Quality Attributes of Selected Ginger *(Zingiber officinale)* Varieties and their Potential to Formulatea Ready-To-Serve (RTS) Functional Beverage with Lime *(Citrus aurantifolia)*

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Nutritional enhancing, health promoting and disease preventing characteristics of functional beverages are thought to boon health against degenerative diseases. Incorporation of phyto-chemicals to formulate Ready-To-Serve (RTS) functional beverage is one of the ways of value addition since the ingredients have functional properties. An experiment was conducted to select the superior ginger variety among the available ginger varieties such as Local, Chinese and Rangoon for formulation of RTS functional beverage and to select the most suitable blending ratio of ginger juice and lime juice. Different blends were prepared by mixing various proportions of ginger juice extract from 10 to 20% and lime juice extract from 2 to 10% sweetened by Palmyra sugar candy. Average weight of rhizomes was higher in Chinese variety (46.81g) than Rangoon (35.23g) and Local (27.56g) varieties. The juice percentage of Chinese variety was comparatively higher (88.39%) than Rangoon (73.24%) and Local (61.52%) varieties. Ginger juice extract of Local ginger variety had a higher mean score for Total Soluble Solids (2.81°Brix) than Rangoon (2.54°Brix) and Chinese (2.32°Brix) varieties. On a 7-point hedonic scale, Local variety was found to be superior in sensory scores for colour (5.7), aroma (5.6) and overall acceptability (5.7). Chinese ginger variety had a higher mean score for pungency (4.2) compared to other tested varieties. The results indicated that Local variety was superior to Chinese and Rangoon varieties to formulate RTS beverages. Freshly made formulations showed a gradual increase in titratable acidity from 0.22 to 0.52% (as % of citric acid), Total Soluble Solids from 12.6 to 16.8°Brix, ascorbic acid from 12.4 to 56.9 mg/100 ml and total sugar from 16.6 to 20.39% and gradual decrease in pH from 6.63 to 3.11 with increase in lime juice extract from 2 to 10%. It was concluded that functional beverage with 12% of ginger juice and 8% lime juice, sweetened by Palmyra sugar candy was the best formulation and could be stored at 30±1℃ temperature and 70-75% of RH for a period of 12 weeks without any significant variations in quality attributes.

Keywords: Functional beverage, Ginger, Lime, Palmyra sugar candy, Phyto-chemicals.