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Separation, identification and quantification of carotenoids of two major varieties of *Carica papaya* grown in Sri Lanka using MPLC

The only study on papaya carotenoids has been done in Brazil. Papaya (*Carica papaya*) is one of the main fruits, which has been recommended for prevention of vitamin A deficiency in Sri Lanka. Carotenoids are important as natural antioxidant. *Carica papaya*

fruits from two major varieties found in Sri Lanka were analysed of carotenoids by both Medium Pressure Liquid Chromatography (MPLC) and Reverse Phase High-Performance Liquid Chromatography (RP-HPLC). Methanolic extracts of fresh papaya (30g) partitioned into hexane and applied to a MPLC silica gel column at 15 mL/of 0%, 3.125%, 6.25%, 12.5%, 25% and 50% CH₂Cl₂ in hexane. The separated carotenoids were identified and quantified using characteristic visible spectra (Table 1). RP_HPLC was used to confirm the purity and identification of carotenoids.

Table 1: Major provitamin A carotenoids of (*Carica papaya*)
Fruits pulp

Papaya (fruit pulp) carotenoids	Dry weight (µg/100g)	
	Common, orange	Solo (red fleshed)
Provitamin A carotenoids		
β - carotene	0.66	3.74
β - cryptoxanthin	9.14	8.64
β - carotene-5, 6-epoxide	-	1.34
Non provitamin A carotenoids		
Lycopene	-	6.13
-carotene	8.8	7.03

- not detected, Detection limit 0.08 ng/g

Solo (red fleshed) fruits contained a higher percentage of provitamin A carotenoids than common orange variety. Specifically β-carotene content was higher in the Solo variety.