SUPPLEMENTARY MATERIAL

Table S1 Basic information on the experiment with plants of *Beta vulgaris* subsp. *vulgaris* var. *cicla* and *Beta vulgaris* subsp. *maritima* grown hydroponically (floating raft system) under greenhouse conditions.

	1st experiment
Sowing date	7 September 2021
Transplant date	8 October 2021
Start of treatment	11 October 2021
Harvest date	18 October 2021
Days of treatment	7 (10)*
Mean air temperature (°C)	20.5**
Mean daily solar radiation (MJ m^{-2} day^{-1})	7.7**
Cumulative solar radiation (MJ m^{-2})	84.5**

* The figure within brackets is the number of days after transplanting.

** The values were computed for the period from transplanting to the first cut.

Table S2 Crop yield (total leaf fresh biomass) and leaf dry biomass (DM), dry matter content (percent DM/FM ratio), leaf area index (LAI), leaf succulence (LS) and Se content, expressed on a dry matter basis, in plants of Swiss chard (*Beta vulgaris* subsp. *vulgaris* var. *cicla*) and sea beet (*Beta vulgaris* subsp. *maritima*) grown hydroponically (floating system) with different selenium (Se) concentrations in the nutrient solutions (**first experiment).**

Beta subsp.	Se concentration	Yield	Leaf DM	DM/FM	LAI	LS	Se
	(mg L^{-1})	kg m^{-2}	g m^{-2}	%		kg m^{-2}	mg kg^{-1} DW
Swiss chard	0	1.94	52.11	2.71	2.37 de	0.821	bdl
	1	2.13	62.43	2.97	4.67 ab	0.462	5.12
	3	2.01	60.71	3.05	4.84 a	0.414	14.25
	5	2.01	60.63	3.02	4.79 a	0.421	27.16
Sea beet	0	1.95	55.58	2.85	2.33 e	0.845	bdl
	1	1.80	55.53	3.11	3.37 cd	0.536	4.85
	3	1.44	56.17	4.16	3.54 c	0.403	15.12
	5	1.57	60.63	3.99	3.66 bc	0.447	22.10
Swiss chard		2.02 a	58.97	2.94	4.17 a	0.530	15.51
Sea beet		1.69 b	56.98	3.53	3.23 b	0.558	14.02
	0	1.94	53.84	2.78	2.35 b	0.833 a	bdl
	1	1.96	58.98	3.04	4.02 a	0.499 b	4.99 c
	3	1.72	58.44	3.60	4.19 a	0.409 b	14.68 b
	5	1.79	60.63	3.50	4.22 a	0.434 b	24.63 a
ANOVA							
Beta subsp.		**	ns	ns	***	ns	ns
Se concentration		ns	ns	ns	***	***	***
Beta subsp. x Se		ns	ns	ns	*	ns	ns

Means (n = 3) flanked by the same letter are not statistically different for P = 0.05 after Tukey's test. Significance level: *** $P \leq 0.001$; ** $P \leq 0.01$; * $P \leq 0.05$; ns = not significant.

Table S3 Leaf content of Se, nitrate (NO_3^-), total and soluble oxalate (OX), and total chlorophylls, carotenoids, phenols and flavonoids, and antioxidant capacity (FRAP index), expressed on a fresh weight basis, in plants of Swiss chard (*Beta vulgaris* subsp. *vulgaris* var. *cicla*) and sea beet (*Beta vulgaris* subsp. *Maritima*) grown hydroponically (floating system) with different selenium (Se) concentrations in the nutrient solutions(**first experiment).**

Beta subsp.	Se concentration	Se	NO_3^-	Total OX	Soluble OX	Soluble/total OX	Total chlorophylls	Carotenoid	Total phenols	Flavonoids	FRAP
	(mg L^{-1})	mg kg^{-1}				%	mg kg^{-1}				mmol $Fe_{(II)}$ kg^{-1} FW
Swiss chard	0	0.000	773.7 e	7207.6	4424.5 b	81.2	784.7 b	113.8	1.278	0.578	8.89 bc
	1	0.152	1101.1 d	6134.5	5947.9 ab	90.4	777.3 b	113.7	1.196	0.553	8.99 bc
	3	0.430	1157.0 d	7642.9	7280.5 a	84.3	697.2 b	104.1	1.089	0.585	7.65 c
	5	0.819	1065.1 de	5990.4	5228.2 ab	87.3	719.9 b	116.0	0.970	0.594	7.76 c
Sea beet	0	0.000	2409.3 a	6732.2	5194.4 ab	75.1	807.2 b	49.7	1.281	1.019	10.27 b
	1	0.151	1944.4 b	8485.4	5205.0 ab	70.2	1033.6 a	61.8	1.550	1.163	12.74 a
	3	0.618	1605.6 c	9349.9	4521.5 b	82.3	1048.0 a	59.3	1.508	1.202	12.57 a
	5	0.916	1626.3 c	9515.9	5002.6 ab	73.3	957.0 a	57.6	1.332	1.130	12.66 a
Swiss chard		0.350	1024.2 b	6743.8 b	5720.3	85.8 a	744.8 b	111.9 a	1.133 b	0.577 b	8.32 b
Sea beet		0.421	1896.4 a	8520.9 a	4980.9	75.2 b	961.5 a	57.1 b	1.418 a	1.128 a	12.06 a
	0	0.000 c	1591.5 a	6969.9	4809.5	78.2	796.0 b	81.8	1.280	0.798	9.58 b
	1	0.151 c	1522.7 ab	7309.9	5576.4	80.3	905.5 a	87.7	1.373	0.858	10.87 a
	3	0.524 b	1381.3 b	8496.4	5901.0	83.3	872.6 ab	81.7	1.299	0.894	10.11 ab
	5	0.868 a	1345.7 b	7753.2	5115.4	80.3	838.5 ab	86.8	1.151	0.862	10.21 ab
ANOVA											
Beta subsp.		ns	***	*	ns	*	***	***	***	***	***
Se concentration		***	**	ns	ns	ns	*	ns	ns	ns	**
Beta subsp. x Se		ns	***	ns	*	ns	***	ns	ns	ns	***

Means (n = 3) flanked by the same letter are not statistically different for P=0.05 after Tukey's test. Significance level: *** $P \leq 0.001$; ** $P \leq 0.01$; * $P \leq 0.05$; ns = not significant.

Table S4 Amount of Se provided (Se EDI_{100}), expressed as % of adequate intake (AI), and health risk index (HRI), for Se, NO_3^- and oxalates, due to the consumption of 100 g of fresh leaves of Swiss chard (*Beta vulgaris* subsp. *vulgaris* var. *cicla*) and sea beet (*Beta vulgaris* subsp. *maritima*) plants grown hydroponically (floating system) with different selenium (Se) concentrations in the nutrient solution.

Beta subsp.	Se concentration mg L^{-1}	Se EDI_{100} % AI	Se HRI	NO_3^- HRI	Total OX HRI
Swiss chard	0	0.0	0.00	0.35	0.37
	1	11.5	0.03	0.41	0.25
	3	33.3	0.08	0.54	0.23
	5	112.4	0.26	0.57	0.38
Sea beet	0	0.0	0.00	1.10	0.45
	1	27.3	0.06	0.86	0.41
	3	60.5	0.14	0.84	0.36
	5	118.2	0.28	0.81	0.31