

Table S1. Analysis of variance of the C, N and P concentrations in leaves at various growth stages from 2012 to 2015 (DOC).

Table S2. Analysis of variance of the C:N, C:P and N:P ratios in leaves at various growth stages from 2012 to 2015 (DOC).

Table S3. The mean C, N, and P concentrations and C:N, C:P, and N:P ratios (mass ratio) in leaves from July to September (DOC).

Table S1 Analysis of variance of the C, N and P concentrations in leaves at various growth stages from 2012 to 2015.

Element	Year	Analysis of variance at various growth stages					Analysis of variance at various stand ages					
		Sampling time (df=5)					Stand Age (df=4)					
		A	B	C	D	E	May	Jun	Jul	Aug	Sept	Oct
C	2012	F=0.31	F=0.62	F=1.50	F=1.66	F=12.67	F=7.40	F=0.24	F=8.50	F=0.56	F=0.36	F=0.87
		P=0.90	P=0.69	P=0.26	P=0.22	P=<0.001	P=0.005	P=0.91	P=0.003	P=0.70	P=0.83	P=0.52
N	2012	F=55.87	F=157.83	F=126.22	F=143.74	F=125.16	F=1.67	F=8.72	F=23.67	F=7.55	F=51.95	F=29.25
		P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=0.23	P=0.003	P=<0.001	P=0.005	P=<0.001	P=<0.001
P	2012	F=260.69	F=2283.83	F=2639.7	F=3029.27	F=235.04	F=312.3	F=28.29	F=24.87	F=0.88	F=1.00	F=4.69
		P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=0.67	P=0.45	P=0.02
C	2013	F=3.08	F=1.23	F=4.00	F=15.32	F=13.25	F=1.62	F=6.88	F=0.89	F=0.21	F=0.61	F=0.99
		P=0.05	P=0.36	P=0.02	P<0.001	P<0.001	P=0.24	P=0.006	P=0.51	P=0.93	P=0.67	P=0.46
N	2013	F=94.69	F=12.05	F=15.20	F=54.02	F=63.76	F=4.99	F=31.78	F=5.61	F=59.42	F=6.19	F=159.57
		P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=0.01	P=<0.001	P=<0.01	P=<0.001
P	2013	F=58.30	F=24.86	F=65.70	F=13.68	F=17.21	F=10.82	F=50.18	F=19.46	F=15.18	F=68.96	F=45.37
		P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.01	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001
C	2014	F=0.61	F=0.62	F=1.50	F=1.66	F=12.67	F=3.58	F=0.43	F=7.90	F=0.91	F=1.45	F=1.81
		P=0.69	P=0.69	P=0.26	P=0.22	P=<0.001	P=<0.05	P=0.78	P=<0.01	P=0.49	P=0.29	P=0.20
N	2014	F=267.94	F=127.09	F=158.40	F=116.42	F=173.96	F=8.99	F=8.34	F=10.20	F=12.82	F=59.74	F=4.85
		P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.01	P=<0.01	P=<0.01	P=<0.01	P=<0.001	P=0.02
P	2014	F=116.30	F=60.77	F=110.51	F=72.85	F=290.55	F=48.89	F=2.52	F=5.32	F=3.30	F=57.22	F=13.25
		P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=0.11	P=0.02	P=0.06	P=<0.001	P=<0.01
C	2015	F=1.99	F=10.69	F=15.56	F=2.50	F=1.81	F=6.11	F=3.26	F=2.20	F=36.94	F=3.98	F=4.12
		P=0.15	P=<0.001	P=<0.001	P=0.09	P=0.19	P=<0.01	P=0.06	P=0.14	P=<0.001	P=0.04	P=0.03
N	2015	F=54.96	F=15.43	F=163.26	F=17.56	F=45.36	F=692.45	F=120.86	F=8.66	F=40.42	F=13.63	F=91.97
		P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.01	P=<0.001	P=<0.001	P=<0.001
P	2015	F=163.27	F=29.11	F=195.30	F=13.00	F=22.02	F=154.57	F=28.00	F=399.88	F=37.51	F=117.05	F=65.68
		P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001

A: represents the sapling forest; **B:** represents the young forest; **C:** represents the half-mature forest; **D:** represents the near-mature forest; and **E:** represents the mature forest

Table S2 Analysis of variance of the C:N, C:P and N:P ratios in leaves at various growth stages from 2012 to 2015.

