

**Title** Comparative study of primary and secondary metabolites in 11 cultivars of persimmon fruit (*Diospyros kaki* L.)

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#### **Abstract**

Primary metabolites (sugars, organic acids) and secondary metabolites (phenolics and carotenoids) were quantified by HPLC in fully ripe fruit of 11 kaki cultivars: 'Amankaki', 'Cal Fuyu', 'Fuji', 'Hana Fuyu', 'Jiro', 'O'Gosho', 'Tenjin O'Gosho', 'Thiene', 'Tipo', 'Tone Wase' and 'Triumph'. Amongst the analysed cultivars, 'Tone Wase' stands out as the richest in sugars, particularly glucose, and cultivars 'Tipo' and 'Triumph' contained the highest amounts of organic acids. Cultivars 'O'Gosho', 'Cal Fuyu' and 'Hana Fuyu' contained the least sugars and cultivar 'Jiro' the least organic acids. Amongst the individual phenolic compounds catechin and gallic acid were present in highest concentrations. The predominant carotenoid in both skin and pulp of ripe persimmon fruit was  $\beta$ -carotene, the highest content was measured in skin of cultivar 'Hana Fuyu', which also contained the highest level of total carotenoids. In persimmon pulp, much lower values for carotenoids were obtained, particularly in fruit of cultivar 'Cal Fuyu'.