

Supplementary materials

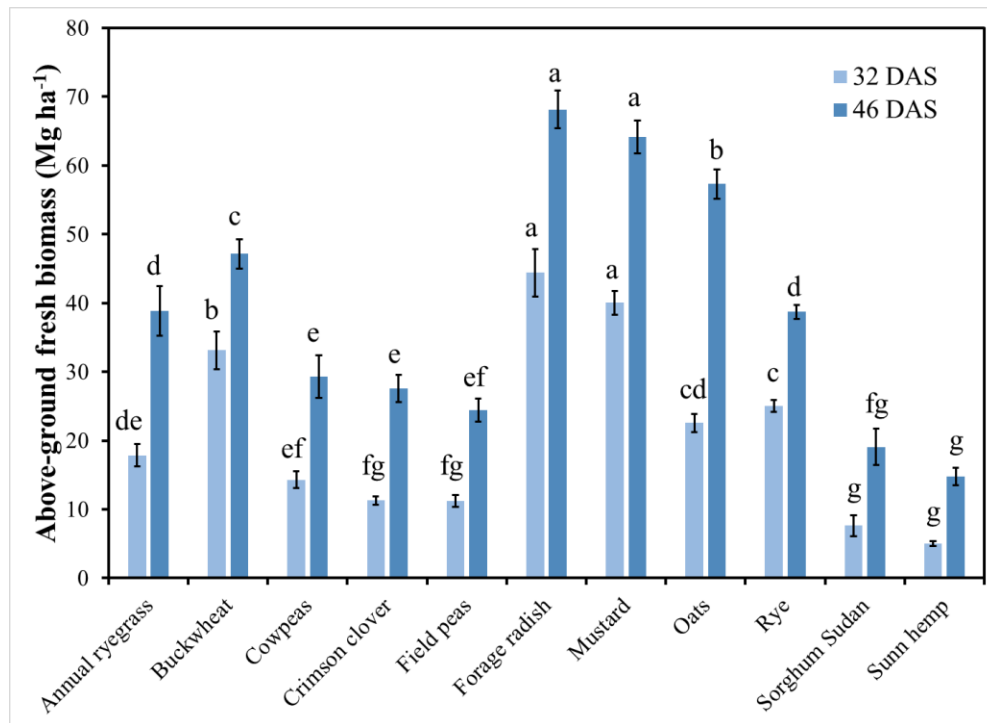


Figure S1. Above-ground fresh biomass of selected cover crops at 32 and 46 days after sowing (DAS). Values are means with standard errors ($n = 4$). Data were subjected to ANOVA and differences among means were determined by Student–Newman–Keuls post hoc multiple comparison procedure. Different letters within each DAS represent statistical differences for $P < 0.05$.

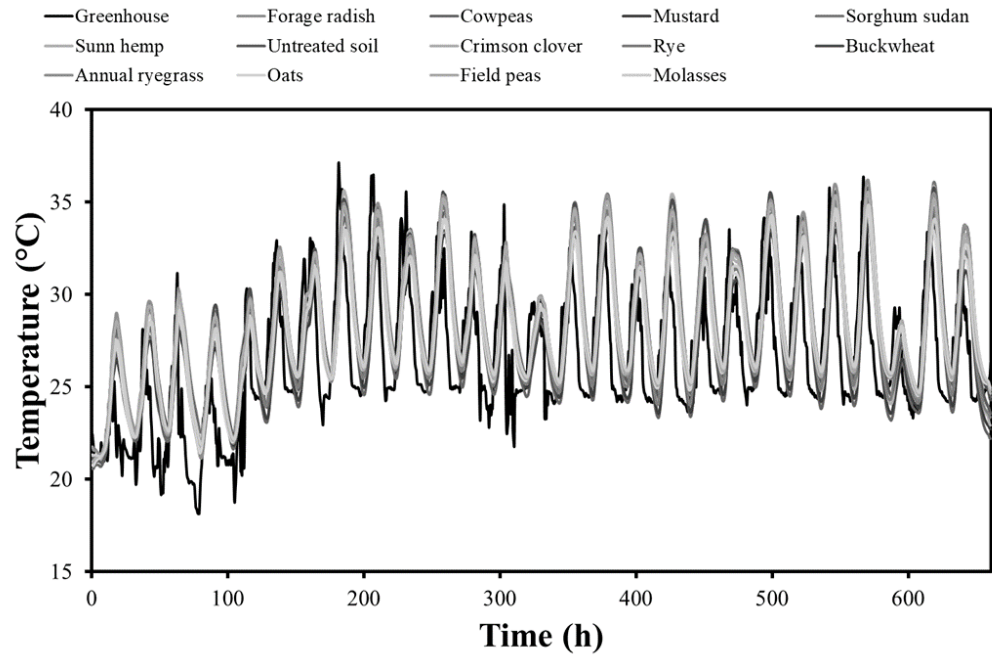


Figure S2. Temperature of soil during anaerobic soil disinfestation treatment with molasses and selected cover crops over 28 days.

