

## Supplementary materials

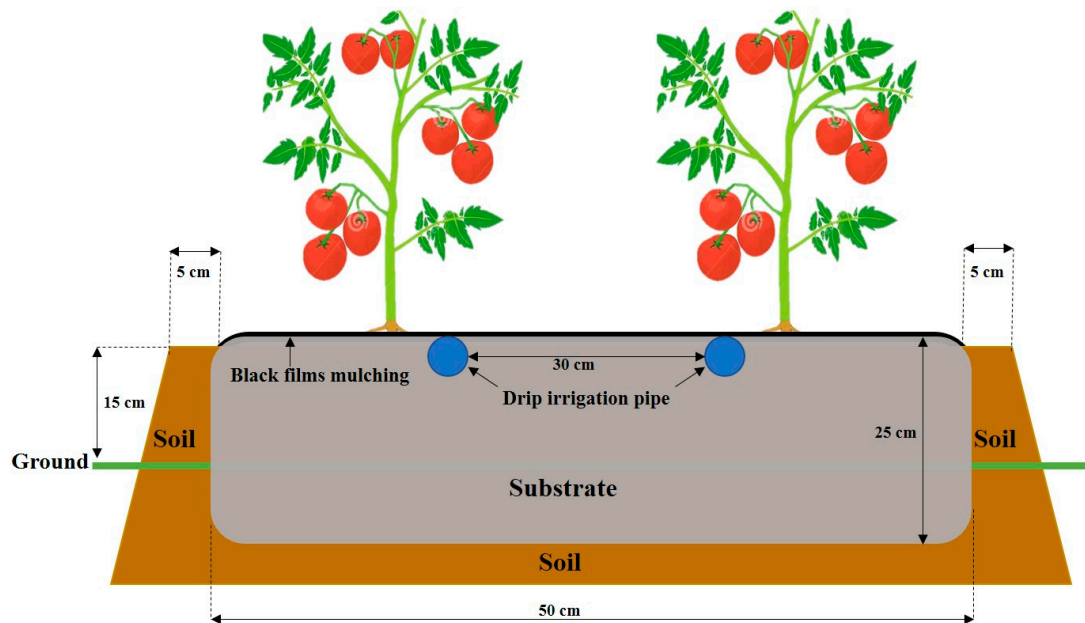


Figure.S1 Schematic of SMC substrate cultivation of greenhouse tomatoes.



Figure.S2 Photographs of main SMC substrate cultivation processes in greenhouse.

(A) Soil preparation and substrate stuffing, (B) Laying of drip irrigation pipe and black film mulching, (C) Seedling stage, (D) Harvesting period.

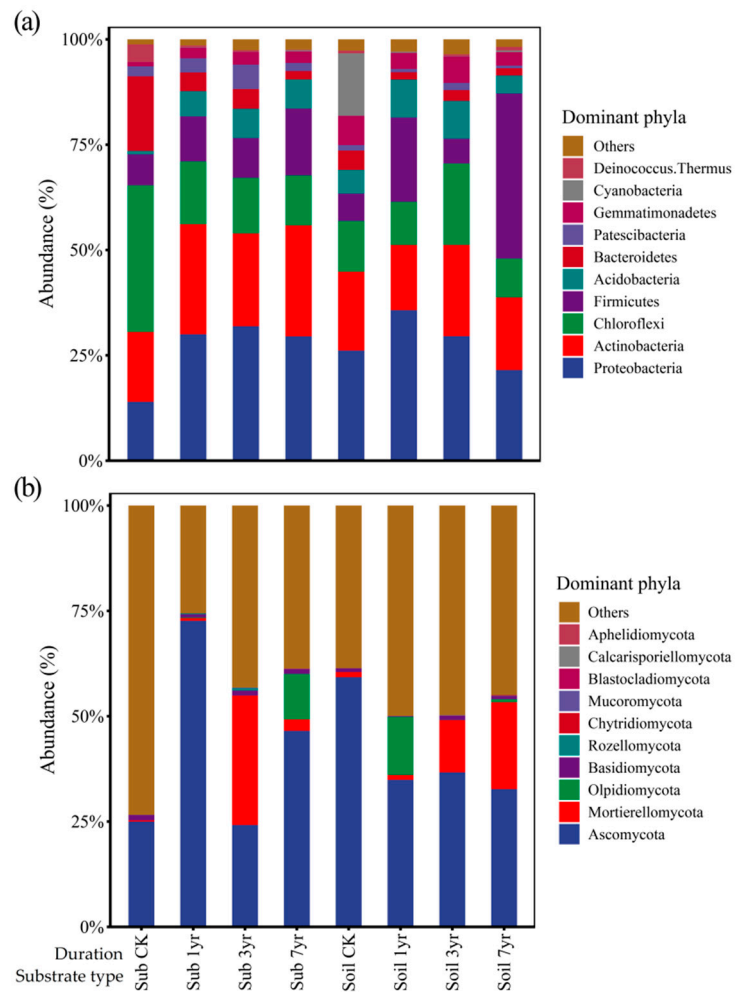


Figure.S3 Bacterial (a) and fungal (b) community composition at the phyla level of different cultivation duration (CK, 1 yr, 3 yr, 7 yr) of the substrate and the surrounding soil cultivated on tomato in greenhouse.

Table S1 Results of two-way ANOVA for soil parameters and microbial community  $\alpha$ -diversity of different cultivation duration (CK, 1 yr, 3 yr, 7 yr) of the substrate and the surrounding soil cultivated on tomato in greenhouse .

Parameter	Substrate type			Duration			Substrate type $\times$ Duration		
	F	df	P	F	df	P	F	df	P
Soil parameters									
SOC	4.4	1	0.051	2.2	3	0	3.9	3	<b>0.03</b>
TP	793.9	1	<b>&lt; 0.001</b>	46.2	3	<	51.5	3	<b>&lt; 0.001</b>
TN	689.9	1	<b>&lt; 0.001</b>	44.9	3	<	49.3	3	<b>&lt; 0.001</b>
pH	0.4	1	0.56	16.9	3	<	3.9	3	<b>0.02</b>
OM	4.4	1	0.051	2.2	3	0	3.9	3	<b>0.03</b>
ALP	0.1	1	0.749	49.8	3	<	44.1	3	<b>&lt; 0.001</b>
Pro	185.9	1	<b>&lt; 0.001</b>	531.8	3	<	42.7	3	<b>&lt; 0.001</b>
$\beta$ -Glu	23.4	1	<b>&lt; 0.001</b>	74.1	3	<	95.6	3	<b>&lt; 0.001</b>
Bacteria $\alpha$ -diversity									
Shannon	0.4	1	0.53	15.7	3	<	12.5	3	<b>0.001</b>
Chao	1.4	1	0.24	20.6	3	<	5.6	3	<b>&lt; 0.001</b>
Fungi $\alpha$ -diversity									
Shannon	0.1	1	0.76	8.2	3	<	2.2	3	<b>0.003</b>
Chao	33.9	1	<b>&lt; 0.001</b>	7.0	3	<b>0</b>	4.2	3	<b>&lt; 0.001</b>

Note: Substrate type was the factor contains substrate and the surrounding soil; Duration means the factor that the years of the continuous mono-cropping tomato planting; Substrate type  $\times$  Duration means the interaction of the two main factors.