



236/B

Effect of elevational factor on physiochemical properties of Sri Lankan instant black tea

M. H. Padmakumara,¹ D. Akila,² C. V. L. Jayasinha^{1*}

¹*Department of Food Science and Technology, Faculty of Livestock, Fisheries and Nutrition, Wayamba University of Sri Lanka, Makadura, Gonawilla.*

²*Hayleys Global Beverages (Pvt.) Ltd., Blinkbonnie Estate, Dickoya.*

Production of instant tea, which is used as a colorant and a beverage ingredient, is a fast growing area in the world. Using refuse tea or Broken Mixed Fannings (BMF) as the raw material for instant tea production is the most popular way due to the cost effectiveness of raw material. The physiochemical characteristics of Instant black tea extracted from up and low country elevational BMF were analyzed in order to use the information as a reference to the industry for exploring the further utilization avenue. BMF samples of tea yield were collected in February 2018 from eight different estates, which belong to two different elevations. Total polyphenolic content, caffeine content, colour, haze, pH and moisture content of instant black tea were analyzed using standard physico-chemical, colorimetric and spectrophotometric methodologies. There was no significant difference observed for the colour values (L, a, b), pH and moisture contents when both elevations were compared. Instant black tea, which was obtained from the low country, has the highest caffeine and total polyphenolic content (6.0348 mg/L and 23.7406 mg/L respectively) compared to the up country product (4.7135 mg/L and 21.1986 mg/L respectively). The haze value of up country instant black tea (169.39 NTU) was significantly higher than the values obtained for low country instant tea samples (95.32 NTU). The study showed that comparatively high amounts of health beneficial compounds in the tea, such as polyphenols and caffeine, are present in the low country instant tea samples. Also comparatively high clarity was obtained in low country instant tea infusions. Considering the health benefits and product quality of the instant tea, low country BMF produces a higher quality instant black tea than BMF from up country tea estates.

Keywords: Broken mixed fannings (BMF), instant tea, up country, low country, colour values, pH, haze, moisture, total polyphenol, caffeine

E-mail: harithpadmakumara13@gmail.com