

Table S2. Environmental data

plot nr	2	8	10	13	14	18	22	37	39	41
mountain range	Kaczawskie	Kaczawskie	Kaczawskie	Kaczawskie	Kaczawskie	Kaczawskie	Kaczawskie	Kaczawskie	Kaczawskie	Kaczawskie
site	Grobla	Grobla	Grobla	Grobla	Grobla	Grobla	Grobla	Lipa	Lipa	Lipa
Dataset	A	A	A	A	A	A	A	A	A	A
Lat [DD MM SS.SSSS]	50 59 25.7691	50 59 27.0239	50 59 9.9889	50 59 8.3443	50 59 5.9083	50 59 4.0049	50 59 9.0314	50 58 53.4578	50 58 59.7584	50 58 52.7697
Long [DD MM SS.SSSS]	16 5 44.3980	16 5 56.6008	16 5 51.4903	16 5 50.6176	16 5 47.1789	16 5 59.5328	16 6 8.9834	16 2 48.9716	16 2 46.3565	16 2 34.9510
elevation [m a.sl.]	341.8	347.5	361.7	357.3	331.2	317.4	362.1	355.11	386.23	398.4
depth [cm]	6.3	8.0	27.3	11.3	10.3	20.3	31.7	22.0	23.0	15.0
outcrop [%]	10	5	5	0	20	0	0	35	5	5
CF [%]	44.0	64.6	30.4	74.2	75.6	21.6	16.6	75.4	69.0	50.4
slope [°]	15	15	10	17	22	30	0	40	5	0
HL	0.915	0.879	0.781	0.880	0.934	0.795	0.847	0.940	0.803	0.847
PPFD [%]	26.4	22.9	14.0	29.1	19.7	30.2	25.4	22.5	17.5	19.2
pH in KCL	3.5	3.6	3.3	3.8	3.7	3.7	3.6	3.8	3.3	3.6
P [mg/100g]	2.56	4.50	2.71	7.90	1.30	0.50	0.10	1.20	1.96	2.97
K [mg/100g]	28.5	29.0	15.5	19.7	21.0	8.0	7.2	22.9	12.0	28.5
Mg [mg/100g]	23.2	17.8	6.2	22.5	23.5	6.1	2.4	31.0	5.9	18.3
Ca [mg/dm3]	100.0	197.0	140.0	358.0	239.0	167.0	11.0	219.0	72.0	284.0
N [%]	0.88	0.53	0.13	0.45	0.45	0.18	0.19	0.60	0.41	0.60
C [%]	16.1	10.3	7.6	8.7	6.9	3.6	4.1	9.7	8.8	13.2
sand [%]	75.0	57.0	31.0	69.0	66.0	33.0	32.0	61.0	35.0	64.0
silt [%]	23.0	40.0	64.0	29.0	31.0	62.0	63.0	36.0	59.0	33.0
clay [%]	2.0	3.0	5.0	2.0	3.0	5.0	5.0	3.0	6.0	3.0
WHC	353	284	1901	292	252	1592	2644	542	712	744
moisture [%]	8.1	9.5	11.8	8.2	5.6	8.2	13.3	8.5	9.0	6.6

plot nr	42	44	48	49	53	58	59	61	62	63
mountain range	Kaczawskie	Kaczawskie	Kaczawskie	Kaczawskie	Wałbrzyskie	Wałbrzyskie	Wałbrzyskie	Wałbrzyskie	Wałbrzyskie	Wałbrzyskie
site	Lipa	Lipa	Lipa	Lipa	Cieszów	Cieszów	Cieszów	Cieszów	Cieszów	Cieszów
Dataset	A	A	A	A	A	A	A	A	A	A
Lat [DD MM SS.SSSS]	50 58 55.7593	50 58 58.4394	50 58 58.8333	50 58 52.5110	50 52 20.1426	50 52 24.5625	50 52 24.1873	50 52 14.4755	50 52 13.7971	50 52 14.9047
