Table S1. Effects of the interaction between fertilization treatments (NF: no fertilization, VC: vermicompost, MIN: mineral fertilizer) and soil type (loam and clayey) on flavonoid and polyphenol content, hydrogen peroxide accumulation, and ABTS antioxidant activity in cauliflower (*Brassica oleracea* var. Freedom "Seminis"). Data are presented as mean ± SD (n = 3). Different letters indicate significant differences according to Tukey's HSD test ($p < 0.05$). Significance levels: ns , * , ** , *** Non significant or significant at $p \leq 0.05$, 0.01 and 0.001, respectively.

Source of Variance	Flavonoids (mg g^{-1} DW)	Polyphenols (mg g^{-1} DW)	Hydrogen Peroxide (mg g^{-1} DW)	ABTS Activity (mg Trolox g^{-1} DW)
Soil (S)				
Loam	1.07 ± 0.17	13.57 ± 2.6	2.92 ± 2.1	5.64 ± 0.77
Clayey	0.90 ± 0.11	13.37 ± 2.4	4.35 ± 1.8	5.17 ± 0.98
	*	ns	ns	ns
Fertilization (F)				
Control (NF)	0.88 ± 0.11 c	15.28 ± 1.9 a	2.99 ± 2.5 b	5.67 ± 0.82
Vermicompost (VC)	0.97 ± 0.16 b	13.28 ± 2.2 b	5.49 ± 0.8 a	5.33 ± 1.23
Mineral (NPK)	1.12 ± 0.11 a	11.86 ± 2.3 c	2.42 ± 1.9 c	5.21 ± 0.78
	*	*	*	ns
S × F				
Loam × NF	0.96 ± 0.08	14.87 ± 1.3	1.41 ± 0.4	5.12 ± 0.64 c
Loam × VC	1.04 ± 0.21	14.62 ± 2.0	5.57 ± 1.2	6.23 ± 0.99 b
Loam × NPK	1.21 ± 0.13	11.23 ± 3.0	1.77 ± 0.2	5.56 ± 0.22 c
Clayey × NF	0.80 ± 0.03	15.69 ± 2.64	4.57 ± 2.83	6.23 ± 0.58 a
Clayey × VC	0.89 ± 0.02	11.93 ± 1.5	5.41 ± 0.4	4.44 ± 0.63 d
Clayey × NPK	1.03 ± 0.10	12.49 ± 1.5	3.08 ± 0.9	4.85 ± 0.70 d
	ns	ns	ns	***

Table S2. Effects of the interaction between fertilization treatments (NF: no fertilization, VC: vermicompost, MIN: mineral fertilizer) and soil type (loam and clayey) on arginine, asparagine, aspartate, glycine, methylethanolamine (MEA), ornithine, serine, tryptophan, and branched-chain amino acids (BCAAs) in cauliflower (*Brassica oleracea* var. Freedom "Seminis"). Data are presented as mean ± SD (n = 3). Different letters indicate significant differences according to Tukey's HSD test ($p < 0.05$). ns , * , ** , *** Non significant or significant at $p \leq 0.05$, 0.01 and 0.001, respectively.

Source of variance	Arginine (µmol g^{-1} DW)	Asparagine (µmol g^{-1} DW)	Aspartate (µmol g^{-1} DW)	Glycine (µmol g^{-1} DW)	MEA (µmol g^{-1} DW)	Ornithine (µmol g^{-1} DW)	Serine (µmol g^{-1} DW)	Tryptophan (µmol g^{-1} DW)	BCAAs (µmol g^{-1} DW)
Soil (S)									
Loam	0.38 ± 0.22	1.35 ± 1.16	3.63 ± 3.33	1.03 ± 0.38	3.03 ± 0.64	0.73 ± 0.13	2.52 ± 0.86	0.80 ± 0.52	2.59 ± 1.51
Clayey	0.28 ± 0.14	0.66 ± 0.72	1.38 ± 0.84	0.59 ± 0.16	1.68 ± 0.35	0.64 ± 0.13	1.71 ± 0.67	0.43 ± 0.16	1.18 ± 0.32
	ns	ns	ns	**	***	ns	*	ns	**
Fertilization (F)									
Control (NF)	0.24 ± 0.09 b	0.51 ± 0.37 b	1.75 ± 0.40 b	0.70 ± 0.30 b	2.53 ± 1.32 a	0.60 ± 0.09	1.83 ± 0.74 b	0.37 ± 0.09 c	1.35 ± 0.51 b
Vermicompost (VC)	0.20 ± 0.03 c	0.29 ± 0.09 c	0.75 ± 0.38 c	0.69 ± 0.10 c	2.50 ± 0.61 b	0.70 ± 0.11	1.54 ± 0.31 c	0.46 ± 0.11 b	1.27 ± 0.33 c
Mineral (NPK)	0.56 ± 0.23 a	2.22 ± 1.19 a	5.02 ± 3.82 a	1.05 ± 0.36 a	2.04 ± 0.57 c	0.74 ± 0.11	2.98 ± 0.93 a	1.02 ± 0.48 a	3.04 ± 1.22 a
	*	**	***	*	*	ns	**	**	***
S × F									
Loam × NF	0.30 ± 0.09 c	0.84 ± 0.09 c	2.05 ± 0.05 c	0.96 ± 0.14 b	3.69 ± 0.53 a	0.68 ± 0.05	2.44 ± 0.42	0.44 ± 0.04 d	1.78 ± 0.29 b
Loam × VC	0.19 ± 0.04 e	0.36 ± 0.04 d	1.07 ± 0.24 e	0.69 ± 0.08 c	3.01 ± 0.19 b	0.75 ± 0.16	1.65 ± 0.27	0.50 ± 0.11 c	1.42 ± 0.35 d
Loam × NPK	0.66 ± 0.08 a	2.85 ± 0.36 a	7.78 ± 2.18 a	1.43 ± 0.37 a	2.38 ± 0.20 c	0.75 ± 0.17	3.47 ± 0.43	1.47 ± 0.23 a	4.56 ± 0.25 a
Clayey × NF	0.17 ± 0.02 f	0.18 ± 0.06 f	1.44 ± 0.36 d	0.43 ± 0.03 f	1.36 ± 0.05 f	0.53 ± 0.06	1.22 ± 0.26	0.30 ± 0.05 f	0.92 ± 0.08 f
Clayey × VC	0.20 ± 0.01 d	0.21 ± 0.07 e	0.44 ± 0.05 f	0.68 ± 0.14 d	1.99 ± 0.33 d	0.66 ± 0.03	1.43 ± 0.36	0.42 ± 0.11 e	1.12 ± 0.28 e
Clayey × NPK	0.46 ± 0.05 b	1.60 ± 0.33 b	2.26 ± 0.48 b	0.67 ± 0.16 e	1.70 ± 0.25 e	0.73 ± 0.19	2.49 ± 0.46	0.58 ± 0.16 b	1.51 ± 0.26 c
	*	**	***	*	**	ns	ns	***	***