

Table S1. F and probability (P) values of different morpho-physiological traits of tomato genotypes treated with different treatments under the first, second, and their combinations of stress stages.

First Stress Stage									
Source of Variance	SL	SFW	SDW	RL	RFW	RDW	FWT	RWC	TCC
Treatments	4.76**	43.70**	79.20**	9.85**	6.07**	2.91*	3.72*	4.53**	11.32**
P-value	0.01	< 0.0001	< 0.0001	< 0.0001	0.00	0.05	0.02	0.01	< 0.0001
Genotypes	6.92**	11.72**	30.08**	12.52**	2.78 ^{NS}	3.28**	19.19**	3.11**	7.30**
P-value	0.00	< 0.0001	< 0.0001	< 0.0001	0.06	0.03	< 0.0001	0.04	0.00
Treatments*Genotypes	1.44 ^{NS}	19.50**	38.10**	1.65 ^{NS}	2.98**	1.09 ^{NS}	0.85 ^{NS}	0.73 ^{NS}	0.96 ^{NS}
P-value	0.21	< 0.0001	< 0.0001	0.14	0.01	0.40	0.58	0.68	0.49
Second Stress Stage									
Source of Variance	SL	SFW	SDW	RL	RFW	RDW	FWT	RWC	TCC
Treatments	15.74**	53.10**	61.47**	16.85**	9.94**	26.95**	8.98**	6.36**	25.84**
P-value	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.00	0.00	< 0.0001
Genotypes	12.15**	69.13**	30.85**	8.53**	19.88**	50.93**	70.95**	1.97 ^{NS}	59.07**
P-value	< 0.0001	< 0.0001	< 0.0001	0.00	< 0.0001	< 0.0001	< 0.0001	0.14	< 0.0001
Treatments*Genotypes	1.68 ^{NS}	15.89**	18.76**	1.71 ^{NS}	2.61*	5.48**	1.10 ^{NS}	0.95 ^{NS}	1.10 ^{NS}
P-value	0.13	< 0.0001	< 0.0001	0.13	0.02	0.00	0.39	0.50	0.39
First and Second Stress Stages									
Source of Variance	SL	SFW	SDW	RL	RFW	RDW	FWT	RWC	TCC
Treatments	9.86**	55.28**	62.95**	11.38**	10.03**	29.28**	3.80*	4.91**	30.17**
P-value	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.02	0.01	< 0.0001
Genotypes	31.68**	54.87**	82.20**	8.44**	34.91**	367.94**	116.56**	6.65**	47.73**
P-value	< 0.0001	< 0.0001	< 0.0001	0.00	< 0.0001	< 0.0001	< 0.0001	0.00	< 0.0001
Treatments*Genotypes	0.39 ^{NS}	20.42**	17.17**	2.34*	2.17 ^{NS}	3.64**	0.53 ^{NS}	0.43 ^{NS}	2.40*
P-value	0.93	< 0.0001	< 0.0001	0.04	0.05	0.00	0.84	0.91	0.03

SL: shoot length, SFW: shoot fresh weight, SDW: shoot dry weight, RL: root length, RFW: root fresh weight, RDW: root dry weight, FWT: fruits weight per plant, RWC: relative water content, TCC: total chlorophyll content. *: indicates a significant difference between means at $p \leq 0.05$, **: indicates a high significant difference between means at $p \leq 0.01$.

Table S2. F and probability (P) values of different fruit physicochemical characters of tomato genotypes treated with various treatments under the first, second, and their combinations of stress stages.

First Stress Stage							
Source of Variance	MC	TA	TSS	ASC	CAC	SSC	TPC
Treatments	35.01**	11.28**	14.83**	703.28**	408.90**	366.74**	63.39**
P-value	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Genotypes	107.10**	11.73**	47.76**	2011.86**	2321.63**	1252.07**	1497.82**
P-value	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Treatments*Genotypes	6.90**	1.42NS	0.32NS	30.43**	54.16**	30.02**	3.00**
P-value	< 0.0001	0.22	0.96	< 0.0001	< 0.0001	< 0.0001	0.01
Second Stress Stage							
Source of Variance	MC	TA	TSS	ASC	CAC	SSC	TPC
Treatments	56.75**	11.04**	25.19**	370.75**	373.74**	350.57**	123.03**
P-value	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Genotypes	189.83**	29.37**	92.68**	2128.65**	2535.35**	2012.80**	2055.33**
P-value	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Treatments*Genotypes	7.90**	1.46NS	2.70*	56.31**	122.29**	26.09**	30.22**
P-value	< 0.0001	0.21	0.02	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Combination of Both Stress Satges							
Source of Variance	MC	TA	TSS	ASC	CAC	SSC	TPC
Treatments	23.81**	18.07**	16.56**	884.56**	302.99**	420.45**	1098.32**
P-value	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Genotypes	136.52**	21.32**	100.32**	4596.29**	4073.50**	2281.65**	14483.72**
P-value	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Treatments*Genotypes	3.64**	2.19*	1.27NS	33.07**	10.60**	25.59**	143.15**
P-value	0.00	0.05	0.29	< 0.0001	< 0.0001	< 0.0001	< 0.0001

MC: moisture content, TA: titratable acidity, TSS: total soluble solids, ASC: ascorbic acid content, CAC: carotenoid content, SSC: soluble sugar content, TPC: total phenolics content. *: indicates a significant difference between means at $p \leq 0.05$, **: indicates a high significant difference between means at $p \leq 0.01$.

Table S3. F and probability (P) values of different leaf biochemical parameters of tomato genotypes treated with different treatments under the first, second, and their combinations of stress stages.

First Stress Stage							
Source of Variance	PC	SSC	TPC	AC	LP	GPA	CAT
Treatments	31966.36**	39605.53**	11958.11**	53098.30**	18480.69**	251.12**	320.44**
P-value	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Genotypes	10566.22**	33105.60**	4237.44**	5920.08**	62346.79**	355.11**	157.03**
P-value	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Treatments*Genotypes	1815.71**	2843.97**	452.05**	2171.94**	1754.92**	30.08**	22.25**
P-value	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Second Stress Stage							
Source of Variance	PC	SSC	TPC	AC	LP	GPA	CAT
Treatments	15850.70**	47126.03**	15571.56**	79411.52**	18884.81**	279.43**	34.32**
P-value	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Genotypes	35763.27**	35982.92**	19349.94**	5099.76**	28809.89**	262.22**	208.11**
P-value	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Treatments*Genotypes	6154.66**	1921.53**	2480.37**	742.48**	2091.72**	40.38**	45.90**
P-value	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
First and Second Stress Stages							
Source of Variance	PC	SSC	TPC	AC	LP	GPA	CAT
Treatments	10306.96**	56106.32**	50623.60**	106.71**	22634.00**	485.11**	114.97**
P-value	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Genotypes	14059.03**	67059.11**	53061.03**	65.18**	42720.43**	482.82**	336.13**
P-value	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Treatments*Genotypes	2567.11**	4522.36**	7761.97**	10.78**	2312.75**	73.48**	77.51**
P-value	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

PC: proline content, SSC: soluble sugar content, TPC: total phenolic content, AC: antioxidant activity, LP: lipid peroxidation, GPA: peroxidase, CAT: catalase *: indicates a significant difference between means at $p \leq 0.05$, **: indicates a high significant difference between means at $p \leq 0.01$.

