Carotenoids from two different varieties of emberella (*Spondias ceytherea* and *Spondias dulcis*)

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In Sri Lanka, among embarella varieties, the two most popular varieties are the local tall variety (*Spondias dulcis*) and a dwarf variety (*Spondias ceytherea*). Embarella fruits are usually consumed raw as fruits or cooked as vegetable curries. The carotenoid composition of these fruits has not been studied. Hence, a study was carried out to analyse carotenoid composition of these two varieties of emberella as a part of a main project on preparing a database on the carotenoid composition of commonly consumed Sri Lankan fruits and vegetables.

Isolation of carotenoids was carried out according to the Rodriguez-Amaya (1999), which involved extraction of carotenoid, partitioning to petroleum ether, separation of carotenoids by open column chromatography (OCC), identification of carotenoids using ultra violet visible absorption spectra (λ_{max} and spectral fine structure), order of elution of OCC and chemical tests. Quantification of carotenoids carried out using three samples in three replicates. Emberella collected from the home gardens in the Colombo district was used in this experiment. Carotenoid composition of two varieties of emberella are shown in the Table 1

Table 1: Carotenoid composition of two varieties of emberella

Carotenoids	*Spondias ceytherea* (µg/ g)	*Spondias dulcis* (µg/ g)
β-Carotene	0.7 ± 0.2	2.1 ± 0.2
Lutein	0.9 ± 0.7	ND

(N=3)
ND: Not detectable

Average moisture content of *Spondias dulcis* is 91.4% and *Spondias ceytherea* is 80.5%.
There are only two types of carotenoids found in *Spondias ceytherea*, β-carotene, a provitamin A and Lutein, which has anti-carcinogenic effects. *Spondias dulcis* was found to contain only β-carotene. Therefore it can be considered as an important source of β-carotene.

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