

Table 3. Effect of compost, some biofertilizers and humic acid as a partial replacement of inorganic N fertilizer on the leaf area (cm²), and main shoot length (cm.) of Superior seedless grapevines during 2013 and 2014 seasons

Types (A) and levels of compost (B)	2013			2014			2013			2014						
	Leaf area (cm ² .)						Main shoot length(cm.)									
	Organic and biofertilizers (C)															
	C1	C2	Means A, B, AB	C1	C2	Means A, B, AB	C1	C2	Means A, B, AB	C1	C2	Means A, B, AB				
a1	120.0	124.5	122.3	119.8	124.5	122.2	113.3	119.8	116.6	122.5	132.3	127.4				
a2	124.3	128.7	126.4	124.3	128.9	126.6	117.8	125.5	121.7	126.5	134.8	130.7				
b1	116.2	116.9	117.1	118.0	122.3	120.2	107.0	110.0	108.5	110.0	119.0	114.5				
b2	122.5	126.0	124.3	122.0	127.0	124.5	112.5	118.5	115.5	125.0	131.0	128.0				
b3	125.0	131.0	128.0	123.5	128.0	125.8	121.0	130.5	125.8	131.5	142.0	136.8				
b4	125.0	131.5	128.3	124.5	129.4	127.0	121.5	131.5	126.5	131.5	142.0	136.8				
a1b1	116.2	117.9	117.1	118.0	122.3	120.2	107.0	110.0	108.5	110.0	119.0	104.5				
a1b2	119.9	120.9	120.4	119.0	124.0	122.5	109.0	116.0	117.5	120.0	129.0	124.5				
a1b3	122.0	129.0	125.5	120.0	125.0	122.5	118.0	126.0	122.0	130.0	141.0	135.5				
a1b4	122.0	130.0	126.0	122.0	126.5	124.3	119.0	127.0	123.0	130.0	140.0	135.0				
a2b1	116.2	117.9	117.1	118.0	122.3	120.2	107.0	110.0	108.5	110.0	119.0	114.5				
a2b2	125.0	131.0	127.5	125.0	130.0	127.5	116.0	121.0	118.5	130.0	133.0	131.5				
a2b3	128.0	133.0	130.5	127.0	131.0	129.0	124.0	135.0	129.5	133.0	143.0	138.0				
a2b4	128.0	133.0	130.5	127.0	132.2	129.6	124.0	136.0	130.0	133.0	144.0	138.5				
Mean(C)	122.2	126.6		122.0	126.7		115.5	122.6		124.6	133.6					
New LSD 5 %	A 0.28 AC 1.16	B 1.02 BC 1.66	C 0.83 ABC 2.32	AB 1.43	A 0.60 AC 1.18	B 1.32 BC 1.68	C 0.46 ABC 2.36	AB 1.85	A 0.98 AC 0.84	B 0.78 BC 1.80	C 0.90 ABC 1.68	AB 1.09	A 0.86 AC 1.23	B 0.64 BC 1.76	C 0.80 ABC 2.46	AB 1.06

(A) Types of compost	(B) Levels of compost slow release fertilizers	(C) Organic and biofertilizers as well as humic acid (C)Application of the
a1 Compost I (herbs and medical plant residues)	b1) vines treated with mineral NPK at 60, 60, 120 g / vine / yr alone	C Organic and biofertilizers as well as humic acid
a2) compost II (40% cattle manure + 60 % rice straw)	b2) 14 kg compost +0.375 kg rock phosphate + 0.714 kg feldspar/ vine/ yr	C1) vines received mineral NPK at 60, 60, 120 g respectively alone
	b3) 16 kg compost +0.428 kg rock phosphate + 0.875 kg feldspar/ vine/ yr	C2) vines received mineral NPK at 60, 60, 120 g respectively + <i>Bacillus megathelium</i> + <i>Bacillus circulance</i> + <i>Azotobacter chroococcum</i> .
	b4) 20 kg compost +0.5 kg rock phosphate + 1.0 kg feldspar/ vine/ yr	

Table 4. Effect of compost, some biofertilizers and humic acid as a partial replacement of inorganic N fertilizer on pruning weight (kg.)and cane thickness (cm.) of Superior seedless grapevines during 2013 and 2014 seasons