Table S4. Interaction effects of tomato genotypes and treatments on the different morpho-physiological characters under the first, second, and their combinations of stress stages.

Increasing and Decreasing Percentages Compared to Irrigated Plants during the First Stress Stage									
Interaction	SL (%)	SFW (%)	SDW (%)	RL (%)	RFW (%)	RDW (%)	FWT (%)	RWC (%)	TCC (%)
SOBS*Braw	-7.72 abc ± 5.03	33.35 a ± 5.30	51.30 a ± 2.14	-5.10 d ± 5.27	145.06 a ± 25.28	72.92 b ± 21.52	-26.50 bc ± 8.17	-9.69 ab ± 0.88	-12.10 abc ± 4.09

SOBS*Yadgar	-11.95 bcd ± 4.46	-19.80 de ± 7.43	-15.79 e-h ± 6.74	27.17 a ± 15.91	38.29 b-e ± 3.33	23.96 b ± 3.61	-38.39 cde ± 5.58	-15.21 bc ± 2.49	-13.98 a-d ± 3.37
SOBS*Raza Pashayi	-3.78 ab ± 1.04	-5.01 bc ± 0.84	-2.56 bc ± 0.34	1.56 bcd ± 12.01	46.79 b-e ± 16.52	70.78 b ± 12.73	-17.71 ab ± 8.15	-11.67 abc ± 3.06	-32.86 cde ± 1.35
SOBS*Sandra	-3.34 ab ± 5.19	-0.94 b ± 4.63	-2.08 bc ± 8.51	-3.89 cd ± 7.73	69.58 bc ± 52.19	229.16 a ± 54.31	-26.61 bc ± 3.33	-11.22 abc ± 4.19	-38.28 e ± 0.66
SOES*Braw	-16.22 cd ± 6.91	-8.19 bc ± 12.56	3.83 b ± 2.76	-8.54 d ± 2.63	88.46 ab ± 20.52	33.26 b ± 21.90	-22.77 bc ± 3.75	-12.47 bc ± 6.69	-7.73 ab ± 4.08
SOES*Yadgar	-6.78 abc ± 6.89	-8.63 bc ± 5.03	-12.16 d-g ± 5.37	15.68 ab ± 5.71	61.03 bcd ± 4.26	32.73 b ± 2.88	-38.54 cde ± 4.42	-12.96 bc ± 0.57	-2.93 a ± 7.34
SOES*Raza Pashayi	0.14 a ± 5.73	-3.33 b ± 1.42	-1.99 bc ± 0.16	-7.05 d ± 12.13	23.93 b-e ± 21.01	46.89 b ± 22.06	-17.74 ab ± 8.36	-9.75 ab ± 6.19	-22.67 a-e ± 9.70
SOES*Sandra	-3.31 ab ± 6.60	-2.97 b ± 9.52	-2.65 bc ± 12.45	0.04 bcd ± 10.47	2.57 cde ± 107.38	62.17 b ± 272.95	-6.40 a ± 26.08	-2.57 a ± 13.08	-5.86 a ± 37.48
SOS*Braw	-4.86 ab ± 4.91	-2.78 b ± 9.22	-7.80 c-f ± 5.09	-14.81 de ± 16.97	43.05 b-e ± 41.38	19.84 b ± 29.07	-27.09 bc ± 5.30	-16.27 bc ± 0.35	-27.44 b-e ± 3.12
SOS*Yadgar	-13.37 bcd ± 5.67	-14.82 cd ± 3.12	-18.62 gh ± 4.58	13.89 abc ± 12.73	16.37 cde ± 1.11	9.27 b ± 1.84	-43.21 de ± 3.86	-15.82 bc ± 1.94	-28.54 b-e ± 7.53
SOS*Raza Pashayi	-5.65 ab ± 4.08	-6.04 bc ± 1.26	-4.01 bcd ± 1.14	-9.29 d ± 9.10	41.18 b-e ± 15.21	46.21 b ± 11.32	-19.23 ab ± 3.65	-12.25 bc ± 4.49	-34.35 de ± 6.12
SOS*Sandra	-4.65 ab ± 4.04	-12.08 bcd ± 1.30	-15.70 e-h ± 3.20	-8.06 d ± 8.77	19.59 b-e ± 31.40	14.70 b ± 12.60	-24.83 bc ± 4.95	-12.63 bc ± 6.29	-43.02 e ± 7.64
SS*Braw	-13.78 bcd ± 4.44	-45.71 f ± 5.77	-44.18 i ± 3.89	-30.73 e ± 6.42	-11.39 e ± 10.37	-27.64 b ± 9.78	-29.54 bcd ± 1.28	-20.80 c ± 1.71	-23.13 a-e ± 5.71
SS*Yadgar	-20.40 d ± 5.72	-28.56 e ± 6.27	-24.75 h ± 1.87	-15.83 de ± 8.04	-2.49 de ± 6.04	-7.26 b ± 10.75	-50.38 e ± 2.45	-18.72 bc ± 3.76	-22.48 a-e ± 6.07
SS*Raza Pashayi	-10.63 bcd ± 3.22	-8.63 bc ± 0.44	-6.60 cde ± 0.68	-11.31 d ± 12.20	24.87 b-e ± 14.63	51.16 b ± 6.83	-23.17 bc ± 7.00	-13.33 bc ± 6.32	-36.25 e ± 9.34
SS*Sandra	-9.27 abc ± 7.93	-16.13 cd ± 0.34	-16.41 fgh ± 4.16	-8.82 d ± 4.87	53.64 b-e ± 25.41	88.18 b ± 48.03	-27.21 bc ± 3.98	-14.13 bc ± 2.37	-43.32 e ± 2.26

Increasing and Decreasing Percentages Compared to Irrigated Plants during the Second Stress Stage