Long [DD MM SS.SSSS]	16 2 18.3220	16 2 13.4607	16 2 18.7195	16 2 18.1116	16 14 36.9096	16 14 37.9573	16 14 35.3741	16 14 41.7274	16 14 43.0774	16 14 44.7618
elevation [m a.sl.]	366.03	394.71	353.34	389.32	368.7	402.7	384	353.6	354.5	384.5
depth [cm]	25.0	30.7	24.0	25.3	13.8	11.8	7.7	12.0	13.7	7.3
outcrop [%]	0	0	15	5	0	0	0	0	0	0
CF [%]	49.7	22.3	73.3	42.0	54.3	49.1	56.0	66.7	71.1	56.0
slope [°]	20	0	30	15	27	12	35	28	30	22
HL	0.917	0.847	0.944	0.879	0.934	0.896	0.944	0.935	0.936	0.917
PPFD [%]	27.7	15.7	27.5	21.7	26.7	21.7	19.1	21.8	16.3	29.7
pH in KCL	3.7	3.9	3.7	3.9	3.6	3.8	3.8	3.7	3.0	3.7
P [mg/100g]	0.40	2.30	0.60	1.30	0.50	1.89	1.70	1.70	1.75	10.10
K [mg/100g]	8.1	21.5	10.5	22.4	13.8	18.5	21.2	13.5	10.0	35.2
Mg [mg/100g]	8.5	20.5	9.6	24.0	10.2	29.2	18.7	10.7	1.5	12.8
Ca [mg/dm3]	140.0	301.0	113.0	284.0	180.0	360.0	256.0	190.0	157.0	204.0
N [%]	0.17	0.62	0.17	0.51	0.36	0.40	0.52	0.38	0.30	0.58
C [%]	2.9	10.1	2.5	8.7	6.1	7.5	8.6	5.7	4.8	8.6
sand [%]	38.0	54.0	41.0	61.0	56.0	48.0	62.0	51.0	42.0	60.0
silt [%]	57.0	41.0	53.0	35.0	39.0	48.0	35.0	46.0	55.0	36.0
clay [%]	6.0	4.0	5.0	4.0	6.0	4.0	3.0	4.0	3.0	4.0
WHC	1256	2385	640	1469	632	602	337	400	395	323
moisture [%]	6.8	9.0	11.6	7.9	9.2	11.4	8.8	7.3	6.2	6.4

plot nr	67	74	75	76	77	78	79	80	81	82
mountain range	Wałbrzyskie	Wałbrzyskie	Wałbrzyskie	Wałbrzyskie	Wałbrzyskie	Wałbrzyskie	Wałbrzyskie	Wałbrzyskie	Wałbrzyskie	Wałbrzyskie
site	Cieszów	Chwaliszów	Chwaliszów	Chwaliszów	Chwaliszów	Chwaliszów	Chwaliszów	Chwaliszów	Grabnik	Grabnik
Dataset	A	A	A	A	A	A	A	A	A	A
Lat [DD MM SS.SSSS]	50 52 12.8780	50 52 44.8277	50 52 46.1710	50 52 46.4902	50 52 47.5227	50 52 43.4794	50 52 44.5387	50 52 45.5855	50 52 7.4395	50 52 6.6176
Long [DD MM SS.SSSS]	16 14 46.0150	16 14 3.7559	16 14 2.8231	16 14 4.9736	16 14 7.6735	16 14 5.8885	16 14 7.8732	16 14 9.8868	16 16 47.7908	16 16 50.1352
elevation [m a.sl.]	363.9	328.7	334.6	351.9	365.8	324.4	350.8	369.1	411.7	399.2
depth [cm]	13.7	15.3	18.7	12.3	22.0	28.0	11.3	10.3	11.0	16.0
outcrop [%]	0	0	10	0	0	0	0	0	0	0
CF [%]	34.3	59.0	55.9	63.2	52.3	38.0	64.1	55.5	47.9	57.2
slope [°]	27	25	15	24	5	32	27	13	10	15
HL	0.942	0.938	0.911	0.938	0.873	0.945	0.934	0.877	0.872	0.823
