

**Table S1.** Glucosinolate levels (mg 100 g<sup>-1</sup> FW) of all individual plants measured for curly kale “Frostara” (F), cultivated in warm temperature conditions (“warm”) as well as after cold acclimation (“12h” and “7d”, respectively). nd = not detected.

sample	aliphatics					indole	aromatic
	GI	SIN	GR	GN	PR	GB	GA
F2-warm	nd	nd	0.48	nd	nd	39.23	nd
F37-warm	nd	nd	nd	nd	nd	6.12	nd
F31-warm	nd	nd	0.49	nd	nd	9.89	nd
F28-warm	nd	0.73	0.54	nd	nd	17.14	nd
F5-warm	nd	0.81	0.85	nd	nd	54.16	nd
F1-warm	nd	nd	nd	nd	nd	11.99	nd
F41-warm	nd	nd	1.02	nd	nd	33.07	nd
F47-warm	nd	0.48	0.48	nd	nd	35.50	nd
F39-warm	nd	nd	nd	nd	0.82	38.75	nd
F4-warm	nd	nd	nd	nd	nd	49.48	nd
F10-warm	nd	nd	nd	nd	nd	57.52	nd
F21-warm	nd	0.52	nd	nd	nd	12.12	nd
F22-warm	nd	nd	nd	nd	nd	15.07	nd
F16-warm	nd	nd	nd	nd	nd	53.97	nd
F60-warm	nd	nd	nd	nd	nd	20.41	nd
F12-12h	nd	0.68	0.56	nd	0.49	63.37	nd
F17-12h	nd	nd	nd	nd	nd	12.23	nd
F34-12h	nd	nd	0.57	nd	nd	26.39	nd
F33-12h	nd	nd	0.92	nd	nd	27.43	nd
F11-12h	nd	nd	nd	nd	nd	29.81	nd
F26-12h	nd	0.44	1.18	nd	nd	27.24	nd
F19-12h	nd	nd	nd	nd	nd	61.97	nd
F46-12h	nd	nd	nd	nd	nd	34.63	nd
F25-12h	nd	nd	nd	nd	nd	69.37	nd
F44-12h	nd	nd	0.87	nd	nd	40.70	nd
F40-12h	nd	nd	nd	nd	nd	21.45	nd
F32-12h	nd	nd	nd	nd	nd	45.17	nd
F15-12h	nd	nd	0.76	nd	0.45	39.63	nd
F29-12h	nd	nd	nd	nd	nd	18.20	nd
F18-12h	nd	nd	1.11	nd	nd	47.53	nd
F36-7d	nd	1.41	2.00	nd	1.44	29.40	nd
F42-7d	nd	0.78	1.12	nd	0.53	25.60	nd
F42-2-7d	nd	nd	nd	nd	nd	nd	nd
F13-7d	nd	nd	nd	nd	nd	18.75	nd
F3-7d	nd	nd	nd	nd	nd	26.35	nd
F30-7d	nd	nd	0.80	nd	0.40	43.42	nd
F45-7d	nd	0.96	1.02	nd	1.39	24.23	nd
F7-7d	nd	nd	nd	nd	nd	25.33	nd
F60-7d	nd	0.91	1.51	nd	0.68	26.03	nd
F61-7d	nd	0.53	0.93	nd	0.45	36.51	nd
F20-7d	nd	0.52	1.10	nd	0.61	56.93	nd

**Table S2.** Glucosinolate levels (mg 100 g<sup>-1</sup> FW) of all individual plants measured for Lacinato kale “Black Tuscany” (B), cultivated in warm temperature conditions (“warm”) as well as after cold acclimation (“12h” and “7d”, respectively). nd = not detected.