Interaction	SL (%)	SFW (%)	SDW (%)	RL (%)	RFW (%)	RDW (%)	FWT (%)	RWC (%)	TCC (%)
SOBS*Braw	-8.74 ab ± 4.03	5.03 a ± 1.10	29.64 a ± 4.10	14.76 abc ± 21.54	258.68 a ± 86.01	115.49 b ± 40.91	-34.32 d-g ± 2.46	-13.43 abc ± 3.58	-8.39 a ± 6.24
SOBS*Yadgar	-14.41 abc ± 4.33	-27.54 de ± 9.14	-17.98 efg ± 6.21	34.71 a ± 11.55	12.39 b ± 10.51	12.78 efg ± 6.61	-42.56 gh ± 4.28	-6.89 ab ± 3.93	-19.93 bc ± 0.48
SOBS*Raza Pashayi	-7.66 ab ± 4.62	-5.64 b ± 0.77	-3.51 bcd ± 0.81	15.16 abc ± 2.69	80.38 b ± 19.62	107.95 bc ± 11.28	-8.52 a ± 4.79	-10.60 abc ± 3.87	-33.10 ef ± 0.99
SOBS*Sandra	-6.30 a ± 1.20	-3.64 b ± 4.92	3.95 bc ± 6.44	-1.83 b-h ± 7.30	78.84 b ± 48.05	250.96 a ± 24.06	-28.55 cde ± 1.64	-9.55 abc ± 6.31	-35.32 f ± 7.43
SOES*Braw	-13.46 abc ± 4.66	-14.97 c ± 7.06	5.44 b ± 12.34	3.05 b-f ± 27.47	207.79 a ± 110.12	93.08 bc ± 47.42	-35.47 efg ± 2.00	-12.31 abc ± 1.87	-3.06 a ± 1.98
SOES*Yadgar	-10.26 ab ± 5.59	-27.58 de ± 7.79	-18.51 efg ± 5.25	19.99 ab ± 2.89	48.89 b ± 8.31	20.33 efg ± 4.67	-42.60 gh ± 6.38	-7.71 abc ± 2.82	-11.01 ab ± 7.62
SOES*Raza Pashayi	-5.23 a ± 5.22	-4.29 b ± 0.61	-3.14 bcd ± 0.21	6.69 b-e ± 10.25	45.98 b ± 16.61	83.95 bcd ± 11.02	-17.88 b ± 8.27	-10.37 abc ± 6.93	-22.06 cd ± 10.27
SOES*Sandra	-7.22 ab ± 4.23	-9.81 bc ± 1.02	-4.52 cd ± 7.40	-5.87 c-h ± 2.56	76.65 b ± 50.07	220.78 a ± 55.61	-26.32 bcd ± 5.82	-5.07 a ± 14.10	-31.27 def ± 1.25
SOS*Braw	-20.98 cd ± 6.84	-27.28 de ± 2.57	-15.64 ef ± 3.26	-18.92 fgh ± 2.20	82.29 b ± 38.86	33.94 def ± 25.56	-37.08 efg ± 4.68	-13.72 abc ± 1.48	-25.70 cde ± 1.09
SOS*Yadgar	-13.54 abc ± 5.36	-31.21 de ± 2.79	-25.57 gh ± 4.90	9.36 bcd ± 11.04	6.85 b ± 4.58	2.47 efg ± 4.00	-48.30 hi ± 5.96	-8.46 abc ± 1.35	-25.45 cde ± 5.53
SOS*Raza Pashayi	-9.98 ab ± 1.76	-6.93 b ± 1.01	-5.11 cd ± 0.15	-12.51 d-h ± 10.85	28.46 b ± 14.42	56.73 cde ± 9.40	-22.84 bc ± 2.65	-11.56 abc ± 2.25	-33.88 ef ± 4.07
SOS*Sandra	-7.52 ab ± 2.94	-15.40 c ± 3.74	-9.78 de ± 5.61	-23.79 h ± 4.23	4.55 b ± 32.02	53.25 cde ± 17.45	-32.29 def ± 3.23	-9.79 abc ± 7.42	-48.11 g ± 5.57
SS*Braw	-30.57 e ± 5.33	-49.66 f ± 2.15	-43.62 i ± 1.62	-1.06 b-g ± 12.73	51.76 b ± 42.66	-32.60 g ± 10.65	-39.78 fgh ± 3.14	-18.73 cd ± 6.22	-19.36 bc ± 5.50
SS*Yadgar	-23.35 de ± 5.48	-33.69 e ± 4.19	-29.83 h ± 6.10	-14.63 e-h ± 4.59	-5.86 b ± 2.05	-7.60 fg ± 4.47	-52.96 i ± 5.06	-24.78 d ± 5.65	-26.21 c-f ± 2.37
SS*Raza Pashayi	-11.99 ab ± 4.25	-8.44 bc ± 1.49	-5.53 cd ± 0.77	-21.21 gh ± 9.71	19.24 b ± 12.39	56.20 cde ± 7.79	-25.51 bcd ± 7.24	-17.73 bcd ± 1.37	-35.74 f ± 6.29
SS*Sandra	-16.35 bcd ± 5.75	-24.43 d ± 3.82	-21.58 fgh ± 4.14	-14.46 e-h ± 10.90	53.23 b ± 56.56	109.93 bc ± 78.01	-32.30 def ± 3.63	-11.32 abc ± 6.96	-44.89 g ± 1.40

Increasing and Decreasing Percentages Compared to Irrigated Plants during the First and Second Stress Stages

Interaction	SL (%)	SFW (%)	SDW (%)	RL (%)	RFW (%)	RDW (%)	FWT (%)	RWC (%)	TCC (%)
SOBS*Braw	-22.92 efg ± 5.08	-22.78 de ± 10.23	-17.85 de ± 8.40	7.41 bc ± 12.83	211.14 a ± 47.76	62.51 cd ± 34.00	-45.21 ef ± 2.50	-16.13 a-e ± 2.82	-17.46 cd ± 3.38
SOBS*Yadgar	-16.94 b-e ± 6.40	-27.66 ef ± 7.42	-20.16 e ± 3.84	25.04 a ± 13.47	8.59 ef ± 8.14	-0.28 fgh ± 7.50	-59.76 hi ± 1.94	-10.00 ab ± 9.03	-14.27 bc ± 2.35
SOBS*Raza Pashayi	-9.09 abc ± 2.77	-5.47 abc ± 0.56	-1.88 ab ± 0.39	15.31 ab ± 7.74	62.86 b-e ± 13.78	87.93 c ± 7.55	-25.01 a ± 5.38	-22.24 cde ± 2.66	-35.04 fg ± 5.18
SOBS*Sandra	-6.87 a ± 5.34	-4.97 abc ± 5.20	2.74 a ± 6.77	-13.68 ef ± 6.62	85.49 bc ± 50.95	255.70 a ± 21.58	-34.42 bc ± 4.10	-14.00 a-d ± 5.37	-38.12 gh ± 5.54
SOES*Braw	-23.35 efg ± 3.48	2.18 a ± 6.72	-2.94 ab ± 3.54	3.97 be ± 11.25	195.59 a ± 64.27	45.55 de ± 29.60	-43.55 def ± 5.63	-14.99 a-e ± 3.29	-0.27 a ± 6.73
SOES*Yadgar	-17.96 c-f ± 5.31	-27.16 ef ± 7.58	-21.70 e ± 4.39	14.12 ab ± 17.65	34.56 c-f ± 4.78	22.87 efg ± 8.60	-55.79 gh ± 5.33	-6.96 a ± 5.27	-6.84 ab ± 7.74
SOES*Raza Pashayi	-7.86 ab ± 3.58	-4.22 ab ± 0.68	-2.04 ab ± 0.34	3.37 be ± 3.45	45.25 b-f ± 18.92	62.21 cd ± 17.13	-23.23 a ± 4.83	-19.65 b-e ± 2.06	-25.28 def ± 7.78
SOES*Sandra	-9.09 abc ± 4.09	-7.38 abc ± 2.78	-7.60 bc ± 5.52	-11.36 def ± 12.65	83.12 bcd ± 53.56	272.21 a ± 38.37	-36.31 bcd ± 2.99	-13.17 a-d ± 8.71	-32.55 efg ± 1.27
SOS*Braw	-27.66 g ± 6.25	-7.80 abc ± 8.38	-6.84 bc ± 1.88	-9.86 c-f ± 9.54	106.14 b ± 39.00	-24.19 h ± 11.35	-42.44 c-f ± 5.49	-16.82 a-e ± 2.85	-22.19 cd ± 2.57
SOS*Yadgar	-19.73 d-g ± 5.99	-36.04 fg ± 6.17	-29.50 f ± 3.35	5.78 bcd ± 8.31	0.68 ef ± 4.81	-11.56 gh ± 3.12	-54.41 gh ± 5.35	-11.86 abc ± 7.60	-33.27 fg ± 5.20
SOS*Raza Pashayi	-9.38 abc ± 4.62	-6.89 abc ± 0.44	-3.59 ab ± 0.15	-4.24 c-f ± 1.58	20.77 c-f ± 7.15	34.06 def ± 4.49	-25.91 a ± 4.16	-22.30 cde ± 3.77	-33.80 fg ± 6.36
SOS*Sandra	-13.22 a-d ± 5.10	-15.17 cd ± 3.52	-12.27 cd ± 1.61	-6.58 c-f ± 8.83	79.53 bcd ± 49.64	251.92 a ± 36.87	-37.40 cde ± 2.70	-16.52 a-e ± 8.19	-42.37 gh ± 1.70
SS*Braw	-36.26 h ± 6.49	-69.46 h ± 3.47	-47.50 g ± 4.32	-20.51 f ± 3.60	59.41 b-e ± 7.41	-34.67 h ± 4.95	-48.13 fg ± 2.24	-25.72 e ± 5.73	-23.27 cde ± 6.46
SS*Yadgar	-26.52 fg ± 4.39	-39.15 g ± 5.86	-33.88 f ± 1.74	-9.87 c-f ± 6.56	-13.74 f ± 1.09	-19.17 h ± 1.32	-63.89 i ± 4.42	-20.10 b-e ± 6.95	-34.05 fg ± 5.61
SS*Raza Pashayi	-13.55 a-d ± 3.78	-8.34 bc ± 0.52	-5.63 bc ± 0.58	-13.88 ef ± 4.25	17.61 def ± 17.95	28.07 def ± 13.03	-29.44 ab ± 7.31	-23.95 de ± 1.36	-38.10 gh ± 7.17
SS*Sandra	-18.86 d-g ± 4.93	-27.06 ef ± 1.21	-22.94 e ± 1.94	-7.66 c-f ± 7.05	45.02 b-f ± 43.32	174.23 b ± 16.90	-38.95 cde ± 0.73	-18.48 b-e ± 5.29	-47.13 h ± 5.48

