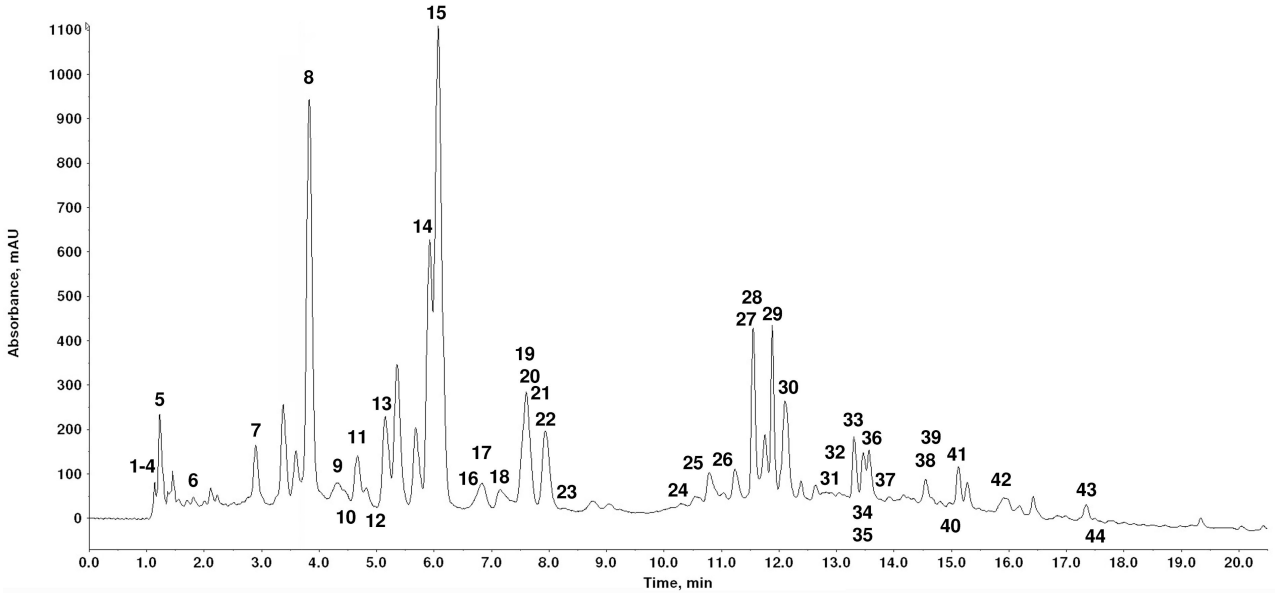
Visi-Rajczi E, Hofmann T, Albert L, Mátyás C (2021).
Tracing the acclimation to climatic stress of European beech (*Fagus sylvatica* L.) populations by analyzing the antioxidant system
iForest – Biogeosciences and Forestry – doi: 10.3832/ifor3542-013

Supplementary Material

Tab. S1 - POD and PPO enzyme activity, total protein content and average stem diameter at breast height of the investigated provenances (mean ± std. dev). Different letters in a given row denote significant differences between vintage at $p<0.05$ level. Different capitals in a given column indicate significant differences between provenances at the $p<0.05$ level.

