

mauritiana cv. *Tufahi*

This study was conducted during the growing season of 2005-2006 at College of Agriculture, Basrah University to study the effect of proline treatment on salinity tolerance of *Ziziphus spp* seedling cv. Tuffahi. The study consisted of 12

treatments came from a combination between 4 conc. of NaCl salt (0, 4,8,12 Ds/m) and 3 conc. of proline (0, 75, 150 mg/l).

The result showed that salinity irrigation water at all conc. caused a significant decreased in more of vegetative characteristics, while proline treatment cause increase in more of physical characteristics, proline, total chlorophyll and sugar content. The 12 Ds/m salt and 150 mg/l proline treatment gave higher proline content, while 150 mg/l proline treatment gave higher total chlorophyll and sugar content in leaves compared with other treatments.

Salinity and proline cause increase upper and lower surface thickness. The 12 Ds/m salt and 150 mg/l proline treatment have more thickness surface. The 8 Ds/m salt and 150 mg/l proline treatment have more mesophyll thickness.

Ziziphus spp

.(Abbas, 1997)

.(Levitt, 1980)

(1999) (2001)

(2006)

(2002)

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.(Dahiya *et al*, 1981) / 14.2

%70 / 15

.(Hodda *et al*.1990) / 20

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. Howertiz (1975)

Reicher-Juny Frigocul-2700

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ocular micrometer

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R.L.S.D.

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(Levitt, 1980)

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(2001) El-hammady et al. (1999)

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المساحة الورقية (سم ²)	عدد الافرع الثانوية	عدد الأوراق	قطر الفرع الثانوي (سم)	قطر الفرع الرئيسي (سم)	طول الفرع الثانوي (سم)	ارتفاع الفرع الرئيسي (سم)	تركيز الملح ديسي سمنز/م
3.92	3	26	0.42	0.71	2.70	12.86	0
2.86	3	25	0.37	0.19	2.18	11.99	4
3.83	3	25	0.30	0.22	2.16	11.56	8
3.28	3	25	0.27	0.21	11.78	11.23	12
0.66	غ.م	غ.م	0.03	0.46	0.29	1.02	R.L.S.D

المساحة الورقية (سم ²)	عدد الافرع الثانوية	عدد الأوراق	قطر الفرع الثانوي (سم)	قطر الفرع الرئيسي (سم)	طول الفرع الثانوي (سم)	ارتفاع الفرع الرئيسي (سم)	تركيز البرولين ملغم/لتر
3.23	3	25	0.31	0.23	1.90	11.06	0
3.25	3	26	0.31	0.18	2.05	12.09	75
3.94	3	25	0.40	0.25	2.66	12.58	150
0.53	غ.م	غ.م	0.10	0.04	0.22	1.00	R.L.S.D

المساحة الورقية (سم ²)	عدد الافرع الثانوية	عدد الأوراق	قطر الفرع الثانوي (سم)	قطر الفرع الرئيسي (سم)	طول الفرع الثانوي (سم)	ارتفاع الفرع الرئيسي (سم)	تركيز الملح ديسي سمنز/م	تركيز البرولين ملغم/لتر
4.35	3	26	0.41	0.29	2.65	12.90	0	0
2.54	3	25	0.34	0.22	2.00	11.17	4	
4.16	3	25	0.27	0.21	2.00	10.75	8	
1.90	3	24	0.24	0.20	0.96	9.40	12	
4.38	3	27	0.38	0.22	2.52	12.78	0	75
2.59	3	27	0.35	0.17	2.05	11.92	4	
3.05	3	26	0.27	0.17	1.84	11.90	8	
3.00	3	26	0.26	0.16	1.80	11.79	12	
3.05	3	25	0.47	0.26	2.93	12.87	0	150
3.47	3	25	0.44	0.20	2.50	12.90	4	
4.20	3	25	0.36	0.29	2.65	12.05	8	
4.96	3	25	0.33	0.27	2.59	12.50	12	
0.49	غ.م	غ.م	0.41	0.63	0.64	0.94		R.L.S.D.

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.(Dixe *et al.*,1986)

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12 / 150

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88.06	3.95	671.65	0
84.94	3.85	678.05	4
82.07	3.17	733.03	8
79.38	3.17	962.99	12
3.00	0.98	177.30	R.L.S.D.

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79.18	3.40	665.09	0
83.06	3.30	729.48	75
88.60	4.27	757.36	150
5.24	0.90	26.88	R.L.S.D.

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85.59	3.20	660.03	0	0
77.70	3.62	658.0	4	
77.52	3.97	652.07	8	
75.91	2.82	650.02	12	
87.80	3.75	833.74	0	75
88.11	3.75	750.45	4	
80.31	3.02	669.4	8	
76.03	3.00	664.04	12	
90.80	4.90	690.90	0	150
89.02	4.50	706.45	4	
88.40	4.00	790.90	8	
86.20	3.70	841.20	12	
2.73	0.62	157.32		R.L.S.D.