SL: shoot length, SFW: shoot fresh weight, SDW: shoot dry weight, RL: root length, RFW: root fresh weight, RDW: root dry weight, FWT: fruits weight per plant, RWC: relative water content, TCC: total chlorophyll content, SS: stressed plants, SOS: stressed plants + oak leaf powder, SOES: stressed plants + oak leaf powder + oak leaf extract, SOBS: stressed plants + oak leaf powder + biofertilizers. Duncan's multiple range test at $p \leq 0.05$ indicates that any values sharing the same letter in the same column are not statistically significant. The trait index \pm standard deviation (SD) is used to denote the values.

Table S5. Interaction effects of tomato genotypes and treatments on the different physicochemical traits under the first, second, and their combinations of stress stages.

Increasing and Decreasing Percentages Compared to Irrigated Plants during the First Stress Stage							
Interaction	MC (%)	TA (%)	TSS (%)	ASC (%)	CAC (%)	SSC (%)	TPC (%)

SOBS*Braw	-1.12 fg ± 0.16	2.14 cd ± 2.14	-4.92 e-h ± 2.42	5.44 i ± 1.08	-6.34 i ± 0.81	-3.60 f ± 0.38	-10.48 h ± 4.00
SOBS*Yadgar	-1.03 f ± 0.23	4.72 cd ± 4.76	-4.98 e-h ± 2.82	20.43 e ± 0.19	-7.85 j ± 0.90	-4.54 f ± 1.38	9.26 e ± 0.99
SOBS*Raza Pashayi	-0.29 abc ± 0.08	-2.85 de ± 9.01	-0.53 bcd ± 2.53	32.65 b ± 1.00	-0.21 e ± 0.21	9.99 b ± 0.57	20.90 ab ± 0.53
SOBS*Sandra	-0.23 ab ± 0.14	6.53 c ± 6.67	3.51 a ± 3.04	35.47 a ± 0.43	2.32 b ± 0.09	11.24 b ± 0.84	14.53 d ± 0.39
SOES*Braw	-0.87 def ± 0.33	4.23 cd ± 0.06	-4.21 d-g ± 2.06	3.57 j ± 0.89	-4.02 h ± 0.24	-3.05 f ± 1.42	-5.27 g ± 0.16
SOES*Yadgar	-0.90 ef ± 0.07	4.72 cd ± 4.76	-5.61 fgh ± 1.82	15.17 f ± 0.17	-7.19 j ± 0.56	-7.06 g ± 1.95	9.84 e ± 0.48
SOES*Raza Pashayi	-0.38 abc ± 0.11	-9.16 e ± 3.31	-1.09 b-e ± 1.89	36.58 a ± 0.80	0.84 d ± 0.42	7.59 c ± 0.13	22.43 a ± 0.25
SOES*Sandra	-0.22 a ± 0.15	4.31 cd ± 3.73	2.61 ab ± 0.04	33.09 b ± 1.71	3.18 a ± 0.08	13.62 a ± 1.14	17.39 c ± 0.27
SOS*Braw	-1.41 gh ± 0.18	6.45 c ± 6.49	-7.74 ghi ± 1.18	-0.85 k ± 0.18	-8.67 k ± 0.16	-8.10 g ± 0.14	-6.74 g ± 0.35
SOS*Yadgar	-1.14 fg ± 0.08	9.31 abc ± 0.22	-8.12 hi ± 0.99	12.40 g ± 1.97	-13.18 l ± 0.08	-12.82 h ± 1.15	8.53 e ± 0.61
SOS*Raza Pashayi	-0.54 abc ± 0.03	3.09 cd ± 3.13	-2.75 c-f ± 2.51	28.02 c ± 0.95	-1.46 f ± 0.62	4.49 d ± 0.17	19.83 b ± 0.35
SOS*Sandra	-0.39 abc ± 0.12	4.44 cd ± 7.70	0.90 abc ± 3.00	24.13 d ± 1.05	1.89 bc ± 0.52	7.05 c ± 0.43	14.63 d ± 0.46
SS*Braw	-2.46 i ± 0.43	17.00 a ± 0.33	-9.86 i ± 1.17	-7.14 l ± 1.10	-13.95 m ± 0.09	-23.04 j ± 0.30	-11.23 h ± 0.06
SS*Yadgar	-1.47 h ± 0.12	16.32 ab ± 2.71	-11.24 i ± 1.77	3.72 j ± 1.27	-15.58 n ± 0.20	-15.33 i ± 1.24	5.18 f ± 0.53
SS*Raza Pashayi	-0.61 cde ± 0.03	2.97 cd ± 2.94	-3.87 d-g ± 1.88	19.91 e ± 0.65	-2.51 g ± 0.40	0.85 e ± 0.07	16.11 cd ± 0.39
SS*Sandra	-0.56 bcd ± 0.07	8.61 bc ± 4.09	-1.73 c-f ± 1.50	9.14 h ± 0.75	1.46 cd ± 0.43	4.39 d ± 1.36	10.16 e ± 0.24

