

**Title** Effect of fruit maturity on antioxidant capacity of Chinese bayberry during postharvest storage  
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**Citation** Abstracts Book, 6<sup>th</sup> International Postharvest symposium, 8-12 April 2009, Antalya, Turkey.  
256 pages.  
**Keyword** Maturity; antioxidant; bayberry

#### **Abstract**

Chinese bayberry fruits (*Myrica rubra* Sieb. and Zucco cv. Wumei) were harvested at four maturity categories (unripe, color turning, maturity, and ripe) according to their visible color (green, pink, red, and dark violet, respectively), and then stored at 20°C for 48 hours. Vitamin C, total anthocyanin, total phenolic, total flavonoids and antioxidant capacities (DPPH radical scavenging capacity, superoxide anion radical scavenging capacity, and reducing capacity) were determined every 6 hours. Fruit maturity significant affected the antioxidant status in Chinese bayberry after harvest and during storage. Increased maturity at harvest increased the antioxidant compounds concentrations and antioxidant capacities. Ripe fruit had the highest antioxidant compounds contents and antioxidant capacities, and the anthocyanin contributed higher to total antioxidant capacities than phenolic and flavonoid. Vitamin C contents decreased in all fruits from four maturity stages, and the results indicated that the variations of vitamin C contents might not make a major contribution to the antioxidant capacity in Chinese bayberry fruit. A linear relationship existed between anthocyanin, phenolic, flavonoid and three antioxidant capacity parameters. In general, Chinese bayberry fruit are one of the richest sources of antioxidant phytonutrients of the fresh fruits; and the ripe stage is the optimal time for harvesting with respect to the fruit quality acceptability and antioxidant value.