Types (A) and levels of compost (B)	2013			2014			2013			2014		
	pruning weight (kg.)						Cane thickness (cm.)					
	Organic and biofertilizers (C)											
	C1	C2	Means A, B, AB	C1	C2	Means A, B, AB	C1	C2	Means A, B, AB	C1	C2	Means A, B, AB
a1	1.69	2.21	1.95	1.92	2.55	2.24	1.09	1.14	1.12	1.06	1.14	1.10
a2	1.83	2.26	2.05	2.12	2.51	2.32	1.20	1.25	1.23	1.21	1.27	1.24
b1	1.56	2.09	1.83	1.77	2.31	2.04	1.00	1.05	1.03	1.01	1.08	1.05
b2	1.72	2.20	1.96	1.97	2.54	2.26	1.16	1.21	1.19	1.14	1.21	1.18
b3	1.80	2.29	2.05	2.12	2.60	2.36	1.20	1.25	1.23	1.19	1.26	1.23
b4	1.97	2.36	2.17	2.24	2.67	2.46	1.22	1.27	1.25	1.20	1.26	1.23
a1b1	1.55	2.08	1.82	1.76	2.31	2.04	1.00	1.05	1.03	1.01	1.08	1.05
a1b2	1.67	2.17	1.92	1.90	2.45	2.18	1.08	1.14	1.11	1.02	1.12	1.07
a1b3	1.73	2.27	2.00	1.96	2.70	2.33	1.14	1.18	1.16	1.10	1.17	1.14
a1b4	1.81	2.31	2.06	2.07	2.73	2.40	1.15	1.20	1.18	1.10	1.18	1.14
a2b1	1.56	2.10	2.03	1.78	2.30	2.04	1.00	1.05	1.03	1.01	1.08	1.05
a2b2	1.77	2.22	2.00	2.03	2.63	2.33	1.24	1.28	1.26	1.26	1.30	1.28
a2b3	1.86	2.30	2.08	2.27	2.50	2.39	1.26	1.32	1.29	1.28	1.34	1.31
a2b4	2.12	2.40	2.26	2.40	2.60	2.50	1.28	1.34	1.31	1.30	1.34	1.32
Mean(C)	1.76	2.24		2.03	2.53		1.15	1.20		1.14	1.21	
New LSD 5 %	A	B	C	AB	A	B	C	AB	A	B	C	AB
	0.001	0.001	0.002	0.006	0.001	0.001	0.002	0.006	0.002	0.002	0.002	0.002
	AC	BC	ABC		AC	BC	ABC		AC	BC	ABC	
	0.004	0.006	0.008		0.006	0.006	0.0012		0.002	0.004	0.004	

(A) Types of compost	(B) Levels of compost slow release fertilizers	(C) Organic and biofertilizers as well as humic acid (C)Application of the
a1 Compost I (herbs and medical plant residues)	b1) vines treated with mineral NPK at 60, 60, 120 g / vine / yr alone	C Organic and biofertilizers as well as humic acid
a2) compost II (40% cattle manure + 60 % rice straw)	b2) 14 kg compost +0.375 kg rock phosphate + 0.714 kg feldspar/ vine/ yr	C1) vines received mineral NPK at 60, 60, 120 g respectively alone
	b3) 16 kg compost +0.428 kg rock phosphate + 0.875 kg feldspar/ vine/ yr	C2) vines received mineral NPK at 60, 60, 120 g respectively + <i>Bacillus megathelium</i> + <i>Bacillus circulance</i> + <i>Azotobacter chroococcum</i> .
	b4) 20 kg compost +0.5 kg rock phosphate + 1.0 kg feldspar/ vine/ yr	

Table 5. Effect of compost, some biofertilizers and humic acid as a partial replacement of inorganic N fertilizer on total chlorophylls (mg/g F.W) and percentage of nitrogen in the leaves of Superior seedless grapevines during 2013, 2014 seasons