Increasing and Decreasing Percentages Compared to Irrigated Plants during the Second Stress Stage

Interaction	MC (%)	TA (%)	TSS (%)	ASC (%)	CAC (%)	SSC (%)	TPC (%)
SOBS*Braw	-1.08 c ± 0.23	10.65 bc ± 2.32	-3.52 cd ± 1.20	-10.52 l ± 0.89	-10.99 ij ± 0.07	-10.62 i ± 0.84	-6.93 i ± 0.04
SOBS*Yadgar	-1.09 c ± 0.09	4.65 bcd ± 0.11	-4.37 de ± 1.03	14.56 g ± 1.68	2.80 ef ± 0.68	-4.54 g ± 2.10	5.97 gh ± 0.66
SOBS*Raza Pashayi	-0.23 a ± 0.03	-5.94 ef ± 5.88	-1.09 c ± 1.89	26.62 d ± 0.45	2.41 f ± 0.96	4.73 d ± 0.56	30.52 a ± 0.84
SOBS*Sandra	-0.22 a ± 0.13	4.44 cd ± 7.70	2.63 a ± 2.63	38.21 a ± 0.48	5.68 ab ± 0.01	17.14 a ± 0.11	19.30 c ± 0.42
SOES*Braw	-0.95 c ± 0.23	8.49 bcd ± 0.15	-3.52 cd ± 1.20	-7.97 k ± 1.43	-10.57 i ± 0.36	-8.82 h ± 0.05	-8.00 ij ± 0.11
SOES*Yadgar	-0.86 c ± 0.11	4.72 bcd ± 4.76	-6.25 ef ± 1.12	20.14 f ± 2.97	-8.92 h ± 0.44	-2.02 f ± 2.01	7.58 fg ± 0.60
SOES*Raza Pashayi	-0.20 a ± 0.05	-9.04 f ± 2.76	-1.65 cd ± 1.64	30.34 c ± 1.90	3.87 cd ± 0.29	5.11 d ± 0.64	29.11 a ± 1.01
SOES*Sandra	-0.19 a ± 0.09	4.31 cd ± 3.73	1.75 ab ± 1.52	31.45 bc ± 0.79	6.02 a ± 0.35	16.67 a ± 0.40	16.77 d ± 0.31
SOS*Braw	-1.45 d ± 0.20	12.75 bc ± 0.24	-7.03 fg ± 1.13	-11.54 l ± 0.88	-13.53 k ± 0.51	-14.49 j ± 0.17	-8.16 ij ± 0.46
SOS*Yadgar	-1.06 c ± 0.11	4.72 bcd ± 4.76	-9.38 gh ± 0.10	9.30 h ± 1.32	-11.85 j ± 0.71	-8.62 h ± 1.09	6.10 gh ± 0.27
SOS*Raza Pashayi	-0.54 b ± 0.06	0.00 de ± 0.00	-2.20 cd ± 1.91	22.93 e ± 2.30	1.78 f ± 0.32	2.63 e ± 0.30	23.57 b ± 1.05
SOS*Sandra	-0.43 ab ± 0.15	6.53 bcd ± 6.67	1.75 ab ± 1.52	32.91 b ± 0.43	4.82 bc ± 0.16	9.62 b ± 0.92	15.99 d ± 0.09
SS*Braw	-2.29 e ± 0.18	27.61 a ± 1.58	-10.55 h ± 2.00	-14.60 m ± 0.51	-17.12 l ± 1.37	-27.71 k ± 0.93	-9.00 j ± 3.64
SS*Yadgar	-1.56 d ± 0.15	14.03 b ± 4.98	-11.88 h ± 1.15	-2.17 j ± 0.33	-17.71 l ± 0.60	-11.38 i ± 0.93	5.05 h ± 0.00
SS*Raza Pashayi	-0.60 b ± 0.11	0.12 de ± 6.07	-2.77 cd ± 0.93	18.99 f ± 0.64	0.11 g ± 0.73	-1.55 f ± 0.00	13.98 e ± 0.50
SS*Sandra	-0.48 b ± 0.08	8.75 bcd ± 10.23	-0.85 bc ± 1.48	6.95 i ± 0.35	3.53 de ± 0.26	7.24 c ± 0.14	8.68 f ± 0.07

Increasing and Decreasing Percentages Compared to Irrigated Plants during the First and Second Stress Stages

Interaction	MC (%)	TA (%)	TSS (%)	ASC (%)	CAC (%)	SSC (%)	TPC (%)
SOBS*Braw	-1.64 fg ± 0.32	10.59 c ± 1.94	-5.63 def ± 1.19	-12.73 j ± 0.02	-11.42 g ± 0.07	-12.15 g ± 0.38	-9.85 k ± 0.22
SOBS*Yadgar	-1.16 de ± 0.09	9.38 c ± 4.87	-9.38 gh ± 1.89	12.40 e ± 1.97	-12.25 g ± 1.02	-9.10 f ± 1.56	5.78 i ± 0.34
SOBS*Raza Pashayi	-0.23 a ± 0.06	0.12 d ± 6.07	-2.20 bc ± 1.91	25.47 b ± 0.70	3.87 c ± 0.34	3.49 c ± 0.24	26.29 b ± 0.83
SOBS*Sandra	-0.57 ab ± 0.10	6.53 cd ± 6.67	1.75 a ± 1.52	25.78 b ± 0.87	9.47 a ± 0.53	11.81 a ± 0.84	14.25 e ± 0.39

SOES*Braw	-1.61 fg ± 0.58	10.71 c ± 6.58	-7.02 efg ± 3.13	-10.35 i ± 0.73	-13.96 h ± 0.51	-13.05 g ± 0.74	-10.31 k ± 0.07
SOES*Yadgar	-1.02 cde ± 0.08	11.67 c ± 2.60	-8.75 fgh ± 1.04	5.57 g ± 0.57	-14.65 h ± 0.21	-7.78 f ± 1.46	9.06 g ± 0.05
SOES*Raza Pashayi	-0.25 a ± 0.04	0.00 d ± 0.00	-2.20 bc ± 1.91	28.71 a ± 1.19	0.74 d ± 0.74	3.10 c ± 1.09	27.20 a ± 0.15
SOES*Sandra	-0.55 ab ± 0.11	6.39 cd ± 0.24	0.90 ab ± 3.00	28.52 a ± 0.31	7.40 b ± 0.01	10.95 a ± 0.36	15.73 d ± 0.09
SOS*Braw	-2.31 h ± 0.31	14.96 bc ± 6.67	-9.84 ghi ± 2.30	-19.86 k ± 0.27	-16.91 i ± 0.11	-19.25 i ± 0.98	-10.37 k ± 0.45
SOS*Yadgar	-1.27 ef ± 0.16	14.03 bc ± 4.98	-11.25 hi ± 0.12	5.88 g ± 0.87	-16.51 i ± 0.73	-11.98 g ± 1.04	6.44 h ± 0.60
SOS*Raza Pashayi	-0.57 ab ± 0.05	6.19 cd ± 6.25	-3.32 cd ± 1.61	19.67 d ± 0.98	-0.63 e ± 0.62	-0.70 d ± 0.39	20.49 c ± 0.69
SOS*Sandra	-0.68 bc ± 0.13	10.69 c ± 3.87	0.88 ab ± 1.52	22.49 c ± 0.59	6.37 b ± 0.70	6.29 b ± 0.80	14.04 e ± 0.29
SS*Braw	-3.00 i ± 0.40	34.02 a ± 0.68	-12.68 ij ± 0.15	-25.64 l ± 0.47	-22.41 k ± 1.13	-31.05 j ± 0.10	-15.03 l ± 0.56
SS*Yadgar	-1.79 g ± 0.14	20.97 b ± 2.81	-15.00 j ± 0.16	-4.02 h ± 1.51	-19.31 j ± 0.06	-15.82 h ± 0.51	4.31 j ± 0.06
SS*Raza Pashayi	-0.64 abc ± 0.08	6.19 cd ± 6.25	-3.88 cde ± 0.90	9.26 f ± 0.09	-3.24 f ± 1.13	-4.57 e ± 0.53	11.14 f ± 0.08
SS*Sandra	-0.78 bcd ± 0.16	15.00 bc ± 4.33	-2.59 cd ± 2.56	5.49 g ± 1.11	4.56 c ± 0.27	2.19 c ± 1.06	6.71 h ± 0.22

