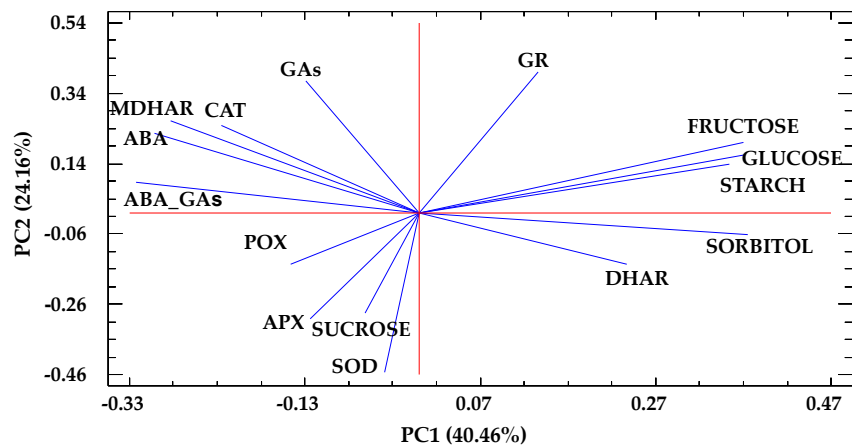


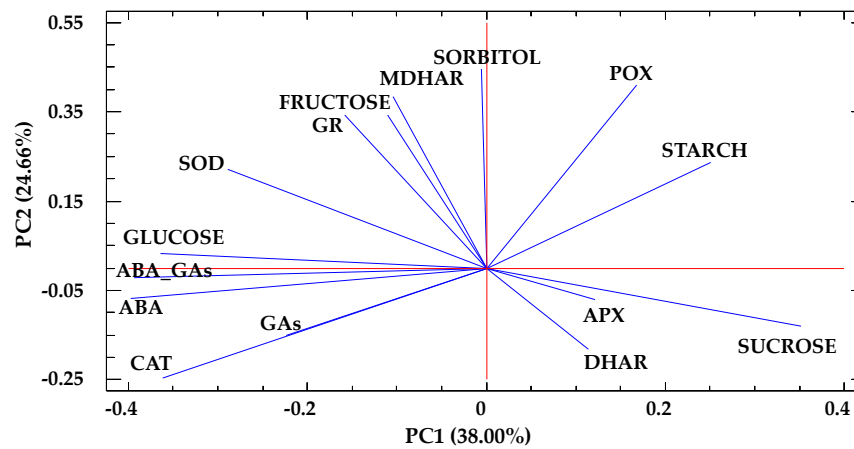
Supplemental File S1. Dates for flower bud sampling and corresponding dormancy stages and chill portions accumulated for the two experimental growing seasons and locations.

	Paradormancy			Endodormancy			Ecodormancy			Dormancy release	
2017-2018	Date	5/10/17	31/10/17	27/11/17	4/12/17	28/12/17	12/1/18	29/1/18	12/2/18	22/2/18	6/3/18
	Chill portions TA	0	0	11	15.7	30.1	42.4	46.6	56.2	63	66.8
	Chill portions CA	0	2	13.5	18	32.5	41.6	53.4	62.5	69.2	76.8
2018-2019	Date	10/10/18	14/11/18		18/12/18	15/1/19		29/1/19	12/2/19		5/3/19
	Chill portions TA	0	0		22.8	41.8		50.7	58.4		69.8
	Chill portions CA	0	13.2		34	50.7		59.7	68.2		79.6

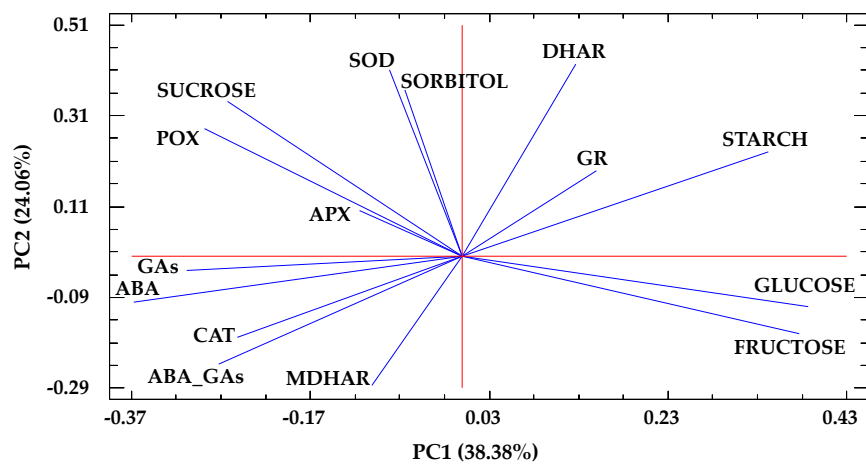
TA: temperate area; CA: cold area.



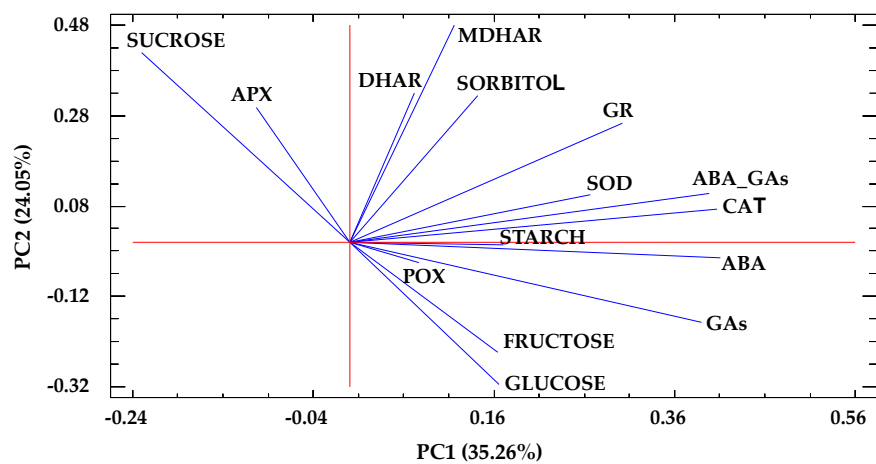
(a)



(b)



(c)



(d)

Supplemental File S2. Principal component analysis (PCA) applied to sugars content, starch content, antioxidant enzyme activities and hormone levels in flower buds of peach 'GEM 020' cultivated in two different geographical areas during the dormancy cycle on two seasons. **(a)**: PCA for season 1 (2017-2018) in the temperate area (TA); **(b)**: PCA for season 2 (2018-2019) in the TA; **(c)**: PCA for season 1 in the cold area (CA); **(d)** PCA for season 2 in the CA. The blue lines denote eigen vectors characterised by the direction and the strength of the variable relative to principal component (PC) 1 and 2. ABA: abscisic acid; APX: ascorbate peroxidase; CAT: catalase; DHAR: dehydroascorbate reductase; GAs: total gibberellins; MDHAR: monodehydroascorbate reductase; POX: peroxidase; SOD; superoxide dismutase.