Types (A) and levels of compost (B)	2013			2014			2013			2014						
	total chlorophylls (mg/g F.W)						percentage of nitrogen in the leaves									
	Organic and biofertilizers (C)															
	C1	C2	Means A, B, AB	C1	C2	Means A, B, AB	C1	C2	Means A, B, AB	C1	C2	Means A, B, AB				
a1	65.2	73.6	69.4	67.4	77.0	72.2	1.80	2.17	1.99	1.85	2.29	2.07				
a2	67.8	73.1	70.5	70.1	76.2	73.2	1.86	2.20	2.03	1.96	2.30	2.13				
b1	61.0	72.6	66.8	61.0	74.3	67.7	1.69	2.03	1.86	1.74	2.16	1.95				
b2	64.3	70.1	67.2	68.3	75.7	72.0	1.78	2.15	1.97	1.88	2.30	2.09				
b3	70.0	73.9	72.0	72.1	78.3	75.2	1.90	2.27	2.09	1.98	2.35	2.17				
b4	70.7	76.9	73.8	73.6	8.2	75.7	1.94	2.30	2.12	2.02	2.37	2.20				
a1b1	60.6	76.7	68.8	60.8	79.1	65.0	1.68	2.04	1.86	1.73	2.16	1.95				
a1b2	60.7	71.0	65.9	66.0	75.2	70.6	1.73	2.11	1.92	1.79	2.30	2.05				
a1b3	69.1	70.8	70.0	70.7	76.5	73.6	1.86	2.25	2.06	1.92	2.33	2.13				
a1b4	70.4	75.7	72.6	72.0	77.2	74.6	1.91	2.28	2.10	1.96	2.35	2.16				
a2b1	61.4	68.4	64.9	61.1	69.4	65.3	1.70	2.02	1.86	1.75	2.15	1.95				
a2b2	67.8	69.2	68.5	70.5	76.2	73.4	1.83	2.18	2.01	1.97	2.30	2.14				
a2b3	70.8	76.9	73.9	73.5	80.0	76.8	1.94	2.28	2.11	2.04	2.36	2.20				
a2b4	71.0	78.0	74.5	75.2	79.1	77.2	1.97	2.32	2.15	2.08	2.38	2.23				
Mean (C)	66.5	73.4		68.8	76.6		1.83	2.19		1.91	2.30					
New LSD 5 %	A 0.38 AC 1.05	B 0.63 BC 1.50	C 0.75 ABC 2.10	AB 0.88	A 0.61 AC 1.32	B 0.82 BC 1.88	C 0.94 ABC 2.64	AB 1.15	A 0.004 AC 0.014	B 0.008 BC 0.20	C 0.010 ABC 0.028	AB 0.011	A 0.003 AC 0.013	B 0.009 BC 0.018	C 0.009 ABC 0.026	AB 0.013

(A) Types of compost	(B) Levels of compost slow release fertilizers	(C) Organic and biofertilizers as well as humic acid (C)Application of the
a1 Compost I (herbs and medical plant residues) a2) compost II (40% cattle manure + 60 % rice straw)	b1) vines treated with mineral NPK at 60, 60, 120 g / vine / yr alone b2) 14 kg compost +0.375 kg rock phosphate + 0.714 kg feldspar/ vine/ yr b3) 16 kg compost +0.428 kg rock phosphate + 0.875 kg feldspar/ vine/ yr b4) 20 kg compost +0.5 kg rock phosphate + 1.0 kg feldspar/ vine/ yr	C Organic and biofertilizers as well as humic acid C1) vines received mineral NPK at 60, 60, 120 g respectively alone C2) vines received mineral NPK at 60, 60, 120 g respectively + <i>Bacillus megathelium</i> + <i>Bacillus circulance</i> + <i>Azotobacter chroococcum</i> .

Table 6. Effect of compost, some Biofertilizers and humic acid as a partial replacement of inorganic N fertilizer on percentage of phosphorus in the leaves, percentage of potassium in the leaves of Thompson seedless grapevines during 2013, 2014 seasons