MC: moisture content, TA: titratable acidity, TSS: total soluble solids, ASC: ascorbic acid content, CAC: carotenoid content, SSC: soluble sugar content, TPC: total phenolics content, SS: stressed plants, SOS: stressed plants + oak leaf powder, SOES: stressed plants + oak leaf powder + oak leaf extract, SOBS: stressed plants + oak leaf powder + biofertilizers. Duncan's multiple range test at $p \leq 0.05$ indicates that any values sharing the same letter in the same column are not statistically significant. The trait index \pm standard deviation (SD) is used to denote the values.

Table S6. Interaction effects of tomato genotypes and treatments on the different biochemical traits under the first, second, and their combination of stress stages.

First Stress Stage							
Interaction	PC (μg g ⁻¹)	SSC (μg g ⁻¹)	TPC (μg g ⁻¹)	AC (μg g ⁻¹)	LP (nmol g ⁻¹)	GPA (units min ⁻¹ g ⁻¹)	CAT (units min ⁻¹ g ⁻¹)
SOBS*Braw	1527.08 g ±	583.70 g ±	465.13 d ±	1101.08 d ±	8.22 j ± 0.00	0.24 f ±	155.84 de ±
	16.15	2.47	1.12	2.03		0.00	12.99
SOBS*Yadgar	1078.36 k ±	413.64 l ±	272.81 n ±	749.05 q ±	9.14 i ± 0.04	0.18 g ±	71.43 gh ±
	1.79	0.93	0.56	2.70		0.01	6.49
SOBS*Raza Pashayi	1247.08 h ±	609.32 e ±	502.96 b ±	997.03 i ±	6.80 n ±	0.29 de ±	175.32 bc ±
	8.97	2.78	11.61	2.03		0.06	6.49
SOBS*Sandra	2332.97 b ±	669.51 c ±	494.72 c ±	1193.65 a ±	9.66 h ±	0.33 c ±	155.84 de ±
	7.18	1.85	1.50	1.35		0.00	0.00
SOES*Braw	2004.51 e ±	577.22 h ±	429.55 e ±	1090.27 e ±	7.37 m ±	0.27 e ±	162.34 cd ±
	16.15	2.16	1.87	4.73		0.04	19.48
SOES*Yadgar	2184.00 d ±	456.85 k ±	280.49 m ±	726.08 r ±	7.80 l ± 0.02	0.30 d ±	77.92 g ±
	12.56	0.93	1.12	1.35		0.02	12.99
SOES*Raza Pashayi	1191.44 i ±	711.79 a ±	518.13 a ±	1045.68 g ±	5.55 p ±	0.38 b ±	220.78 a ±
	10.77	0.93	0.19	0.68		0.02	12.99
SOES*Sandra	2446.05 a ±	704.69 b ±	368.69 hi ±	1165.95 b ±	7.87 k ±	0.42 a ±	181.82 b ±
	12.56	0.00	0.19	0.68		0.02	12.99
SOS*Braw	1044.26 l ±	478.46 i ±	368.13 hi ±	1068.65 f ±	11.52 e ±	0.24 f ±	77.92 g ±
	10.77	0.31	0.75	0.68		0.06	12.99
SOS*Yadgar	782.21 q ±	396.67 m ±	252.58 o ±	699.73 s ±	13.73 c ±	0.14 h ±	45.45 i ± 6.49
	3.59	1.85	0.56	2.03		0.13	
SOS*Raza Pashayi	1141.18 j ±	588.95 f ±	395.09 f ±	971.35 l ±	7.74 l ± 0.00	0.36 bc ±	207.79 a ± 0.00
	10.77	0.31	0.37	3.38		0.01	
SOS*Sandra	2324.00 b ±	632.47 d ±	363.82 i ±	1127.43 c ±	11.19 f ±	0.28 de ±	142.86 ef ±
	1.79	0.62	0.94	2.70		0.02	
SS*Braw	1008.36 m ±	392.04 n ±	339.10 k ±	831.49 o ±	14.51 b ±	0.10 ij ±	51.95 i ± 12.99
	10.77	2.16	0.19	0.00		0.02	
SS*Yadgar	918.62 o ±	301.60 o ±	236.85 p ±	777.43 p ±	15.63 a ±	0.07 jk ±	38.96 i ± 12.99
	17.95	1.85	1.31	2.70		0.07	
SS*Raza Pashayi	1040.67 l ±	388.95 n ±	381.24 g ±	978.11 k ±	9.99 g ±	0.27 e ±	129.87 f ±
	7.18	0.93	1.50	0.68		0.04	
SS*Sandra	2262.97 c ±	586.17 fg ±	345.09 j ±	984.19 j ±	12.26 d ±	0.22 f ±	129.87 f ±
	16.15	3.09	0.19	2.70		0.02	
SW*Braw	679.90 r ±	464.88 j ±	366.25 i ±	1010.54 h ±	4.79 q ±	0.12 hi ±	19.48 j ± 6.49
	16.15	4.63	0.37	2.03		0.004	
SW*Yadgar	954.51 n ±	283.70 q ±	224.68 q ±	684.86 t ±	5.97 o ±	0.12 hi ±	58.44 hi ± 6.49
	3.59	1.23	0.75	6.08		0.00	
SW*Raza Pashayi	845.03 p ±	289.57 p ±	371.69 h ±	944.32 m ±	4.24 r ±	0.22 f ±	129.87 f ± 0.00
	8.97	1.54	0.56	3.38		0.04	
SW*Sandra	1738.87 f ±	458.40 k ±	286.29 l ±	933.51 n ±	5.95 o ±	0.06 k ±	51.95 i ± 0.00
	12.56	1.23	0.56	2.03		0.02	
Second Stress Stage							
Interaction	PC (μg g ⁻¹)	SSC (μg g ⁻¹)	TPC (μg g ⁻¹)	AC (μg g ⁻¹)	LP (nmol g ⁻¹)	GPA (units min ⁻¹ g ⁻¹)	CAT (units min ⁻¹ g ⁻¹)
SOBS*Braw	2000.92 f ±	883.40 a ±	404.27 e ±	896.35 j ±	11.45 d ±	0.23 de ±	136.36 de ±
	1.79	0.31	0.19	1.35		0.02	0.01
SOBS*Yadgar	1963.23 g ±	586.48 m ±	432.17 b ±	851.08 m ±	10.84 f ±	0.14 gh ±	84.42 hij ±
	10.77	1.54	0.37	0.68		0.04	0.01
SOBS*Raza Pashayi	1568.36 l ±	768.58 f ±	418.13 d ±	1066.62 f ±	9.42 i ± 0.09	0.33 b ±	123.38 ef ±
	3.59	2.78	1.69	2.70		0.01	6.49
SOBS*Sandra	2702.72 b ±	732.16 g ±	458.39 a ±	1130.14 b ±	7.98 l ± 0.02	0.28 c ±	162.34 bc ±
	17.95	2.78	0.75	0.00		0.02	19.48
SOES*Braw	3072.46 a ±	877.53 b ±	395.66 f ±	879.46 k ±	8.53 k ±	0.28 c ±	168.83 b ±
	10.77	2.47	0.94	0.68		0.02	0.00
SOES*Yadgar	1905.79 h ±	643.89 k ±	359.89 i ±	776.08 p ±	10.56 g ±	0.23 de ±	110.39 fg ±
	0.00	0.93	1.12	0.00		0.06	0.01
SOES*Raza Pashayi	2575.28 c ±	815.80 c ±	433.11 b ±	1090.27 d ±	7.34 o ±	0.40 a ±	142.86 d ±
	12.56	2.47	1.69	0.68		0.04	0.01
SOES*Sandra	2582.46 c ±	794.51 e ±	422.06 c ±	1151.89 a ±	6.23 r ±	0.40 a ±	214.29 a ± 6.49
	8.97	2.16	1.12	1.22		0.04	
SOS*Braw	1539.64 m ±	809.32 d ±	365.88 h ±	836.22 n ±	12.41 c ±	0.19 f ±	116.88 f ±
	0.00	3.40	0.75	0.68		0.02	12.99

