Comparison of Pilot Scale and Mass Scale Tea Blending and Quality Evaluation

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Blending is a common practice to enhance the sensory attributes, stability, quantity and economic benefits. Tea blending is mixing of more than two varieties of single line made from seven regions of tea growing areas in Sri Lanka. Characteristics and quality of tea are typically influenced by the genetic make-up of tea variety, agroclimatic conditions, elevation, chemical makeup of green leaf, maturity of leaf and plucking method. This research was conducted to identify the deviation in-between pilot run and mass production of selected blend on liquor colour, liquor strength, infusion colour, infusion aroma and bulk density, tapped density, and compressibility index of blended tea. Samples were collected from seven batches of pilot run and mass production. Sensory evaluation was conducted by the tea tasters and semi-trained panels. "Hue" and "Chroma" values of tea brew, blended tea, and infusion were determined. There was a significant difference between the blend of pilot run and mass production on tapped density, liquor strength and aroma infusion ($p<0.05$) There was no significant difference in bulk density, compressibility index, and colour of the tea liquor of the tea blends obtained from the pilot run and mass production. Deviation of tapped density between pilot run and mass production was minimized by selecting hand blending technique with adequately splitting the batches into several portions during blending. Careful selection of pure tea lines for blending and tasting prior to formulation and blending are potential practices to reduce the deviation in-between pilot run and mass production in liquor strength and infusion aroma.

Keywords: Black Tea, Blending, Mass Production, Pilot Run, Quality Evaluation

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