

## **Extraction and isolation of PCR amplifiable genomic DNA from *Camellia sinensis* (L.) Kuntze.**

### **Abstract**

Extraction and isolation of high quality DNA suitable for downstream molecular techniques in plants with high polyphenolic contents are almost impossible due to inhibitors of polymerase chain reactions. In this study DNA from *Camellia sinensis* (L.) Kuntze leaf tissue was successfully extracted and isolated by optimization of extraction parameters. This resulted in a high yield of DNA of up to 125  $\mu\text{g ml}^{-1}$  from 0.3 g of leaf tissue. The yield of DNA extracted decreased from 125 to 92  $\mu\text{g ml}^{-1}$  at 200/800/100  $\mu\text{l}$  (EBA/EBB/SDS) extraction buffer combinations and similarly at all buffer combinations with increase in incubation temperature from 50 to 60°C. Carbohydrate and protein contamination derived from optical density ratios of 230/260 and 260/280 were 0-1.68 and 0-1.14, respectively. The optimal extraction parameters were as follows: precipitation time 40 min at 50°C incubation temperature and 200/800/100  $\mu\text{l}$  (EBA/EBB/SDS) extraction buffer combinations. The DNA obtained is of high integrity, which has produced excellent results when used as template for PCR.

**Keyword:** *Camellia sinensis*; DNA extraction; PCR; Polyphenols; Quality.