SOS*Yadgar	1756.82 i ± 8.97	415.80 p ± 1.23	329.93 l ± 0.37	699.73 s ± 3.38	10.99 e ± 0.07	0.16 g ± 0.01	90.91 hi ± 0.00
SOS*Raza Pashayi	1509.13 n ± 5.38	631.54 l ± 1.54	402.96 e ± 1.12	982.16 h ± 2.03	10.03 h ± 0.04	0.31 b ± 0.01	97.40 gh ± 6.49
SOS*Sandra	2449.64 d ± 16.15	654.38 j ± 2.78	417.19 d ± 0.75	1118.65 c ± 0.68	8.96 j ± 0.04	0.25 d ± 0.01	149.35 cd ± 6.49
SS*Braw	1150.15 q ± 1.79	688.95 i ± 0.93	354.64 j ± 1.87	857.84 l ± 2.03	13.94 b ± 0.04	0.11 i ± 0.02	64.94 k ± 12.99
SS*Yadgar	1643.74 k ± 10.77	385.56 r ± 1.85	213.07 p ± 1.12	716.62 r ± 2.03	16.63 a ± 0.07	0.13 hi ± 0.02	77.92 ijk ± 12.99
SS*Raza Pashayi	1385.28 o ± 7.18	453.77 o ± 2.16	327.49 m ± 0.56	953.78 i ± 4.37	11.43 d ± 0.00	0.28 c ± 0.02	84.42 hij ± 6.49
SS*Sandra	2288.10 e ± 1.79	587.72 m ± 0.93	394.85 f ± 0.62	1081.35 e ± 2.57	9.35 i ± 0.06	0.16 g ± 0.01	97.40 gh ± 6.49
SW*Braw	342.46 s ± 8.97	718.58 h ± 0.31	347.53 k ± 0.37	824.73 o ± 1.35	7.54 n ± 0.02	0.12 hi ± 0.01	45.45 l ± 6.49
SW*Yadgar	1729.90 j ± 7.18	402.53 q ± 2.16	300.52 o ± 1.31	767.30 q ± 2.03	7.71 m ± 0.04	0.20 ef ± 0.01	123.38 ef ± 6.49
SW*Raza Pashayi	1064.00 r ± 8.97	360.86 s ± 5.56	311.95 n ± 2.25	957.16 i ± 2.70	6.43 q ± 0.02	0.24 d ± 0.02	71.43 jk ± 6.49
SW*Sandra	1369.13 p ± 16.15	525.06 n ± 0.00	379.36 g ± 0.00	1032.84 g ± 2.70	7.13 p ± 0.06	0.05 j ± 0.01	19.48 m ± 6.49
First and Second Stress Stages							
Interaction	PC (µg g ⁻¹)	SSC (µg g ⁻¹)	TPC (µg g ⁻¹)	AC (µg g ⁻¹)	LP (nmol g ⁻¹)	GPA (units min ⁻¹ g ⁻¹)	CAT (units min ⁻¹ g ⁻¹)
SOBS*Braw	1801.69 h ± 10.77	832.72 d ± 0.25	534.98 c ± 0.62	1103.11 bc ± 4.05	11.89 e ± 0.06	0.18 h ± 0.01	110.39 ghi ± 6.49
SOBS*Yadgar	1579.13 k ± 3.59	569.51 n ± 0.62	389.29 k ± 0.94	886.89 hi ± 1.35	11.35 f ± 0.07	0.23 fg ± 0.01	129.87 fg ± 12.99
SOBS*Raza Pashayi	2415.54 b ± 7.18	871.67 c ± 0.93	471.50 d ± 1.12	1008.51 def ± 1.35	10.34 h ± 0.09	0.41 c ± 0.04	123.38 gh ± 19.48
SOBS*Sandra	2431.69 b ± 8.97	784.63 f ± 2.16	416.82 h ± 0.37	1118.65 bc ± 6.08	9.11 l ± 0.04	0.40 c ± 0.01	259.74 b ± 0.00
SOES*Braw	2216.31 e ± 12.56	892.65 b ± 1.54	636.29 a ± 1.12	1199.73 a ± 2.03	10.16 i ± 0.06	0.25 f ± 0.01	149.35 ef ± 6.49
SOES*Yadgar	1715.54 i ± 10.77	723.52 g ± 2.16	336.10 o ± 1.31	900.41 gh ± 2.70	9.94 j ± 0.02	0.28 e ± 0.02	162.34 de ± 19.48
SOES*Raza Pashayi	2571.69 a ± 16.15	833.40 d ± 2.16	571.50 b ± 1.12	1106.49 bc ± 3.38	7.37 p ± 0.00	0.61 a ± 0.01	194.81 c ± 12.99
SOES*Sandra	2367.08 c ± 8.97	976.60 a ± 0.93	430.86 g ± 0.56	1163.24 ab ± 0.68	8.28 m ± 0.06	0.62 a ± 0.02	363.64 a ± 0.00
SOS*Braw	1035.28 q ± 5.38	816.11 e ± 0.93	446.40 f ± 1.50	830.81 ijk ± 0.68	16.09 c ± 0.02	0.20 gh ± 0.01	123.38 gh ± 6.49
SOS*Yadgar	1555.79 l ± 8.97	524.44 o ± 0.62	316.44 q ± 1.12	869.32 hij ± 1.35	13.77 d ± 0.02	0.22 fgh ± 0.02	129.87 fg ± 12.99
SOS*Raza Pashayi	1853.74 g ± 30.51	641.11 k ± 1.85	462.88 e ± 0.75	993.65 ef ± 0.00	10.41 h ± 0.02	0.44 b ± 0.01	168.83 d ± 12.99
SOS*Sandra	2315.03 d ± 7.18	699.75 j ± 0.62	406.14 i ± 0.19	1060.54 cd ± 0.68	9.84 k ± 0.04	0.22 fgh ± 0.00	129.87 fg ± 0.00
SS*Braw	1518.10 m ± 7.18	709.63 i ± 0.62	331.42 p ± 1.50	818.45 jk ± 4.53	16.74 a ± 0.07	0.11 i ± 0.02	90.91 ij ± 12.99
SS*Yadgar	1422.97 n ± 5.38	391.73 q ± 1.85	195.28 t ± 2.06	823.60 ijk ± 162.84	16.46 b ± 0.06	0.10 i ± 0.01	77.92 jk ± 12.99
SS*Raza Pashayi	1613.23 j ± 16.15	587.10 m ± 1.54	343.60 n ± 0.19	951.08 fg ± 0.68	11.93 e ± 0.02	0.31 d ± 0.01	103.90 hi ± 0.00
SS*Sandra	2090.67 f ± 16.15	634.32 l ± 2.47	393.97 j ± 1.12	1036.22 de ± 0.68	10.69 g ± 0.00	0.18 h ± 0.03	110.39 ghi ± 19.48
SW*Braw	342.46 r ± 8.97	718.58 h ± 0.31	347.53 m ± 0.37	824.73 ijk ± 1.35	7.54 o ± 0.02	0.12 i ± 0.01	45.45 l ± 6.49
SW*Yadgar	1729.90 i ± 7.18	402.53 p ± 2.16	300.52 s ± 1.31	767.30 k ± 2.03	7.71 n ± 0.04	0.20 gh ± 0.01	123.38 gh ± 6.49
SW*Raza Pashayi	1064.00 p ± 8.97	360.86 r ± 5.56	311.95 r ± 2.25	957.16 fg ± 2.70	6.43 r ± 0.02	0.24 fg ± 0.02	71.43 k ± 6.49
SW*Sandra	1369.13 o ± 16.15	525.06 o ± 0.00	379.36 l ± 0.00	1032.84 de ± 2.70	7.13 q ± 0.06	0.05 j ± 0.01	19.48 m ± 6.49