Variable	Provenance	Year		
		2015	2016	2017
POD enzyme activity (U μg^{-1})	Farchau	3.41 ± 1.65 ^{aAB}	2.49 ± 1.62 ^{aAC}	2.25 ± 1.15 ^{aA}
	Pidkamin	6.15 ± 2.25 ^{aA}	2.66 ± 1.86 ^{abABC}	2.12 ± 2.30 ^{bA}
	Torup	3.02 ± 2.15 ^{aAB}	2.71 ± 2.23 ^{abABC}	1.42 ± 1.67 ^{bA}
	Bánokszentgyörgy	3.60 ± 1.54 ^{aAB}	3.08 ± 2.57 ^{aABC}	2.94 ± 2.44 ^{aA}
	Magyaregregy	5.68 ± 1.08 ^{aA}	5.13 ± 0.38 ^{aB}	3.06 ± 0.98 ^{bA}
	Grasten	2.16 ± 1.50 ^{aB}	1.68 ± 1.58 ^{aC}	1.54 ± 1.08 ^{aA}
PPO enzyme activity (U μg^{-1})	Farchau	2.52 ± 2.72 ^{aA}	1.79 ± 1.05 ^{aA}	1.69 ± 0.48 ^{aA}
	Pidkamin	2.36 ± 1.35 ^{aA}	2.52 ± 1.92 ^{aA}	1.99 ± 1.43 ^{aA}
	Torup	1.91 ± 1.22 ^{aA}	0.61 ± 0.12 ^{aA}	1.79 ± 0.98 ^{aA}
	Bánokszentgyörgy	0.53 ± 0.67 ^{aA}	1.25 ± 0.74 ^{aA}	0.91 ± 0.65 ^{aA}
	Magyaregregy	0.40 ± 0.10 ^{aA}	1.97 ± 0.24 ^{bA}	1.82 ± 0.35 ^{bA}
	Grasten	0.48 ± 0.25 ^{aA}	0.58 ± 0.30 ^{aA}	1.47 ± 1.03 ^{aA}
Total protein content ($\mu g\ g^{-1}$)	Farchau	3565.9 ± 544.5 ^{aA}	5902.8 ± 4424.0 ^{abA}	6918.4 ± 854.0 ^{bAB}
	Pidkamin	3297.3 ± 220.0 ^{aA}	5412.9 ± 1141.0 ^{bA}	6124.3 ± 1782.0 ^{bA}
	Torup	4780.7 ± 1496.0 ^{aAB}	4526.9 ± 1316.2 ^{aA}	7425.9 ± 211.0 ^{bAB}
	Bánokszentgyörgy	5189.1 ± 2361.6 ^{aAB}	4465.2 ± 940.7 ^{aA}	6777.1 ± 2020.1 ^{aAB}
	Magyaregregy	4613.4 ± 746.4 ^{aAB}	5763.5 ± 860.1 ^{aA}	9001.6 ± 513.2 ^{bB}
	Grasten	6991.4 ± 2167.0 ^{aB}	7232.6 ± 3635.1 ^{aA}	9015.1 ± 1121.0 ^{aB}
Average stem diameter at breast height (cm)	Farchau	8.9	9.5	10.1
	Pidkamin	8.1	8.6	9.1
	Torup	5.9	6.5	7.3
	Bánokszentgyörgy	9.7	10.1	10.6
	Magyaregregy	11.8	12.5	13.1
	Grasten	6.9	7.4	7.9

Fig. S1 - Separation of a beech leaf extract – PDA (250–380 nm) chromatogram. Names of the compounds are listed in detail in Tab. S2 (Supplementary material).



Tab. S2 - Average (n=8) peak areas for each compound according to provenance. The column MRM denotes the Multiple Reaction Monitoring transition used for the relative quantitative assessment of the individual compounds.

