

## Supplementary file 1

**Table 1** p values derived from ANOVA of the main effects pre-hardening fertilization (PF), fall fertilization (FF) and of their interaction effect (PF×FF) on *Quercus variabilis* seedlings height, diameter and dry mass at transplanting (T<sub>0</sub>), at the end of establishment (T<sub>1</sub>), rapid growing (T<sub>2</sub>) and hardening (T<sub>3</sub>) stages after transplantation. Foliage dry mass at T<sub>0</sub> stage was not presented due to the absence of leaves for the deciduous tree species at transplanting.

Sampling	Source	df	Height	Diameter	Tissue dry mass		
					Root	Stem	Foliage
T <sub>0</sub>	PF	1	0.590	0.486	0.255	0.439	/
	FF	3	0.815	0.516	0.515	0.650	/
	PF×FF	3	0.098	0.102	0.278	0.202	/
T <sub>1</sub>	PF	1	0.113	0.212	0.710	0.192	0.277
	FF	3	0.355	<b>0.036</b>	0.793	0.425	0.312
	PF×FF	3	0.755	0.525	0.103	0.400	0.145
T <sub>2</sub>	PF	1	<b>&lt;0.001</b>	<b>0.002</b>	<b>0.036</b>	<b>&lt;0.001</b>	<b>0.007</b>
	FF	3	<b>0.016</b>	0.661	0.876	0.133	0.331
	PF×FF	3	0.482	0.499	0.309	0.804	0.538
T <sub>3</sub>	PF	1	<b>&lt;0.001</b>	<b>0.002</b>	<b>0.009</b>	<b>0.001</b>	0.045
	FF	3	<b>0.030</b>	0.064	0.203	<b>0.017</b>	0.056
	PF×FF	3	0.092	0.480	0.111	0.144	<b>0.027</b>

**Table 2** p values derived from ANOVA of the main effects pre-hardening fertilization (PF), fall fertilization (FF) and of their interaction effect (PF×FF) on tissue nitrogen (N), phosphorus (P) and potassium (K) content of *Quercus variabilis* seedlings at transplanting (T<sub>0</sub>), at the end of establishment (T<sub>1</sub>), rapid growing (T<sub>2</sub>) and hardening (T<sub>3</sub>) stages after transplantation. Foliage nutrient content at T<sub>0</sub> stage was not presented due to the absence of leaves for the deciduous tree species at transplanting.

Sampling	Source	df	N			P			K		
			Root	Stem	Foliage	Root	Stem	Foliage	Root	Stem	Foliage
<b>T<sub>0</sub></b>											
	PF	1	< <b>0.001</b>	<b>0.003</b>	/	0.078	0.414	/	0.119	0.312	/
	FF	3	0.586	1.508	/	0.910	0.264	/	0.650	0.736	/
	PF×FF	3	0.451	1.151	/	0.926	0.172	/	0.256	0.200	/
<b>T<sub>1</sub></b>											
	PF	1	0.003	<b>0.014</b>	0.147	0.820	0.400	0.258	0.565	0.364	<b>0.025</b>
	FF	3	0.009	0.090	0.276	0.793	0.447	0.227	0.796	0.574	0.363
	PF×FF	3	<b>0.013</b>	0.751	0.050	0.140	0.566	0.076	0.086	0.609	0.188
<b>T<sub>2</sub></b>											
	PF	1	< <b>0.001</b>	<b>0.003</b>	<b>0.002</b>	<b>0.037</b>	<b>0.001</b>	<b>0.001</b>	<b>0.024</b>	< <b>0.001</b>	0.086
	FF	3	<b>0.004</b>	0.345	0.219	0.802	0.181	0.154	0.861	<b>0.045</b>	0.426
	PF×FF	3	0.494	0.420	0.429	0.212	0.665	0.539	0.820	0.535	0.781
<b>T<sub>3</sub></b>											
	PF	1	<b>0.002</b>	< <b>0.001</b>	<b>0.027</b>	0.093	<b>0.008</b>	<b>0.029</b>	<b>0.002</b>	< <b>0.001</b>	0.240
	FF	3	<b>0.007</b>	<b>0.002</b>	<b>0.044</b>	0.108	<b>0.039</b>	<b>0.035</b>	<b>0.031</b>	< <b>0.001</b>	<b>0.012</b>
	PF×FF	3	0.098	0.143	0.272	<b>0.044</b>	0.185	0.077	0.052	0.132	0.765

**Table 3** p values derived from ANOVA of the main effects pre-hardening fertilization (PF), fall fertilization (FF) and of their interaction effect (PF×FF) on N, P and K uptake of *Quercus variabilis* seedlings from soil during establishment (T<sub>1</sub>-T<sub>0</sub>), from transplanting to the rapid growing (T<sub>2</sub>-T<sub>0</sub>) and the whole growing season (T<sub>3</sub>-T<sub>0</sub>) after transplantation.

Stages	Source	df	N	P	K
<b>T<sub>1</sub>-T<sub>0</sub></b>	PF	1	0.255	0.813	0.777
	FF	3	0.246	0.678	0.660
	PF×FF	3	<b>0.017</b>	0.094	<b>0.043</b>
<b>T<sub>2</sub>-T<sub>0</sub></b>	PF	1	<b>0.001</b>	<b>0.020</b>	<b>0.012</b>
	FF	3	<b>0.042</b>	0.558	0.745
	PF×FF	3	0.841	0.449	0.770
<b>T<sub>3</sub>-T<sub>0</sub></b>	PF	1	<b>0.001</b>	0.062	<b>0.002</b>
	FF	3	<b>0.002</b>	0.062	<b>0.007</b>
	PF×FF	3	0.086	0.063	0.068