Types (A) and levels of compost (B)	2013			2014			2013			2014						
	Leaf P %						Leaf K %									
	Organic and biofertilizers (C)															
	C1	C2	Means A, B, AB	C1	C2	Means A, B, AB	C1	C2	Means A, B, AB	C1	C2	Means A, B, AB				
a1	0.21	0.40	0.31	0.27	0.48	0.38	2.11	2.65	2.38	2.21	2.81	2.51				
a2	0.23	0.41	0.36	0.29	0.48	0.39	2.13	2.71	2.42	2.29	2.86	2.58				
b1	0.16	0.36	0.26	0.22	0.41	0.32	2.92	2.49	2.21	2.03	2.66	2.35				
b2	0.22	0.39	0.31	0.28	0.48	0.38	2.12	2.63	2.38	2.22	2.83	2.53				
b3	0.24	0.43	0.34	0.32	0.51	0.42	2.22	2.79	2.51	2.35	2.90	2.63				
b4	0.26	0.44	0.35	0.32	0.53	0.43	2.24	2.82	2.53	2.41	2.94	2.68				
a1b1	0.16	0.35	0.26	0.21	0.41	0.31	1.91	2.48	2.20	2.02	2.65	2.34				
a1b2	0.21	0.40	0.31	0.27	0.48	0.38	2.11	2.60	2.36	2.20	2.79	2.50				
a1b3	0.22	0.41	0.32	0.30	0.50	0.40	2.21	2.75	2.48	2.27	2.88	2.58				
a1b4	0.23	0.43	0.33	0.31	0.52	0.32	2.22	2.78	2.50	2.36	2.90	2.63				
a2b1	0.16	0.36	0.26	0.22	0.40	0.31	1.92	2.50	2.21	2.04	2.66	2.35				
a2b2	0.23	0.37	0.30	0.28	0.48	0.38	2.12	2.66	2.39	2.23	2.86	2.55				
a2b3	0.26	0.44	0.35	0.34	0.51	0.43	2.22	2.83	2.53	2.43	2.92	2.68				
a2b4	0.28	0.45	0.37	0.33	0.5	0.44	2.25	2.86	2.56	2.46	2.98	2.72				
Mean(C)	0.22	0.41		0.29	0.48		2.12	2.68		2.25	2.83					
New LSD at 5 %	A 0.004 AC 0.013	B 0.010 BC 0.018	C 0.009 ABC 0.026	AB 0.14	A 0.001 AC 0.014	B 0.013 BC 0.20	C 0.010 ABC 0.028	AB 0.018	A 0.003 AC 0.14	B 0.006 BC 0.20	C 0.010 ABC 0.28	AB 0.08	A 0.008 AC 0.13	B 0.009 BC 0.20	C 0.010 ABC 0.26	AB 0.11

(A) Types of compost	(B) Levels of compost slow release fertilizers	(C) organic and biofertilizers as well as humic acid (C)Application of the
a1 Compost I (herbs and medical plant residues)	b1) vines treated with mineral NPK at 60, 60, 120 g / vine / yr alone	C Organic and biofertilizers as well as humic acid
a2) compost II (40% cattle manure + 60 % rice straw)	b2) 14 kg compost +0.375 kg rock phosphate + 0.714 kg feldspar/ vine/ yr b3) 16 kg compost +0.428 kg rock phosphate + 0.875 kg feldspar/ vine/ yr b4) 20 kg compost +0.5 kg rock phosphate + 1.0 kg feldspar/ vine/ yr	C1) vines received mineral NPK at 60, 60, 120 g respectively alone C2) vines received mineral NPK at 60, 60, 120 g respectively + <i>Bacillus megathelium</i> + <i>Bacillus circulance</i> + <i>Azotobacter chroococcum</i> .

Table 7. Effect of compost, some biofertilizers and humic acid as a partial replacement of inorganic N fertilizer on the number of clusters/vine and cluster weight (g.) of Superior seedless grapevines during 2013 and 2014 seasons.

Types (A) and levels of compost (B)	2013			2014			2013			2014						
	Organic and biofertilizers (C)						Organic and biofertilizers (C)									
	Number of clusters/vine						Cluster weight (g.)									
	C1	C2	Means A, B, AB	C1	C2	Means A, B, AB	C1	C2	Means A, B, AB	C1	C2	Means A, B, AB				
a1	28.3	29.8	29.1	29.8	31.8	30.8	336.0	341.0	338.5	341.2	344.3	342.8				
a2	29.5	31.5	30.5	31.3	32.5	31.9	378.2	382.0	380.4	385.3	391.7	388.5				
b1	28.0	29.5	28.8	28.5	30.0	29.3	329.3	332.8	331.1	336.1	337.0	336.6				
b2	28.5	31.0	29.8	31.0	32.5	31.8	359.4	364.7	362.1	368.3	368.0	368.2				
b3	29.0	31.0	30.0	31.0	32.5	31.8	365.5	370.7	368.1	370.0	379.0	374.5				
b4	30.0	31.0	30.5	32.0	33.5	32.0	374.4	379.2	376.8	378.6	388.0	383.3				
a1b1	28.0	29.0	28.5	28.0	30.0	29.0	329.0	332.7	331.2	336.0	337.0	336.5				
a1b2	28.0	30.0	29.0	30.0	32.0	31.0	334.0	339.3	336.7	337.0	339.0	338.0				
a1b3	28.0	30.0	29.0	30.0	32.0	31.0	335.0	339.3	337.2	339.3	334.7	342.0				
a1b4	29.0	30.0	29.5	31.0	33.0	32.0	346.0	352.7	349.4	352.6	356.6	354.6				
a2b1	28.0	30.0	29.0	29.0	30.0	29.5	329.5	332.8	331.2	336.2	337.0	336.6				
a2b2	29.0	32.0	30.5	32.0	33.0	32.5	384.7	390.0	387.4	399.6	397.0	395.8				
a2b3	30.0	32.0	31.0	32.0	33.0	32.5	396.0	402.0	399.0	400.6	413.3	407.0				
a2b4	31.0	32.0	31.5	33.0	34.0	33.5	402.7	405.6	404.2	404.6	419.3	412.0				
Mean(C)	28.9	30.7		30.6	32.2		357.1	361.8		363.3	368.0					
New LSD at 5 %	A	B	C	AB	A	B	C	AB	A	B	C	AB	A	B	C	AB
	0.35	0.45	1.12	0.63	0.18	0.53	0.97	0.25	0.22	0.54	0.44	0.76	0.48	0.66	0.78	4.05
	AC	BC	ABC		AC	BC	ABC		AC	BC	ABC		AC	BC	ABC	
	1.59	2.24	3.18		1.36	1.94	2.72		0.62	0.88	1.24		4.49	6.42	8.98	