PPFD [%]	21.9	24.4	26.4	28.6	24.5	20.8	17.9	26.5	21.6	24.6
pH in KCL	3.3	2.9	3.5	3.3	3.5	3.4	3.3	3.5	3.5	3.7
P [mg/100g]	1.61	1.31	0.90	2.11	0.50	0.70	0.10	0.80	0.38	2.06
K [mg/100g]	9.0	10.5	20.0	13.0	14.8	19.5	13.5	16.1	7.5	23.5
Mg [mg/100g]	5.5	0.3	9.0	8.6	7.8	9.5	1.9	6.7	2.9	12.1
Ca [mg/dm3]	140.0	25.0	108.0	127.0	148.0	79.0	125.0	148.0	78.0	241.0
N [%]	0.22	0.26	0.33	0.34	0.32	0.55	0.34	0.29	0.25	0.46
C [%]	4.2	6.2	7.4	10.9	4.8	9.2	18.1	5.3	9.4	11.6
sand [%]	37.0	60.0	70.0	68.0	54.0	57.0	49.0	47.0	40.0	48.0
silt [%]	58.0	37.0	28.0	30.0	41.0	41.0	47.0	48.0	56.0	47.0
clay [%]	5.0	3.0	2.0	2.0	5.0	3.0	4.0	5.0	4.0	5.0
WHC	898	629	823	454	1049	1736	407	460	573	685
moisture [%]	9.9	8.4	6.1	8.0	10.3	10.2	7.4	10.8	8.6	8.3

plot nr	83	84	85	86	87	89	91	92	93	94
mountain range	Wałbrzyskie	Wałbrzyskie	Wałbrzyskie	Wałbrzyskie	Wałbrzyskie	Kaczawskie	Kaczawskie	Kaczawskie	Kaczawskie	Kaczawskie
site	Grabnik	Grabnik	Grabnik	Grabnik	Grabnik	Paszowice	Paszowice	Paszowice	Paszowice	Paszowice
Dataset	A	A	A	A	A	A	A	A	A	A
Lat [DD MM SS.SSSS]	50 52 6.2857	50 52 4.4312	50 52 5.5028	50 52 6.4893	50 52 8.0008	51 0 28.8080	51 0 26.6643	51 0 25.1923	51 0 38.8573	51 0 42.4291
Long [DD MM SS.SSSS]	16 16 52.8258	16 16 49.9625	16 16 48.2884	16 16 46.4213	16 16 43.8030	16 8 9.0755	16 8 10.1520	16 8 7.9049	16 7 59.5974	16 8 0.0868
elevation [m a.sl.]	382.4	379.4	395.3	406.3	420.8	304.2	297.8	281.4	341.9	358.2
depth [cm]	15.2	18.7	16.3	10.7	13.3	18.0	6.0	11.3	16.0	7.5
outcrop [%]	0	0	0	0	0	0	0	0	0	0
CF [%]	46.0	37.5	32.2	56.8	62.9	43.7	46.2	56.5	14.4	47.0
slope [°]	21	18	17	15	10	0	15	30	6	6
HL	0.714	0.814	0.880	0.862	0.861	0.847	0.893	0.841	0.870	0.864
PPFD [%]	21.0	21.4	23.0	27.2	21.5	12.6	19.4	16.7	20.5	21.1
pH in KCL	3.6	3.5	3.5	3.7	3.7	3.9	3.6	3.9	3.2	3.5
P [mg/100g]	0.40	0.50	0.50	1.79	1.00	0.50	0.01	0.50	1.52	3.08
K [mg/100g]	9.8	9.6	8.8	19.0	16.2	10.5	27.0	23.5	4.5	26.5
Mg [mg/100g]	6.9	7.6	5.1	18.0	17.7	11.4	8.2	11.2	2.8	19.1
Ca [mg/dm3]	118.0	88.0	28.0	178.0	259.0	492.0	169.0	388.0	140.0	152.0
N [%]	0.23	0.27	0.25	0.40	0.39	0.20	0.30	0.16	0.43	0.70
C [%]	4.1	5.3	4.8	8.0	5.4	3.5	13.8	2.5	2.7	9.0
