THE EFFECTS OF PHYSICAL AND CHEMICAL WATER QUALITY PARAMETERS ON WHITE TEA, GREEN TEA, AND BLACK TEA (*Camellia sinensis*)

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ABSTRACT

After water, tea is the most consumed beverage worldwide. White, green, oolong, and black teas are the most popular types of tea produced. The quality of the water used directly affects the way tea is brewed. Not just for brewing a cup of tea, but also for growing the tea leaves. The water used to make the tea may have a direct effect on the tea's taste, appearance, and aroma. Because water makes up the majority of a brewed cup of tea, good water results in high-quality tea liquor. Water quality and tea leaf quality are both influenced by the same factors. To enhance the flavor of the natural tea, the water must be pure, free of contaminants and minerals, and with enough oxygen. Tea's chemical and sensory characteristics are influenced by water quality. This study focuses on the components of tea brewing related to water quality. The objective of this study was to find out whether the water used to make tea matters to the average tea consumer. Bottled water, tap water, filtered water, well water, distilled water, black tea, white tea, and green tea were prepared. By examining the most significant water quality parameters, such as total hardness, total alkalinity, pH level, electrical conductivity, total solids, and turbidity, the goal of this study is to investigate how physical and chemical water quality factors affect the sensory qualities of each tea liquor. The well water has a mean pH that is lower than SLS standards. The well water has the highest EC and turbidity. Purified water has higher alkalinity, hardness, and TDS than different kinds of water. The ISO standard (9768: 1994 E) was followed for the analysis of the water extract from each tea. Black tea, white tea, and green tea that was prepared with distilled water performed higher on the sensory evaluation than other types of water. As a result, the sensory assessment of tea depends on the quality of the water.

Key words: water quality, black tea, white tea, green tea, water

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