221/B

Identification of carotenoids from yellow passion fruits found in Sri Lanka

M A D V Chandrapala[1] and U G Chandrika[2*]
[1]*Department of Food Science and Technology,*
[2]*Department of Biochemistry, University of Sri Jayewardenepura, Gangodawila, Nugegoda, Sri Lanka.*

Vitamin A deficiency is of public health importance to Sri Lanka. Passion fruit which is widely recognized as a good source of pro vitamin A carotenoids, has not been adequately studied especially in Sri Lankan varieties. Researchers at the University of Florida have found that yellow passion fruit extracts can destroy cancer cells *in vitro*. The phytochemicals which are responsible for this anti-cancer effect are carotenoids and polyphenols. The present study reports the carotenoid composition of Sri Lankan yellow passion fruit varieties carried out as a part of our overall research program to prepare database for carotenoid composition of commonly consumed Sri Lankan fruits and vegetables. Varieties analysed derived from species *Passiflora edulis* and were collected from the open Market. The analysis of yellow passion fruit focused on identification of main carotenoids and isolation of carotenoids □-carotene and prolycopene standards and quantification using RP-HPLC with Diode array detection. The pigments conclusively identified were: phytofluene, ß-carotene, □-cryptoxanthin, prolycopene, *cis*-□-carotene, *trans*-□-carotene, neoxanthin and violaxanthin. □-carotene and prolycopene rear standards were isolated from the yellow passion fruit using open column chromatography. Figure 1 shows the HPLC chromatogram of saponified carotenoid extract of yellow verity of passion fruit. The variety yellow passion fruit contains □-carotene 304.6 ±24.5 µg/100g, Fresh Weight (FW) and β- cryptoxanthin (74.4 ± 28.5) as the principal pro-vitamin A carotenoids.

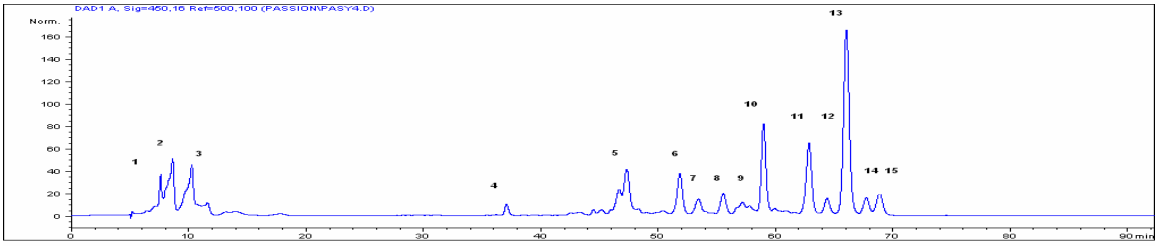

Figure .1 HPLC chromatogram of saponified carotenoid extract of yellow verity of passion fruit. Peak identification: 2. Neoxanthin 3. Violaxanthin 4. □-cryptoxanthin 10. Prolycopene 12. cis-□-carotene 13. β-carotene 14. trans-□-carotene 15. Phytofluene 1,5,6-11 – unidentified carotenoids

Financial assistance by the International Foundation for Science, Sweden (Research grant No: E/3655-1) and National Research Council Grant 2005: No. 05-36 is acknowledged.

*chandri@sjp.ac.lk Tel: 011-2803578