Table S1. Mineral concentration of above-ground tissue of selected cover crop species at 32 days after sowing. ¹

Cover Crop Species	NO ₃ -N mg kg ⁻¹	P %	K %	Ca %	Mg %	S %	Na %	Fe mg kg ⁻¹	Mn mg kg ⁻¹	Zn mg kg ⁻¹	B mg kg ⁻¹	Cu mg kg ⁻¹
Annual ryegrass	10201	0.80 cd	7.29 a	0.56 f	0.51 e	0.37 e	0.28 c	314.25	172.50 ef	70.75 bc	9.00 d	20.25 a
Buckwheat	5918	0.90 bc	5.74 b	0.85 e	1.09 a	0.28 e	0.05 e	288.00	236.75 cd	94.50 a	41.00 ab	10.25 d
Cowpea	5523	1.26 a	5.18 b	1.81 b	0.92 bc	0.61 c	0.03 e	305.75	398.75 b	72.25 bc	42.75 ab	7.25 e
Crimson clover	4195	0.70 d	5.31 b	1.44 cd	0.70 d	0.50 d	0.41 b	147.25	167.75 ef	64.25 c	46.75 a	9.25 de
Field peas	4337	0.99 b	5.55 b	1.38 d	0.56 e	0.36 e	0.14 d	243.75	163.25 ef	81.75 ab	18.50 c	8.75 de
Forage radish	7916	0.89 bc	6.81 a	2.03 a	1.02 ab	0.95 b	0.88 a	153.75	190.50 de	69.25 bc	37.00 b	8.25 de
Mustard	14293	0.77 cd	7.59 a	1.89 b	0.83 c	1.24 a	0.42 b	196.00	228.75 cd	94.75 a	38.25 b	9.75 d
Oat	14201	1.13 a	7.40 a	0.47 f	0.53 e	0.46 d	0.10 d	151.00	200.25 cde	76.25 bc	10.00 d	14.00 c
Rye	8843	0.90 bc	6.70 a	0.49 f	0.46 e	0.36 e	0.04 e	192.75	122.25 f	50.25 d	6.25 d	13.75 c
Sorghum sudangrass	4057	1.22 a	5.80 b	0.52 f	0.61 de	0.32 e	0.03 e	230.00	246.50 c	91.50 a	8.00 d	17.00 b
Sunn hemp	4645	1.20 a	3.83 c	1.57 c	1.03 ab	0.54 d	0.12 d	203.25	443.50 a	59.75 cd	47.25 a	7.50 e
<i>p-value</i>	0.12	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.90	0.0001	0.0001	0.0001	0.0001

¹ Reported values are averages of four replications. Means followed by different letters within each column are significantly different at $\alpha = 0.05$ via Student-Newman-Keuls post-hoc test. The mineral composition of the molasses used as a standard C source is presented by Di Gioia et al. (2017) [35].

Table S2. Mineral content of above-ground tissue of selected cover crop species at 46 days after sowing. ¹

Cover Crop Species	NO ₃ -N mg kg ⁻¹	P %	K %	Ca %	Mg %	S %	Na %	Fe mg kg ⁻¹	Mn mg kg ⁻¹	Zn mg kg ⁻¹	Bo mg kg ⁻¹	Cu mg kg ⁻¹
Annual ryegrass	1821 ab	0.55 abc	4.60 ab	0.58 e	0.44 e	0.30 c	0.96 c	99.50	218.00 a	53.25 abc	8.50 f	13.50 a
Buckwheat	763 ab	0.46 c	2.58 e	0.94 d	0.99 a	0.18 d	0.04 e	146.50	143.50 cd	57.25 ab	27.25 d	9.25 c
Cowpea	228 b	0.59 ab	3.16 de	1.49 bc	0.84 b	0.34 c	0.03 e	181.00	237.25 a	44.00 cd	33.75 c	6.25 de
Crimson clover	150 b	0.49 bc	3.96 bc	1.61 b	0.65 c	0.37 c	0.53 d	241.25	119.50 de	47.75 abcd	41.50 b	7.75 cd
Field peas	551 ab	0.48 bc	3.46 cd	1.31 c	0.48 de	0.27 c	0.11 e	168.75	100.75 e	56.00 ab	17.75 e	8.25 cd
Forage radish	1910 ab	0.55 abc	4.04 bc	2.16 a	1.11 a	0.64 b	1.40 a	219.00	170.00 bc	59.25 a	35.00 c	7.75 cd
Mustard	1508 ab	0.48 bc	3.49 cd	1.34 c	0.59 cd	0.72 a	0.43 d	139.50	154.00 cd	56.25 ab	26.25 d	8.25 cd
Oat	595 ab	0.55 abc	3.94 bc	0.39 e	0.41 e	0.30 c	1.13 b	86.25	221.25 a	46.75 bcd	9.00 f	9.25 c
Rye	2631 a	0.63 a	4.93 a	0.60 e	0.58 cd	0.28 c	0.05 e	97.00	207.50 ab	38.25 d	7.50 f	12.00 b
Sorghum sudangrass	109 b	0.55 abc	4.24 b	0.52 e	0.64 c	0.15 d	0.02 e	104.25	179.00 bc	57.00 ab	7.00 f	11.50 b
Sunn hemp	122 b	0.63 a	2.97 de	1.65 b	1.04 a	0.30 c	0.08 e	103.50	241.25 a	47.50 abcd	46.25 a	5.75 e
<i>p-value</i>	0.007	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.15	0.0001	0.0001	0.0001	0.0001

¹ Reported values are averages of four replications. Means followed by different letters within each column are significantly different at $\alpha = 0.05$ via Student-Newman-Keuls post hoc test. The mineral composition of the molasses used as a standard C source is presented by Di Gioia et al. (2017) [35].