

**Title** Effect of ripening stage on astringency removal of 'Rama forte' persimmon  
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**Citation** ISHS Acta Horticulturae 833:269-274. 2009.  
**Keyword** *Diospyros kaki*; carbon dioxide; exposure time; flesh firmness; storage

#### **Abstract**

Ripening stage is one of the most important factors that influence astringency removal from persimmon fruit. This work aimed to evaluate the efficiency of tannin polymerization for fruit harvested at different ripening stages and its influence on quality parameters. Fruit at three ripening stages (yellow, orange and red) were exposed to 70 kPa CO<sub>2</sub> during 12 and 18h, at 22°C and 95% RH. The soluble tannin content decreased abruptly two days after CO<sub>2</sub> treatment, regardless of ripening stage and exposure time. Yellow fruit exposed for 18h were completely non-astringent one day after treatment. In general, with the advance in ripening and increase in exposure time, fruit firmness decreased. Astringency removal with CO<sub>2</sub> promoted an immediate increase in respiration rate, significantly higher for red fruit. The stress caused by high CO<sub>2</sub> induced a significant increase in ethylene synthesis after two days at 22°C. In yellow fruit, the exposition to 70 kPa CO<sub>2</sub> for 18h, maintains firmness during 16 days and completely removes the astringency after two days.