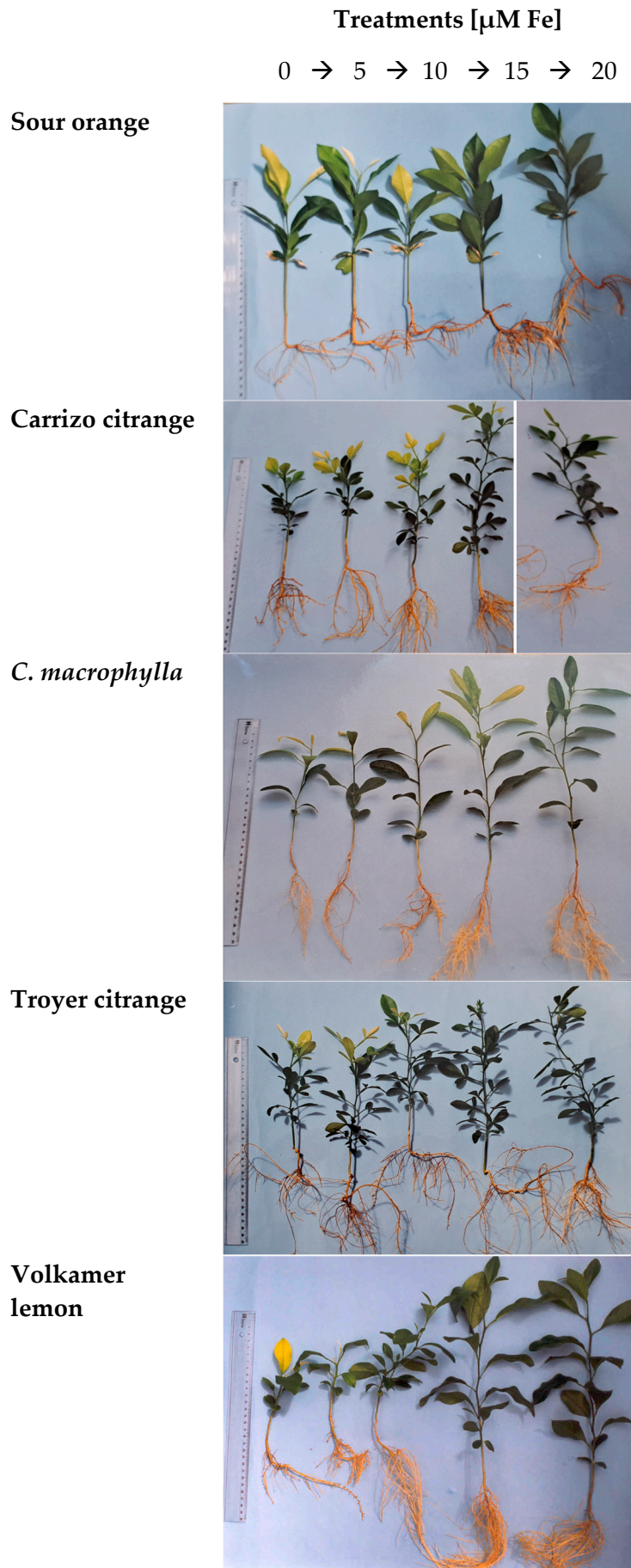


# Supplementary Information

**Table S1:** Shoot and root dry weight (DW in g), root to shoot ratio (in DW basis), and total DW of five citrus rootstocks at the beginning of the experiment.

Rootstock	Initial Leaf CHL ( $\mu\text{mol m}^{-2}$ )	Shoot DW (g)	Root DW (g)	Root/Shoot	Total DW (g)
Sour orange	349.9 $\pm$ 78.0	0.66 $\pm$ 0.07	0.20 $\pm$ 0.02	0.31 $\pm$ 0.14	0.87 $\pm$ 0.04
Carrizo citrange	455.9 $\pm$ 73.5	0.40 $\pm$ 0.02	0.22 $\pm$ 0.01	0.55 $\pm$ 0.10	0.62 $\pm$ 0.02
<i>C. macrophylla</i>	399.9 $\pm$ 63.1	0.30 $\pm$ 0.02	0.09 $\pm$ 0.01	0.30 $\pm$ 0.07	0.39 $\pm$ 0.01
Troyer citrange	460.2 $\pm$ 93.1	0.29 $\pm$ 0.02	0.18 $\pm$ 0.01	0.62 $\pm$ 0.13	0.47 $\pm$ 0.02
Volkamer lemon	387.1 $\pm$ 70.1	0.36 $\pm$ 0.02	0.12 $\pm$ 0.01	0.35 $\pm$ 0.08	0.48 $\pm$ 0.02



**Figure S1:** Aspect of citrus rootstocks plants for each treatment at the end of the experiment.

**Table S2:** Loadings of the PCA for nutrient composition and leaf chlorosis parameters for five citrus rootstocks. Significant values are in bold.

