Physicochemical and sensory properties of selected cempedak (Artocarpus integer L.) fruit varieties

ABSTRACT

‘Cempedak’ (Artocarpus integer L.) is an aromatic exotic tropical fruit that can be widely found in Malaysia during season. The pulp yield and several physicochemical properties of five varietes of ‘cempedak’ (CH27, CH28, CH29, CH30 and CH33) were determined. The latter included total soluble solids, titratable acidity, pH, color, organic acids, sugars and carotenoid contents. Sensory evaluation of the five ‘cempedak’ varieties was conducted using Hedonic test, in which the assessed attributes include color, taste, texture and overall acceptability. Results indicate that CH33 yield the highest percentage (35.8%) of edible portion (fruit pulp), while CH27 shows the highest tiratable acidity (0.52%). CH30 had the lowest L* value (52.41), and highest intensity of color in terms of redness (32.45) and yellowness (65.27) values. All ‘cempedak’ varieties were highest in sucrose content (12.28-20.02 g/100 gFW) compared to fructose (5.70-6.72 g/100 gFW) and glucose (4.94-5.52 g/100 gFW), while malic acid (0.43-0.70%) was the highest organic acid as compared to citric acid (0.24-0.60%) and succinic acid (0.20-0.33%). All the ‘cempedak’ varieties studied have high content of α-carotene (2.30-45.27 μg/100 gFW), followed by β-carotene (2.30-12.23 μg/100 gFW), with CH28 having the highest content. From the five varieties of ‘cempedak’ fruit examined, it was found that CH28 ranked the highest in terms of sensory properties, namely taste, texture and overall acceptability.

Keyword: ‘Cempedak’; Physicochemical properties; Sugar composition; Organic acid composition; Carotenoid; Sensory assessment