Agroclimatic potential of the province of La Pampa -Argentina- for the production of almond trees (*Prunus amygdalus* Batsch) of late flowering

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Summary

The almond tree (*Prunus amygdalus* B.) in Argentina reaches 4,200 ha planted, mostly under irrigation. Although it has great agronomic potential, its early flowering and the consequent risk of damage by spring frosts requires to assess its regional aptitude. The aim of this work was to evaluate the agroclimatic potential of the center-east and southeast of the province of La Pampa for this fruit species. Chill and heat requirements were determined by the Alonso correlation method, with 6 years (2013-2018) of field observations of full bloom (F50) of ´Guara´ and ´Felisia´ cultivars and hourly temperatures of the period. The model adjusted quite well with an R^2:0.77 in ´Guara´ and 0.82 in ´Felisia´. The Frost Hazard Index (FHI) of the study area was calculated for both said cultivars and for ´Mardía´, later than the previous ones. The FHI showed a high probability of occurrence of spring frosts during budding, blooming and fruit development for ´Guara´ (68.3%) and ´Felisia´ (80.7%). ´Mardía´ (52.6%), showed a decreasing but still significant risk of damage. The thermal aptitude of the semi-arid Pampean region for almond cultivation turns it necessary to foresee active frost control systems.

Key words: Semi-arid pampean region; chill and heat requirements; almond; frosts risk