Variables	PC1	PC2
CHL	0.344	<b>0.635</b>
FCR	0.373	0.016
Leaf area	-0.179	<b>0.888</b>
S-DW	-0.309	<b>0.814</b>
N-S	<b>0.834</b>	0.276
P-S	<b>0.758</b>	0.037
Ca-S	<b>0.839</b>	0.083
Mg-S	0.562	0.010
K-S	0.498	-0.355
Fe-S	0.498	0.483
Cu-S	<b>0.775</b>	-0.400
Zn-S	<b>0.834</b>	-0.266
Mn-S	<b>0.885</b>	-0.261
N-R	-0.155	0.358
P-R	0.215	0.535
Ca-R	-0.282	0.519
Mg-R	0.476	<b>0.636</b>
K-R	0.620	0.410
Fe-R	0.070	0.141
Cu-R	0.085	<b>-0.778</b>
Zn-R	<b>0.757</b>	-0.090
Mn-R	<b>0.678</b>	0.212
R-DW	0.007	0.606

**Table S3:** Pearson's correlations between PCA variables: leaf chlorosis parameters and nutrients in shoots (S) and in roots (R) of five citrus rootstocks.

	CHL	FCR	N-S	P-S	Ca-S	Mg-S	K-S	Fe-S	Cu-S	Zn-S	Mn-S	N-R	P-R	Ca-R	Mg-R	K-R	Fe-R	Cu-R	Zn-R	Mn-R	R-DW	S-DW	Leaf area
CHL	1																						
FCR	0.196	1																					
N-S	0.399*	0.183	1																				
P-S	0.326	0.242	<b>0.700**</b>	1																			
Ca-S	0.288	0.292	<b>0.763**</b>	<b>0.536**</b>	1																		
Mg-S	0.092	-0.011	<b>0.654**</b>	<b>0.609**</b>	<b>0.587**</b>	1																	
K-S	-0.058	<b>0.627**</b>	0.112	0.277	0.376	-0.105	1																
Fe-S	<b>0.562**</b>	-0.014	<b>0.473*</b>	0.217	<b>0.466*</b>	-0.033	0.161	1															
Cu-S	0.123	0.192	<b>0.484*</b>	<b>0.543**</b>	<b>0.560**</b>	0.252	<b>0.633**</b>	0.366	1														
Zn-S	0.036	0.261	<b>0.704**</b>	<b>0.706**</b>	<b>0.684**</b>	<b>0.684**</b>	0.309	0.108	<b>0.614**</b>	1													
Mn-S	0.083	<b>0.405*</b>	<b>0.720**</b>	<b>0.656**</b>	<b>0.761**</b>	<b>0.532**</b>	<b>0.530**</b>	0.228	<b>0.698**</b>	<b>0.840**</b>	1												
N-R	0.088	-0.012	0.049	-0.257	-0.059	<b>-0.454*</b>	-0.178	0.177	-0.248	-0.272	-0.162	1											
P-R	0.288	0.018	0.292	0.374	0.024	0.083	0.021	0.272	-0.014	0.033	0.020	0.094	1										
Ca-R	0.052	0.031	-0.102	-0.209	-0.220	-0.282	-0.130	0.033	<b>-0.441*</b>	-0.381	-0.295	0.358	0.677**	1									
Mg-R	0.382	0.173	<b>0.452*</b>	0.199	<b>0.434*</b>	0.150	0.132	<b>0.552**</b>	0.085	0.210	0.231	0.250	<b>0.637**</b>	<b>0.456*</b>	1								
K-R	<b>0.511**</b>	0.236	<b>0.482*</b>	0.245	<b>0.590**</b>	0.119	0.231	<b>0.756**</b>	<b>0.451*</b>	0.277	0.315	0.163	0.103	-0.165	<b>0.653**</b>	1							
Fe-R	0.284	0.023	-0.056	0.033	-0.199	-0.318	0.244	0.443*	0.170	-0.127	-0.051	-0.126	0.042	-0.022	0.139	0.238	1						
Cu-R	<b>-0.528*</b>	0.066	-0.244	-0.129	0.046	-0.139	<b>0.415*</b>	-0.263	0.410*	0.159	0.307	-0.141	-0.288	-0.246	-0.287	-0.153	-0.318	1					
Zn-R	0.186	0.138	<b>0.657**</b>	<b>0.618**</b>	<b>0.455*</b>	<b>0.493*</b>	0.119	0.169	<b>0.569**</b>	<b>0.771**</b>	<b>0.632**</b>	-0.020	0.230	-0.288	0.394	<b>0.428*</b>	-0.047	0.106	1				
Mn-R	0.323	0.388	<b>0.489*</b>	0.311	<b>0.551**</b>	0.014	<b>0.512**</b>	<b>0.604**</b>	<b>0.475*</b>	0.329	<b>0.619**</b>	0.125	0.264	-0.004	<b>0.557**</b>	<b>0.583**</b>	0.236	0.136	0.386	1			
R-DW	0.225	-0.023	0.286	0.177	0.160	<b>0.555**</b>	<b>-0.419*</b>	-0.021	-0.393	0.032	-0.099	-0.150	0.290	0.177	0.240	0.037	-0.350	<b>-0.534**</b>	-0.070	-0.049	1		
S-DW	<b>0.423*</b>	-0.017	-0.023	-0.189	-0.081	-0.089	<b>-0.479*</b>	0.113	<b>-0.599**</b>	<b>-0.437*</b>	<b>-0.465*</b>	0.356	0.187	0.345	0.260	0.198	-0.154	<b>-0.600**</b>	-0.338	-0.042	<b>0.658**</b>	1	
Leaf area	<b>0.505*</b>	0.102	0.075	-0.091	-0.083	-0.078	-0.324	0.302	<b>-0.492*</b>	<b>-0.412*</b>	-0.346	0.239	0.284	0.377	0.394	0.261	0.199	<b>-0.739**</b>	-0.309	0.119	<b>0.615**</b>	<b>0.817**</b>	1