sample	aliphatics					indole	aromatic
	GI	SIN	GR	GN	PR	GB	GA
B26-warm	nd	nd	0.99	nd	nd	11.58	nd
B35-warm	nd	nd	0.95	nd	nd	30.54	nd
B12-warm	nd	nd	5.93	nd	nd	32.81	nd
B33-warm	nd	nd	nd	nd	nd	25.32	nd
B19-warm	nd	nd	3.37	nd	nd	78.10	nd
B31-warm	nd	nd	0.84	nd	nd	30.25	nd
B41-warm	nd	nd	2.38	nd	nd	18.67	nd
B10-warm	nd	nd	1.88	nd	nd	39.44	nd
B11-warm	nd	nd	0.76	nd	nd	60.03	nd
B40-warm	nd	nd	1.38	nd	nd	36.08	nd
B27-warm	nd	nd	0.66	nd	nd	101.66	nd
B45-warm	nd	nd	nd	nd	nd	2.69	nd
B37-warm	nd	nd	0.85	nd	nd	96.58	nd
B42-warm	nd	nd	nd	nd	nd	139.16	nd
B21-warm	nd	nd	nd	nd	nd	97.65	nd
B44-12h	nd	nd	2.29	nd	nd	53.20	nd
B15-12h	nd	nd	1.28	nd	nd	39.03	nd
B17-12h	nd	nd	0.91	nd	nd	7.13	nd
B30-12h	nd	nd	nd	nd	nd	27.48	nd
B38-12h	nd	nd	1.39	nd	nd	4.21	nd
B6-12h	nd	nd	3.95	nd	nd	517.83	nd
B2-12h	nd	nd	1.18	nd	nd	17.73	nd
B13-12h	nd	nd	1.50	nd	nd	35.96	nd
B23-12h	nd	nd	nd	nd	nd	58.78	nd
B9-12h	nd	nd	1.14	nd	nd	16.63	nd
B5-12h	nd	nd	2.53	nd	nd	31.54	nd
B32-12h	nd	nd	nd	nd	nd	56.84	nd
B1-12h	nd	nd	nd	nd	nd	73.69	nd
B14-12h	nd	nd	2.17	nd	nd	48.89	nd
B39-12h	nd	nd	1.83	nd	nd	12.81	nd
B46-7d	nd	nd	19.45	nd	nd	130.56	nd
B18-7d	nd	nd	2.12	nd	nd	92.59	nd
B25-7d	nd	nd	nd	nd	nd	7.12	nd
B7-7d	nd	nd	4.53	nd	nd	32.79	nd
B60-7d	nd	nd	0.70	nd	nd	16.91	nd
B47-7d	nd	nd	6.34	nd	nd	20.71	nd
B24-7d	nd	nd	2.34	nd	nd	99.43	nd
B29-7d	nd	nd	nd	nd	nd	45.92	nd
B8-7d	nd	nd	10.89	nd	nd	127.23	nd
B61-7d	nd	nd	4.43	nd	nd	14.29	nd
B36-7d	nd	nd	4.11	nd	nd	85.45	nd

**Table S3.** Glucosinolate levels (mg 100 g<sup>-1</sup> FW) of all individual plants measured for feral-type “Helgoländer” (W), cultivated in warm temperature conditions (“warm”) as well as after cold acclimation (“12h” and “7d”, respectively). nd = not detected.