Element	Year	Analysis of variance at various growth seasons					Analysis of variance at various stand age					
		Sampling time (df=5)					Stand Age (df=4)					
		A	B	C	D	E	May	Jun	Jul	Aug	Sept	Oct
C:N	2012	F=70.46	F=142.99	F=183.73	F=115.89	F=196.86	F=4.12	F=10.49	F=18.56	F=3.27	F=17.45	F=22.32
		P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=0.03	P=<0.01	P=<0.001	P=0.06	P=<0.001	P=<0.001
C:P		F=44.39	F=87.26	F=46.73	F=529.30	F=98.46	F=14.98	F=7.17	F=4.67	F=1.15	F=0.83	F=0.15
		P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.01	P=0.02	P=0.39	P=0.54	P=0.96
N:P		F=97.65	F=496.82	F=171.78	F=228.01	F=104.21	F=18.95	F=34.65	F=33.13	F=7.22	F=51.37	F=29.40
		P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.01	P=<0.001	P=<0.001
C:N	2013	F=158.21	F=8.30	F=14.59	F=81.18	F=649.41	F=8.38	F=26.39	F=9.10	F=22.26	F=8.04	F=511.20
		P=<0.001	P=<0.01	P=<0.001	P=<0.001	P=<0.001	P=0.003	P=<0.001	P=0.002	P=<0.001	P=0.004	P=<0.001
C:P		F=52.48	F=15.36	F=74.41	F=14.32	F=12.02	F=11.61	F=16.75	F=17.91	F=5.57	F=38.59	F=16.24
		P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=0.001	P=<0.001	P=<0.001	P=0.013	P=<0.001	P=<0.001
N:P		F=17.78	F=35.74	F=50.44	F=19.07	F=7.74	F=15.04	F=42.88	F=33.86	F=2.05	F=29.21	F=59.41
		P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=0.001	P=<0.001	P=<0.001	P=<0.001	P=0.16	P=<0.001	P=<0.001
C:N	2014	F=422.10	F=106.20	F=207.93	F=414.87	F=316.38	F=31.44	F=5.81	F=12.21	F=9.18	F=85.54	F=2.31
		P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=0.011	P=0.001	P=0.002	P=<0.001	P=0.13
C:P		F=92.41	F=114.03	F=429.76	F=134.28	F=444.77	F=23.96	F=1.76	F=4.71	F=3.14	F=102.42	F=24.60
		P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=0.21	P=0.021	P=0.065	P=<0.001	P=<0.001
N:P		F=48.89	F=13.66	F=19.83	F=15.26	F=19.85	F=45.98	F=0.94	F=7.04	F=6.56	F=27.72	F=7.02
		P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=0.48	P=0.006	P=0.007	P=<0.001	P=0.006
C:N	2015	F=45.85	F=20.41	F=80.80	F=24.56	F=23.07	F=200.73	F=111.40	F=3.03	F=88.45	F=6.62	F=22.43
		P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=0.071	P=<0.001	P=0.007	P=<0.001
C:P		F=114.47	F=41.77	F=97.34	F=18.98	F=23.05	F=88.02	F=17.64	F=94.03	F=26.31	F=13.80	F=30.89
		P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001
N:P		F=58.90	F=72.79	F=72.37	F=2.45	F=1.70	F=633.81	F=52.10	F=44.41	F=62.41	F=18.66	F=42.64
		P=<0.001	P=<0.001	P=<0.001	P=0.094	P=0.209	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001	P=<0.001

A: represents the sapling forest; B: represents the young forest; C: represents the half-mature forest; D: represents the near-mature forest; and E: represents the mature forest

Table S3. The mean C, N, and P concentrations and C:N, C:P, and N:P ratios (mass ratio) in leaves from July to September.

Sampling time	Year	C (mg g ⁻¹)	N (mg g ⁻¹)	P (mg g ⁻¹)	C:N	C:P	N:P	
Jul-Sept	A	2012	508.78±5.78	19.55±2.06	1.63±0.49	26.26±2.64	328.24±83.92	12.81±4.23
		2013	517.6±12.86	21.34±0.9	2.44±0.31	24.3±1.04	214.62±24.52	8.82±0.77
		2014	500.82±7.2	16.13±0.76	1.89±0.20	31.15±1.22	267.2±30.98	8.60±1.09
		2015	518.04±17.97	17.12±5.11	4.49±0.95	32.87±11.18	118.19±19.29	3.92±1.52
	B	2012	513.63±27.35	20.69±5.53	1.69±0.59	26.24±7.98	321.99±81.12	13.63±6.6
		2013	519.00±8.04	17.65±0.21	1.93±0.11	29.44±0.31	269.94±11.96	9.18±0.49
		2014	500.64±7.11	17.57±3.98	2.12±0.17	29.54±6.44	237.78±20.64	8.42±2.55
		2015	523.48±15.48	11.9±1.19	4.26±0.40	44.33±2.93	123.86±13.23	2.82±0.45
	C	2012	502.87±17.54	19.43±1.36	1.52±0.30	26.04±1.66	338.64±63.47	12.97±1.63
		2013	515.26±18.51	19.07±2.33	1.68±0.13	27.38±3.77	307.82±25.22	11.33±0.82
		2014	505.16±10.79	18.29±3.53	2.03±0.15	28.33±5.23	250.65±18.55	8.99±1.31
		2015	572.03±42.26	20.87±7.36	2.24±0.08	29.26±7.96	255.46±24.7	9.39±3.69
	D	2012	516.95±7.49	18.56±0.22	1.67±0.56	27.88±0.64	330.44±96.13	11.84±3.34
		2013	521.09±19.37	19.13±1.96	1.83±0.26	27.47±3.23	290.89±52.09	10.63±1.87
		2014	511.77±15.98	16.57±3.92	1.99±0.27	31.97±6.45	261.33±39.71	8.58±2.75
		2015	556.83±27.92	18.61±5.43	2.32±0.20	31.63±7.20	244.55±14.73	8.07±1.78
	E	2012	506.22±20.26	20.39±2.98	1.54±0.32	25.26±4.22	339.35±73.37	13.37±0.73
		2013	517.80±18.98	17.31±1.63	2.09±0.38	30.22±3.39	259.24±58.75	8.54±1.21
		2014	480.84±31.71	15.01±5.92	1.71±0.37	37.01±18.47	291.68±73.28	8.55±1.99
		2015	523.16±20.13	12.62±0.78	2.47±0.10	41.62±0.86	214.32±8.49	5.16±0.21

A: represents the sapling forest; B: represents the young forest; C: represents the half-mature forest; D: represents the near-mature forest; and E: represents the mature forest