(A) Types of compost	(B) Levels of compost slow release fertilizers	(C) organic and biofertilizers as well as humic acid (C)Application of the
a1 Compost I (herbs and medical plant residues)	b1) vines treated with mineral NPK at 60, 60, 120 g / vine / yr alone	C Organic and biofertilizers as well as humic acid
a2) compost II (40% cattle manure + 60 % rice straw)	b2) 14 kg compost +0.375 kg rock phosphate + 0.714 kg feldspar/ vine/ yr	C1) vines received mineral NPK at 60, 60, 120 g respectively alone
	b3) 16 kg compost +0.428 kg rock phosphate + 0.875 kg feldspar/ vine/ yr	C2) vines received mineral NPK at 60, 60, 120 g respectively + <i>Bacillus megathelium</i> + <i>Bacillus circulance</i> + <i>Azotobacter chroococcum</i> .
	b4) 20 kg compost +0.5 kg rock phosphate + 1.0 kg feldspar/ vine/ yr	

Table 8. Effect of compost, some biofertilizers and humic acid as a partial replacement of inorganic N fertilizer on yield /vine (kg.) and berry weight(g.)of Superior seedless grapevines during 2013 and 2014 seasons

Types (A) and levels of compost (B)	2013			2014			2013			2014		
	Organic and biofertilizers (C)						Organic and biofertilizers (C)					
	yield /vine (kg.)						Berry weight(g.)					
	C1	C2	Means A, B, AB	C1	C2	Means A, B, AB	C1	C2	Means A, B, AB	C1	C2	Means A, B, AB
a1	9.5	10.2	9.9	10.2	10.9	10.6	1.75	1.82	1.79	1.76	1.77	1.77
a2	11.2	12.1	11.7	12.1	12.8	12.5	1.88	1.92	1.90	1.90	1.93	1.92
b1	9.2	9.8	9.5	9.6	10.1	9.9	1.67	1.68	1.68	1.68	1.69	1.69
b2	10.3	11.4	10.9	11.4	12.0	11.7	1.81	1.84	1.83	1.82	1.84	1.83
b3	10.7	11.6	11.2	11.5	12.3	11.9	1.87	1.97	1.92	1.88	1.91	1.90
b4	11.3	11.8	11.6	12.2	13.1	12.7	1.92	1.98	1.95	1.93	1.96	1.95
a1b1	9.2	9.6	9.4	9.4	10.1	9.8	1.66	1.68	1.67	1.67	1.68	1.68
a1b2	9.4	10.2	9.8	10.1	10.8	10.5	1.69	1.71	1.70	1.71	1.72	1.72
a1b3	9.4	10.2	9.8	10.2	11.0	10.6	1.80	1.95	1.88	1.81	1.82	1.82
a1b4	10.1	10.6	10.4	10.9	11.8	11.4	1.83	1.94	1.89	1.83	1.86	1.85
a2b1	9.2	10.0	9.6	9.7	10.1	9.9	1.67	1.68	1.68	1.68	1.70	1.69
a2b2	11.1	12.5	11.8	12.6	13.1	12.9	1.42	1.97	1.95	1.93	1.95	1.94
a2b3	11.9	12.9	12.4	12.8	13.6	13.2	1.93	1.99	1.96	1.94	1.99	1.97
a2b4	12.5	13.0	12.8	13.4	14.3	13.9	2.01	2.02	2.02	2.03	2.06	2.05
Mean(C)	10.4	11.2		11.2	11.9		1.82	1.87		1.83	1.85	
New LSD at 5 %	A	B	C	AB	A	B	C	AB	A	B	C	AB
	0.10	0.18	0.39	0.25	0.07	0.24	0.33	0.34	0.01	0.01	0.01	0.01
	AC	BC	ABC		AC	BC	ABC		AC	BC	ABC	
	0.55	0.78	1.10		0.48	0.66	0.92		0.01	0.02	0.02	

