

Supplementary Table 1 Interaction effect of EC and pH concentration on yield and quality of hydroponic lettuce

Treatment	Yield (g/plant)	Plant height (cm)	No. of leaves/plant	Leaf length (cm)	Leaf width (cm)	Leaf weight (g)	Stem diameter (cm)	Average shoot weight (g)	Average root weight (g)	Total antioxidant (μmol TE/100 g)	Carotenoids (mg/100 g)	Total ascorbic acid (mg/100 g)
E ₁ P ₁	65.04	24.32	12.10	24.03	12.16	5.57	1.00	42.94	16.06	429.48	6.40	37.27
E ₁ P ₂	76.11	25.31	12.98	21.32	14.64	5.57	1.15	59.28	16.72	282.82	8.14	38.20
E ₁ P ₃	72.89	24.70	13.56	23.44	16.29	5.57	1.03	61.07	27.23	221.20	4.99	38.97
E ₂ P ₁	90.29	24.78	15.64	21.07	11.96	5.01	0.92	70.00	22.11	227.37	6.91	47.55
E ₂ P ₂	73.85	22.61	14.89	18.10	14.34	5.01	1.14	51.19	26.83	419.37	6.86	43.15
E ₂ P ₃	100.14	27.27	17.88	17.94	14.44	5.01	1.27	73.06	27.71	116.90	6.80	38.92
E ₃ P ₁	91.81	27.16	17.73	18.71	13.35	5.99	0.82	69.37	21.62	160.19	7.67	40.52
E ₃ P ₂	96.59	21.23	19.83	21.95	15.09	6.00	1.20	65.37	31.88	455.30	3.11	41.75
E ₃ P ₃	101.03	20.47	20.89	18.02	14.98	6.09	1.42	70.91	30.28	633.28	6.57	29.19
CD (<i>p</i> =0.05%)	1.39	0.57	0.56	0.65	0.516	0.338	0.076	2.254	1.694	3.227	0.14	0.468
SE(d)	0.703	0.29	0.28	0.33	0.261	0.171	0.038	1.139	0.856	1.63	0.071	0.236
SEM	0.497	0.20	0.20	0.23	0.184	0.121	0.027	0.805	0.605	1.153	0.05	0.167

E₁, Electrical conductivity (EC) @1.8 dS/m; E₂, EC @2.0 dS/m; E₃, (EC) @2.2 dS/m; P₁, pH @5.5; P₂, pH @6.5; P₃, pH @7.5.

Supplementary Table 2 Interaction effect of different EC levels and varieties on yield and quality of hydroponic lettuce

Treatments	Yield (g/plant)	Plant height (cm)	No. of levels/plant	Leaf length (cm)	Leaf width (cm)	Leaf weight (g)	Stem diameter (cm)	Average shoot weight (g)	Average root weight (g)	Total antioxidant ($\mu\text{mol}\cdot\text{TE}/100\text{g}$)	Carotenoids (mg/100 g)	Total ascorbic acid (mg/100 g)
E ₁ C ₁	102.58	23.62	12.62	20.52	15.18	6.47	0.86	97.07	20.36	175.08	5.47	32.92
E ₁ C ₂	57.91	25.38	15.27	20.06	6.30	2.49	0.73	36.40	15.70	172.41	7.31	33.26
E ₁ C ₃	101.58	33.89	18.27	26.23	12.05	4.82	1.06	75.76	34.29	220.92	6.53	36.44
E ₁ C ₄	91.24	28.36	14.22	26.90	16.18	6.89	1.18	75.09	27.84	373.43	7.32	35.01
E ₁ C ₅	67.38	25.59	9.76	18.47	12.70	5.29	0.98	44.62	18.42	153.77	7.15	31.42
E ₁ C ₆	32.64	18.61	10.27	16.94	12.81	3.51	0.74	24.07	12.16	464.29	6.39	48.87
E ₁ C ₇	46.07	17.99	9.74	16.09	12.21	5.95	0.86	28.00	11.27	618.25	8.76	49.08
E ₂ C ₁	101.17	21.71	14.81	20.47	17.51	6.92	1.02	80.38	22.55	100.18	5.34	28.39
E ₂ C ₂	53.53	27.50	15.74	21.33	9.86	3.23	0.92	32.44	21.84	96.17	6.08	38.95
E ₂ C ₃	98.14	31.04	18.16	24.94	11.41	4.82	1.23	65.56	32.92	164.32	5.74	37.54
E ₂ C ₄	81.21	27.01	16.39	17.60	15.55	4.87	1.13	56.79	26.12	176.59	6.30	30.23
E ₂ C ₅	140.22	28.39	18.86	22.21	16.54	7.88	1.53	109.02	32.16	97.03	6.69	31.63
E ₂ C ₆	70.68	20.34	16.66	17.93	16.83	6.89	1.36	60.09	19.69	430.36	5.74	63.42
E ₂ C ₇	71.73	18.21	12.34	18.71	15.12	5.28	0.94	48.98	23.56	717.17	6.35	72.31
E ₃ C ₁	162.11	23.18	21.83	20.93	19.85	9.49	1.26	129.58	33.59	261.30	3.64	26.88
E ₃ C ₂	71.45	23.41	20.39	20.95	8.29	3.34	1.22	47.09	24.47	203.55	6.22	26.77
E ₃ C ₃	122.63	29.67	22.64	22.81	14.93	6.04	1.41	82.69	39.84	334.30	6.70	29.02
E ₃ C ₄	90.62	23.45	18.88	18.61	15.70	4.66	1.01	62.19	26.18	302.26	6.41	33.70
E ₃ C ₅	77.98	22.12	16.64	18.37	16.10	6.19	1.30	52.02	26.53	126.25	5.98	28.69
E ₃ C ₆	75.96	18.06	18.26	18.45	16.10	5.67	1.30	53.71	23.13	801.35	6.90	51.63
E ₃ C ₇	74.57	20.77	17.76	18.44	15.68	6.03	1.20	52.58	21.73	884.76	6.98	63.39
CD ($p=0.05$)	2.124	0.87	0.85	0.99	0.788	0.516	0.067	3.443	2.588	4.929	0.214	0.715
SE(d)	1.073	0.44	0.43	0.50	0.398	0.258	0.034	1.74	1.308	2.49	0.108	0.361
SEM	0.759	0.31	0.30	0.35	0.282	0.129	0.024	1.23	0.925	1.761	0.076	0.255

