



**HAL**  
open science

## Performance of a model to predict the flowering date of apricot in three different regions of South France

Lucia Andreini, Patrick P. Bertuzzi, Jean Marc Audergon, Sylvain Satger,  
Marie Elise Liennard, Raffaella Viti

► **To cite this version:**

Lucia Andreini, Patrick P. Bertuzzi, Jean Marc Audergon, Sylvain Satger, Marie Elise Liennard, et al.. Performance of a model to predict the flowering date of apricot in three different regions of South France. 15. International Symposium, Jun 2011, Yerevan, Armenia. hal-02749445

**HAL Id: hal-02749445**

**<https://hal.inrae.fr/hal-02749445>**

Submitted on 3 Jun 2020

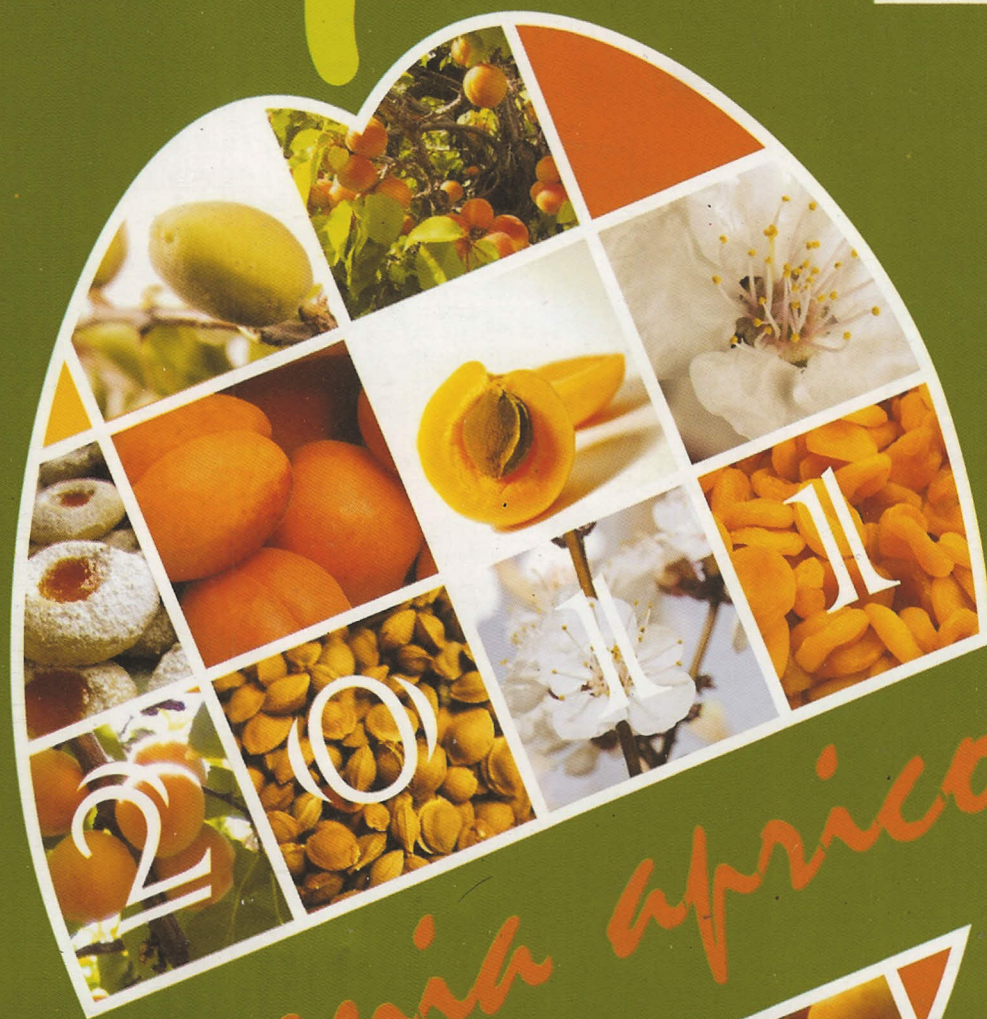
**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



**JUNE  
20-24**

**XV International  
Symposium  
on Apricot Breeding  
and Culture**



*armenia apricot*





**PERFORMANCE OF A MODEL TO PREDICT THE FLOWERING DATE OF  
APRICOT IN THREE DIFFERENT REGIONS OF SOUTH FRANCE**

*Porte*

**Lucia Andreini<sup>1</sup> Patrick Bertuzzi<sup>1</sup>, Jean-Marc Audergon<sup>2</sup>, Sylvan Satger<sup>1</sup>  
Marie-Elise Liennard<sup>1</sup>, Raffaella Viti<sup>3</sup>**

*<sup>1</sup>INRA - Agroclim, Avignon, France, <sup>2</sup>INRA - GAFL, Avignon, France, <sup>3</sup>University of  
Pisa -Pisa, Italy*

In the last years several researches were carried out to study the phenological changes relate to the global warming of climate. In fruit trees changes in flowering date could provoke significant impacts on production as a consequence of an increased susceptibility to the spring frosts and /or a synchronism for pollination. Modelling of dormancy break and post dormancy period allows to release realistic predictions of flowering date. The BRIN model is derived from a sequential combination of two models used for fruit trees: Bidabe model (1965) to calculate the cold action (CA) to achieve the dormancy breaking, and Richardson method (1974, 1975) to calculate the heat action (growing degree hours—GDH) necessary to attain the start of flowering. The BRIN model was calibrate and validate on the database including apricot blooming dates of ten cultivars over a period 1978 to 2010 collected in three regions of the South France. For each experimental site daily maximum and minimum temperatures series were provided by the associated weather station. The BRIN model is able to realistically predict the flowering date in three principal French areas of apricot production. The BRIN model can be, therefore, a suitable tool to simulate the blooming time. In a context of climate change then BRIN model can be usefully utilised to simulate the changes in phenological stage of flowering provoked by global warming impact.

Corresponding Author: Lucia Andreini, [lucia.andreini@avignon.inra.fr](mailto:lucia.andreini@avignon.inra.fr)