

**Title** Property of kaki-tannin as a functional composition in persimmon fruit flesh and leaves and its solubility in artificial stomach liquid

**Author** Hiroyuki Itamura, Naoyuki Murakami, and Hiroko Nagamatsu

**Citation** Abstracts of 27th International Horticultural Congress & Exhibition (IHC 2006), August 13-19, 2006, COEX (Convention & Exhibition), Seoul, Korea. 494 pages.

**Keywords** persimmon; kaki-tannin; sickness after drink; molecular size; solubility in artificial stomach liquid

### **Abstract**

Kaki-tannin contained in persimmon fruit has traditionally been a medicine for hangovers. Persimmon (*D. kaki* Thunb.) fruit and leaves were sampled at various stages and extracts were analyzed for molecular size of kaki-tannin or polyphenol using gel chromatography (TOYOPERL HW-55F). Samples of persimmon fruit, leaves and hot water extraction of young fruit were eluted by acetone-8M Urea (6:4 pH 2). Individual 2.7 ml fractions from the gel chromatography were assayed as a polyphenol by Folin-Dennis method. The results show that the peak fraction of polyphenol in the ovary before flowering stage was at Fr No. 21, indicating a relatively low molecular size. On the other hand, the peaks from Fr No. 14 (void volume). Of young stage fruit picked on August 23, mature stage fruit on October 16 and hot water extraction of young fruit were almost same. Polyphenols from young leaves had a lower molecular size than the ovary before flowering. We also attempted to show the quantity of soluble kaki-tannin or polyphenol in 'Saijo' persimmon after removal of astringency and in sweet persimmon 'Fuyu' fruit in a human stomach after eating. Incubation of fruit with water and artificial stomach liquid at 37°C leads to the conclusion that soluble kaki-tannin in 'Saijo' persimmon fruit after removal of astringency increased in artificial stomach liquid. However, sweet persimmon kaki-tannin didn't change its solubility in either water or artificial stomach liquid.