

## THE IMPACT OF WATER QUALITY ON TASTE PROFILE OF MADE TEA IN SRI LANKA

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Type of water used for brewing tea make a difference in taste profile of made tea, color and, aroma despite of tea with same quality. Hence, quality of water plays a major role in making tea infusions. This study was conducted to determine the influence of water quality on the taste profile of made tea. Water samples were collected from most commonly used potable water sources in Sri Lanka, i.e. well water from selected locations (*Nikaweratiya, Matale, Anuradhapura, Kebithigollewa*), RO filtered water, tap water and mineral water. Distilled water was used as the control. Hardness, pH, Total Alkalinity,  $\text{PO}_4^{3-}$ -P,  $\text{Cl}^-$ ,  $\text{F}^-$ ,  $\text{NO}_3^-$ , Total Dissolved Solid (TDS), and Dissolved Oxygen of each water source were tested. Then infusions of black tea, green tea and flavored tea were prepared and the sensory evaluation was performed according to the ISO 3103-1980 standards by a standard tasting panel. Data were analyzed using SAS 9.0 software. According to the results, highest overall acceptability for black tea was recorded for the infusions made from distilled water, *Kabithigollewa* well water and RO filtered water. These water samples reported lower values of TDS,  $\text{Cl}^-$ , and hardness among the other water sources. Highest overall acceptance for flavored tea and green tea was recorded from mineral water attributed to moderate values for almost all the measured water quality parameters. However, the worst taste profile was reported for all three types of tea infusions made by using well water from *Anuradhapura*. Hardness, alkalinity, TDS,  $\text{Cl}^-$  and  $\text{F}^-$  contents of water samples collected from *Anuradhapura* were reported highest values compared to others. Therefore, this study concludes that the quality of water is significantly affecting on the taste profile of tea infusions and further studies are recommended with water samples from all over the island to test its impacts on the tea taste.

**Keywords:** Sensory evaluation, Taste profile, Tea, Water quality