

Figure S1. Change in dominant rhizosphere fungal taxa at the phylum level across different nutrient treatments and melon growth stages.

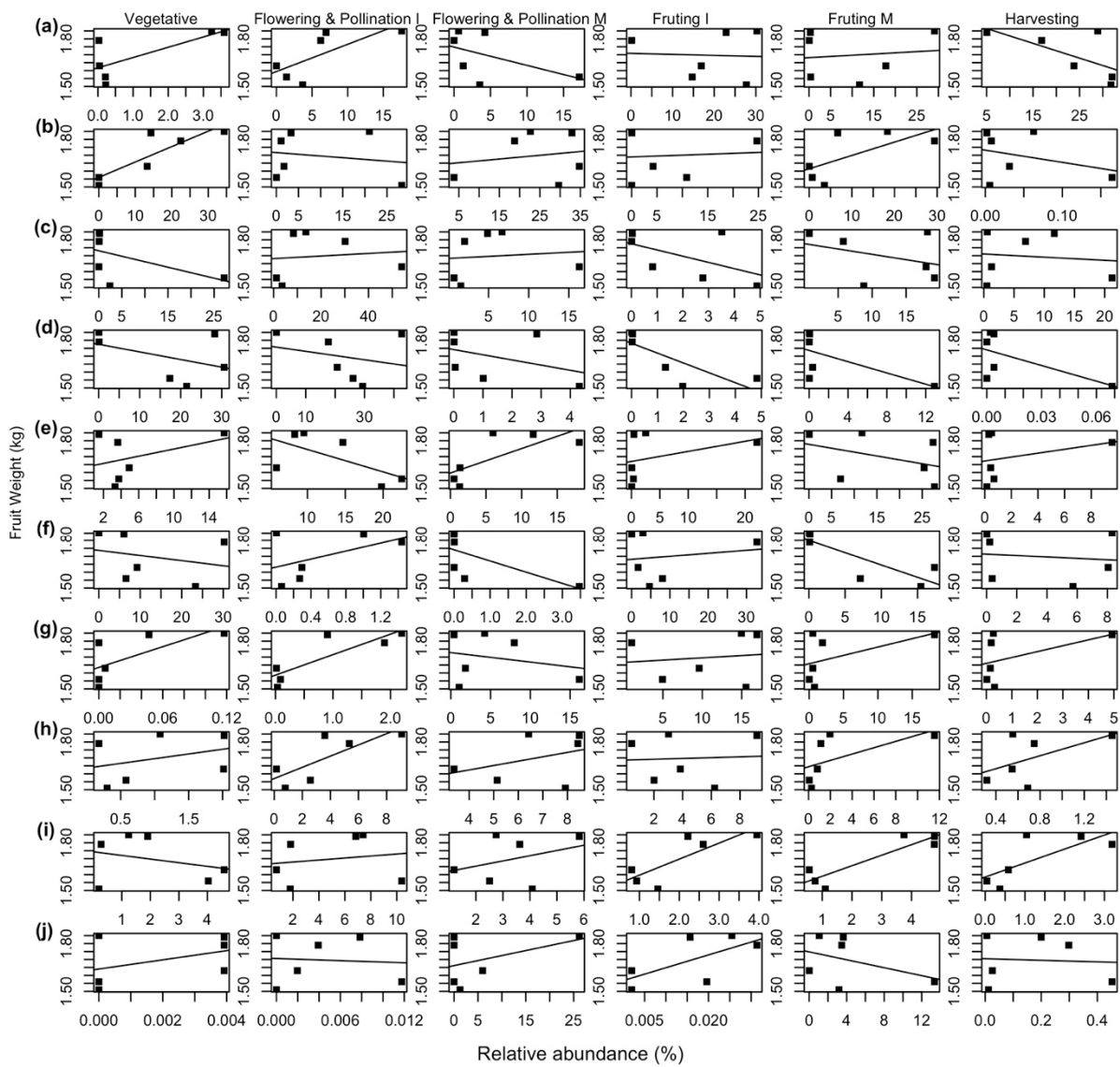


Figure S2. Linear regression between selected bacterial genera and fruit weight. (a) – (j): *Brevibacillus*, *Chryseobacterium*, *Pseudomonas*, *Massilia*, *Bacillus*, *B.C.Paraburkholderia*, *Lysobacter*, *Bosea*, *A.N.P.Rhizobium*, and *Enterobacter*