sample	aliphatics					indole	aromatic
	GI	SIN	GR	GN	PR	GB	GA
W17-warm	nd	nd	0.59	2.80	11.99	133.48	nd
W35-warm	nd	nd	nd	2.39	5.32	65.82	nd
W43-warm	nd	nd	12.96	2.37	13.88	192.31	nd
W32-warm	nd	nd	3.42	21.37	19.89	105.32	nd
W28-warm	nd	0.95	6.07	34.75	31.83	23.81	nd
W41-warm	nd	nd	1.23	10.26	20.66	148.41	nd
W1-warm	nd	0.84	nd	13.75	40.19	150.20	nd
W42-warm	nd	9.15	4.50	10.01	19.97	45.60	nd
W11-warm	nd	nd	5.77	nd	2.27	100.46	nd
W7-warm	nd	nd	4.78	0.52	2.60	41.58	nd
W6-warm	nd	nd	1.22	30.18	12.92	95.33	nd
W23-warm	nd	12.15	5.69	11.82	27.62	77.75	nd
W31-warm	nd	nd	nd	2.61	26.06	11.50	nd
W27-warm	nd	2.71	0.73	2.14	18.50	68.34	nd
W12-warm	nd	2.00	3.49	1.97	9.84	91.71	nd
W13-12h	nd	3.39	2.49	5.85	12.46	60.10	nd
W33-12h	nd	nd	51.55	4.67	14.26	65.35	nd
W37-12h	nd	nd	nd	5.95	17.22	66.27	nd
W46-12h	nd	nd	nd	nd	nd	nd	nd
W26-12h	nd	nd	1.70	9.36	40.84	145.24	nd
W5-12h	nd	nd	1.53	9.66	14.61	18.91	nd
W18-12h	nd	nd	40.23	10.12	24.00	39.24	nd
W19-12h	nd	nd	5.88	20.37	46.59	167.20	nd
W29-12h	nd	nd	18.37	1.03	16.23	87.86	nd
W21-12h	nd	nd	0.72	13.55	24.63	49.35	nd
W20-12h	nd	nd	nd	1.55	7.33	46.91	nd
W34-12h	nd	nd	16.69	0.84	6.73	182.14	nd
W60-12h	nd	nd	44.41	4.87	19.25	138.89	nd
W9-12h	nd	nd	0.77	9.75	20.17	93.02	nd
W22-12h	nd	nd	1.16	13.00	26.52	55.07	nd
W38-7d	nd	nd	2.22	13.42	22.33	65.07	nd
W45-7d	nd	0.61	70.92	14.07	28.12	98.02	nd
W25-7d	nd	nd	49.35	0.53	12.59	150.33	nd
W8-7d	nd	nd	nd	4.47	9.85	43.29	nd
W10-7d	nd	nd	nd	4.74	17.01	24.77	nd
W24-7d	nd	nd	0.82	10.15	17.08	78.82	nd
W61-7d	nd	nd	10.80	2.15	10.02	53.46	nd
W62-7d	nd	nd	nd	1.98	6.99	33.45	nd
W63-7d	nd	nd	8.63	2.58	7.69	29.57	nd
W64-7d	nd	nd	14.86	2.66	16.92	79.52	nd
W65-7d	nd	nd	nd	8.39	16.01	26.50	nd
W66-7d	nd	nd	1.30	nd	27.56	30.03	nd
W44-7d	nd	7.02	1.30	13.38	13.82	36.53	nd
W16-7d	nd	nd	2.28	30.79	33.99	95.31	nd
W3-7d	nd	nd	17.00	5.90	20.50	67.49	nd

**Table S4.** Glucosinolate levels (mg 100 g<sup>-1</sup> FW) of all individual control plants measured for curly kale “Frostara” (F), cultivated at constant warm temperatures. Samples were taken at the same time-points as in the main experiment (“warm” (day 0), “12h”, and “7d”). nd = not detected.

sample	aliphatics					indole	aromatic
	GI	SIN	GR	GN	PR	GB	GA
F37K-warm	nd	nd	nd	nd	nd	39.31	nd
F17K-warm	nd	nd	nd	nd	nd	30.74	nd
F45K-warm	nd	nd	nd	nd	nd	19.55	nd
F42K-warm	nd	nd	nd	nd	nd	44.59	nd
F12K-warm	nd	nd	nd	nd	nd	28.97	nd
F35K-warm	nd	nd	nd	nd	nd	28.91	nd
F32K-warm	nd	nd	nd	nd	nd	42.11	nd
F9K-warm	nd	nd	nd	nd	nd	54.02	nd
F15K-warm	nd	nd	nd	nd	nd	39.40	nd
F2K-warm	nd	nd	nd	nd	nd	30.20	nd
F7K-warm	nd	nd	nd	nd	nd	33.55	nd
F24K-warm	nd	nd	nd	nd	nd	46.77	nd
F25K-warm	nd	nd	nd	nd	nd	59.15	nd
F28K-warm	nd	nd	nd	nd	nd	67.94	nd
F22K-warm	nd	nd	nd	nd	nd	45.80	nd
F19K-12h	nd	nd	nd	nd	nd	59.07	nd
F3K-12h	nd	nd	nd	nd	nd	30.10	nd
F41K-12h	nd	nd	nd	nd	nd	35.48	nd
F47K-12h	nd	nd	nd	nd	nd	53.54	nd
F39K-12h	nd	nd	nd	nd	nd	97.21	nd
F34K-12h	nd	nd	nd	nd	nd	42.10	nd
F31K-12h	nd	nd	nd	nd	nd	15.28	nd
F11K-12h	nd	nd	nd	nd	nd	64.93	nd
F14K-12h	nd	nd	nd	nd	nd	38.61	nd
F1K-12h	nd	nd	nd	nd	nd	104.51	nd
F29K-12h	nd	nd	nd	nd	nd	19.69	nd
F10K-12h	nd	nd	nd	nd	nd	41.05	nd
F13K-12h	nd	nd	nd	nd	nd	42.58	nd
F26K-12h	nd	nd	nd	nd	nd	68.88	nd
F23K-12h	nd	nd	nd	nd	nd	12.77	nd
F21K-7d	nd	nd	nd	nd	nd	45.83	nd
F44K-7d	nd	nd	nd	nd	nd	92.03	nd
F6K-7d	nd	nd	nd	nd	nd	42.15	nd
F40K-7d	nd	nd	nd	nd	nd	54.30	nd
F16K-7d	nd	nd	nd	nd	nd	62.01	nd
F4K-7d	nd	nd	nd	nd	nd	20.70	nd
F5K-7d	nd	nd	nd	nd	nd	40.02	nd
F20K-7d	nd	nd	nd	nd	nd	28.23	nd
F8K-7d	nd	nd	nd	nd	nd	25.98	nd
F46K-7d	nd	nd	nd	nd	nd	nd	nd
F18K-7d	nd	nd	nd	nd	nd	32.94	nd
F43K-7d	nd	nd	nd	nd	nd	19.30	nd
F23-2K-7d	nd	nd	nd	nd	nd	46.99	nd
F33K-7d	nd	nd	nd	nd	nd	21.50	nd
F30K-7d	nd	nd	nd	nd	nd	46.62	nd