(A) Types of compost	(B) Levels of compost slow release fertilizers	(C) organic and biofertilizers as well as humic acid (C)Application of the
a1 Compost I (herbs and medical plant residues)	b1) vines treated with mineral NPK at 60, 60, 120 g / vine / yr alone	C Organic and biofertilizers as well as humic acid
a2) compost II (40% cattle manure + 60 % rice straw)	b2) 14 kg compost +0.375 kg rock phosphate + 0.714 kg feldspar/ vine/ yr	C1) vines received mineral NPK at 60, 60, 120 g respectively alone
	b3) 16 kg compost +0.428 kg rock phosphate + 0.875 kg feldspar/ vine/ yr	C2) vines received mineral NPK at 60, 60, 120 g respectively + <i>Bacillus megathelium</i> + <i>Bacillus circulance</i> + <i>Azotobacter chroococcum</i> .
	b4) 20 kg compost +0.5 kg rock phosphate + 1.0 kg feldspar/ vine/ yr	

Table 9. Effect of compost, some biofertilizers and humic acid as a partial replacement of inorganic N fertilizer on total soluble solids percentage and reducing sugars percentage of Superior seedless grapes during 2013 and 2014 seasons

Types (A) and levels of compost (B)	2013			2014			2013			2014						
	Organic and biofertilizers (C)						Organic and biofertilizers (C)									
	total soluble solids percentage						Reducing sugars percentage									
	C1	C2	Means A, B, AB	C1	C2	Means A, B, AB	C1	C2	Means A, B, AB	C1	C2	Means A, B, AB				
a1	18.8	21.0	19.4	21.6	24.5	23.1	16.5	17.8	17.2	16.8	18.1	17.5				
a2	19.3	22.0	20.7	22.2	24.6	23.4	18.1	19.3	18.7	18.5	19.7	19.1				
b1	17.3	20.0	18.7	20.3	23.2	21.8	16.0	17.1	16.6	16.4	17.5	17.0				
b2	18.9	21.2	20.1	21.5	24.1	22.8	17.3	18.5	17.9	17.8	18.9	18.4				
b3	19.6	22.3	21.0	22.5	25.0	23.8	17.6	19.3	18.5	18.1	19.6	18.9				
b4	20.5	22.6	21.6	23.4	25.7	24.6	18.0	19.4	18.7	18.5	18.8	18.7				
a1b1	17.3	20.0	18.7	20.3	23.0	21.7	16.0	16.6	16.3	16.4	17.0	16.7				
a1b2	18.7	20.3	19.5	21.0	23.9	22.5	17.2	18.0	17.6	17.5	18.2	17.9				
a1b3	19.2	21.7	20.5	22.0	25.0	23.5	16.2	18.2	17.2	16.6	18.5	17.6				
a1b4	19.9	22.0	21.0	22.9	25.9	24.4	16.5	18.5	17.5	16.8	18.8	17.8				
a2b1	17.2	20.0	18.6	20.2	23.4	21.8	16.0	17.5	16.8	16.4	18.0	17.2				
a2b2	19.0	22.0	20.5	21.9	24.3	24.3	17.3	19.0	18.2	18.0	19.5	18.8				
a2b3	20.0	22.9	21.5	22.9	25.0	24.0	17.0	20.4	19.7	19.5	20.6	20.1				
a2b4	21.0	23.1	22.1	23.8	25.5	24.7	20.0	20.2	20.1	20.2	20.6	20.4				
Mean(C)	19.1	21.5		21.9	24.5		17.3	18.6		17.8	18.9					
New LSD at5 %	A 0.63 AC 0.90	B 0.74 BC 1.28	C 0.64 ABC 1.80	AB 1.04	A 0.16 AC 0.34	B 0.24 BC 0.48	C 0.24 ABC 0.68	AB 0.34	A 0.09 AC 0.59	B 0.43 BC 0.84	C 0.42 ABC 1.18	AB 0.60	A 0.12 AC 0.17	B 0.20 BC 0.24	C 0.12 ABC 0.34	AB 0.28

