Table S1. Pearson correlation between soil biological and biochemical properties and enzymes activity with soil physio-chemical and litter properties in the different treatments of tree species. ED = Earthworm density; EB = Earthworm biomass; FRB = Fine root biomass; SMR = Soil microbial respiration; MBC = Microbial biomass carbon; NH_4^+ = ammonium; NO_3^- = nitrate; N Min = Nitrogen mineralization; MBN = Microbial biomass nitrogen; Enzymes activity; Urease; APH = Acid phosphatase; Arylsulfatase; Invertase; NAG = ß-N-acetylglucosaminidase; Litter T = Litter Thickness; CL = Litter C; NL = Litter N (%); C/NL = Litter C/N ratio; PL = Litter P; KL = Litter K; BD = Bulk density; TP = Total porosity; MP = Macroporosity; PR = Penetration resistance; SM = Soil moisture; AS = Aggregate stability; CS = Soil C; NS = Soil N; C/NS = Soil C/N; Fulvic = Fulvic acid; Humic = Humic acid.

Soil properties		Litter properties						Soil physical properties							
		Litter $_T$	C_L	N_L	C/N_L	P_L	K_L	BD	TP	MP	PR	SM	AS	Sand	Clay
Biological properties	ED	0.04	-0.14	0.79**	-0.89**	0.72**	0.76**	-0.66**	0.59**	0.81**	-0.70**	0.84**	0.91**	-0.43**	0.45**
	EB	0.07	-0.02	0.85**	-0.88**	0.79**	0.86**	-0.57**	0.50**	0.75**	-0.62**	0.88**	0.91**	-0.45**	0.48**
	FRB	0.24*	0.16	0.93**	-0.89**	0.86**	0.89**	-0.52**	0.45**	0.68**	-0.66**	0.92**	0.92**	-0.46**	0.52**
C and N Microbial properties	SMR	0.12	0.09	0.90**	-0.89**	0.85**	0.92**	-0.43**	0.35**	0.64**	-0.63**	0.94**	0.90**	-0.45**	0.49**
	MBC	0.21	0.05	0.88**	-0.89**	0.81**	0.83**	-0.64**	0.58**	0.78**	-0.70**	0.87**	0.94**	-0.45**	0.47**
	NH_4^+	0.22	0.12	0.90**	-0.87**	0.85**	0.92**	-0.54**	0.48**	0.74**	-0.67**	0.86**	0.89**	-0.46**	0.49**
	NO_3^-	0.24*	0.09	0.93**	-0.93**	0.87**	0.92**	-0.57**	0.49**	0.75**	-0.73**	0.89**	0.92**	-0.86**	0.51**
	N Min	0.13	0.03	0.89**	-0.89**	0.84**	0.92**	-0.51**	0.44**	0.72**	-0.63**	0.88**	0.90**	-0.45**	0.49**
	MBN	0.12	0.04	0.89**	-0.90**	0.82**	0.87**	-0.62**	0.56**	0.79**	-0.68**	0.87**	0.93**	-0.46**	0.51**
Enzymes activity	Urease	0.19	0.14	0.93**	-0.91**	0.87**	0.93**	-0.43**	0.36*	0.64**	-0.67**	0.94**	0.92**	-0.43**	0.49**
	APH	0.29**	0.01	0.86**	-0.91**	0.77**	0.80**	-0.66**	0.59**	0.81**	-0.75**	0.86**	0.98**	-0.43**	0.45**
	Arylsulfatase	0.21	0.09	0.92**	-0.92**	0.83**	0.89**	-0.50**	0.43**	0.69**	-0.71**	0.92**	0.93**	-0.46**	0.49**
	Invertase	0.20	0.03	0.89**	-0.92**	0.81**	0.87**	-0.60**	0.53**	0.78**	-0.72**	0.88**	0.94**	-0.47**	0.51**
	NAG	0.11	-0.02	0.85**	-0.89**	0.78**	0.87**	-0.52**	0.45**	0.73**	-0.67**	0.88**	0.91**	-0.46**	0.51**

Soil properties		Soil chemical properties												
		Silt	pH	C_s	N_s	C/N_s	C_{stor}	N_{stor}	P	K	Ca	Mg	Fulvic	Humic
Biological properties	ED	0.15	0.96**	0.41**	0.89**	-0.86**	0.09	0.76**	0.89**	0.92**	0.93**	0.92**	0.94**	0.91**
	EB	0.15	0.98**	0.44**	0.92**	-0.86**	0.17	0.82**	0.94**	0.94**	0.97**	0.96**	0.97**	0.96**
	FRB	0.13	0.94**	0.63**	0.96**	-0.84**	0.37**	0.89**	0.91**	0.96**	0.98**	0.93**	0.96**	0.97**
C and N Microbial properties	SMR	0.14	0.96**	0.54**	0.93**	-0.86**	0.33**	0.88**	0.93**	0.93**	0.96**	0.93**	0.96**	0.97**
	MBC	0.16	0.96**	0.56**	0.94**	-0.86**	0.24*	0.84**	0.90**	0.97**	0.97**	0.94**	0.97**	0.95**
	NH_4^+	0.15	0.94**	0.52**	0.91**	-0.85**	0.25*	0.82**	0.95**	0.96**	0.98**	0.98**	0.97**	0.98**
	NO_3^-	0.16	0.94**	0.58**	0.94**	-0.87**	0.30**	0.85**	0.95**	0.98**	0.99**	0.97**	0.98**	0.98**
	N Min	0.14	0.96**	0.46**	0.90**	-0.85**	0.21	0.82**	0.97**	0.94**	0.97**	0.98**	0.97**	0.98**
	MBN	0.15	0.97**	0.52**	0.93**	-0.86**	0.22	0.83**	0.95**	0.97**	0.99**	0.98**	0.98**	0.98**
Enzymes activity	Urease	0.13	0.95**	0.58**	0.95**	-0.88**	0.37**	0.91**	0.93**	0.94**	0.97**	0.94**	0.96**	0.98**
	APH	0.15	0.94**	0.54**	0.93**	-0.87**	0.22	0.81**	0.89**	0.95**	0.96**	0.94**	0.96**	0.94**
	Arylsulfatase	0.15	0.96**	0.58**	0.95**	-0.88**	0.33**	0.88**	0.92**	0.95**	0.97**	0.94**	0.97**	0.97**
	Invertase	0.16	0.97**	0.55**	0.94**	-0.86**	0.26*	0.84**	0.93**	0.97**	0.98**	0.96**	0.98**	0.97**
	NAG	0.15	0.98**	0.46**	0.91**	-0.87**	0.21	0.83**	0.93**	0.92**	0.96**	0.95**	0.96**	0.96**