E₁, Electrical conductivity (EC) @1.8 dS/m; E₂, EC @2.0 dS/m; E₃, EC @2.2 dS/m; C₁, Bingo; C₂, Tango; C₃, Lollo Rosso; C₄, Grand Rapids; C₅, Summer Star; C₆, Romaine; C₇, Black Rose.

Supplementary Table 3 Interaction effect of different pH levels and varieties on yield and quality of hydroponic lettuce

Treatments	Yield (g/plant)	Plant height (cm)	No. of leaves/plant	Leaf length (cm)	Leaf width (cm)	Leaf weight (g)	Stem diameter (cm)	Average shoot weight (g)	Average root weight (g)	Total antioxidant ($\mu\text{mol} \cdot \text{TE}/100 \text{ g}$)	Carotenoids (mg/100 g)	Ascorbic acid (mg/100 g)
P ₁ C ₁	98.06	22.89	14.12	21.67	17.03	7.75	1.00	78.62	20.22	95.32	5.37	26.22
P ₁ C ₂	57.72	26.13	15.49	21.99	7.74	3.32	0.93	40.10	18.33	182.16	5.84	42.24
P ₁ C ₃	109.18	31.71	18.74	24.85	13.03	5.28	1.23	80.62	28.34	145.36	6.91	39.26
P ₁ C ₄	86.14	25.85	15.31	27.31	17.50	5.66	1.09	48.77	20.23	127.30	6.90	31.72
P ₁ C ₅	105.14	30.18	16.21	20.95	15.23	6.79	1.13	80.44	25.47	104.42	6.48	29.64
P ₁ C ₆	61.62	20.21	14.10	20.08	14.91	4.99	1.00	52.13	12.40	621.19	6.30	56.69
P ₁ C ₇	58.80	20.96	12.11	19.99	15.10	5.22	1.02	44.71	14.51	627.67	7.77	66.70
P ₂ C ₁	113.51	21.78	15.42	19.25	16.35	6.46	1.01	89.93	25.02	318.89	5.81	35.33
P ₂ C ₂	61.26	25.57	17.81	20.14	9.61	2.84	0.94	40.82	21.02	202.88	7.28	31.77
P ₂ C ₃	107.37	31.11	19.32	24.83	12.42	5.09	1.28	71.60	35.98	341.73	5.72	33.62
P ₂ C ₄	82.29	24.82	16.71	17.10	14.26	4.91	1.07	67.89	26.62	449.79	7.81	29.94
P ₂ C ₅	88.41	23.08	12.93	18.11	14.28	5.64	1.33	57.56	24.62	130.81	6.88	37.04
P ₂ C ₆	50.38	17.68	14.98	16.22	14.37	5.13	1.16	38.13	22.53	556.76	6.67	58.15
P ₂ C ₇	72.06	17.32	14.14	17.57	13.77	5.01	0.98	44.36	20.20	1115.22	7.79	61.39
P ₃ C ₁	154.29	23.84	19.72	21.00	19.15	8.68	1.12	138.47	31.26	122.35	3.26	26.64
P ₃ C ₂	63.92	24.59	18.10	20.22	7.12	2.89	1.00	35.01	22.66	87.09	6.50	24.97
P ₃ C ₃	105.79	31.78	21.00	24.30	12.93	5.31	1.18	71.78	42.73	232.45	6.34	30.13
P ₃ C ₄	94.64	28.14	17.48	18.70	15.67	5.84	1.16	77.41	33.29	275.18	5.31	37.28
P ₃ C ₅	92.03	22.83	16.11	20.00	15.84	6.93	1.34	67.67	27.02	141.83	6.47	25.06
P ₃ C ₆	67.28	19.12	16.10	17.02	16.46	5.95	1.25	47.60	20.04	510.06	6.06	49.09
P ₃ C ₇	61.50	18.69	13.59	15.68	14.14	7.03	0.99	40.49	21.84	482.29	6.53	56.68
CD ($p=0.05$)	2.124	0.87	0.85	0.99	0.99	0.516	0.067	3.443	2.588	4.929	0.214	0.715
SE(d)	1.07	0.44	0.43	0.50	0.50	0.258	0.034	1.740	1.308	2.490	0.108	0.361
SEM	0.76	0.31	0.30	0.35	0.35	0.129	0.024	1.230	0.925	1.761	0.076	0.255

P₁, pH @5.5; P₂, pH @6.5; P₃, pH @7.5; C₁, Bingo; C₂, Tango; C₃, Lollo Rosso; C₄, Grand Rapids; C₅, Summer Star; C₆, Romaine; C₇, Black Rose.