

Appendix

Analysis of variance results examining the effects of feedstock type (Type), incubation time (Time) and biochar application rate (Rate) on the soil chemical properties and the N transformation process

Model	<i>P</i> value											
	Total N	Net N mineralization	Mineralization rate	Nitrification rate	SOC	AN	AP	AK	pH	NO ₃ ⁻ -N	NH ₄ ⁺ -N	MBC
Time									<0.01	<0.01	<0.01	<0.01
Type	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NS
Rate	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Time × type									<0.01	<0.05	<0.01	<0.01
Time × rate									NS	<0.01	<0.01	<0.01
Type × rate	<0.01	<0.01	<0.01	<0.01	NS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Time × type × rate									<0.01	<0.01	<0.01	<0.01

Abbreviations: SOC, soil organic carbon; AN, available nitrogen; AP, available phosphorus; AK, available potassium; MBC, microbial biomass carbon.

* Significant at $P < 0.05$; ** Significant at $P < 0.01$; NS is not significant at $P > 0.05$.