

## **Quality Comparison of Instant Tea Made from Refused Tea (BMF), Taken from Organically and Conventionally Managed Tea Fields of Three Elevation Categories in Sri Lanka**

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The quality of instant tea is based on the raw materials, which depend on the tea cultivar, management practices, climatic conditions, etc. This study aimed to compare the quality parameters of instant teas produced from BMF obtained after the orthodox manufacturing process of clone TRI-2025, taken from organically and conventionally managed two selected tea estates from each elevation category of up-country (UC), mid-country (MC), and low-country (LC) of Sri Lanka. Total polyphenol content (TPC) using folin-ciocalteu method (ISO 14502-1), caffeine content using chloroform extraction method, maximum residue levels (MRL) using AOAC 2015.01 with ICP-MS method, phosphorous and potassium content, colour, and haze of instant tea were analyzed. A significant difference was observed for TPC in three elevations where UC showed the highest (25.74%) and LC showed the lowest (19.27%). The caffeine content in MC (8.2 mg/ L) and LC (8.1 mg/ L) was greater than in UC (6.2 mg/ L). The L value for color, UC recorded 53.51 (lightness) while it was 44.5 (darkness) MC. Higher L gives more clarity whereas a lower L gives less clarity, therefore, to prepare ice tea like beverages UC tea extract would be the best. The highest haze value of (232.17 NTU) was detected in UC and the lowest of (78.10 NTU) in LC, which gives more 'teaness' in UC and is good for 3-in-1 sachet pre-mixtures. No heavy metals (Pb, Cd, As, and Hg) were detected in any of the instant tea types which confirmed that still Ceylon tea can be demanded at a premium price for its superior quality. These findings could be used in the food and pharmaceutical industries to produce value-added products in line with the customer's preferences and to explore even better marketing avenues for Ceylon Tea to enhance revenue generation in the country.

**Keywords:** Broken mixed fanning, Conventional, Instant tea, Organic, Quality comparison

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