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Supplement of

Contrasting effects of ammonium and nitrate additions on the biomass of soil microbial communities and enzyme activities in subtropical China

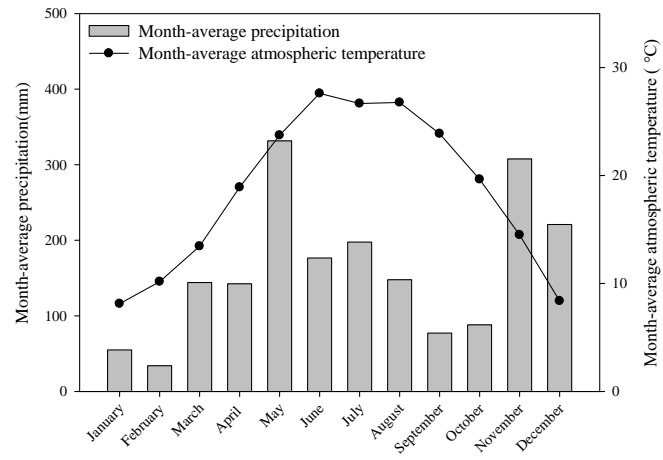
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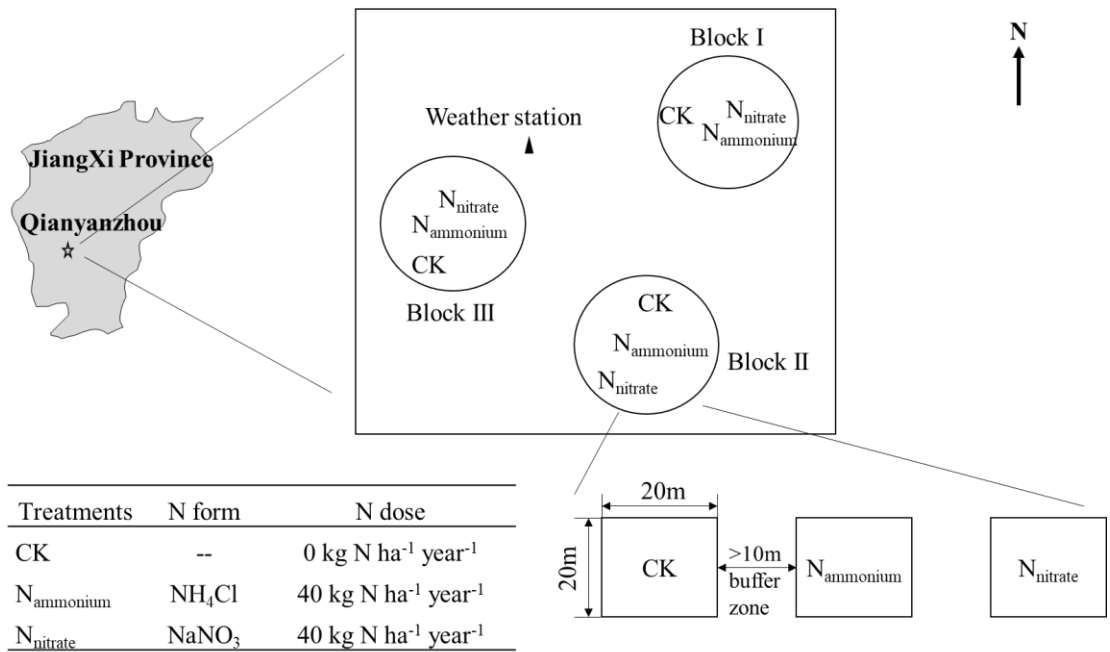
1 **Supplementary materials**

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4 **Fig S1.** Average monthly atmospheric temperature and precipitation at the study site during 2015.



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6 **Fig S2.** The schematic diagram of the experimental treatments.

7 **Table S 1** Enzymes and their corresponding substrates and functions.

Enzyme	Ec	Abbrevia tion	Substrate	Function
Peroxidase	1.11.1.7	PER	L-DOPA	Oxidize lignin and aromatic compounds using H ₂ O ₂ or secondary oxidants as an electron acceptor
Phenol oxidase	1.10.3.2	PPO	L-DOPA	Oxidize phenolic compounds using oxygen as an electron acceptor
α -1,4-glucosidase	3.2.1.20	α G	4-MUB- α -D-glucoside	Releases glucose from starch
β -1,4-glucosidase	3.2.1.21	β G	4-MUB- β -D-glucoside	Releases glucose from cellulose
Cellobiohydrolase	3.2.1.91	CBH	4-MUB- β -D-cellobioside	Releases disaccharides from cellulose
β -1,4-xylosidase	3.2.1.37	β X	4-MUB- β -D-xyloside	Releases xylose from hemicellulose
β -1,4-N-acetylglucosaminidase	3.2.1.14	NAG	4-MUB-N-acetyl- β -D-glucosaminide	Releases N-acetyl glucosamine from oligosaccharides
Acid phosphatase	3.1.3.1	AP	4-MUB-phosphate	Releases phosphate groups

8 **Table S2** Time-independent seasonal variations in ammonium and PLFAs. Small letters represent
9 significant differences between the sampling time ($P < 0.05$), error bars represent means \pm standard errors
10 (n=9).

Months	Ammonium mg kg ⁻¹	Total PLFA nmol g ⁻¹	Bacteria nmol g ⁻¹	G ⁻ nmol g ⁻¹
March	23.5 \pm 1.0a	9.2 \pm 0.2c	7.1 \pm 0.2c	2.5 \pm 0.1c
June	10.6 \pm 1.0b	11.0 \pm 0.2b	7.7 \pm 0.2b	3.1 \pm 0.1b
October	7.5 \pm 1.0b	16.7 \pm 0.2a	13.8 \pm 0.2a	5.0 \pm 0.1a

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