

## LEGENDS

Figure S1: Relative water loss curves reporting the relationship between RWL and the applied overpressure (P), as measured for healthy (H, closed circles, solid line) and desiccated (D, open circles, dashed line) *Pinus nigra* trees. Mean values  $\pm$  SEM are shown. The sigmoidal regressions and P inducing 30% RWL are also reported. \* indicates significant differences between experimental groups ( $P < 0.05$ ).

Figure S2: Assignment of individuals to genetic clusters using STRUCTURE with  $K=2$ . Each bar represents an individual and the dimensions of the different area are proportional to the genetic relatedness of the individual to the two clusters.

Table S1:  $P_{20}$  and  $P_{50}$  interpolated from vulnerability curves (VCs) of healthy (H) and desiccated (D) trees and relative 95% confidence intervals estimated from the bootstrap method (r-package fit-PLC, R i386 3.2.5, Duursma and Choat 2016).

Table S2: Summary of the three-way-ANOVA testing the effects of plant health status (H or D, Factor I), tissue (bark or wood, Factor II), and season (June or July, Factor III), and their interaction on glucose, fructose, sucrose, and starch content at the branch scale.

Table S3: Genetic profiles of healthy (H) and desiccated (D) *Pinus nigra* trees analyzed at three plastome microsatellites loci: Pt30204, Pt71936, and Pt45002.

