Supplementary data

Different nutritional regimes in tomato soilless system affect the bacterial communities with consequences on the crop quality.

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Table S1 composition of nutrient solution used in the soilless tomato cultivation experiment.

Thesis	Macro- and micro nutrients	Content in 1000 L	Elements	Content (mg L^{-1})
N20	$CaNO_3*5H_2O$	0.860 Kg	N	264
	KNO_3	0.430 Kg	P	48
	KH_2PO_4	0.210 Kg	K	312
	$MgNO_3*2H_2O$	0.110 Kg	Mg	66
	$MgSO_4*7H_2O$	0.350 Kg	Ca	252
	K_2SO_4	0.280 Kg	S	118
	HNO_3-65% + Microelements PIONER MIKRO PLUS	~ 290-310 mL 90 mL		
	pH	5.6-5.7		
NC	$CaNO_3*5H_2O$	0.638 kg	N	220
	KNO_3	0.360 kg	P	40
	KH_2PO_4	0.176 kg	K	260
	$MgNO_3*2\ H_2O$	0.150 kg	Mg	55
	$MgSO_4*7\ H_2O$	0.192 kg	Ca	210
	K_2SO_4	0.168 kg	S	65
	HNO_3 65% + Microelements PIONER MIKRO PLUS	~ 290-310 mL 90 mL		
	pH	5.6-5.7		

Table S2. Target genes and primers used for quantitative PCR for each of the microbial groups analysed in the study.

Gene	Primer	Sequence	Amplicon size [bp]	Reference
Total Archea	Arc787 F Arc1059 R	CGCCCGCCGCGCCCCGCGCCCGT CCCGCCGCCCCCGCCCGATTAGATAC	273	Hwang et al.2008
Total Bacteria	1401 F 608 R	CGGTGTGTACAAGACCC AACGCGAAGAACCTTAC	433	Cebron et al.2008
nifH	nifHF nifHR	AAAGGYGGWATCGGYAARTCCACCAC TTGTTSGCSGCRTACATSGCCATCAT	458	
bacterial amoA(AOB)	amoA1F amoA2R	GGGGTTTCTACTGGTGGT CCCCTCKGSAAAGCCTTCTTC	500	Rotthauwe et al (1997)
nirK	nirK876C nirK1040	ATYGGCGGVCAYGGCGA GCCTCGATCAGRTTRTGG	164	Henry et al (2004)
nirS	cd3af R3cd	AACGYSAAGGARACSGG GASTTCGGRTGSGTCTTSAYGAA	413	Throback et al.2004
nosZ	nosZ2F nosZ2R	CGCRACGGCAASAAGGTSMSSGT CAKRTGCAKSGCRTGGCAGAA	267	Henry et al (2006)

Table S3 chemical parameters of macro and microelements of tomato yield at harvest. Data are expressed as average. dm = dry matter, dw = dry weight.

		dm	N	P	K	Ca	Mg	S	Fe	Mn	Cu	Zn	B	Na
		%	% dw	g kg^{-1} dw					mg kg^{-1} dw					
Conchita	N20	8.13	1.83	3.29	38.6	0.66	1.36	1.32	68.2	11.4	7.45	18.9	10.8	0.89
	NBA	7.60	1.81	3.48	37.7	0.81	1.67	1.49	71.6	14.1	7.84	20.3	9.5	0.87
	CTRL	8.04	2.11	3.54	41.9	0.59	1.58	1.47	71.0	14.0	8.22	19.4	9.2	0.94
Sweetele	N20	8.83	2.10	3.58	34.2	0.98	1.44	1.43	86.5	10.8	9.17	27.0	10.8	0.74
	NBA	9.22	1.92	3.38	32.7	0.85	1.40	1.46	81.8	11.3	8.62	23.5	9.7	0.73
	CTRL	8.71	2.15	3.60	34.8	0.86	1.45	1.51	86.0	11.5	9.33	25.1	10.8	0.74

Table S4: qPCR quantification of target gene of denitrifiers in the sampled root-substrate system. All the genetic markers for denitrifiers (*NosZ, NirK, NirS*) were subjected to ANOVA and no significant change was observed with time, variety and nutrition solutions treatments (P>0.05).

	SWEETELLE						**CONCHITA**					
TIME	T1			T2			T1			T2		
THESIS	CTRL	N20	NBA	CTRL	N20	NBA	CTRL	N20	NBA	CTRL	N20	NBA
DEN (NOSZ)	5.04 ±0.05	5.21 ±0.08	4.88 ±0.12	4.99 ±0.22	4.97 ±0.12	4.72 ±0.14	5.36 ±0.05	5.21 ±0.09	5.13 ±0.27	4.86 ±0.04	4.59 ±0.35	4.97 ±0.32
DEN (NIRK)	6.86 ±0.03	7.03 ±0.17	6.80 ±0.11	7.00 ±0.02	7.29 ±0.14	7.17 ±0.21	6.87 ±0.02	7.27 ±0.06	7.24 ±0.04	7.01 ±0.04	7.31 ±0.03	7.13 ±0.19
DEN (NIRS)	5.7 ±0.13	6.01 ±0.11	5.90 ±0.21	6.16 ±0.28	5.70 ±0.27	5.75 ±0.34	6.03 ±0.21	6.35 ±0.06	5.80 ±0.19	5.61 ±0.05	5.14 ±0.29	6.28 ±0.27