ABSTRACT

The consumption of low or zero-calorie carbonated soft drinks (CSD) which utilize artificial sweeteners are growing in popularity as it can provide sweetness without adding calories. A blend of acesulfame-K and sucralose is known to exhibit good taste results in comparison to sugar-containing products. In this study, different concentrations of sweetening agents (100% sucrose, 60% sucrose 40% artificial sweeteners, 100% artificial sweeteners) were used to make lychee-orange flavored CSD. The physicochemical properties (CO_2 content, pH, Brix) and sensorial properties using 9-point hedonic scale (color, odor, taste, mouthfeel, overall acceptability), Just About Right (JAR), and ranking test were observed to see whether the different concentrations of sweetening agents used affected the properties of the CSD. For the physicochemical properties, all of the samples were significantly different in terms of Brix. In terms of the sensorial properties, significant differences were found between the taste of the 100% sucrose and 100% artificial sweeteners sample. Based on the JAR test, 100% sucrose and the 60% sucrose 40% artificial sweeteners sample were considered by the panelist to have the right amount of sweetness while formula with 100% artificial sweeteners was less sweet. The result of the ranking test could not significantly determine the most preferred sample as the ranking was inconsistent. Despite obtaining promising results, future studies with more panelists or other sensory tests are needed for more accurate results.

Keywords: *Artificial Sweeteners, Carbonated Soft Drinks, Physicochemical Analysis, Sensorial Analysis.*