

**Title** Effects of low temperature and ethylene treatment on ripening of 'Le Lectier' pear fruit  
**Author** Shuji Chino, Tatsuya Matsumoto, Kazuhiro Koshikizawa and Kiyohide Kojima  
**Citation** Abstracts of 27th International Horticultural Congress & Exhibition (IHC 2006), August 13-19, 2006, COEX (Convention & Exhibition), Seoul, Korea. 494 pages.  
**Keywords** 'Le Lectier' pear; ripening; low temperature; ethylene

#### **Abstract**

'Le Lectier' pear fruit will ripen several weeks after harvest. Peel color of fruit changes from green to yellow, and the flesh softens during ripening. The effects of low temperature and ethylene treatment on ripening of 'Le Lectier' pear fruit were examined, and a relationship between temperature and ripening period in fruit treated with ethylene has been demonstrated. When fruits were ripened at ambient temperatures, flesh firmness of fruits treated with ethylene (5000 ppm at 20°C for 24 hours) decreased earlier than fruits treated with low temperature (5°C for 7 days). Ethylene production from fruits in both treatments increased 14 days after treatment (DAT) and reached a maximum 35 DAT. Fruit treated with both low temperature and ethylene did not differ as much in the finally stage. When fruits treated with ethylene were ripened at 10°C, 15°C and 20°C, flesh firmness of fruits held at 15°C decreased earlier than fruits held at 10°C and 20°C. Fruit held at 10°C and 15°C reached eating-ripeness (flesh firmness = 0.8 kg) on 29 DAT and 40 DAT, respectively. However, flesh firmness of fruit held at 20°C did not decrease as much as those held at 10°C and 15°C. These results suggest that ripening of 'Le Lectier' pears was promoted by low temperature or ethylene treatment, and a high temperature (20°C) may inhibit a normal fruit ripening. In addition, when fruits were ripened at temperatures between 10°C and 15°C, fruit treated with low temperature and ethylene may reach the eating-ripe stage within 400 degree days (cumulative temperature) after treatment.