\* Significant difference at P < 0.05. \*\*. Significant difference at P < 0.01.

**Table S4:** Macronutrients (mg) and micronutrients (µg) contents at the end of the experiment in five citrus rootstocks grown with five Fe concentrations in nutrient solution: 0, 5, 10, 15 and 20 µM.

Treatments [µM Fe]	N	P	Ca	Mg	K	Fe	Cu	Zn	Mn
<b>Sour orange</b>									
0	49.5	2.7	18.3	5.7	12.7	67.7	45.7	57.9	74.1
5	66.8	2.7	19.3	5.4	19.5	69.1	46.0	64.4	70.7
10	68.9	4.0	22.8	7.3	20.1	98.0	48.5	81.4	71.8
15	67.5	11.2	35.6	20.3	23.8	136.9	46.9	92.9	296.3
20	66.6	7.4	23.4	9.4	22.0	162.6	33.1	73.8	329.7
<b>Carrizo citrange</b>									
0	30.4	3.4	10.9	2.6	10.5	54.4	60.0	73.2	95.9
5	40.4	5.0	14.0	3.4	13.9	72.3	57.3	153.0	176.7
10	40.8	7.8	11.0	3.0	15.2	80.7	65.2	161.7	207.1
15	54.9	6.4	22.0	8.3	17.0	81.2	46.3	133.1	250.5
20	47.7	7.3	18.8	3.4	18.7	128.9	43.6	117.5	367.9
<b><i>C. macrophylla</i></b>									
0	28.7	1.7	13.4	2.2	18.8	49.3	80.8	60.1	281.0
5	18.8	1.1	6.7	2.1	11.4	75.3	31.4	29.4	64.3
10	26.7	1.1	7.8	2.3	13.1	92.4	33.7	38.9	49.7
15	43.6	10.0	19.8	5.8	29.2	117.3	50.0	62.3	145.2
20	36.2	2.9	15.2	4.9	19.4	94.6	40.7	45.5	112.2
<b>Troyer citrange</b>									
0	39.0	4.2	15.2	4.5	15.8	57.3	136.2	117.4	194.8
5	43.1	3.9	16.3	5.1	18.4	86.6	54.0	88.9	101.5
10	50.1	4.8	21.5	6.3	23.3	119.4	41.7	87.6	253.7
15	63.3	6.0	24.8	7.2	26.6	118.6	31.6	114.3	147.6
20	57.3	6.4	26.9	6.2	24.6	167.2	53.8	114.2	310.2
<b>Volkamer lemon</b>									
0	27.8	2.3	15.8	4.0	15.1	56.7	65.7	47.0	71.8
5	44.6	3.6	15.7	3.2	20.1	77.2	58.7	98.7	135.3
10	55.4	5.7	21.7	3.8	25.6	124.3	49.4	175.7	401.1
15	71.7	6.6	32.3	6.3	31.3	176.9	54.2	147.6	233.5
20	83.7	6.7	31.7	5.7	33.0	241.1	55.8	93.5	494.9

**Table S5:** Loadings of the PCA for total nutrient content and leaf parameters for five Fe levels in nutrient solution considering rootstocks as one. DW – total dry weight (shoot plus root). Significant values are in bold.

Variables	PC1	PC2
CHL	<b>0.971</b>	0.240
FCR	-0.053	<b>0.999</b>
Leaf area	<b>0.971</b>	0.240
DW	<b>0.929</b>	0.370
N	<b>0.929</b>	0.370
P	<b>0.929</b>	0.370
Ca	0.552	<b>0.833</b>
Mg	<b>0.929</b>	0.370
K	<b>0.929</b>	0.370
Fe	<b>0.971</b>	0.240
Cu	<b>-0.941</b>	-0.339
Zn	<b>0.979</b>	-0.204
Mn	0.570	<b>0.821</b>