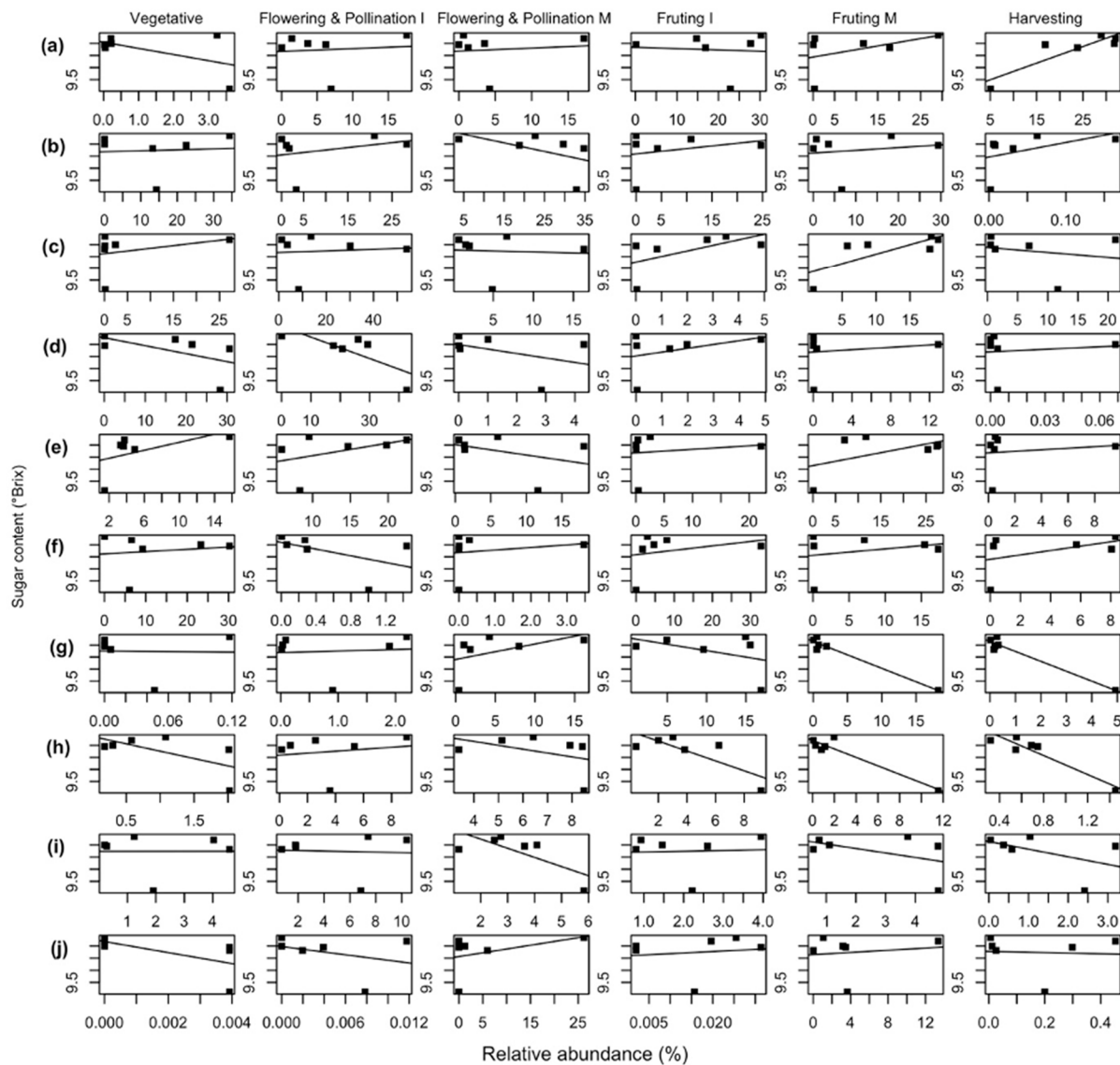


Figure S3. Linear regression between selected bacterial genera and fruit sweetness. (a) – (j): *Brevibacillus*, *Chryseobacterium*, *Pseudomonas*, *Massilia*, *Bacillus*, *B.C.Paraburkholderia*, *Lysobacter*, *Bosea*, *A.N.P.Rhizobium*, and *Enterobacter*

Table S1. Square of the correlation between relative abundance of bacteria genera and fruit weight. * $p < 0.05$.

	Vegetative	Flowering & Pollination I	Flowering & Pollination M	Fruting I	Fruting M	Harvesting
<i>Brevibacillus</i>	0.55	0.53	0.25	0.00	0.01	0.43
<i>Chryseobacterium</i>	0.75*	0.03	0.03	0.01	0.44	0.10
<i>Pseudomonas</i>	0.26	0.01	0.01	0.28	0.12	0.01
<i>Massilia</i>	0.19	0.06	0.16	0.62	0.39	0.36
<i>Bacillus</i>	0.15	0.40	0.54	0.14	0.15	0.10
<i>Burkholderia_Caballeronia_Paraburkholderia</i>	0.06	0.24	0.44	0.02	0.70*	0.01
<i>Lysobacter</i>	0.48	0.72*	0.06	0.02	0.26	0.23
<i>Bosea</i>	0.11	0.60	0.14	0.00	0.35	0.28
<i>Allorhizobium_Neorhizobium_Pararhizobium_Rhizobium</i>	0.08	0.03	0.12	0.65	0.81*	0.55
<i>Enterobacter</i>	0.17	0.01	0.19	0.43	0.16	0.00

Table S2. Square of the correlation between relative abundance of bacteria genera and fruit sweetness. * $p < 0.05$

	Vegetative	Flowering & Pollination I	Flowering & Pollination M	Fruting I	Fruting M	Harvesting
Brevibacillus	0.28	0.01	0.01	0.01	0.20	0.78*
Chryseobacterium	0.00	0.09	0.25	0.07	0.03	0.21
Pseudomonas	0.09	0.01	0.00	0.33	0.56	0.04
Massilia	0.29	0.58	0.17	0.13	0.02	0.01
Bacillus	0.27	0.18	0.14	0.02	0.27	0.02
Burkholderia_Caballeronia_Paraburkholderia	0.02	0.24	0.03	0.08	0.07	0.20
Lysobacter	0.00	0.01	0.22	0.18	0.96*	0.94*
Bosea	0.38	0.03	0.16	0.62	0.90*	0.88*
Allorhizobium_Neorhizobium_Pararhizobium_Rhizobium	0.00	0.00	0.53	0.00	0.21	0.23
Enterobacter	0.36	0.11	0.16	0.02	0.02	0.00