

Erratum to: A comprehensive overview of the spatial and temporal variability of apple bud dormancy release and blooming phenology in Western Europe

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The authors would like to make the following corrections to the online published article:

In Table 5, line 2, the sentence ‘Deviation in site not considered for model fitting (external validation) Deviation

in site considered for model fitting’ should be replaced with ‘Deviation in site considered for model fitting in years not used for parameter optimization (external validation)’

in Fig 5b, lines are missing in the curve of ‘Nîmes’

Also, Figure 7 has been updated

The online version of the original article can be found at <http://dx.doi.org/10.1007/s00484-012-0551-9>.

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Table 5 Deviation (in days) between observed and simulated dates of Golden Delicious F1 stage according to selected models F1Gold1 and F1Gold2

Blooming year	Deviation in site not considered for model fitting (external validation)				Deviation in site considered for model fitting in years not used for parameter optimization (internal validation)							
	Gembloux		Trento		Bonn		Angers		Forti		Nîmes	
	F1Gold1	F1Gold2	F1Gold1	F1Gold2	F1Gold1	F1Gold2	F1Gold1	F1Gold2	F1Gold1	F1Gold2	F1Gold1	F1Gold2
1983	/	/	-8	-6	+6	+8	/	/	/	/	/	/
1984	-1	0	-3	-3	+4	+6	/	/	/	/	/	/
1985	+1	+2	0	-1	+11	+8	/	/	/	/	/	/
1986	0	+3	-3	-3	-9	-3	/	/	/	/	/	/
1987	+8	+5	0	0	+8	+5	-6	-9	/	/	/	/
1988	-2	0	-1	-1	+1	+2	-2	-2	/	/	/	/
1989	+2	+1	-14	-14	-4	-3	-4	-2	/	/	/	/
1990	-3	-2	-3	-4	0	-1	-7	-3	/	/	/	/
1991	+2	+5	-3	-3	0	0	-4	-1	/	/	/	/
1992	-5	-4	-3	-4	-5	-1	-1	0	/	/	/	/
1993	+3	+6	+4	+4	-2	+2	-8	+6	/	/	/	/
1994	-4	-2	+10	+10	-1	+1	-12	-7	-2	-2	/	/
1995	-4	-3	+9	+7	0	+2	-5	-2	-3	-1	/	/
1996	+4	+9	0	+2	+2	+2	-5	-5	+4	+4	/	/
1997	+2	+2	+10	+10	0	0	0	+1	-7	-8	/	/
1998	-3	-5	+2	+1	+6	+13	-5	-2	-3	-3	/	/
1999	-7	-4	+4	+4	-5	-5	0	+1	-4	-3	+8	+8
2000	-2	-3	+2	+3	-2	-2	-6	-9	-2	-3	-2	-2
2001	-6	-7	-2	-4	-3	-3	-8	-10	-2	-2	0	+1
2002	-2	+2	+2	0	+2	+7	-6	+3	-2	-1	-2	+3
2003	+5	+5	0	0	+5	+6	+1	0	+1	-1	+2	-1
2004	-2	-2	-1	-1	-2	-2	0	0	-5	-7	-1	-2
2005	-2	-1	-1	-2	-3	0	-1	0	-2	-3	+4	+1
2006	-4	-3	+4	+4	-1	0	-2	-2	-2	-3	-2	-3
2007	+1	0	+2	+2	+2	+2	-1	-2	0	-3	-1	-3
2008	-9	-5	+1	+1	-1	+4	-8	-3	+2	+2	+4	+2
2009	-6	-5	+8	+8	+5	+5	+1	+3	-1	-1	+1	0
2010	-2	-2	+9	+9	+9	+7	+3	+1	+6	+3	+1	0
2011	-1	+1	0	+2	+9	+10	+1	+3	+2	+2	+3	+1
RMSE value (days)	4.0	3.9	5.3	5.2	4.8	5.0	5.0	4.1	3.3	3.4	3.1	2.9
R2 value	0.707*	0.728*	0.518*	0.533*	0.749*	0.730*	0.569*	0.711*	0.765*	0.745*	0.730	0.769

RMSE root mean square error; +, - represent the simulated date respectively later or earlier than observed; value 0 refers to the same date; / means the observed date is not available; * Significant R2 value at $P < 0.05$

Fig. 5 Simulated time-course changes in Golden Delicious bud phenology by the F1Gold1 model at seven sites. **a** Moving averages for the simulated annual date of dormancy release in calendar days from January 1 (MADR values). **b** Moving averages for the simulated annual duration (days) of the forcing period up to the F1 stage (MAFP values)