(A) Types of compost	(B) Levels of compost slow release fertilizers	(C) organic and biofertilizers as well as humic acid (C)Application of the
a1 Compost I (herbs and medical plant residues)	b1) vines treated with mineral NPK at 60, 60, 120 g / vine / yr alone	C Organic and biofertilizers as well as humic acid
a2) compost II (40% cattle manure + 60 % rice straw)	b2) 14 kg compost +0.375 kg rock phosphate + 0.714 kg feldspar/ vine/ yr	C1) vines received mineral NPK at 60, 60, 120 g respectively alone
	b3) 16 kg compost +0.428 kg rock phosphate + 0.875 kg feldspar/ vine/ yr	C2) vines received mineral NPK at 60, 60, 120 g respectively + <i>Bacillus megathelium</i> + <i>Bacillus circulance</i> + <i>Azotobacter chroococcum</i> .
	b4) 20 kg compost +0.5 kg rock phosphate + 1.0 kg feldspar/ vine/ yr	

Table 10. Effect of compost, some biofertilizers and humic acid as a partial replacement of inorganic N fertilizer on nitrite content of the juice (ppm.) and nitrate content of the juice of Superior seedless grapes during 2013 and 2014 seasons

Types (A) and levels of compost (B)	2013			2014			2013			2014		
	Organic and biofertilizers (C)						Organic and biofertilizers (C)					
	Nitrate contents (ppm)						Nitrate content (ppm)					
	C1	C2	Means A, B, AB	C1	C2	Means A, B, AB	C1	C2	Means A, B, AB	C1	C2	Means A, B, AB
a1	2.32	1.52	1.79	2.28	1.48	1.88	6.62	2.36	4.49	6.14	2.10	4.12
a2	2.25	1.45	1.85	2.28	1.48	1.79	6.23	2.14	4.19	5.35	1.89	3.62
b1	2.57	1.92	2.25	2.20	1.37	2.12	9.47	3.10	6.29	8.74	2.80	5.77
b2	2.31	1.59	1.95	2.53	1.88	1.91	6.55	2.65	4.60	6.25	2.30	4.28
b3	2.18	1.35	1.77	2.27	1.55	1.72	5.43	1.78	3.61	4.97	1.57	3.27
b4	2.32	1.08	1.70	2.14	1.30	1.51	4.27	1.47	2.87	3.02	1.32	2.17
a1b1	2.58	1.90	2.24	2.03	0.98	2.20	9.53	3.27	6.40	8.87	3.00	5.93
a1b2	2.42	1.68	2.05	2.53	1.87	2.01	7.03	2.77	4.90	6.57	2.40	4.49
a1b3	2.19	1.40	1.80	2.37	1.65	1.75	5.63	1.88	3.75	5.27	1.66	3.47
a1b4	2.10	1.10	1.60	2.15	1.35	1.57	4.30	1.53	2.91	3.83	1.33	2.58
a2b1	2.56	1.93	2.25	2.06	1.05	2.20	9.40	2.93	6.17	8.60	2.60	5.60
a2b2	2.20	1.50	1.85	2.52	1.88	1.81	6.07	2.53	4.30	5.93	2.20	4.07
a2b3	2.16	1.30	1.73	2.16	1.45	1.69	5.23	1.68	3.46	4.67	1.47	3.07
a2b4	2.07	1.06	1.57	2.13	1.25	1.49	4.23	1.40	2.82	2.20	1.30	1.75
Mean(C)	2.29	1.49		2.00	0.90		6.43	2.25		5.75	2.00	
New LSD at5 %	A	B	C	AB	A	B	C	AB	A	B	C	AB
	0.01	0.01	0.01	0.01	0.05	0.07	0.06	0.10	0.01	0.01	0.01	0.01
	AC	BC	ABC		AC	BC	ABC		AC	BC	ABC	
	0.01	0.02	0.02		0.08	0.12	0.16		0.01	0.02	0.02	

(A) Types of compost	(B) Levels of compost slow release fertilizers	(C) organic and biofertilizers as well as humic acid (C)Application of the
a1 Compost I (herbs and medical plant residues)	b1) vines treated with mineral NPK at 60, 60, 120 g / vine / yr alone	C Organic and biofertilizers as well as humic acid
a2) compost II (40% cattle manure + 60 % rice straw)	b2) 14 kg compost +0.375 kg rock phosphate + 0.714 kg feldspar/ vine/ yr	C1) vines received mineral NPK at 60, 60, 120 g respectively alone
	b3) 16 kg compost +0.428 kg rock phosphate + 0.875 kg feldspar/ vine/ yr	C2) vines received mineral NPK at 60, 60, 120 g respectively + <i>Bacillus megathelium</i> + <i>Bacillus circulance</i> + <i>Azotobacter chroococcum</i> .
	b4) 20 kg compost +0.5 kg rock phosphate + 1.0 kg feldspar/ vine/ yr	

