

Table S1. Soil properties characterization of different stand ages of *P. massoniana* plantations. The lower-case letters (a-c) represent significant difference among the age treatments ($p<0.05$).

Soil properties	9-year	18-year	28-year	48-year	<i>p</i>
BD	2.18±0.11a	2.04±0.09a	1.83±0.06ab	2.21±0.12b	0.05
pH	5.42±1.24a	5.4±2.11ab	5.11±1.91ab	5.01±2.21b	0.0783
SAN	182.00±46.35ab	224.00±69.45b	217.00±54.31a	210.24±51.23ab	0.1227
SAP	3.74±1.04a	5.21±1.51a	3.55±1.13b	2.82±0.82b	0.6818
SWC	11.23±3.91a	12.45±3.24a	13.32±4.54a	12.42±4.41a	0.05
EC	27.11±8.62a	29.33±11.41a	33.14±15.25b	31.52±16.44c	0.05
MBC	192.42±66.28a	211.36±74.24b	265.82±86.42c	245.51±66.35d	0.05
MBN	26.46±8.37a	34.88±12.67b	32.65±15.72c	31.28±16.67bc	0.05

Note: SAP, soil available phosphorus, BD, soil bulk density, SAN, soil available nitrogen, SWC, soil water content, MBN, microbial biomass nitrogen, MBC, microbial biomass carbon, EC, soil electrical conductivity.

Table S2. Contents of C, N and P in different plant components of *P. massoniana* plantations chronosequence. (\pm =standard deviation, the lower-case letters (a-c) represent significant difference among the age treatments ($p<0.05$)).

Component	C (g kg ⁻¹)				N (g kg ⁻¹)				P (g kg ⁻¹)			
	9-Year	18-Year	28-Year	48-Year	9-Year	18-Year	28-Year	48-Year	9-Year	18-Year	28-Year	48-Year
Leaf	436.1 \pm 42.4c	601.2 \pm 51.6a	550.8 \pm 49.5b	417.8 \pm 34.2c	10.7 \pm 3.2a	9.7 \pm 2.2a	9.7 \pm 3.4a	11.8 \pm 4.4a	1.6 \pm 0.5b	0.9 \pm 0.2c	1.4 \pm 0.4b	2.5 \pm 1.2a
Branch	412.8 \pm 35.5b	611.2 \pm 57.3a	560.8 \pm 53.3a	394.5 \pm 33.2b	5.1 \pm 2.4ab	3.8 \pm 1.7b	5.3 \pm 2.1ab	7.9 \pm 2.7a	1.5 \pm 0.7b	0.8 \pm 0.2c	1.0 \pm 0.5c	2.6 \pm 1.9a
Root	408.5 \pm 44.3c	417.5 \pm 55.2ab	422.7 \pm 41.5a	418.1 \pm 57.1c	2.2 \pm 1.1b	2.7 \pm 1.1b	3.8 \pm 1.1a	4.2 \pm 1.8a	1.8 \pm 0.6a	0.9 \pm 0.2c	1.5 \pm 0.7b	1.8 \pm 0.6a
Herb	429.5 \pm 50.2a	518.2 \pm 44.2a	510.6 \pm 58.2a	398.8 \pm 47.2b	11.8 \pm 2.8a	12.3 \pm 3.5a	9.5 \pm 3.7b	9.3 \pm 2.6a	2.2 \pm 0.6a	1.2 \pm 0.5b	1.4 \pm 0.5b	2.3 \pm 0.9a
Shrub	452.6 \pm 47.2a	541.7 \pm 43.1a	532.3 \pm 59.1a	325.9 \pm 49.8b	10.9 \pm 3.5a	11.4 \pm 4.1a	8.9 \pm 3.5a	9.5 \pm 3.5a	1.8 \pm 0.2a	1.1 \pm 0.8c	1.6 \pm 0.4b	1.3 \pm 0.8
Litter	474.5 \pm 47.5a	563.2 \pm 53.8a	554.7 \pm 55.2a	330.5 \pm 44.5b	10.0 \pm 2.8a	10.0 \pm 2.9a	8.0 \pm 2.4a	8.8 \pm 3.3a	1.6 \pm 0.8a	0.9 \pm 0.3c	1.1 \pm 0.6bc	1.5 \pm 0.3ab

Table S3. Stoichiometry of C, N and P in different plant components of *P. massoniana* plantations chronosequence. Values are mean \pm standard deviation. Lower-case letters represent significant difference among the treatments.

Component	C: N				C: P				N: P			
	9-Year	18-Year	28-Year	48-Year	9-Year	18-Year	28-Year	48-Year	9-Year	18-Year	28-Year	48-Year
Trees												
	48.2 \pm	72.2 \pm	71.2 \pm	42.1 \pm	704.4 \pm	1814.2 \pm	1025.7 \pm	441.8 \pm	14.8 \pm	25.1 \pm	16.1 \pm	10.6 \pm
Leaf	18.1bc	23.2a	19.1ab	14.5c	60.7c	203.5a	320.2b	89.6c	5.5b	12.5a	6.3b	5.4b
Branch	102.8 \pm	189.4 \pm	128.0 \pm	66.9 \pm	695.7 \pm	1965.0 \pm	1730.5 \pm	397.7 \pm	7.3 \pm 2.1b	10.6 \pm	15.1 \pm	6.9 \pm 3.1b
	44.8b	57.1a	34.8ab	25.6b	79.5bc	79.5a	148.5ab	89.5c		4.5a	6.2a	
Root		63.1 \pm 23.2a	94.6 \pm 25.2	87.2 \pm 27.5	452.4 \pm	512.9 \pm	892.7 \pm	720.5 \pm	10. \pm	9.5 \pm	12.3 \pm	13.7 \pm
	47.2 \pm 15.5c	b	a	a	43.4c	42.9ab	57.5a	72.8a	6.9ac	3.8c	3.4b	4.5a
Herb	42.1 \pm 12.6	52.1 \pm	60.4 \pm	31.8 \pm	477.6 \pm	1069.4 \pm	1055.9 \pm	315.5 \pm	11.4 \pm	21.0 \pm	17.5 \pm	10.2 5.2 \pm
	bc	15.2ab	19.8a	15.5c	55.8b	351.6a	342.4a	88.7b	5.6c	7.9a	8.5ab	4.2c
Shrub	48.3 \pm	59.7 \pm	70.1 \pm	38.0 \pm	678.6 \pm	1246.6 \pm	1087. \pm	522.3 \pm 92c	14.1 \pm	21.9 \pm	15.6 \pm 6.2	14.0 \pm 3.2
	14.2bc	21.8ab	35.5a	18.1c	173.5bc	325.5a	229.5ab		5.2b	8.2a	ab	b
Litter	55.3 \pm	68.3 \pm	81.4 \pm	45.0 \pm	795.9 \pm	1558.6 \pm	1306.5 \pm	601.0 \pm	14.5 \pm	23.8 \pm	16.2 \pm	14.5 \pm
	23.5bc	27.2ab	29.4a	22.5c	156.5b	412.8a	311.8a	212.6b	6.6b	8.5a	4.4b	3.5b