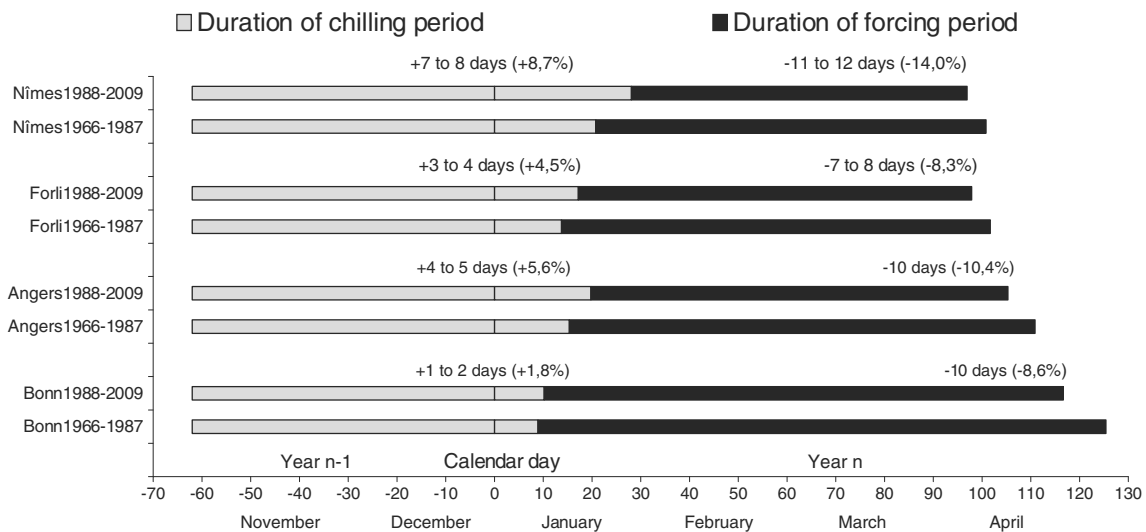
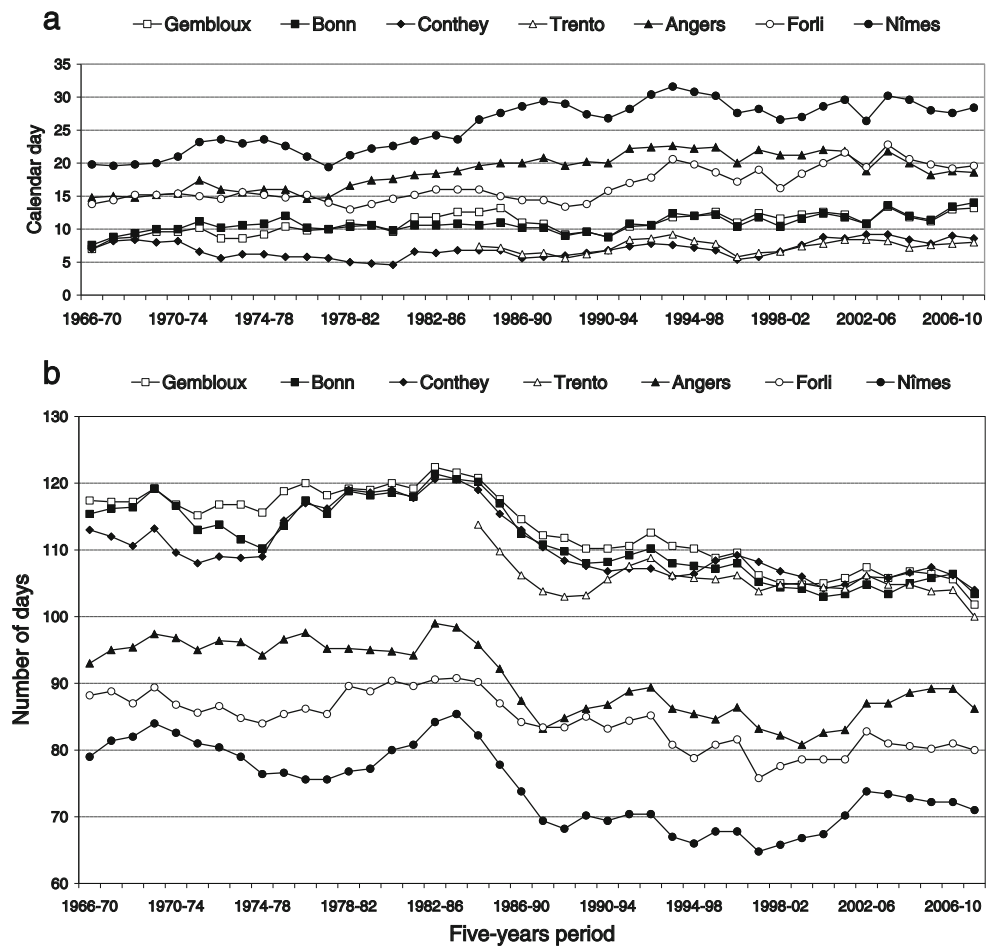


Fig. 7 Differences in mean chilling and forcing period durations between the 1966–1987 period and the warmer 1988–2009 period (see Fig. 2b) for Golden Delicious buds at four contrasting sites, as simulated by the F1Gold1 model