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Investigating the synergistic potential of Si and biochar to immobilize Ni in a Ni-contaminated calcareous soil after *Zea mays* L. cultivation

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supplementary information

Effects of biochars and Si application levels on the soil pH after corn cultivation.

	C	SM300	SM500	RH300	RH500	Mean
S_0	7.69 j	7.88 i	7.96 gh	7.73 j	7.84 i	7.82 C
S_1	8.07 de	7.99 fg	8.13 cd	7.90 hi	8.04 ef	8.02 B
S_2	8.28 a	8.17 bc	8.22 ab	8.05 ef	8.16 bc	8.18 A
Mean	8.01 B	8.01 B	8.10 A	7.89 C	8.01 B	

Notes: C, control; SM300, sheep manure biochar generated at 300 ˚C; SM500, sheep manure biochar generated at 500 ˚C; RH300, rice husk biochar produced at 300 ˚C; RH500, rice husk biochar produced at 500 ˚C; S_0, without Si application; S_1, addition of 250 mg Si kg^{-1} soil; S_2, addition of 500 mg Si kg^{-1} soil. Numbers followed by same letters in each section, are not significantly ($P<0.05$) different.

The Pearson correlation coefficients (r) among the Ni concentration in corn shoots with Ni content in various soil chemical fractions and soil pH.

	WsEx	Car	OM	MnOx	AFeOx	CFeOx	Res	Soil pH
Ni Concentration in shoots	0.62^{**}	0.28^{ns}	0.47^{**}	0.54^{**}	-0.28^{ns}	-0.50^{**}	-0.14^{ns}	-0.60^{**}

Notes: WsEx, water soluble and exchangeable fraction; OM, organic fraction; MnOx, bound to manganese oxides; AFeOx, bound to amorphous iron oxides; CFeOx, bound to crystalline iron oxides; Res, residual fraction.

** and ^{ns} indicate significance at the 0.01 probability level and non-significant, respectively.