



Supplement of

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

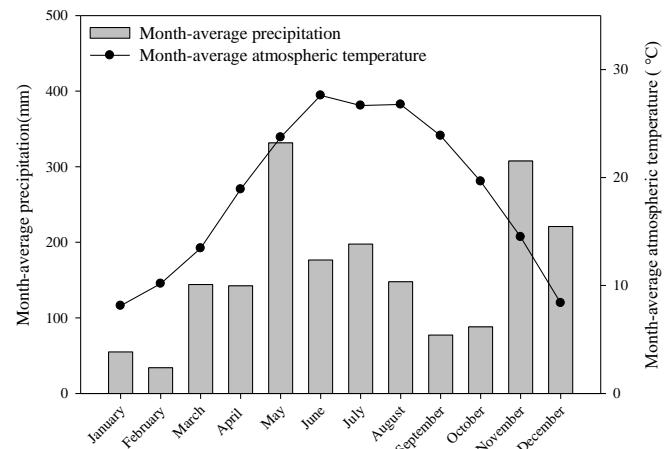
Chuang Zhang et al.

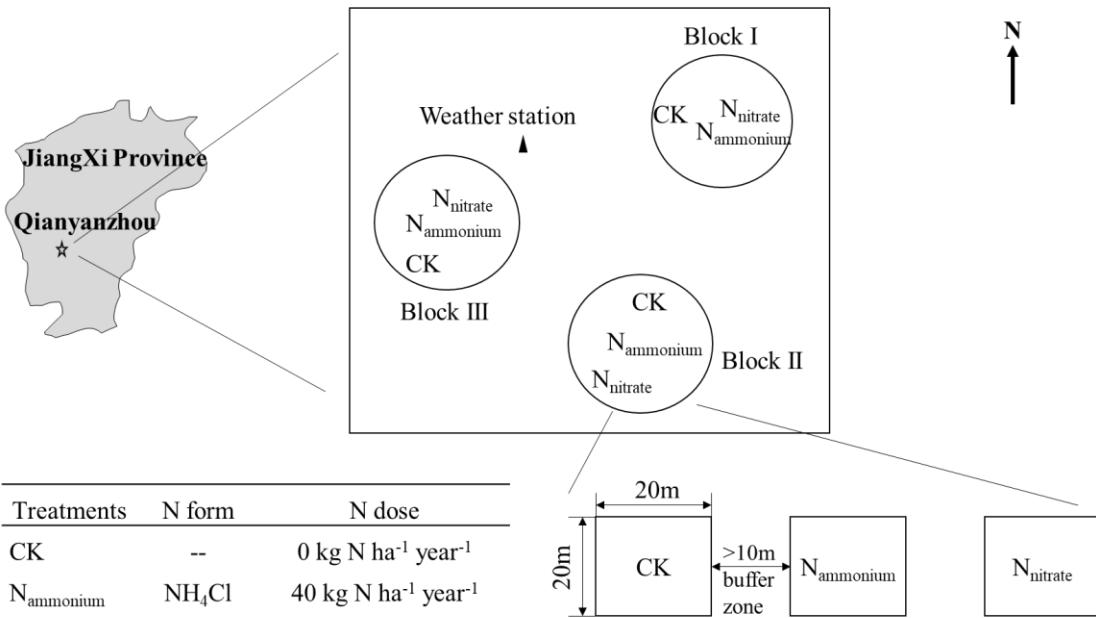
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1 **Supplementary materials**

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

Treatments	N form	N dose
CK	--	0 kg N ha^{-1} year $^{-1}$
$N_{ammonium}$	NH_4Cl	40 kg N ha^{-1} year $^{-1}$
$N_{nitrate}$	$NaNO_3$	40 kg N ha^{-1} year $^{-1}$

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

Enzyme	Ec	Abbreviation	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	αG	4-MUB-α-D-glucoside	Releases glucose from starch
β-1,4-glucosidase	3.2.1.21	βG	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	βX	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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