Table S1. Mean squares from two-way analysis of variance for observed traits of pistachio.

Source of variation	Organ	Flower	Organ × Flower interaction	Residual
d.f.	2	1	2	66
Free radical	98.311***	4.988	4.273	1.864
Mn^{2+} ions	673.495***	0.86	6.639	8.147
ABA	53545***	95	1845	2585
SA	13300000000***	6980000000**	1910000000	627000000
IAA	1077.9	556.2	574.9	427.6
Total sugar content	15630.3***	1073.6**	256.3	142.6
Glucose	1315.14***	22.27	13.69	26.78
Fructose	1158.72***	95.49	54.34	29.46
Sucrose	2738.05***	172.35**	7.29	20.14
Galactose	36.992***	1.634	0.27	2.529
Cu	255.54***	15.42	107**	17.96
Mg	0.4871***	0.03421	0.00374	0.03278
Mn	10008.85***	1245.42***	892.18***	91.06
N	218.171***	0.163	18.576*	3.988
P	0.085812***	0.036026***	0.001431	0.001806
Fe	14724.4***	151.6	1798.7***	229.4

* $P<0.05$; ** $P<0.01$; *** $P<0.001$

Table S2. Mean values and standard deviations (s.d.) of 16 observed traits.

Flower	with flower cluster thinning		without flower cluster thinning	
Organ	Mean	s.d.	Mean	s.d.
		Free radical		
Fruit	1.146	0.944	1.151	0.581
Leaves	5.095	2.181	5.169	0.702
Shoots	3.012	1.116	4.512	1.86
$LSD_{0.05}$	Organ: 0.787; Flower: 0.643; Organ × Flower interaction: 1.113			
		Mn^{2+} ions		
Fruit	6.321	1.743	5.92	1.152
Leaves	15.947	4.714	14.779	2.811
Shoots	5.8	1.897	6.712	3.286
$LSD_{0.05}$	Organ: 1.645; Flower: 1.343; Organ × Flower interaction: 2.327			
		ABA		
Fruit	442.6	89.95	458.7	63.41
Leaves	352.3	27.12	360.5	18.87
Shoots	406.1	44.64	388.7	17.75
$LSD_{0.05}$	Organ: 29.31; Flower: 23.93; Organ × Flower interaction: 41.44			
		SA		
Fruit	30793	15395	67517	54279
Leaves	14713	6045	35903	22996
Shoots	1443	1203	2605	3127
$LSD_{0.05}$	Organ: 14428; Flower: 11780; Organ × Flower interaction: 20404			
		IAA		
Fruit	20.79	32.28	17.32	19.81
Leaves	9.71	4.3	13.9	11.82
Shoots	17.21	12.14	33.17	28.73
$LSD_{0.05}$	Organ: 11.92; Flower: 9.73; Organ × Flower interaction: 16.85			
		Total sugar content		
Fruit	62.8	24.525	47.56	15.188
Leaves	13.25	3.291	8.69	1.495
Shoots	12.68	3.002	9.31	1.206
$LSD_{0.05}$	Organ: 6.88; Flower: 5.62; Organ × Flower interaction: 9.73			
		Glucose		
Fruit	15.623	8.843	12.769	9.015
Leaves	1.483	0.522	1.167	0.428
Shoots	1.508	0.757	1.342	0.406
$LSD_{0.05}$	Organ: 2.983; Flower: 2.435; Organ × Flower interaction: 4.218			
		Fructose		
Fruit	15.801	11.436	10.043	6.318
Leaves	1.283	2.161	0.387	0.547
Shoots	1.067	0.826	0.812	0.653
$LSD_{0.05}$	Organ: 3.129; Flower: 2.554; Organ × Flower interaction: 4.424			
		Sucrose		
Fruit	28.66	8.804	24.3	5.782
Leaves	9.33	1.312	6.75	1.31
Shoots	9.09	2.28	6.74	1.12
$LSD_{0.05}$	Organ: 2.587; Flower: 2.112; Organ × Flower interaction: 3.658			

