

Table (2). Effect of potassium sources and zinc EDTA rates on vegetative growth characters of sweet potato during 2017 and 2018 seasons

Treatment groups	Vine length (cm)	Number of leaves/plant	Number of branches/plant	Fresh weight/plant(g)	Dry weight/plant(g)
	<i>2017 season</i>				
Control	86.66 d	94.66 c	16.33 c	388.66 d	14.00 c
Potassium Silicate 2ml l⁻¹	100.33 c	98.33 c	18.00 bc	562.66 c	16.00 b
Potassium Silicate 4 ml l⁻¹	104.33 c	116.66 b	18.33 bc	816.66 b	16.66 b
Potassium humate 2 ml l⁻¹	99.66 c	109.00 b	17.66 bc	561.33 c	16.66 b
Potassium humate 4 ml l⁻¹	102.66 c	112.33 b	18.33 bc	765.33 b	16.66 b
Zinc 2 ml l⁻¹	110.66 b	118.33 b	21.66 ab	858.66 b	17.00 b
Zinc 4 ml l⁻¹	122.66 a	126.33 a	23.33 a	964.00 a	18.66 a
	<i>2018 season</i>				
Control	80.66 c	91.66 e	13.66 c	312.00 e	13.80 c
Potassium Silicate 2ml l⁻¹	94.33 b	95.00 de	14.33 bc	533.33 d	16.00 b
Potassium Silicate 4 ml l⁻¹	101.50 b	105.00 c	15.50 bc	532.66 d	16.33 b
Potassium humate 2 ml l⁻¹	100.00 b	101.66 cd	14.66 bc	530.00 d	16.33 b
Potassium humate 4 ml l⁻¹	103.33 b	103.33 cd	15.66 bc	719.33 c	17.23 b
Zinc 2 ml l⁻¹	106.33 b	114.66 b	17.16 b	808.00 b	17.66 b
Zinc 4 ml l⁻¹	116.33 a	121.66 a	20.00 a	1001.00 a	19.66 a

Mean followed by different letters are significantly different at $P \leq 0.05$ level; Duncan's multiple range test.

Table (3). Effect of potassium sources and zinc EDTA rates on the chemical constituents of sweet potato shoots during 2017 and 2018 seasons

Treatment groups	N(%)	P(%)	K(%)	Total protein (%)
	2017 season			
Control	1.240 d	0.195 b	2.30 b	7.753 d
Potassium Silicate 2ml ⁻¹	1.339 cd	0.194 b	2.40 ab	8.371 cd
Potassium Silicate 4 ml l ⁻¹	1.340 cd	0.208 b	2.42 ab	8.375 cd
Potassium humate 2 ml l ⁻¹	1.474 bc	0.198 b	2.31b	9.213 bc
Potassium humate 4 ml l ⁻¹	1.457 bc	0.196 b	2.32 b	9.111 bc
Zinc 2 ml l ⁻¹	1.625 b	0.203 b	2.42 ab	10.156 b
Zinc4 ml l ⁻¹	1.832 a	0.219 a	2.66 a	11.450 a
	2018 season			
Control	1.261 c	0.187 c	2.34 b	7.883 c
Potassium Silicate 2ml ⁻¹	1.548 b	0.198 b	2.40 b	9.677 b
Potassium Silicate 4 ml l ⁻¹	1.501 bc	0.206 b	2.63 ab	9.381 bc
Potassium humate 2 ml l ⁻¹	1.390 bc	0.203 b	2.42 b	8.687 bc
Potassium humate 4 ml l ⁻¹	1.436 bc	0.209 b	2.46 b	8.979 bc
Zinc 2 ml l ⁻¹	1.638 b	0.206 b	2.52 b	10.864 a
Zinc4 ml l ⁻¹	1.871 a	0.226 a	2.73a	11.695 a

Mean followed by different letters are significantly different at $P \leq 0.05$ level; Duncan's multiple range test.