Table 11. Effect of compost, some biofertilizers and humic acid as a partial replacement of inorganic N fertilizer on total acidity percentage and total counts of bacteria in the soil (cfu/g.) of Superior seedless grapevines during 2013 and 2014 seasons

Types (A) and levels of compost (B)	2013			2014			2013			2014						
	Organic and biofertilizers (C)						Organic and biofertilizers (C)									
	total acidity percentage						total counts of bacteria in the soil (cfu/g.)									
	C1	C2	Means A, B, AB	C1	C2	Means A, B, AB	C1	C2	Means A, B, AB	C1	C2	Means A, B, AB				
a1	0.625	0.537	0.581	0.591	0.491	0.541	150.5	155.3	152.9	145.0	175.5	160.3				
a2	0.601	0.517	0.559	0.573	0.473	0.523	167.5	176.3	171.9	171.3	179.0	175.2				
b1	0.652	0.588	0.620	0.632	0.544	0.588	140.0	146.0	143.0	141.0	158.0	149.5				
b2	0.620	0.530	0.575	0.605	0.505	0.555	159.0	163.0	161.0	157	176.0	166.5				
b3	0.608	0.505	0.557	0.560	0.455	0.508	164.5	173.0	168.8	164.0	184.0	174.0				
b4	0.573	0.485	0.554	0.530	0.423	0.477	173.0	182.0	177.5	171.0	191.0	181.0				
a1b1	0.653	0.587	0.620	0.633	0.543	0.588	140.0	146.0	152.0	136.0	166.0	151.0				
a1b2	0.630	0.550	0.590	0.610	0.510	0.560	148.0	150.0	149.0	142.0	174.0	158.0				
a1b3	0.610	0.510	0.560	0.570	0.470	0.540	154.0	160.0	175.0	150.0	180.0	165.0				
a1b4	0.605	0.500	0.553	0.550	0.440	0.495	160.0	165.0	163.0	152.0	182.0	167.0				
a2b1	0.650	0.588	0.629	0.630	0.545	0.586	140.0	146.0	143.0	145.0	150.0	148.0				
a2b2	0.610	0.510	0.560	0.600	0.500	0.550	170.0	175.0	173.0	172.0	178.0	175.0				
a2b3	0.605	0.500	0.548	0.550	0.440	0.495	175.0	185.0	180.0	178.0	188.0	183.0				
a2b4	0.540	0.470	0.505	0.510	0.405	0.458	185.0	199.0	192.0	190.0	200.0	195.0				
Mean(C)	0.613	0.527		0.582	0.482		159.1	166.0		158.3	177.3					
New LSD 5 %	A	B	C	AB	A	B	C	AB	A	B	C	AB	A	B	C	AB
	0.002	0.004	0.002	0.05	0.007	0.005	0.003	0.07	0.22	0.44	0.57	0.56	0.35	0.63	0.71	0.88
	AC	BC	ABC		AC	BC	ABC		AC	BC	ABC		AC	BC	ABC	
	0.03	0.04	0.06		0.42	0.06	0.84		0.80	1.14	1.60		0.99	1.42	1.98	

(A) Types of compost	(B) Levels of compost slow release fertilizers	(C) organic and biofertilizers as well as humic acid (C)Application of the
a1 Compost I (herbs and medical plant residues)	b1) vines treated with mineral NPK at 60, 60, 120 g / vine / yr alone	C Organic and biofertilizers as well as humic acid
a2) compost II (40% cattle manure + 60 % rice straw)	b2) 14 kg compost +0.375 kg rock phosphate + 0.714 kg feldspar/ vine/ yr	C1) vines received mineral NPK at 60, 60, 120 g respectively alone
	b3) 16 kg compost +0.428 kg rock phosphate + 0.875 kg feldspar/ vine/ yr	C2) vines received mineral NPK at 60, 60, 120 g respectively + <i>Bacillus megathelium</i> + <i>Bacillus circulance</i> + <i>Azotobacter chroococcum</i> .
	b4) 20 kg compost +0.5 kg rock phosphate + 1.0 kg feldspar/ vine/ yr	

