

**Title** Quality of some Asian pear (*Pyrus serotina* Rehd.) fruit in relation to pre-harvest CaCl<sub>2</sub>, Zn and B sprays, harvest time, ripening and storage conditions

**Authors** H. Khoshghalb, K. Arzani, A. Tavakoli, M.J. Malakouti, M. Barzegar

**Citation** ISHS Acta Horticulturae 800:1027-1034. 2008.

**Keywords** Asian (Japanese) pear; fruit firmness; internal browning; *Pyrus serotina*; physiological disorders; storage

### **Abstract**

Post-harvest behavior of two Asian pear (*Pyrus serotina* Rehd.) fruits cultivars 'KS'<sub>9</sub> and 'KS'<sub>13</sub> was investigated in relation to pre-harvest growing conditions, CaCl<sub>2</sub>, Zn and B applications and time of harvest during 2005 and 2006 growing seasons in the research orchard, Department of Horticultural Science, Tarbiat Modares University (TMU), Tehran, Iran. Summer ripening Asian pear fruits were harvested on 1 and 15 August 2006 and stored for five months at 2°C and 90 to 95% relative humidity (%RH). Brown discoloration of the core, carpel and flesh areas of 'KS'<sub>9</sub> and 'KS'<sub>13</sub> was affected by harvest date. In the both 'KS'<sub>9</sub> and 'KS'<sub>13</sub> cultivars, the onset of internal browning (IB) was evident after storage in fruit that had been harvested when skin color had changed from green to light green-brown. Thus, skin color can be used as an index to estimate suitable harvest date to avoid IB incidence during the storage time for the studied cultivars. Early harvested fruits were more susceptible to chilling injury and weight loss but are more stable for fruit firmness and soluble solid content (SSC). CaCl<sub>2</sub>, Zn and B application delayed IB development and decreased fruit physiological disorders. In addition, results on the leaf and fruit mineral measurements showed that fruit firmness, SSC, IB and some fruit quality factors were affected by mineral composition of leaves and fruits.