

Determination of the Effect of Water Quality on the Sensory Properties of Tea Liquor

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Tea is an aromatic beverage which is demanded by consumers because of its unique taste, color and aroma also known as sensory properties of tea liquor which are influenced by several factors. The major ingredient of beverage tea is water and therefore water used to brew tea can be on sensory properties. This study was therefore, conducted to find out whether there is an effect of water quality on tea liquor properties by analysing most important water quality parameters to develop a profile of suitable water for brewing of tea comprised with optimum ranges of these water quality parameters. In this view, ten water samples were obtained from ten DS divisions of each Matara, Colombo, Ratnapura, Puttalam, Anuradhapura and Kandy districts were analyzed. This study was conducted in two steps; a sensory evaluation of teas of DUST 1 grade prepared with different water was conducted by trained panellists and a water analysis to determine the pH, Total hardness, total alkalinity, phenolphthalein alkalinity, EC and TDS. Results of water analysis showed, values for all the selected water quality parameters within districts as well as among districts were varied significantly. Therefore, it is evident that the water quality in terms of these parameters is varied within a district as well as among districts substantially. Average ranks obtained from sensory evaluation data varied pertaining to the area hence, concluded that the area used to obtain water for brewing of tea has a significant effect on the sensory properties of tea liquor. Teas prepared from the water obtained from Deniyaya, Devinuwara, Mulatiyana, Rathnapura, Godakawela, Pelmadulla, Moratuwa, Kotte, Thimbirigasyaya, Kesbewa, Nattandiya, Dankotuwa, Rajanganaya, Thalawa, Mihinthale, Ganga Ihala Korale, Panwila, Yatinuwara areas showed highest average ranks hence can be concluded as good in quality. Results shows a negative relationship between total hardness, electrical conductivity and total dissolved solids contents of water and tea liquor properties, yet the relationship between pH and total alkalinity parameters with tea liquor properties is insignificant. Results of the study concludes, liquor properties of tea are affected by water quality in terms of water hardness, conductivity and total dissolved solids. Approximately, total hardness of 25-218 ppm, electrical conductivity of 5.45-861.1 μ S/cm and total dissolved solids of 3.27-51.6 ppm ranges are preferable for brewing of tea.

Keywords: Water quality, Tea liquor Properties, Water quality parameters