ABSTRACT

Free radicals in an excessive concentration cause the development of cancer cells, thus requiring the antioxidant vitamin C and phenol substances contained in red guava and red dragon fruit. The aim of this study is to know the effect of the addition of red guava (Psidium guajava L.) juice and red dragon fruit (Hylocereus polyrhizus) peel essence toward the acceptability, vitamin C level, total phenol, fiber, economical value, and merchantability of a functional drink, yoghurt.

The type of research in the stage of formulation development was pure experimental, while the organoleptic testing was quasi experimental with complete random double design of 5 times repeating on 5 formula, those are 1 control formula (F0) and 4 modification formula (F1, F2, F4, F5) of the addition of red guava juice and dragon fruit peel. The panelists of research consist of 4 definite panelists and 30 untrained panelists. The techniques of analysis are using descriptive analysis and statistic analysis to know the differences acceptability of by using Friedman and Wilcoxon Sign Rank Test with α = 0.05.

The results of organoleptic test showed that the most preferred modification yoghurt formula by panelists was F5 with the average value was 2.91. The highest vitamin C level per 100 ml of yoghurt based on calculation using food composition data was F5 (12.6 mg), while the phenol substances and and the highest fiber level was F4 (44% addition of fruit juice with the ratio of guava juice and dragon fruit peel (35 : 65) was 117.3 mg GAE and 8.9 g. The cheapest food cost per 100 ml of yoghurt was F4 (Rp 1.725,00). The results of Friedman test showed that there were differences on the characteristic of aroma (p = 0.000) and taste (0.000).

F5 yoghurt formula (44% addition of fruit juice with the ratio of guava juice and dragon fruit peel (50 : 50) the most preferred (color, aroma, texture, and taste) and contains 6.78 mg vitamin C, negative total phenol, 1.69 g protein, 1.55 g fat, 2.98 g carbohydrate, and 6.28 g fiber in 100 ml yoghurt. Formula 5 which has high vitamin C and fiber content, and also cheap is worthy to be an alternative of functional drink.

Keywords: Yoghurt, Red guava, Red dragon fruit, Total phenol