

## Supplementary Tables S1 and Tables S2

**Table S1.** Basic information of soil C-, N- and P-acquiring enzymes substrate.

Enzyme type	Extracellular enzyme	EC	function	Substrate (concentration)
C-acquiring enzyme	$\beta$ -1,4-glucosidase (BG)	3.2.1.21	Cellulose degradation	4-MUB- $\beta$ -D-glucoside (200 $\mu$ M)
	$\beta$ -D-Cellobiosidase (CB)	3.2.1.91	Cellulose degradation	4-MUB- $\beta$ -D-cellobioside (200 $\mu$ M)
	$\beta$ -1,4-xylosidasev (XYL)	3.2.1.37	Xylan degradation	4-MUB- $\beta$ -D-xylopyranoside (200 $\mu$ M)
N-acquiring enzyme	$\beta$ -1,4-N-acetylglucosaminidase (NAG)	3.2.1.52	Chitin and peptidoglycan degradation	4-MUB-N-acetyl- $\beta$ -D-glucosaminide (200 $\mu$ M)
	L-leucine aminopeptidase (LAP)	3.4.11.1	Hydrolyzed protein	L-Leucine-7-amino-4-methylcoumarin (200 $\mu$ M)
P-acquiring enzyme	Alkaline phosphatase (ALP)	3.1.3.1	Catalytic decomposition of organophosphates	4-MUB-phosphate (100 $\mu$ M)

EC, Enzyme Commission number describing enzymatic function in increasing level of detail (the first number distinguishes 1-oxidoreductases, 2-transferases, 3- hydrolases, 4-lyases, 5-isomerases, and 6-ligases).

**Table S2.** Characteristics of soils from different treatments: results for aggregate fractions (mean  $\pm$  standard error, n=5).