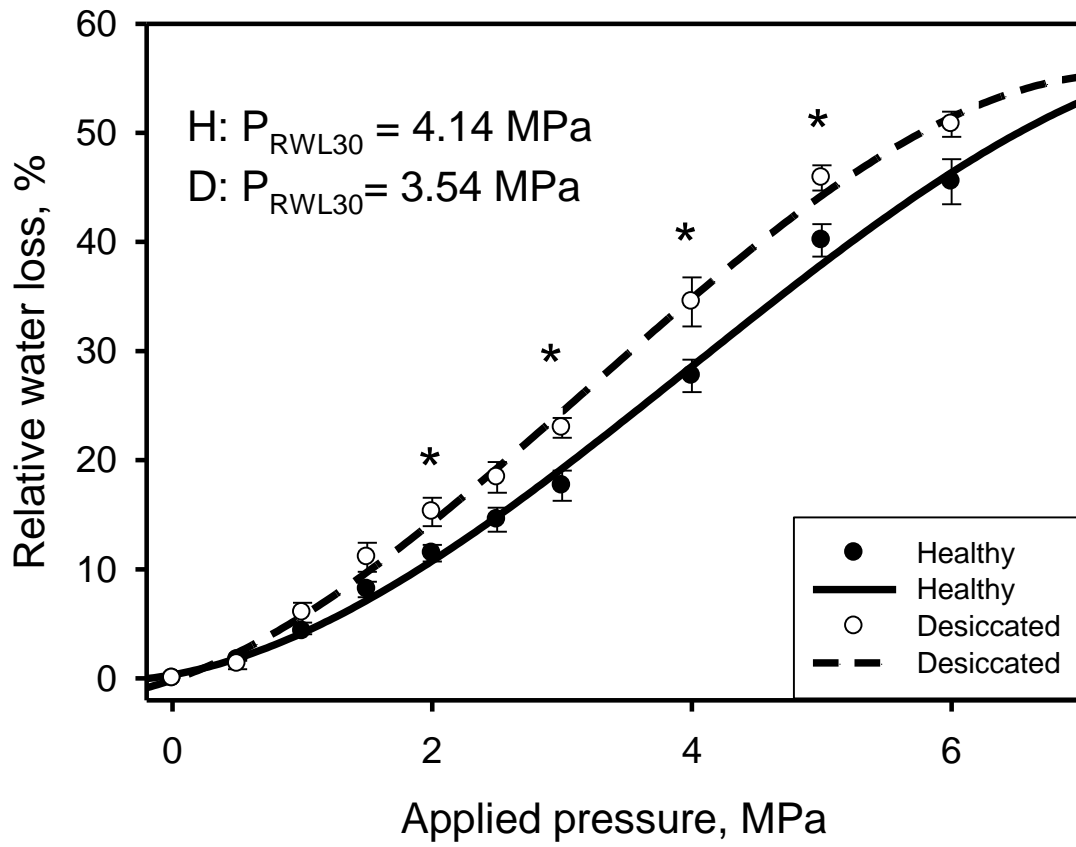


Figure S1

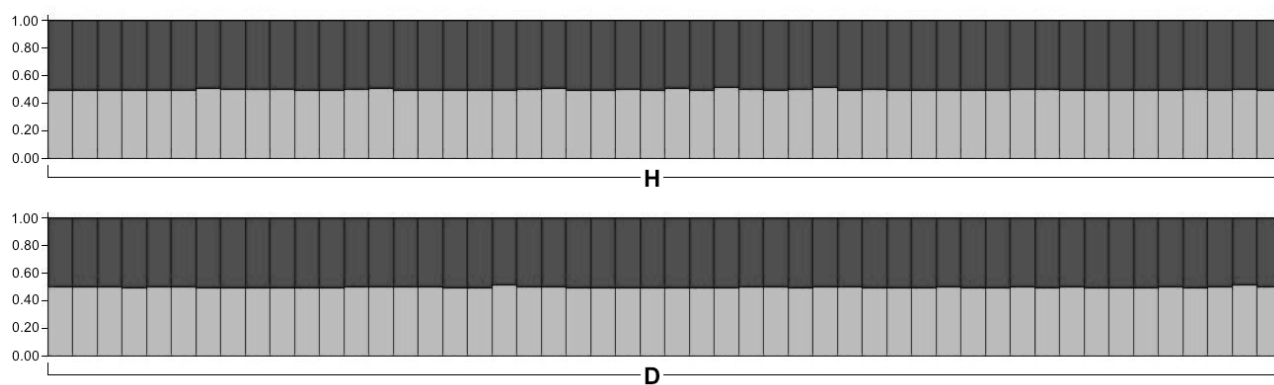


Figure S2

	Healthy			Desiccated		
	Px, -MPa	2.50%	97.50%	Px, -MPa	2.50%	97.50%
P <sub>20</sub>	1.67	1.21	2.07	1.42	0.64	2.12
P <sub>50</sub>	3.24	2.95	3.54	3.63	3.09	4.38