Peak	tr (min)	Compound	*Provenance*						MRM (Q1/Q3)
			Farchau (26)	Pidkamin (59)	Torup (23)	B.szent-györgy (H1)	M.egregy (52)	Gråsten (21)	
			Peak areas						
1	1.12	Unknown 1	1108903	1520138	634390	1042701	1583385	685351	439/97
2	1.12	Caffeic acid-*O*-hexoside	99875	119092	220996	159716	151258	228172	341/179
3	1.13	Unknown 2	7057350	7192719	9668604	9323563	9277990	9475302	533/191
4	1.16	Unknown 3	4995	6202	3713	4466	5954	3729	481/191
5	1.22	Unknown 4	2753521	2822531	2000214	2346925	2742760	2006856	191/85
6	1.83	Procyanidin C trimer 1	8104	11780	4882	4969	8411	16063	865/125
7	2.89	Chlorogenic acid isomer 1	462570	1729884	1245079	1256243	1926291	1498860	353/191
8	3.76	Procyanidin B dimer 1	81988	43640	31206	29297	36538	7996	577/125
9	4.26	Unknown 5	22372	21766	22494	31983	30732	509	311/149
10	4.35	Procyanidin B dimer 2	48844	102503	61294	71662	57385	137391	577/125
11	4.67	(+)-Catechin	293761	312222	281298	330125	397467	632065	289/109
12	4.93	Procyanidin C trimer 2	24508	30374	20417	13305	16825	625	865/125
13	5.15	Chlorogenic acid isomer 2	135649	226371	253157	310972	182708	272789	353/191
14	6.04	Procyanidin C trimer 3	5027	7041	1966	4219	11238	45088	865/125
15	6.05	Procyanidin B dimer 3	111154	67065	18202	76385	76568	844	577/125
16	6.76	Procyanidin B dimer 4	25125	26716	3319	27253	44473	141798	577/125
17	6.85	Procyanidin C trimer 4	2623	4205	1807	1419	3025	10308	865/125
18	7.28	Chlorogenic acid isomer 3	88896	302113	204019	256807	491469	285044	353/191
19	7.56	Procyanidin C trimer 5	9297	6442	1334	6075	6023	3629	865/125
20	7.57	(–)-Epicatechin	287559	340465	321264	272781	304503	512905	289/109
21	7.65	Coniferin isomer	58473	12404	11776	28797	14960	25977	341/59
22	7.95	Feruloylthreonic acid	213856	103320	25679	180360	198504	54449	311/193
23	8.26	Procyanidin B dimer 5	3849	4087	355	8223	6330	845	577/125
24	10.3	Procyanidin B dimer 6	3987	1534	494	1624	1806	1100	577/125
25	10.53	Procyanidin C trimer 6	35264	25114	13559	21691	28529	1634	865/125
26	11.04	Procyanidin B dimer 7	16625	15103	11948	11558	12366	5923	577/125
27	11.51	Procyanidin C trimer 7	5275	7613	4093	2992	4100	1990	865/125
28	11.56	Naringenin-*C*-hexoside 1	507213	459191	450860	398299	486457	349447	433/313
29	11.88	Naringenin-*C*-hexoside 2	479059	423406	428712	377377	470857	345113	433/313
30	12.10	Naringenin-*C*-hexoside 3	485056	450656	435646	386641	456820	343611	433/313
31	12.92	Coniferin derivative 1	32005	56295	64734	39880	55822	55037	451/341
32	12.97	Procyanidin C trimer 8	10399	16633	11764	8964	12014	6514	865/125
33	13.22	Procyanidin B dimer 8	8586	7799	7984	5106	5953	1086	577/125
34	13.31	Unknown 6	92009	102055	38175	86840	99820	83	413/57
35	13.31	Quercetin-*O*-hexoside 1	162861	199833	694786	447560	574521	967900	463/300
36	13.48	Quercetin-*O*-glucuronide	171037	297618	389595	404062	218821	499648	477/301
37	13.58	Quercetin-*O*-hexoside 2	148883	217488	619850	525273	536788	814838	463/300
38	14.55	Kaempferol-*O*-hexoside 1	32337	59616	180108	183194	147505	200752	447/227
39	14.56	Quercetin-*O*-pentoside	44859	50624	329658	204093	213871	383701	433/300
40	14.81	Coniferin derivative 2	79828	142732	139712	126775	206644	311128	451/341
41	15.12	Kaempferol-*O*-hexoside 2	170793	298970	847707	988934	727697	1211637	447/227
42	15.88	Kaempferol-*O*-pentoside	25580	40539	204306	186284	127813	208348	417/255
43	17.34	Kaempferol-*O*-deoxyhexoside	108089	281827	470130	353089	457432	46	431/285
44	17.49	Coniferin derivative 3	28218	56044	59056	35345	54539	15766	451/341