

**BIO AVAILABILITY OF POLYPHENOL AND
CAFFEINE CONTENT OF TEA LEAVES AT
DIFFERENT SHADE LEVELS**

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ABSTRACT

The genus *Camellia sinensis* belongs to the family of Theaceae of the flowering plants. The leaves and leaf buds of *C. sinensis* are used to produce tea. The chemical composition of tea leaves has been thoroughly studied and the main constituents belong to the polyphenol group accounting for 25 to 35% on a dry weight basis. *C. sinensis* also contains various chemical constituents including methylxanthines, amino acids, chlorophyll, carotenoids, lipids, carbohydrates, vitamins, and more than 600 volatile compounds. The different cultivation methods affect tea quality by altering the basic metabolite profiles. In this study, the polyphenol and caffeine changes were investigated in different shade levels cultured TRI 2043 and TRI 4052 cultivars by UV visible spectrometry. The analyses showed that there is a significant ($P < 0.05$) relationship between shade level and polyphenol content of TRI 2043 and TRI 4052. According to correlation there is a negative correlation between shade level and polyphenol content. Moreover shade level significantly ($P < 0.05$) affect to the caffeine content of TRI 2043 and TRI 4052 but no correlation could be observed with the shade and caffeine content of TRI 2043 and TRI 4052.