Table S1

<b>Glucose, % DW</b>	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>P</i>
<b>Health status</b>	1	1.44	0.14	0.55	0.47
<b>Tissue</b>	1	0.004	0.004	0.02	0.9
<b>Season</b>	1	0.68	0.68	2.56	0.12
<b>Fac. I × Fac. II</b>	1	0.03	0.03	0.09	0.76
<b>Fac. I × Fac. III</b>	1	0.44	0.44	1.67	0.21
<b>Fac. II × Fac. III</b>	1	0.12	0.12	0.46	0.5
<b>Fac. I × Fac. II × Fac. III</b>	1	0.04	0.04	0.14	0.71
<b>Residual</b>	32	8.45	0.26		
<b>Fructose, % DW</b>	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>P</i>
<b>Health status</b>	1	0.55	0.55	2.73	0.11
<b>Tissue</b>	1	0.14	0.14	0.68	0.42
<b>Season</b>	1	2.22	2.22	10.98	<b>0.002</b>
<b>Fac. I × Fac. II</b>	1	0.001	0.001	0.003	0.96
<b>Fac. I × Fac. III</b>	1	0.12	0.12	0.60	0.44
<b>Fac. II × Fac. III</b>	1	0.16	0.16	0.81	0.38
<b>Fac. I × Fac. II × Fac. III</b>	1	0.06	0.06	0.28	0.6
<b>Residual</b>	32	6.46	0.20		
<b>Sucrose, % DW</b>	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>P</i>
<b>Health status</b>	1	2.33	2.33	4.36	<b>0.045</b>
<b>Tissue</b>	1	4.63	4.63	8.67	<b>0.006</b>
<b>Season</b>	1	0.19	0.19	0.36	0.56
<b>Fac. I × Fac. II</b>	1	0.74	0.74	1.38	0.25
<b>Fac. I × Fac. III</b>	1	2.78	2.78	5.20	<b>0.03</b>
<b>Fac. II × Fac. III</b>	1	0.20	0.20	0.37	0.55
<b>Fac. I × Fac. II × Fac. III</b>	1	1.49	1.49	2.78	0.11
<b>Residual</b>	32	17.10	0.53		
<b>Starch, % DW</b>	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>P</i>
<b>Health status</b>	1	1.66	1.66	4.29	<b>0.047</b>
<b>Tissue</b>	1	12.03	12.03	31.11	<b>&lt;0.001</b>
<b>Season</b>	1	11.36	11.36	29.38	<b>&lt;0.001</b>
<b>Fac. I × Fac. II</b>	1	0.04	0.04	0.10	0.76
<b>Fac. I × Fac. III</b>	1	0.92	0.92	2.40	0.13
<b>Fac. II × Fac. III</b>	1	0.90	0.90	2.33	0.14
<b>Fac. I × Fac. II × Fac. III</b>	1	0.31	0.31	0.79	0.38
<b>Residual</b>	32	12.38	0.39		

Table S2

(a)	Pt30204	Pt71936	Pt45002	(b)	Pt30204	Pt71936	Pt45002
H1	139	145	164	D1	140	144	163
H2	141	145	164	D2	140	145	163
H3	139	144	164	D3	140	145	164
H4	140	144	164	D4	140	144	164
H5	139	143	164	D5	139	144	163
H6	141	143	164	D6	142	145	164
H7	142	146	164	D7	139	143	164
H8	140	145	164	D8	141	144	164
H9	138	144	164	D9	139	144	164
H10	141	143	163	D10	140	144	164
H11	140	145	164	D11	141	144	164
H12	140	143	164	D12	139	143	164
H13	138	143	163	D13	138	144	163
H14	142	146	164	D14	140	143	163
H15	139	143	164	D15	142	145	164
H16	141	143	164	D16	141	145	164
H17	142	143	164	D17	139	143	164
H18	141	144	164	D18	140	143	164
H19	141	144	164	D19	140	142	164
H20	138	143	164	D20	142	144	164
H21	140	146	164	D21	138	143	164
H22	140	143	164	D22	141	144	164
H23	139	144	164	D23	141	144	164
H24	139	145	164	D24	141	144	164
H25	141	143	164	D25	140	144	164
H26	140	143	165	D26	140	144	164
H27	140	143	164	D27	141	144	164
H28	136	144	164	D28	141	144	164
H29	138	144	164	D29	139	144	163
H30	139	143	164	D30	141	144	163
H31	140	144	163	D31	139	143	163
H32	141	145	165	D32	138	144	163
H33	139	143	164	D33	141	144	163
H34	141	145	164	D34	140	144	164
H35	141	144	164	D35	141	144	164
H36	140	144	164	D36	141	144	164
H37	139	143	164	D37	142	144	164
H38	141	144	164	D38	139	143	164
H39	139	144	164	D39	140	144	164
H40	141	144	163	D40	138	144	163
H41	140	144	163	D41	140	144	164
H42	141	143	164	D42	141	145	164
H43	139	143	164	D43	141	144	164
H44	141	144	164	D44	140	143	164
H45	139	144	164	D45	140	143	164
H46	141	143	164	D46	141	144	163
H47	142	145	164	D47	141	144	164
H48	140	144	164	D48	142	144	164
H49	139	143	163	D49	138	144	162
H50	139	144	164	D50	138	144	164

Table S3