Item	Treatment	Aggregate size			
		>2mm	1-2mm	0.25-1mm	<0.25mm
Aggregate distribution (%)	CK	81.72 $\pm$ 5.24 a	8.91 $\pm$ 1.02 a	8.17 $\pm$ 0.94 a	1.20 $\pm$ 0.30a
	PD	83.03 $\pm$ 3.47a	8.08 $\pm$ 0.92a	7.84 $\pm$ 0.85a	1.05 $\pm$ 0.27a
	PA	85.64 $\pm$ 3.60a	7.20 $\pm$ 1.07 a	6.11 $\pm$ 1.30 ab	1.05 $\pm$ 0.13 a
	MP	90.22 $\pm$ 2.08 a	4.36 $\pm$ 0.44 b	4.79 $\pm$ 0.87 b	0.62 $\pm$ 0.10 b
SOM (g/kg)	CK	43.10 $\pm$ 2.63 b	43.26 $\pm$ 1.59 b	39.91 $\pm$ 2.05 b	40.46 $\pm$ 2.63 b
	PD	55.27 $\pm$ 2.21 a	52.52 $\pm$ 2.38 a	52.17 $\pm$ 3.91 a	67.50 $\pm$ 7.58 a
	PA	63.11 $\pm$ 5.63 a	51.67 $\pm$ 1.84 a	50.31 $\pm$ 1.76 a	60.15 $\pm$ 6.71 a
	MP	61.59 $\pm$ 1.96 a	55.19 $\pm$ 3.39 a	52.47 $\pm$ 2.83 a	67.99 $\pm$ 6.51 a
TN (g/kg)	CK	4.14 $\pm$ 0.36 a	4.60 $\pm$ 0.60 a	4.64 $\pm$ 0.54 a	5.73 $\pm$ 0.38 a
	PD	3.24 $\pm$ 0.34 a	3.82 $\pm$ 0.49 a	3.29 $\pm$ 0.10 b	6.05 $\pm$ 0.68 a
	PA	3.15 $\pm$ 0.39 a	3.33 $\pm$ 0.35 a	3.10 $\pm$ 0.31 b	5.59 $\pm$ 0.64 a
	MP	3.53 $\pm$ 0.41 a	3.45 $\pm$ 0.36 a	3.33 $\pm$ 0.38 b	5.09 $\pm$ 0.70 a
TP (g/kg)	CK	0.24 $\pm$ 0.04 a	0.24 $\pm$ 0.06 a	0.28 $\pm$ 0.07 b	0.23 $\pm$ 0.02 c
	PD	0.24 $\pm$ 0.20 a	0.27 $\pm$ 0.08 a	0.28 $\pm$ 0.02 b	0.30 $\pm$ 0.08 b
	PA	0.27 $\pm$ 0.07 a	0.25 $\pm$ 0.06 a	0.33 $\pm$ 0.07 a	0.38 $\pm$ 0.06 a
	MP	0.27 $\pm$ 0.08 a	0.30 $\pm$ 0.14 a	0.29 $\pm$ 0.06 b	0.25 $\pm$ 0.03 c
NO <sub>3</sub> <sup>-</sup> -N (mg/kg)	CK	21.52 $\pm$ 3.22 b	22.29 $\pm$ 3.61 b	22.74 $\pm$ 3.61 b	22.16 $\pm$ 2.45 b
	PD	21.06 $\pm$ 1.09 b	23.94 $\pm$ 3.05 b	22.78 $\pm$ 1.12 b	28.44 $\pm$ 3.00 ab
	PA	24.99 $\pm$ 1.94 ab	25.45 $\pm$ 3.72 ab	26.19 $\pm$ 3.95 ab	29.75 $\pm$ 4.04 ab
	MP	29.53 $\pm$ 2.74 a	29.90 $\pm$ 5.05 a	31.92 $\pm$ 3.57 a	36.33 $\pm$ 5.59 a
AP (mg/kg)	CK	6.50 $\pm$ 1.40 c	7.84 $\pm$ 0.57 c	6.29 $\pm$ 0.53 c	11.63 $\pm$ 0.81 c
	PD	6.76 $\pm$ 0.64 c	8.65 $\pm$ 0.93 c	8.25 $\pm$ 0.88 b	13.59 $\pm$ 1.77 bc
	PA	10.57 $\pm$ 0.75 b	10.97 $\pm$ 1.04 b	9.27 $\pm$ 1.05 b	16.19 $\pm$ 1.55 ab
	MP	17.64 $\pm$ 0.79 a	13.27 $\pm$ 0.92 a	16.24 $\pm$ 1.32 a	18.11 $\pm$ 1.34 a
MBC (mg/kg)	CK	99.05 $\pm$ 10.82 b	103.57 $\pm$ 6.52 c	149.65 $\pm$ 7.93 c	152.54 $\pm$ 7.11 c
	PD	108.68 $\pm$ 9.26b	104.83 $\pm$ 7.78 c	150.61 $\pm$ 6.67 c	158.99 $\pm$ 8.96 c
	PA	146.10 $\pm$ 8.00 a	151.58 $\pm$ 8.30 b	181.88 $\pm$ 5.63 b	214.78 $\pm$ 6.89 b
	MP	150.91 $\pm$ 12.37 a	216.41 $\pm$ 14.23 a	212.85 $\pm$ 9.04 a	250.86 $\pm$ 12.30 a
MBN (mg/kg)	CK	19.44 $\pm$ 1.05 b	13.47 $\pm$ 0.78 b	25.62 $\pm$ 3.07 b	23.82 $\pm$ 1.61 a
	PD	21.80 $\pm$ 2.17 b	14.04 $\pm$ 1.38 b	28.67 $\pm$ 2.74 b	25.81 $\pm$ 3.15 a
	PA	24.72 $\pm$ 2.84 ab	15.29 $\pm$ 1.02 ab	35.70 $\pm$ 3.56 a	26.27 $\pm$ 2.71 a
	MP	29.66 $\pm$ 0.89 a	20.63 $\pm$ 1.00 a	37.25 $\pm$ 2.33 a	27.73 $\pm$ 3.33 a
MBP (mg/kg)	CK	14.47 $\pm$ 1.03 b	17.57 $\pm$ 1.60 b	14.45 $\pm$ 1.19 b	19.45 $\pm$ 2.59 a
	PD	14.12 $\pm$ 0.56 b	16.59 $\pm$ 1.93 b	15.74 $\pm$ 1.21b	20.95 $\pm$ 1.30 a
	PA	16.89 $\pm$ 1.03 ab	19.12 $\pm$ 2.78 ab	19.03 $\pm$ 0.64 a	20.41 $\pm$ 2.55 a
	MP	18.93 $\pm$ 0.81 a	23.50 $\pm$ 2.80 a	19.32 $\pm$ 1.19 a	19.36 $\pm$ 1.39 a

CK, no-tree control; PD, pure plantation of *Dalbergia odorifera*; PA, pure plantation of *Acrocarpus*

*fraxinifolius*; MP, mixed plantation of *Acrocarpus fraxinifolius* and *Dalbergia odorifera*; SOM, soil organic matter; TN, total nitrogen; C:N, soil carbon to nitrogen ratio; TP, total phosphorus; C:P, soil carbon to phosphorus ratio; N:P, soil nitrogen to phosphorus ratio;  $\text{NH}_4^+$ -N, ammonium nitrogen;  $\text{NO}_3^-$ -N, nitrate nitrogen; AP, available phosphorus. MBC, microbial biomass carbon; MBN, microbial biomass nitrogen; MBP, microbial biomass phosphorus. Different lowercase letters within the same column indicate significant differences ( $P < 0.05$ ) among treatments.