

VARIATIONS IN NUTRITIONAL COMPOSITION AND FRUIT QUALITY OF POPULAR BANANA CULTIVARS IN JAFFNA

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Banana cultivars of *Kathali*, *Kappal* and *Etharai* are very popular in the home gardens of Jaffna. Mature green fruits of the three cultivars were harvested from home gardens, and ripe fruits were used to assess free sugar, total sugar, protein, fat and polyphenol compounds. Fresh weight, moisture content, total soluble solids, pH, titratable acidity and firmness of ripe fruits were also measured. These parameters were compared with the mature green fruits purchased from the Thirunelveli market and ripened at ambient conditions. Free sugar, protein and fat contents of all three cultivars showed significant difference ($p = 0.05$), and total sugar content was observed to be high in *Etharai*. There was no significant difference in the total sugar content of *Kathali* and *Kappal* fruits. The fat content of fruits of these three cultivars was low and varied from 0.18 to 0.22%. *Kappal* fruits showed a high value of fat content among the three cultivars. Bioactive compound polyphenol was observed to be high in *Etharai* with the value of 0.06 mg equivalent of Gallic acid/g fresh weight of the pulp. The fresh weight and firmness of fruits were high in *Etharai*, low in *Kathali*, with no significant difference ($p = 0.05$) observed in fresh weight, moisture content, total soluble solids and titratable acidity of *Kappal* and *Etharai* fruits. The total soluble solids and pH value of fruits were high in *Etharai*, and the values recorded were 27.33 °Brix and 4.86, respectively. Ash content of *Kathali*, *Kappal* and *Etharai* fruits was 3.19 – 3.28%. No significant difference ($p = 0.05$) was observed in total soluble solids, titratable acidity, and firmness of *Etharai* fruits obtained from home gardens and collected from the market. Based on the study, *Etharai* fruits with high sugar and ash content were more suitable for desserts. It was also suitable for the export market due to the high firmness index. Among these three cultivars, promoting *Etharai* cultivar will give high economic returns to Sri Lanka. The results provide important information to the food industry to select suitable cultivars for the export market and value-added processing products.

Keywords: Banana cultivars, Polyphenol, Proteins, Quality parameters, Total sugars