PC: proline content, SSC: soluble sugar content, TPC: total phenolic content, AC: antioxidant activity, LP: lipid peroxidation, GPA: peroxidase, CAT: catalase, SS: stressed plants, SOS: stressed plants + oak leaf powder, SOES: stressed plants + oak leaf powder + oak leaf extract, SOBS: stressed plants + oak leaf powder + biofertilizers. Duncan's multiple range test at $p \leq 0.05$ indicates that any mean values sharing the same letter in the same column are not statistically significant. The mean \pm standard deviation (SD) is used to represent the values.

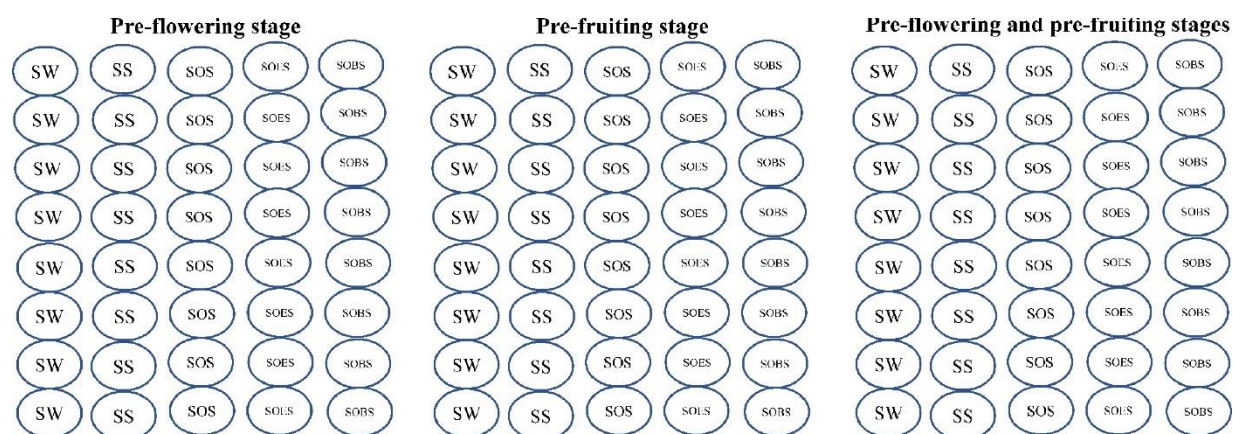


Figure S1. Experimental design layout of the variables investigated in this study for each genotype. SW: irrigated plants (control), SS: stressed plants, SOS: stressed plants + oak leaf powder, SOES: stressed plants + oak leaf powder + oak leaf extract, SOBS: stressed plants + oak leaf powder + biofertilizers. Each circle represents a pot or replication.



First stress stage



Second stress stage



First and second stress stages

Figure S2. Effect of different treatments on the root morphology of the Yadgar genotype under different stress conditions. SW: irrigated plants (control), SS: stressed plants, SOS: stressed plants + oak leaf powder, SOES: stressed plants + oak leaf powder + oak leaf extract, SOBS: stressed plants + oak leaf powder + biofertilizers.

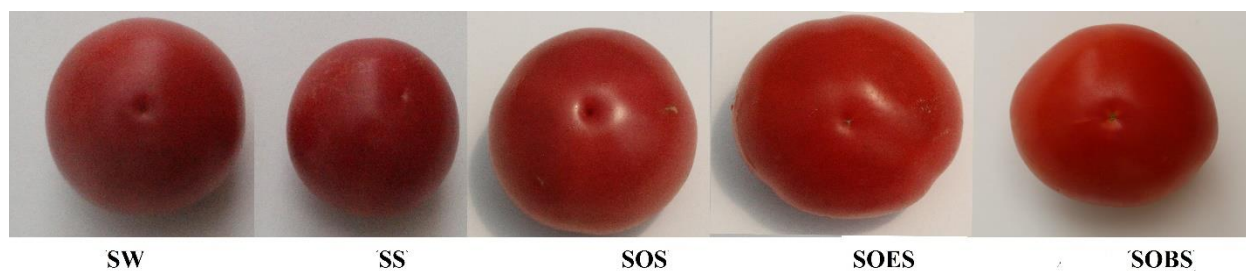


Figure S3. Effect of different treatments on the fruit morphology of the Raza Pashayi genotype under first stress conditions. SW: irrigated plants (control), SS: stressed plants, SOS: stressed plants + oak leaf powder, SOES: stressed plants + oak leaf powder + oak leaf extract, SOBS: stressed plants + oak leaf powder + biofertilizers.