		Galactose		
Fruit	2.687	2.903	2.345	2.554
Leaves	0.594	0.44	0.103	0.114
Shoots	0.419	0.089	0.347	0.078
$LSD_{0.05}$	Organ: 0.917; Flower: 0.748; Organ × Flower interaction: 1.296			
		Cu		
Fruit	4.171	3.943	1.579	1.944
Leaves	11.126	4.964	7.065	3.568
Shoots	2.338	1.964	6.214	6.872
$LSD_{0.05}$	Organ: 2.443; Flower: 1.995; Organ × Flower interaction: 3.455			
		Mg		
Fruit	0.0659	0.0295	0.0857	0.0397
Leaves	0.3161	0.2721	0.3857	0.2953
Shoots	0.1284	0.0936	0.1699	0.1555
$LSD_{0.05}$	Organ: 0.104; Flower: 0.085; Organ x Flower interaction: 0.1476			
		Mn		
Fruit	7.1	4.528	3.28	3.119
Leaves	41.5	7.002	49.71	6.797
Shoots	9.98	7.983	30.54	18.899
$LSD_{0.05}$	Organ: 5.5; Flower: 4.49; Organ × Flower interaction: 7.78			
		N		
Fruit	6.895	1.624	8.832	2.608
Leaves	3.517	1.59	2.415	1.239
Shoots	2.928	2.344	1.808	2.221
$LSD_{0.05}$	Organ: 1.151; Flower: 0.94; Organ × Flower interaction: 1.628			
		P		
Fruit	0.2285	0.0398	0.1664	0.04985
Leaves	0.1105	0.03981	0.0781	0.03528
Shoots	0.1133	0.05908	0.0736	0.02107
$LSD_{0.05}$	Organ: 0.024; Flower: 0.02; Organ × Flower interaction: 0.035			
		Fe		
Fruit	43.27	5.38	25.43	5.96
Leaves	85.62	17.68	78.68	16.36
Shoots	38.95	21.44	55.03	16.5
$LSD_{0.05}$	Organ: 8.73; Flower: 7.13; Organ × Flower interaction: 12.35			

Table S3. Correlation coefficients between all pairs of observed traits.

Trait	Free radical	Mn^{2+} ions	ABA	SA	IAA	Total sugar content	Glucose	Fructose	Sucrose	Galactose	Cu	Mg	Mn	N	P
Mn^{2+} ions	0.71***														
ABA	-0.45***	-0.34**													
SA	-0.27	-0.05	0.24*												
IAA	0.1	-0.19	0.21	0.02											
Total sugar content	-0.68***	-0.35**	0.69***	0.24*	0.1										
Glucose	-0.6***	-0.3*	0.72***	0.19	0.08	0.93***									
Fructose	-0.54***	-0.3*	0.67***	0.12	0.06	0.86***	0.84***								
Sucrose	-0.72***	-0.38***	0.51***	0.42***	0.09	0.9***	0.73***	0.63***							
Galactose	-0.49***	-0.19	0.59***	0.26*	0.25*	0.76***	0.71***	0.4***	0.75***						
Cu	0.59***	0.59***	-0.44***	-0.16	0.03	-0.32**	-0.31**	-0.2	-0.33**	-0.27*					
Mg	0.36**	0.45***	-0.31**	-0.05	-0.14	-0.33**	-0.3*	-0.27*	-0.35**	-0.23	0.27*				
Mn	0.79***	0.78***	-0.48***	-0.19	-0.01	-0.58***	-0.5***	-0.47***	-0.63***	-0.39***	0.61***	0.52***			
N	-0.6***	-0.35**	0.39***	0.39***	-0.14	0.59***	0.51***	0.56***	0.62***	0.26*	-0.3*	-0.28*	-0.58***		
P	-0.71***	-0.37**	0.33**	0.19	-0.11	0.76***	0.62***	0.6***	0.82***	0.53***	-0.31**	-0.39***	-0.64***	0.52***	
Fe	0.56***	0.63***	-0.52***	-0.15	-0.21*	-0.43***	-0.42***	-0.33**	-0.44***	-0.33**	0.49***	0.45***	0.68***	-0.37**	-0.37**

* $P<0.05$; ** $P<0.01$; *** $P<0.001$