant Breeding, Tea Research Institute, Talawakelle, Sri Lanka

ABSTRACT

This study was carried out to investigate the possibility for regeneration of shoots from cultured ovary of Tea (*Camellia sinensis* (L.) O. *Kuntze*) clone – TRI 2025, which is a popular clone in the country due to its high yield potential, vigorous growth and tolerance to eelworm and drought. Unopened floral buds (4-6 mm length) from field grown shrubs were collected and sterilized in 70% ethanol (v/v) for 1 minute followed by 5% Clorox solution for 10 minutes. The immature ovaries were excised from the buds and were inoculated on MS medium (0.4% agar) supplemented with 2,4 –D (6.0 mg/l) alone and with 2,4 – D (2.0mg/l) plus BAP (2mg/l). They were also inoculated on half MS medium with 2,4 – D(2.) mg/l) alone and with 2, 4-D (2.0 mg/l) plus BAP (1.0ml/l). All cultures were incubated in dark and sub-culturing was done once a month. The calli were transferred to the same media but without 2,4 – D and kept in light for the regeneration of shoots.

The results showed that browning and tissue necrosis were more in MS media compared to half strength MS media. High concentration of inorganic salts would have resulted in the accumulation of phenolic compounds, causing browning and subsequent necrosis of callus tissue. Callus induction and growth were relatively higher in half strength MS medium with 2,4 – D (2.0mg/l) and BAP (1.0 mg/l). After transferring the calli 2,4 –D(2.0mf/l) free MS media and when maintained in light, whitish yellow calli turned to greenish yellow but plantlets did not regenerate, even though the organization into green nodules were observed.

Key words : callus, *Camellia sinenesis*, *In vitro*, MS medium, ovary culture