sand [%]	42.0	41.0	32.0	69.0	54.0	29.0	45.0	37.0	21.0	41.0
silt [%]	53.0	54.0	61.0	28.0	41.0	64.0	48.0	55.0	72.0	56.0
clay [%]	5.0	5.0	7.0	3.0	5.0	7.0	7.0	8.0	7.0	3.0
WHC	819	1167	1108	461	495	1013	323	493	1370	398
moisture [%]	8.2	9.9	11.4	8.6	10.2	17.3	9.3	17.2	14.6	8.9

plot nr	95	106	108	109	110	111	113	114	116
mountain range	Kaczawskie	Kaczawskie	Wałbrzyskie	Wałbrzyskie	Wałbrzyskie	Wałbrzyskie	Wałbrzyskie	Wałbrzyskie	Wałbrzyskie
site	Paszowice	Paszowice	Czyżynka	Czyżynka	Czyżynka	Czyżynka	Czyżynka	Czyżynka	Czyżynka
Dataset	A	A	A	A	A	A	A	A	A
Lat [DD MM SS.SSSS]	51 0 45.4921	51 0 25.0442	50 51 25.3601	50 51 26.8078	50 51 28.4890	50 51 26.7791	50 51 29.7005	50 51 30.9596	50 51 27.5612
Long [DD MM SS.SSSS]	16 8 0.3895	16 8 3.7620	16 15 0.6053	16 15 0.7669	16 15 1.3063	16 14 50.5639	16 14 53.4420	16 14 53.3342	16 14 56.1724
elevation [m a.sl.]	366.2	292.6	361.5	380.5	401.2	347.1	398.1	414.1	387.6
depth [cm]	9.3	7.5	19.0	14.3	15.0	14.0	10.3	8.7	11.7
outcrop [%]	0	0	0	0	0	10	0	0	10
CF [%]	25.4	58.7	44.3	39.7	36.9	49.2	50.2	51.0	60.0
slope [°]	3	28	25	25	15	20	20	11	33
HL	0.857	0.902	0.866	0.880	0.843	0.927	0.834	0.874	0.929
PPFD [%]	22.4	19.7	18.2	17.3	20.3	19.0	25.1	16.5	26.2
pH in KCL	3.9	3.6	3.5	3.3	3.5	3.8	3.2	3.3	3.3
P [mg/100g]	3.40	0.50	0.27	0.59	0.63	1.71	1.07	2.24	0.12
K [mg/100g]	18.0	18.2	8.0	9.0	14.0	25.5	19.0	16.0	7.5
Mg [mg/100g]	16.0	12.3	1.3	1.8	2.9	8.2	2.3	4.3	3.0
Ca [mg/dm3]	182.0	329.0	60.0	82.0	120.0	214.0	73.0	138.0	24.0
N [%]	0.48	0.21	0.17	0.30	0.32	0.10	0.72	0.43	0.20
C [%]	7.2	3.7	4.1	20.6	15.2	12.2	31.3	26.3	7.0
sand [%]	46.0	51.0	32.0	52.0	54.0	48.0	69.0	70.0	48.0
silt [%]	50.0	43.0	64.0	45.0	43.0	49.0	29.0	28.0	48.0
clay [%]	4.0	6.0	4.0	3.0	3.0	3.0	2.0	2.0	4.0
WHC	696	310	1058	864	947	711	514	425	467
moisture [%]	11.6	10.2	11.2	10.7	9.8	13.7	9.3	7.2	6.3

plot nr	6	12	16	21	26	27	35	45	46
mountain range	Kaczawskie	Kaczawskie	Kaczawskie	Kaczawskie	Kaczawskie	Kaczawskie	Kaczawskie	Kaczawskie	Kaczawskie
site	Grobla	Grobla	Grobla	Grobla	Grobla	Lipa	Lipa	Lipa	Lipa
Dataset	B	B	B	B	B	B	B	B	B
Lat [DD MM SS.SSSS]	50 59 22.1731	50 59 10.0463	50 59 3.5616	50 59 12.1555	50 58 59.0139	50 58 48.6645	50 58 47.1575	50 58 51.3103	50 58 55.0339
