

CHILL AND HEAT REQUIREMENTS FOR BLOOMING OF THE CITA ALMOND CULTIVARS

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Almond (*Prunus amygdalus* (L.) Batsch) has been considered the earliest blooming fruit species, although it has become the species with the widest blooming range of all deciduous fruits after the release of the newly bred cultivars.

Blooming of any cultivar takes place once its chill and heat requirements have been satisfied. Estimation of chill and heat requirements for blooming is very complex, due to the difficulty of assessing the theoretical date of transition from endodormancy to ecodormancy, when quantification of chill requirements ends and quantification of heat requirements starts. This date may be assessed by a statistical method based on the different effect of temperatures on blooming date depending on their incidence during endodormancy or ecodormancy. This method has been applied to obtain the chill and heat requirement of the almond cultivars released by the Centro de Investigación y Tecnología Agroalimentaria de Aragón (CITA).

Except G-2-25, with 503 Utah CU, the CITA almond cultivars show very close chill requirements, from 329 CU in 'Felisia' to 353 CU in 'Aylés' and 'Belona'. A larger variability was observed for the heat requirements, from 7221 Utah GDH°C in 'Blanquerna' to 9465 GDH°C in 'Felisia' or 10233 GDH°C in G-2-25.

The knowledge of cold and heat requirement of any genotype is essential in choosing the cultivars to be planted in a given region in relation to their climatic characteristics, as well as in designing crosses in a breeding programme to obtain new cultivars with a definite blooming period.