

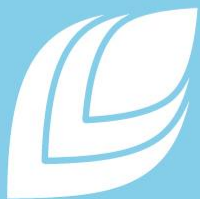
Effects of Anaerobic Digestates and Biochar Amendments on Soil Health, Greenhouse Gas Emissions, and Microbial Communities: A Mesocosm Study

Pastorelli Roberta¹, Rocchi Filippo², Tempio Elina², Laaksonen Ilmari²,
Becagli Claudia¹ and Lagomarsino Alessandra^{1,*}

¹ *Research Centre for Agriculture and Environment, Consiglio per la Ricerca in Agricoltura e l'Analisi dell'Economia Agraria (CREA-AA), Firenze, Italy*

² *Natural Resources Institute Finland (Luke), Production Systems, Finland*

** Presenting author: alessandra.lagomarsino@crea.gov.it*



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30 mesocosms (1000 cm³ polyethylene jars equipped with a gas-tight cap with two in-out valves)

- 500 g soil (loam texture) with digestate and biochar combinations:
 - 2 manure-based digestates
 - Biochar (from digested sewage sludge and waste wood) at 2 and 10%:

Contr – Dig1 – Dig2 – Bio2% - Bio10% - Dig1+bio2% - Dig2+bio2% - Dig1+bio10% - Dig2+bio10%

- Measurements of CO₂, CH₄ and N₂O at 1, 2, 4, 6, 8, 11, 15, and 22 days of incubation (Gasmeter FTIR analyzer)
- Germination Index
- Microbial community structure



Treatment	TC (%)		TOC (%)		TN (%)		C/N		pH		EC (dS/m)	
Control	1.45	b	0.69	d	0.11	e	13.4	a	7.91	ab	30.9	c
Dig1	1.50	b	0.78	d	0.13	de	11.9	bc	8.00	a	28.5	c
Dig2	1.59	b	0.79	cd	0.14	cde	11.5	c	7.93	ab	26.9	c
Bio2%	1.90	b	1.31	Bcd	0.15	bcd	12.3	abc	7.87	bc	27.1	d
Bio10%	4.89	a	4.24	A	0.38	a	12.9	ab	7.81	cd	49.3	a
Dig1+bio2%	2.15	b	1.47	bc	0.17	bc	12.4	abc	7.93	ab	29.6	c
Dig2+bio2%	2.15	b	1.63	b	0.18	b	11.7	c	7.94	ab	34.1	c
Dig1+bio10%	4.31	a	3.68	a	0.34	a	12.7	abc	7.78	d	61.6	b
Dig2+bio10%	4.46	a	3.92	a	0.34	a	13.3	a	7.82	cd	61.7	b

