

**Title** Bioactive components and antioxidant capacity of Chinese bayberry (*Myrica rubra* Sieb. and Zucc.) fruit in relation to fruit maturity and postharvest storage

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### Abstract

Total phenolics, flavonoids, anthocyanins, cyanidin-3-*O*-glucoside (Cy-3-glu) and antioxidant capacity of Chinese bayberry fruit (*Myrica rubra* Sieb. and Zucc.) differed among the four cultivars “Baizhong” (white), “Fenhong” (pink), “Wuzhong” (red) and “Biqi” (dark red). Antioxidant capacity determined by both the ferric reducing antioxidant power (FRAP) assay and 2,2-diphenyl-2-picrylhydrazyl (DPPH) radical scavenging capacity was significantly correlated with the antioxidant components in the fruit, and directly related to fruit color. Cy-3-glu accounted for at least 82, 38, and 12% of the total antioxidant capacity in “Biqi”, “Wuzhong” and “Fenhong” fruits, respectively. No detectable Cy-3-glu was found in “Baizhong” fruit. Greater fruit maturity was associated with higher levels of all the bioactive components and antioxidant capacity. Significant increases were also found during postharvest storage of “Biqi” fruit held at either 20 °C for 2 days or 0 °C for 5 days. However, these levels decreased during a 2-day shelf-life at 20 °C after 5 days at 0 °C. These results show that storage and shelf-life conditions are important if health-based bioactive components of bayberry fruit are to be maintained after harvest.

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