Table (4). Effect of potassium sources and zinc EDTA rates on yield and its components of sweet potato during 2017 and 2018 seasons

Treatment groups	Number of tuber/plant	Plant yield (kg)	Yield /fad. (ton /fad.)	Marketable yield (ton/fad.)
<i>2017season</i>				
Control	4.33 c	0.67 d	9.14 d	8.08 d
Potassium Silicate 2ml ⁻¹	6.66 ab	1.26 b	18.82 b	14.45 b
Potassium Silicate 4 ml l ⁻¹	7.66 a	1.50 a	21.22 a	16.94 a
Potassium humate 2 ml l ⁻¹	5.66 b	0.91 c	15.91 c	11.72 bc
Potassium humate 4 ml l ⁻¹	6.00 b	0.97c	16.49 bc	11.78 bc
Zinc 2 ml l ⁻¹	6.00 b	1.08 bc	17.73 b	13.35 b
Zinc4 ml l ⁻¹	6.33 b	1.14 bc	17.89 b	13.70 b
<i>2018 season</i>				
Control	5.33 b	0.83 d	9.65 d	7.50 d
Potassium Silicate 2ml ⁻¹	6.33 b	1.20 b	18.00 b	14.76 b
Potassium Silicate 4 ml l ⁻¹	8.33 a	1.66 a	20.75 a	16.13 a
Potassium humate 2 ml l ⁻¹	5.66 b	0.94 c	14.54 c	10.43 c
Potassium humate 4 ml l ⁻¹	5.00 b	1.01 c	16.04 b	10.85 c
Zinc 2 ml l ⁻¹	5.33 b	0.95 c	15.48 b	11.90 c
Zinc4 ml l ⁻¹	6.00 b	1.03 b	16.19 b	12.76 c

Mean followed by different letters are significantly different at $P \leq 0.05$ level; Duncan's multiple range test.

Table (5). Effect of potassium sources and zinc EDTA rate on the chemical constituents of sweet potato tuber (nutritive value) during 2017 and 2018 seasons.

Treatment groups	Physical characters			Nutritive value					
	Diameter (cm)	Weight (g)	Length (cm)	N (%)	P (%)	K (%)	Protein (%)	Carotene (mg/g)	Starch (%)
<i>2017 season</i>									
Control	4.06 b	156.00 d	10.33 c	1.362 d	0.235 c	3.120 f	8.515 d	7.382 e	19.13 g
Potassium Silicate 2ml l⁻¹	4.80 ab	189.33 b	17.00 b	2.381 b	0.236 c	3.352 b	14.880 b	8.307 b	22.68 e
Potassium Silicate 4 ml l⁻¹	5.70 a	195.66 a	17.00 b	2.302 b	0.237 c	3.450 a	14.390b	7.748 d	24.39 f
Potassium humate 2 ml l⁻¹	4.10 b	160.00 d	11.33 c	2.218 c	0.239 c	3.100 f	14.583 b	7.804 d	26.44 d
Potassium humate 4 ml l⁻¹	4.40 b	162.00 d	11.00 c	2.336 b	0.249 b	3.212 d	14.598 b	8.047 c	28.75 c
Zinc 2 ml l⁻¹	4.40 b	180.00 c	17.66 b	2.333 b	0.249 b	3.230 c	13.864 c	8.402 b	30.19 b
Zinc4 ml l⁻¹	4.56 b	180.33 c	20.66 a	2.560 a	0.278 a	3.495 a	16.000a	8.695 a	32.61 a
<i>2018 season</i>									
Control	3.53 c	156.66 e	10.00 c	1.333 d	0.241 bc	2.937 d	8.333 d	7.705 d	20.23 e
Potassium Silicate 2ml l⁻¹	5.00 ab	189.66 b	17.00 b	2.357 b	0.250 b	3.343 b	14.734 b	7.712 d	22.23 e
Potassium Silicate 4 ml l⁻¹	5.63 a	199.00 a	17.00 b	2.292 bc	0.249 b	3.432 a	14.312 c	7.758 d	32.48 b
Potassium humate 2 ml l⁻¹	4.00 bc	165.66 de	13.00 c	2.205 c	0.242 bc	3.195 c	13.781 c	7.715 d	27.95 d
Potassium humate 4 ml l⁻¹	4.10 bc	178.33 c	13.00 c	2.338 b	0.235 c	3.22 c	14.614 b	8.202 c	30.50 c
Zinc 2 ml l⁻¹	4.40 bc	168.66 cd	19.00 b	2.388 b	0.244 bc	3.325 b	14.927 b	8.325 b	30.32 c
Zinc4 ml l⁻¹	4.86 ab	171.33 cd	21.86 a	2.605 a	0.289 a	3.468 a	16.281 a	8.381 a	34.70 a

Mean followed by different letters are significantly different at $P \leq 0.05$ level; Duncan's multiple range test.