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## North-east Indian black tea: Processing technique and health benefit

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The mechanized system of black tea processing has proved to be the backbone of tea industry. It comprises number of stages, namely, withering, rolling, fermentation (oxidation), drying and sorting. The basic objective of the processing is to enable the leaf cells to break so that the made tea undergoes easy dissolution when it is brewed. A poor tea flush, if properly processed could give reasonably acceptable product. On the other hand, even a good flush, with poor manufacturing could produce a poor product. The processing stages are associated with several chemical reactions which determine the quality of end product. A large number of tea cultivars are available in tea industry. Based on morphological characters tea cultivars are classified into three main varieties, Assam, China and Cambodia. The withering and fermentation behavior of the cultivars are not similar. Optimization of withering and fermentation behavior of individual cultivars is important and work in this line is under progress. Assam variety is rich in polyphenolic constituents, more precisely the flavanols (catechins). Among the catechins, the contribution of epigallocatechingallate (EGCG) is the highest. Catechins are the major antioxidant compound of green tea. During oxidation stage of black tea processing, catechins are converted to theaflavins (TF) and thearubigins (TR), the key components of black tea which are not only responsible for brightness, briskness, strength and colour of the liquor but also have high antioxidant property. Several studies have demonstrated that green or black tea polyphenols possess number of health beneficial effects like antimutagenic, antidiabetic, antibacterial, anti-inflammatory, hypocholesterolemic etc.

### Biography

Lakshi Prasad Bhuyan has completed his MSc in Chemistry and PhD in Tea Biochemistry from Dibrugarh University, India. He is the Senior Scientist in a premier research organization, Tocklai Tea Research Institute, Tea Research Association, Jorhat, Assam, India. He has published more than 20 papers in reputed journals and has been serving as a reviewer of projects, papers and member of reputed editorial board.

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