

Li Y., Hong S., Fang S., Cui G., 2023. Thinning promotes litter decomposition and nutrient release in poplar plantations via altering the microclimate and understory plant diversity.

**Table S1** Decomposition dynamics of different litters in the unthinned treatments (CK).

Decomposition time (days)	Litter type							
	P		PC		PB		PV	
	Remaining mass (g)	Mass loss ratio (%)	Remaining mass (g)	Mass loss ratio (%)	Remaining mass (g)	Mass loss ratio (%)	Remaining mass (g)	Mass loss ratio (%)
0	14.00	0.00	14.00	0.00	14.00	0.00	14.00	0.00
104	13.13±0.22	6.21	12.62±0.07	9.83	12.78±0.13	8.74	13.24±0.16	5.10
160	11.25±0.39	19.67	10.13±0.19	27.64	10.00±0.41	28.55	10.50±0.59	25.00
226	8.93±0.18	36.19	8.20±0.35	41.40	8.61±0.15	38.50	8.31±0.12	40.64
290	7.44±0.17	46.83	6.97±0.23	50.24	6.90±0.12	50.71	6.64±0.34	52.55
362	6.97±0.27	50.23	6.30±0.11	54.98	6.36±0.14	54.60	6.05±0.30	56.81
469	4.82±0.24	65.57	4.37±0.08	68.79	4.39±0.17	68.62	4.08±0.11	70.83
580	2.79±0.30	80.05	2.51±0.16	82.05	2.52±0.24	81.98	2.28±0.17	83.74
684	1.35±0.23	90.33	1.17±0.67	91.64	1.16±0.20	91.69	0.78±0.23	94.45

Note: P: pure poplar leaves; PC: poplar leaves mixed with *C. canadensis*; PB: poplar leaves mixed with *C. canadensis* and *B. pilosa*; PV: poplar leaves mixed with *C. canadensis*, *B. pilosa*, *S. viridis*, and *R. procumbens*. Data were expressed as mean ± standard deviation.

**Table S2** Decomposition dynamics of different litters in the thinning treatment of 30% tree removal from below (MB).

Decomposition time (days)	Litter type							
	P		PC		PB		PV	
	Remaining mass (g)	Mass loss ratio (%)	Remaining mass (g)	Mass loss ratio (%)	Remaining mass (g)	Mass loss ratio (%)	Remaining mass (g)	Mass loss ratio (%)
0	14.00	0.00	14.00	0.00	14.00	0.00	14.00	0.00
104	13.30±0.28	4.98	12.62±0.41	9.86	12.56±0.17	10.26	13.00±0.23	7.14
160	10.83±0.19	22.64	10.62±0.19	24.14	10.25±0.13	26.76	10.39±0.31	25.79
226	8.42±0.13	39.88	8.44±0.32	39.69	8.12±0.30	42.00	8.35±0.37	40.43
290	7.30±0.25	47.83	6.78±0.26	51.60	6.79±0.33	51.50	6.46±0.12	53.86
362	6.63±0.22	52.64	6.12±0.19	56.26	6.12±0.22	56.31	5.84±0.09	58.31
469	4.68±0.39	66.60	4.30±0.19	69.26	4.29±0.12	69.33	3.84±0.10	72.55
580	2.61±0.26	81.38	2.39±0.14	82.90	2.37±0.20	83.05	2.12±0.20	84.88
684	1.24±0.31	91.14	1.02±0.14	92.74	1.04±0.09	92.55	0.69±0.24	95.10

Note: P: pure poplar leaves; PC: poplar leaves mixed with *C. canadensis*; PB: poplar leaves mixed with *C. canadensis* and *B. pilosa*; PV: poplar leaves mixed with *C. canadensis*, *B. pilosa*, *S. viridis*, and *R. procumbens*. Data were expressed as mean ± standard deviation.

**Table S3** Decomposition dynamics of different litters in the treatment of 50% tree removal by interlaced thinning (HI).

