

Table 1. Results of Pearson's correlation test

Dependent (target) variable	Independent variables	Pearson's product- moment correlation	degree of freedom (df)	<i>p</i> -value	Use in the layer 2
Aboveground carbon storages (AGC storages)	Basal area ¹	0.9171000	80	2.20×10 ⁻¹⁶	Y
	Culms	0.9400000	59	2.20×10 ⁻¹⁶	Y
	Culm height	0.6756000	43	2.78×10 ⁻⁸	X
	Culm DBH	0.4168000	67	1.08×10 ⁻⁷	X
	TC	0.5389000	45	1.57×10 ⁻⁶	X
	Branches	0.4034000	56	3.74×10 ⁻⁶	X
	weeded and selective cutting ²	0.1411000	80	0.001105	X
	Relative humidity	0.1866000	25	0.002506	X
	managed ³	0.0946700	80	0.006891	X
	Root_Shoot ratio ⁴	0.1982000	45	0.007030	X
	Culm density	0.1060000	71	0.007747	X
	Sunshine duration ⁵	0.1347000	58	0.008224	X
	Branches carbon ratio	0.4001000	26	0.016190	X
	Wind speed	0.1020000	58	0.019650	X
	Leaves carbon ratio	0.3711000	26	0.020940	X
	Fine roots carbon ratio	0.7889000	19	0.028130	X
	shoots dug ⁶	0.0569600	80	0.030010	X
	Annual rainfall	0.0479400	79	0.044040	X
	Total K in soil ⁷	0.9845000	17	0.056050	X
	Snow	0.0597600	57	0.059760	X
	BNPP	0.5798000	19	0.083690	X
	RoNP ⁸	0.5537000	19	0.092330	X
Belowground carbon storages (BGC storages)	Root_Shoot Ratio	0.5455000	45	1.27×10 ⁻⁶	X
	TC	0.5322000	45	1.95×10 ⁻⁶	X
	Rhizomes	0.6234000	38	2.73×10 ⁻⁶	X
	Stumps	0.5297000	30	0.000840	X
	Culm height	0.6517000	25	0.001624	X
	LNP ⁹	0.5497000	23	0.013460	X
	Rhizomes carbon ratio	0.8660000	19	0.013960	X
	weeded and selective cutting	0.1383000	45	0.022430	X
	Litterfall	0.2935000	26	0.039950	X
	Annual rainfall	0.1041000	44	0.045810	X
Total carbon storages (TC storages)	Basal area	0.6550452	29	0.000064	X
	Culm height	0.8323750	9	0.001477	X
	Branches	0.4074467	23	0.043220	X
	Culms	0.6874623	23	0.000147	X
	Rhizomes	0.5482431	22	0.005542	X
	Stumps	0.7194204	14	0.001681	X
	Annual rainfall	0.4453748	13	0.096170	X

Soil carbon storages (SC storages)	TEC	0.7035170	9	0.015710	X
	Stumps	-0.9544347	2	0.045570	X
	Rhizomes	-0.6222799	7	0.073520	X
Aboveground net primary productivity (ANPP)	Snow	0.4191500	18	0.065830	X
	Total N in soil ¹⁰	0.9571436	2	0.042860	X
	Leaves carbon ratio	0.9907739	3	0.001060	X
	Branches carbon ratio	0.9907739	3	0.001060	X
	Culms carbon ratio	0.9907739	3	0.001062	X
	LNP	0.5909562	13	0.020350	X
	BNP ¹¹	0.9457525	16	3.18×10 ⁻⁹	X
	CNP ¹²	0.9440871	18	4.14×10 ⁻¹⁰	X
	TNPP ¹³	0.9363617	4	0.005946	X
	HR ¹⁴	0.9507285	1	0.200700	X
	NEP	0.9479852	1	0.206200	X
Belowground net primary productivity (BNPP)	Culm DBH	0.8998046	3	0.037490	X
	Culm height	0.9460933	1	0.210000	X
	Culms	0.8389299	3	0.075700	X
	Roots	0.9613255	2	0.038670	X
	TEC ¹⁵	0.9997563	1	0.014050	X
	LNP	0.9266398	3	0.023590	X
	RoNP	0.9182293	4	0.009756	X
	SR ¹⁶	0.9093681	1	0.273100	X
	HR	0.9934971	1	0.072640	X
	NEP	0.9944534	1	0.067080	X
Net ecosystem productivity (NEP)	Relative humidity	-0.9958120	1	0.058010	X
	ANPP	0.9479852	1	0.206200	X
	Sunshine duration	0.9533677	1	0.195200	X
	TEC	0.9918892	1	0.081140	X
	RoNP	0.9975394	1	0.044670	X
	TNPP	0.9999850	1	0.003489	X
	HR	0.9999619	1	0.005559	X

¹Basal area is the average amount of an area (usually an hectare) occupied by culms of *Phyllostachys edulis* forests (*P. edulis*).

²Weeded and selective cutting are common management methods operated in *P. edulis* forests.

³managed is a dummy independent variable which indicates *P. edulis* forests have been managed or not.

⁴Root_Shoot ratio is defined as dry weight of belowground biomass divided by dry weight of aboveground biomass in this study.

⁵Sunshine duration is defined as the sum of the time for which the direct solar irradiance exceeds 120 W m⁻².

⁶Shoots dug is a dummy independent variable which indicates *P. edulis* have been dug bamboo shoots or not.

⁷Total K in soil means the amount of Potassium in the soil of *P. edulis* forests.

⁸RoNP is the roots' net primary productivity in *P. edulis* forests.

⁹LNP is the leaves' net primary productivity in *P. edulis* forests.

¹⁰Total N in soil means the amount of nitrogen in the soil of *P. edulis* forests.

¹¹BNP is the branches' net primary productivity in *P. edulis* forests.

¹²CNP is the culms' net primary productivity in *P. edulis* forests.

¹³TNPP is the total net primary productivity in *P. edulis* forests.

¹⁴HR is heterotrophic respiration in *P. edulis* forests.

¹⁵TEC is the total ecosystem carbon which includes above- and below-ground live components, dead biomass, and soil carbon.

¹⁶SR is soil respiration in *P. edulis* forests.