

**Title** Relationship between maturity index and ethylene production patterns of 'Williams' pears grown in the Alto Valle of Rio Negro

**Author** T. Gomila, G. Calvo and A.P. Candan

**Citation** ISHS Acta Horticulturae 909:745-750.2011.

**Keywords** *Pyrus communis*; postharvest; harvest date; climacteric peak; ripening

#### **Abstract**

The Alto Valle of Río Negro is the most important pear production region of Argentina and 50% of this production is of the 'Williams' cultivar. The aim of this study was to characterize maturation of 'Williams' pear according to ethylene production and determine its correlation with the maturity index traditionally used. During 2009 and 2010 seasons, fruit samples were taken between 93 and 131 days after full bloom (DAFB) to determine maturity indices (flesh firmness, soluble solids, acidity, starch degradation, epidermis color) and ethylene production. DAFB had the greatest correlation with ethylene production. The number of days required to start ethylene production and to reach the climacteric peak decreased as harvest dates advanced, leading to the identification of four maturity groups: immature (<99 DAFB), transition (102-105 DAFB), intermediate (107-124 DAFB) and late (>126 DAFB). None of the assessed maturity indices could discriminate between the groups identified, showing significant differences only in some cases. Flesh firmness values close to or less than 20 pounds made it possible to discriminate between immature and transition groups. Results also showed that changes observed in ethylene production during the last maturity period were not reflected by firmness values, suggesting that other complementary maturity indices should be taken into account.