

SEASONAL AND CULTIVAR VARIATION OF CATECHIN IN NORTH EAST INDIAN TEA

SANTANU SABHAPONDIT^{1,#}, LAKSHI P BHUYAN¹, BHABESH C. GOSWAMI²
AND MRIDUL HAZARIKA¹

ABSTRACT : Catechins are the major contributor to black tea quality attributes. They are precursors of theaflavin (TF) and thearubigin (TR) contributing to colour, astringency and strength of black tea. Present study is an attempt for biochemical fingerprinting of Assam, China and Cambod variety based on catechin composition and levels of oxidative enzymes, polyphenol oxidase (PPO) and peroxidase (PO). Seasonal variation of catechins and these enzymes was also studied. Estimation of catechin and the enzyme activity were carried out in High Performance Liquid Chromatography (HPLC) and Spectrophotometer respectively. Catechins were the highest in Assam variety followed by Cambod and China. Trihydroxy catechins accounted for 71-76% followed by dihydroxy 22-27% of total catechins in all the three varieties. Contribution of epigallocatechins gallate (EGCG) was 52-58% of total catechin. The EGCG content of the varieties were 121.68 ± 2.44 g/kg for Assam, 112.63 ± 2.90 g/kg for Cambod and 86.17 ± 1.32 g/kg for China. Distinct seasonal variation in EGCG, EC, total catechin and PO activity was observed.

Key words: Tea; extreme cultivar; catechins; total catechins, quality, theaflavins; thearubigins
