

## POLLEN DEVELOPMENT AND CHILLING REQUIREMENTS IN APRICOT CULTIVARS

**Carme Julian<sup>1</sup>, Maria Herrero<sup>2</sup> and Javier Rodrigo<sup>1</sup>**

<sup>1</sup>Unidad de Fruticultura, CITA de Aragón, Apartado 727, 50080 Zaragoza, Spain

<sup>2</sup>Estación Experimental Aula Dei, CSIC. Apartado 202, 50080 Zaragoza, Spain

Apricot (*Prunus armeniaca* L.) flowers at the end of the winter but flower buds are differentiated the previous summer. During the winter, the flower bud enters dormancy and resumes growth prior to flowering. The time the flower bud remains dormant is genetically and also environmentally controlled and is a major factor determining the adaptation of particular cultivars to particular ecological conditions. In apricot, as in other climatic temperate fruit species, chilling is required for buds to emerge from rest and chilling requirements vary greatly among cultivars. However, very little is known on the physiological changes underlying these events. To explore the relationship between pollen development and chilling requirements, anther and pollen development have been characterised in several apricot cultivars with different chilling requirements. For this purpose, sequentially fixed flower buds from dormancy to flowering have been histochemically examined in two consecutive years. While the pattern of pollen development is highly conserved, differences in timing were observed among the different cultivars and years. These differences are discussed in relation to the chilling requirements for each cultivar.