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Development of DNA extraction protocol for cultivated cinnamon (Cinnamomum zeylanicum) in Sri Lanka

Y. Ketipearachchi[1], S. M. S. W. Wanigadewa[1], E. S. C. Edirisinghe[1], H. M. S. S. Herath[2], Ranawaka[2] and G. Senanayaka[2]

[1] *Plant Genetic Resource Center ,Gannoruwa, Peradeniya.*

[2] *Department of Agricultural Biology, Faculty of Agriculture, University of Ruhuna, Kamburupitiya.*

This study was conducted at the Plant Genetic Resources Center (PGRC), Peradeniya. Four protocols were tested for DNA extraction from immature leaf tissues of cultivated cinnamon; *Cinnamomum verum* syn. *Cinnamomum zeylanicum*. Four tested protocols include protocol of Khanuja S.P.S., Ajit K., Darokar M.P. and Kumar S. (1999) (protocol No. 1), Okuno and Fukuoka (1998) (protocol No. 2), protocol developed by PGRC (protocol No. 3) and a modified version of the protocol by Okuno and Fukuoka (1998) by PGRC (protocol No. 4). Only protocol No. 4 produced a high quantity of DNA. DNA yield of leaf tissues of three maturity stages were tested with protocol No. 4. The maturity stages of leaves included very immature (1-5 days old), immature (5-10 days old) and mature (10-15 days old) tissues. Leaves of very immature leaves produced a significantly high quality of DNA. Three weights, 1g, 2g and 3g of leaf samples of the very immature stage were also tested for the yield of quality and quantity of DNA when used with 15 ml extraction buffer. The one with leaves of 3.0 g of very immature leaves gave the highest DNA quantity. However, the results indicated that increasing weight of leaf samples tended to decrease the purity of the extracted DNA. It suggested better results with lower than 3.0 g of immature leaves (1-5 days old) with 15 ml of extraction buffer for DNA extraction in this species.

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