**Table S5.** Glucosinolate levels (mg 100 g<sup>-1</sup> FW) of all individual control plants measured for Lacinato kale “Black Tuscany” (B), cultivated at constant warm temperatures. Samples were taken at the same time-points as in the main experiment (“warm” (day 0), “12h”, and “7d”). nd = not detected.

sample	aliphatics					indole	aromatic
	GI	SIN	GR	GN	PR	GB	GA
B4K-warm	nd	nd	nd	nd	nd	87.14	nd
B18K-warm	nd	nd	nd	nd	nd	93.91	nd
B38K-warm	nd	nd	nd	nd	nd	44.20	nd
B44K-warm	nd	nd	nd	nd	nd	26.56	nd
B45K-warm	nd	nd	nd	nd	nd	5.92	nd
B43K-warm	nd	nd	nd	nd	nd	30.17	nd
B1K-warm	nd	nd	nd	nd	nd	61.91	nd
B10K-warm	nd	nd	nd	nd	nd	35.93	nd
B12K-warm	nd	nd	nd	nd	nd	23.85	nd
B19K-warm	nd	nd	nd	nd	nd	40.83	nd
B13K-warm	nd	nd	nd	nd	nd	30.57	nd
B7K-warm	nd	nd	nd	nd	nd	11.19	nd
B40K-12h	nd	nd	nd	nd	nd	38.05	nd
B20K-12h	nd	nd	nd	nd	nd	40.37	nd
B21K-12h	nd	nd	nd	nd	nd	27.20	nd
B5K-12h	nd	nd	nd	nd	nd	nd	nd
B46K-12h	nd	nd	nd	nd	nd	26.34	nd
B15K-12h	nd	nd	nd	nd	nd	37.35	nd
B32K-12h	nd	nd	nd	nd	nd	44.24	nd
B36K-12h	nd	nd	nd	nd	nd	126.03	nd
B47K-12h	nd	nd	nd	nd	nd	94.64	nd
B29K-12h	nd	nd	nd	nd	nd	75.06	nd
B30K-12h	nd	nd	nd	nd	nd	25.62	nd
B8K-12h	nd	nd	nd	nd	nd	nd	nd
B3K-12h	nd	nd	nd	nd	nd	22.05	nd
B6K-7d	nd	nd	nd	nd	nd	nd	nd
B22K-7d	nd	nd	nd	nd	nd	35.45	nd
B26K-7d	nd	nd	nd	nd	nd	nd	nd
B16K-7d	nd	nd	nd	nd	nd	nd	nd
B28K-7d	nd	nd	nd	nd	nd	53.14	nd
B17K-7d	nd	nd	nd	nd	nd	nd	nd
B25K-7d	nd	nd	nd	nd	nd	60.46	nd
B2K-7d	nd	nd	nd	nd	nd	nd	nd
B41K-7d	nd	nd	nd	nd	nd	67.46	nd
B31K-7d	nd	nd	nd	nd	nd	119.66	nd
B50K-7d	nd	nd	nd	nd	nd	68.36	nd

