

Table S1. Temperature (°C), humidity (%), wind (km/h), rain (mm) and sunlight exposure (h/day) during the three growing seasons.

	Temperature ¹			Humidity ¹			Wind ¹		Rain ¹		Sunlight Exposure ¹
	Min	Max	Mean	Min	Max	Mean	Max	Mean	Total	Days	Hours/Day
Spring	9.1	21.2	14.8	43.5	86.8	67	39.8	2.6	361.2	51	13.75
Autumn	8.8	21	13.9	47.5	87.3	72	34.5	2.8	185	30	10.8
Dosage-application	9	23.9	16.3	31.5	79.5	56.8	32.5	2.8	123.4	20	13.75

The accumulated weather variables were calculated based on the number of days from sowing to harvest.

Table S2. Pearson's correlation factor for the relationship between the chlorophyll content and the colour parameters (L*, a*, b*, C* and h*) and the total carotenoids content in the three assays.

	Assay	L*	a*	b*	C*	h*	Total Carotenoids
Total chlorophylls	Spring *	-0.04	-0.01	-0.31	0.34	0.14	0.52
Total chlorophylls	Autumn *	-0.36	0.56 (*)	-0.58 (*)	-0.57 (*)	0.67 (**)	0.81 (**)
Total chlorophylls	Dosage	0.04	-0.04	-0.27	-0.25	0.16	-0.35

The correlation is significant at p-value<0.05 (*) or at p-value<0.01(**).

Table S3. Tentative identification of individual carotenoids of broccoli florets analysed by HPLC-DAD.

Retention Time (min)	λ_{\max} (nm)	Tentative Identification	Method of Identification ¹
5.3	414, 438, 468	Neoxanthin	B, C
6.4	416, 438, 466	Violaxanthin	B, C
9.5	418, 442, 472	Lutein	A, B, C
31.8	430, 450, 476	β -carotene	A, B, C

¹Method of tentative identification: (A) by comparison with the retentions times and wavelengths of maximum absorption in the UV/Vis spectra of authentic standards; (B) by spectral interpretation of the wavelengths of maximum absorption in the UV/Vis spectra and by comparison with the wavelengths of maximum absorption in the UV/Vis spectra reported by the bibliography [51–53]; (C) by comparison the order of chromatographic elution reported by the bibliography [52, 53].