Decomposition time (days)	Litter type							
	P		PC		PB		PV	
	Remaining mass (g)	Mass loss ratio (%)	Remaining mass (g)	Mass loss ratio (%)	Remaining mass (g)	Mass loss ratio (%)	Remaining mass (g)	Mass loss ratio (%)
0	14.00	0.00	14.00	0.00	14.00	0.00	14.00	0.00
104	12.48±0.27	10.86	12.58±0.34	10.17	12.60±0.28	10.00	12.18±0.12	12.98
160	9.72±0.24	30.60	9.65±0.53	31.10	9.65±0.43	31.05	9.51±0.13	32.07
226	8.12±0.19	42.02	7.75±0.27	44.64	7.90±0.29	43.60	7.71±0.36	44.90
290	7.00±0.26	49.98	6.42±0.16	54.12	6.34±0.20	54.72	6.23±0.15	55.52
362	6.24±0.31	55.43	6.02±0.13	57.04	6.08±0.17	56.60	5.65±0.20	59.64
469	4.39±0.11	68.64	4.07±0.18	70.93	4.03±0.15	71.21	3.66±0.14	73.83
580	2.44±0.13	82.60	2.07±0.23	85.19	2.10±0.21	84.98	1.86±0.10	86.71
684	0.85±0.20	93.90	0.53±0.11	96.19	0.55±0.08	96.05	0.36±0.06	97.45

Note: P: pure poplar leaves; PC: poplar leaves mixed with *C. canadensis*; PB: poplar leaves mixed with *C. canadensis* and *B. pilosa*; PV: poplar leaves mixed with *C. canadensis*, *B. pilosa*, *S. viridis*, and *R. procumbens*. Data were expressed as mean ± standard deviation.

**Table S4** Decomposition dynamics of different litters in the thinning treatment of 50% tree removal from below ( HB).

Decomposition time (days)	Litter type							
	P		PC		PB		PV	
	Remaining mass (g)	Mass loss ratio (%)	Remaining mass (g)	Mass loss ratio (%)	Remaining mass (g)	Mass loss ratio (%)	Remaining mass (g)	Mass loss ratio (%)
<b>0</b>	14.00	0.00	14.00	0.00	14.00	0.00	14.00	0.00
<b>104</b>	12.94±0.26	7.55	13.01±0.36	7.05	12.71±0.14	9.19	12.42±0.36	11.31
<b>160</b>	10.10±0.32	27.88	9.65±0.26	31.07	9.08±0.28	35.17	9.18±0.34	34.45
<b>226</b>	8.25±0.18	41.07	7.47±0.17	46.64	7.33±0.22	47.64	7.09±0.36	49.33
<b>290</b>	7.20±0.12	48.57	6.43±0.12	54.07	6.25±0.31	55.33	5.95±0.36	57.48
<b>362</b>	6.35±0.32	54.67	6.15±0.31	55.61	6.05±0.23	56.76	5.60±0.26	60.00
<b>469</b>	4.50±0.11	67.86	4.35±0.21	68.90	4.04±0.24	71.14	3.62±0.29	74.17
<b>580</b>	2.23±0.15	84.10	1.96±0.13	86.00	1.98±0.21	85.83	1.46±0.09	89.60
<b>684</b>	0.62±0.13	95.55	0.43±0.24	96.90	0.42±0.27	97.02	0.16±0.11	98.88

Note: P: pure poplar leaves; PC: poplar leaves mixed with *C. canadensis*; PB: poplar leaves mixed with *C. canadensis* and *B. pilosa*; PV: poplar leaves mixed with *C. canadensis*, *B. pilosa*, *S. viridis*, and *R. procumbens*. Data were expressed as mean ± standard deviation.

**Table S5** Initial concentrations of the nutrients in different litter types (g kg<sup>-1</sup>).

Litter type	N	P	K	Mg	Ca
<b>P</b>	7.61 a	1.05 c	7.12 d	1.87 bc	18.65 a
<b>PC</b>	5.97 bc	1.12 c	10.84a	1.69 c	16.01 b
<b>PB</b>	5.77 bc	1.41 ab	10.22 ab	1.97 ab	16.56 ab
<b>PV</b>	6.32 bc	1.39 ab	9.08 c	2.02 ab	16.99 ab

Note: Significant differences among the treatments for the same parameter are indicated by different lower case letters ( $p < 0.05$ ). P: pure poplar leaves; PC: poplar leaves mixed with *C. canadensis*; PB: poplar leaves mixed with *C. canadensis* and *B. pilosa*; PV: poplar leaves mixed with *C. Canadensis*, *B. pilosa*, *S. viridis*, and *R. procumbens*.