**Table S6.** Glucosinolate levels (mg 100 g<sup>-1</sup> FW) of all individual control plants measured for feral-type “Helgoländer” (W), cultivated at constant warm temperatures. Samples were taken at the same time-points as in the main experiment (“warm” (day 0), “12h”, and “7d”). nd = not detected.

sample	aliphatics					indole	aromatic
	GI	SIN	GR	GN	PR	GB	GA
W44K-warm	nd	nd	0.40	nd	nd	147.53	nd
W11K-warm	nd	4.76	nd	nd	nd	43.26	nd
W16K-warm	nd	1.10	11.98	nd	3.12	nd	nd
W39K-warm	nd	nd	nd	0.64	6.04	151.28	nd
W12K-warm	nd	4.45	nd	nd	nd	nd	nd
W37K-warm	nd	nd	nd	1.36	9.53	92.60	nd
W47K-warm	nd	7.17	nd	nd	21.31	189.37	nd
W6K-warm	nd	nd	nd	nd	2.34	181.52	nd
W2K-warm	nd	nd	1.21	1.72	11.14	355.37	nd
W4K-warm	nd	0.63	nd	nd	0.89	17.44	nd
W35K-warm	nd	nd	nd	nd	0.51	141.06	nd
W38K-warm	nd	nd	nd	nd	7.69	356.33	nd
W24K-warm	nd	nd	nd	nd	5.11	102.42	nd
W23K-warm	nd	nd	nd	nd	1.46	79.28	nd
W26K-warm	nd	3.34	nd	0.44	5.11	101.30	nd
W13K-12h	nd	nd	nd	nd	3.19	175.64	nd
W3K-12h	nd	nd	nd	nd	1.44	155.72	nd
W40K-12h	nd	nd	0.45	nd	nd	106.82	nd
W5K-12h	nd	6.70	nd	0.76	2.90	53.07	nd
W14K-12h	nd	nd	nd	nd	nd	324.47	nd
W9K-12h	nd	nd	6.34	nd	3.14	61.30	nd
W10K-12h	nd	nd	nd	1.23	6.65	126.27	nd
W19K-12h	nd	nd	nd	0.42	4.02	106.89	nd
W21K-12h	nd	nd	1.03	0.39	1.79	62.79	nd
W34K-12h	nd	nd	5.11	0.85	6.48	316.55	nd
W30K-12h	nd	nd	1.47	0.45	5.08	73.64	nd
W31K-12h	nd	1.48	nd	1.04	9.30	39.07	nd
W22K-12h	nd	nd	6.55	1.28	20.93	286.45	nd
W28K-12h	nd	2.00	nd	nd	nd	26.84	nd
W27K-12h	nd	nd	3.56	nd	0.87	329.89	nd
W7K-7d	nd	7.80	nd	0.44	1.68	75.70	nd
W17K-7d	nd	nd	nd	nd	3.20	16.53	nd
W41K-7d	nd	nd	0.56	nd	1.47	116.10	nd
W43K-7d	nd	nd	nd	1.17	18.29	177.81	nd
W15K-7d	nd	nd	nd	nd	nd	174.71	nd
W42K-7d	nd	nd	4.96	nd	3.71	182.51	nd
W45K-7d	nd	nd	nd	1.65	7.74	268.24	nd
W36K-7d	nd	2.77	nd	nd	8.22	110.28	nd
W46K-7d	nd	nd	9.20	nd	3.04	139.44	nd
W29K-7d	nd	nd	nd	1.75	nd	47.86	nd
W20K-7d	nd	1.10	8.66	nd	1.23	156.04	nd
W32K-7d	nd	0.55	nd	nd	nd	99.89	nd
W25K-7d	nd	nd	nd	0.81	5.60	148.21	nd
W28-2K-7d	nd	2.83	nd	nd	nd	111.98	nd
W8K-7d	nd	2.09	nd	1.17	19.83	61.50	nd