ABSTRACT

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STUDY ON COLOR CHANGES OF JAVA TEA (Orthosiphon aristatus) BASED FUNCTIONAL DRINK DURING STORAGE (xvii + 84 pages: 22 figures, 7 tables, and 31 appendices)

Java tea functional drink has been studied previously and reported that the color of the tea was not stable during storage. This research was aimed to investigate factors affecting color stability and the effect on sensory color acceptance. Java tea functional drink was stored at three different storage temperature (4°C, 25°C, and 35°C) and light condition (with or without) for 35 days. Physicochemical parameters such as L, a*, b*, °hue, chroma, ∆E, color retention, browning index, pH, and sensory analysis (color intensity by scalling and acceptance by hedonic scale) were examined every 2 days. Determination of factors affecting color stability and acceptability were based on ∆E and hedonic score. Prior storage, the color of the tea was yellowish. Score of L, a*, b*, °hue, chroma, ∆E, color retention, browning index, pH, scalling, and hedonic before storage were 48.42, -0.59, 7.13, 94.73, 7.15, 0, 100, 0.57, 3.39, 5.39, and 5.30, respectively. The result of this study indicated that the functional drink’s color changed into yellow-brownish after storage period, L, °hue, and hedonic score were decreased during storage, in the contrary a*, b*, chroma, ∆E, browning index, and scalling score were increased. Java tea based functional drink stored at 4°C was the most stable on the physicochemical parameters, adversely, at 35°C was the least stable. Color retention and pH were stable during storage. Temperature and light factors were negtively affecting the pigment stability. Java tea functional drink that was stored at 25°C with light and 35°C was rejected on day 25, in the other hand, at 4°C and 25°C without light was still accepted after 35 days storage time.

Keywords: color, functional drink, light, sensory, stability, storage, temperature