

must know the chilling requirements of the almond cultivars as well as the agroclimatic conditions of the cultivation location, including future projections in the mid and long term.

In this work, the chill requirements to break endodormancy as well as the heat requirements to flower of the new almond cultivars 'Alaska', 'Florida' (soft-shelled cultivars), 'Penta' and 'Makako' (hard-shelled cultivars) of CEBAS-CSIC have been estimated. 'Nonpareil', 'Independence' and 'Avijor' have also been evaluated as reference.

Chill accumulation was quantified by three different models: hours under 7 degrees, Utah model and dynamic model. The experiments were carried out in the 2022/2023 season, in three different locations in Spain: Olivenza (Extremadura), Cieza and Santomera (both in Murcia).

As a reference for a warm region (Santomera), 'Florida' broke flower bud dormancy with 29.2 CP accumulated, 'Alaska' with 48.5 CP, 'Makako' with 48.5 CP and 'Penta' with 49.5 CP. For comparison purposes, Nonpareil broke flower bud in the same location with 31 CP.

Keywords: Endo-dormancy, Eco-dormancy, New cultivars, Chill accumulation models

#95: Pilowred®, new low-vigour-conferring rootstock resistant to nematodes. First results of its agronomical performance in six locations

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The introduction of new and more innovative cultivation systems for almond trees [*Prunus amygdalus* (L.) Batsch, syn *P. dulcis* (Mill.)] allows a more sustainable and efficient management of the crop, by reducing inputs and management costs. Then, control of the tree vigour is a relevant aim in genetic breeding, without forgetting other important traits such as resistance to biotic and abiotic stresses. In this work, the agronomical results of a new almond × peach rootstock, Pilowred® compared to five commercial rootstocks from CITA and Agromillora group breeding programs (Monegro®, Garnem®, Rootpac® R, Rootpac® 20 and Rootpac® 40) are shown. Trials were established in six locations distributed throughout the Iberian Peninsula considering different trial conditions and plantations distances: In Portugal: Beja (6 x 3.5 m); in Spain: Huelva, (6 x 3 m), Córdoba (6 x 1.25 m), Teruel-1 (7 x 6 m), Teruel-2 (7 x 7 m), Zaragoza-1 (6 x 4.4 m) y Zaragoza-2 (6 x 5 m). The cultivars chosen were 'Soleta', 'Isabelona' and 'Lauranne' (late-blooming), 'Vialfas' and 'Mardía' (extra-late blooming) and its combination with the rootstocks were done based on the specific edaphoclimatic conditions of each location. Plants were established in 2020 (Huelva and Córdoba trials) and 2021 (Beja, Teruel, and Zaragoza trials). The trunk cross section area (TCSA) was assessed. The obtained results showed statistical differences among the scion-rootstock combinations. Also, Pilowred® presented a lower TCSA than Garnem®, Monegro® and Rootpac® R in all planting systems, and a similar TCSA as Rootpac® 20. Additionally, this new rootstock shows resistance to two races of root-knot nematodes (RKN), *Meloidogyne arenaria* and *M. incognita* as Garnem®.

Keywords: agronomical performance, almond breeding, RKN, rootstock breeding, TCSA