

Title           A comparison of sugar-accumulating patterns and relative compositions in developing fruits of two oriental melon varieties as determined by HPLC

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### **Abstract**

Sugar-accumulating patterns and compositions were compared between two oriental melon varieties, “Huangjingua” (*Cucumis melo* var. *makuwa* Makino) and “Yuegua” (*Cucumis melo* var. *conomon* Makino). Sucrose and reducing sugars were measured in different mesocarp tissues of developing fruits. They were all characterized by enhanced accumulation of glucose and fructose during early fruit development with almost no sucrose detectable. However, a transition of sucrose enhancement was accompanied by fruit maturing in the variety “Huangjingua”, while no such transition was observed in the variety “Yuegua” that merely had a sucrose content throughout development. In “Huangjingua”, both sucrose and total sugar gradients were observed, ascending from mesocarp adjacent to pedicle, middle part of mesocarp, and up to mesocarp adjacent to umbilicus. However, no obvious gradient in sucrose accumulation was seen among three mesocarp tissues examined. In terms of sweetness index, fructose is the chief contributor to sugar accumulation in both varieties. Also, the melon variety “Huangjingua” could be comparatively considered as a high-sucrose accumulator and “Yuegua” a minor-sucrose accumulator.