Long [DD MM SS.SSSS]	16 5 47.1941	16 5 41.4234	16 5 52.9553	16 6 7.4588	16 6 20.8227	16 3 7.0253	16 2 51.5658	16 3 3.1151	16 2 56.2121
elevation [m a.sl.]	324.6	303.7	318.7	378.8	307.5	344.4	369.12	358.41	394.64
depth [cm]	13.7	23.0	24.3	16.7	22.7	31.7	34.0	15.3	21.7
outcrop [%]	10	10	5	0	5	0	0	20	0
CF [%]	35.3	16.4	34.6	21.4	17.4	9.8	70.0	65.2	50.5
slope [°]	20	25	16	0	20	5	5	35	10
HL	0.881	0.922	0.880	0.847	0.881	0.803	0.874	0.864	0.872
PPFD [%]	24.1	23.3	22.0	22.3	35.2	17.9	22.3	20.3	24.9
pH in KCL	3.6	3.8	3.6	3.5	3.5	3.5	3.8	3.8	3.9
P [mg/100g]	0.60	0.80	3.80	5.90	0.30	0.40	0.60	0.40	0.80
K [mg/100g]	9.0	10.1	16.0	12.3	6.4	8.2	16.4	14.5	20.1
Mg [mg/100g]	9.2	16.9	9.3	9.4	2.2	10.5	26.0	10.1	17.6
Ca [mg/dm3]	133.0	252.0	142.0	126.0	28.0	73.0	212.0	174.0	245.0
N [%]	0.18	0.24	0.38	0.34	0.15	0.27	0.42	0.29	0.50
C [%]	4.8	5.3	7.4	5.8	3.4	4.5	5.6	4.5	7.8
sand [%]	37.0	40.0	46.0	35.0	32.0	32.0	46.0	39.0	45.0
silt [%]	57.0	56.0	48.0	61.0	62.0	63.0	50.0	55.0	51.0
clay [%]	6.0	4.0	6.0	5.0	6.0	6.0	4.0	6.0	5.0
WHC	886	1923	1589	1313	1875	2855	1020	533	1073
moisture [%]	7.3	11.7	10.2	10.6	11.7	17.5	4.9	8.4	9.0

plot nr	52	57	66	71	72
mountain range	Wałbrzyskie	Wałbrzyskie	Wałbrzyskie	Wałbrzyskie	Wałbrzyskie
site	Cieszów	Cieszów	Cieszów	Cieszów	Cieszów
Dataset	B	B	B	B	B
Lat [DD MM SS.SSSS]	50 52 19.6148	50 52 21.2355	50 52 13.6015	50 52 12.5216	50 52 11.7077
Long [DD MM SS.SSSS]	16 14 33.4286	16 14 38.6000	16 14 47.6077	16 14 54.7728	16 14 52.5899
elevation [m a.sl.]	339.8	386.9	382.3	410.9	398.3
depth [cm]	16.5	14.2	12.3	12.7	11.7
outcrop [%]	0	0	0	0	0
CF [%]	49.8	34.1	30.5	53.8	48.4
slope [°]	31	20	25	10	22
HL	0.944	0.924	0.938	0.872	0.933
PPFD [%]	24.3	26.0	20.1	23.0	22.7
pH in KCL	3.6	4.3	3.2	3.6	3.6
P [mg/100g]	1.40	7.50	1.33	1.60	1.40
K [mg/100g]	18.6	34.3	8.5	11.2	18.6
Mg [mg/100g]	7.5	24.0	1.0	9.3	17.6
Ca [mg/dm3]	157.0	387.0	97.0	225.0	198.0
N [%]	0.28	0.86	0.24	0.36	0.44
C [%]	3.9	10.5	3.4	4.5	7.1
sand [%]	49.0	74.0	48.0	41.0	64.0
silt [%]	45.0	24.0	48.0	54.0	33.0
clay [%]	6.0	1.0	4.0	5.0	3.0
WHC	828	936	857	585	602
moisture [%]	7.9	8.4	8.4	8.9	9.1