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 166.3
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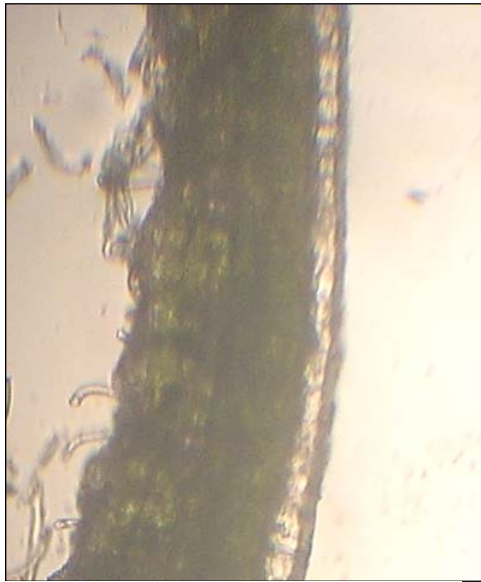
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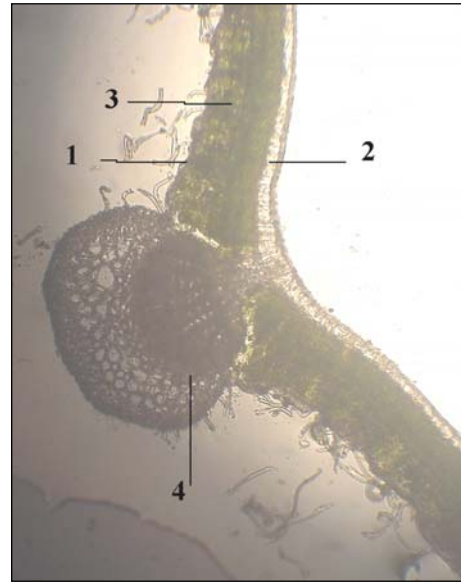
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سنت العرق الوسطي	سنت التسيع المتوسط	سنت البثرة		سنت الورقة	تركيز المنح (نسبي سنن/م)	تركيز الثروين (منعم/ننر)
		السطح العلوي	السطح السفلي			
(666.4 – 799.5) 772.0	(95.6 – 115.4) 100.5	(19.2 – 27.4) 20.3	(9.5 – 15.3) 12.1	(140.6 – 170.1) 150*	0	0
(690.0 – 717.5) 710.3	(98.7 – 103.2) 97.0	(21.7 – 25.1) 20.8	(10.4 – 11.8) 11.2	(140.6 – 166.3) 167.2	4	
(700.2 – 715.3) 718.3	(100 – 100.2) 100.5	(22.2 – 23.7) 20.6	(9.5 – 10.1) 9.8	(154.7 – 160.2) 163	8	
(700 – 706.4) 713.5	(89.5 – 91.3) 90.5	(18.9 – 20.2) 21.7	(9.2 – 10.3) 8.5	(165.8 – 170) 166.3	12	
(698 – 710) 706.2	(97 – 100) 104.2	(21.6 – 23) 22.7	(14.8 – 15.1) 13.6	(147 – 154) 150	0	75
(730.6 – 752.5) 748	(96.3 – 101.2) 106.4	(19.8 – 23.7) 25.9	(11.9 – 13.2) 16.8	(147 – 159.2) 154	4	
(741.9 – 742.5) 740.5	(107.6 – 118.2) 125.4	(25.4 – 27.4) 32.9	(15.3 – 17.4) 20.2	(168.8 – 177.3) 180.2	8	
(759.9 – 762.3) 758.4	(110.2 – 119.9) 123.6	(29.5 – 31.7) 35.8	(20.6 – 21.3) 24.0	(188 – 190.1) 193.3	12	
(753.7 – 768.9) 755.4	(102.5 – 105) 117.3	(25 – 27.1) 32.6	(12.8 – 17.2) 18.9	(160 – 178) 180.7	0	150
(750.4 – 764.9) 753.9	(100 – 107.3) 115.7	(23.2 – 28.0) 31.1	(12.4 – 16.7) 18.2	(149.2 – 165.4) 177.3	4	
(743.8 – 755) 749.6	(115 – 117.2) 121.1	(30.4 – 33.2) 35.0	(18.6 – 20.0) 20.9	(179.4 – 183.5) 184.2	8	
(760.6 – 766) 761.8	(105 – 113.7) 120.2	(30.7 – 35.1) 38.3	(19.4 – 22.7) 24.9	(184 – 198.1) 200	12	

*تقيم خارج القوس تمثل المعدل وتقيم داخل القوس تمثل الحد الأدنى والحد الأعلى



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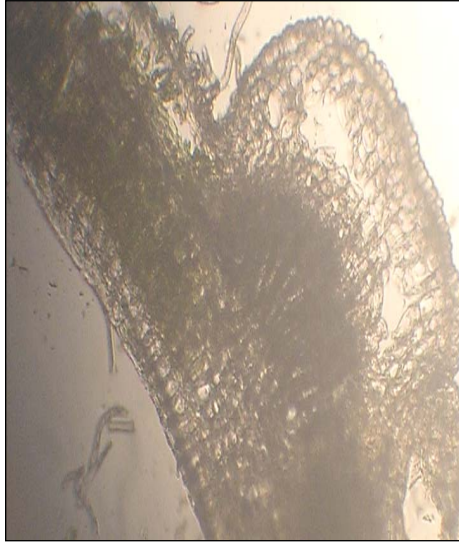
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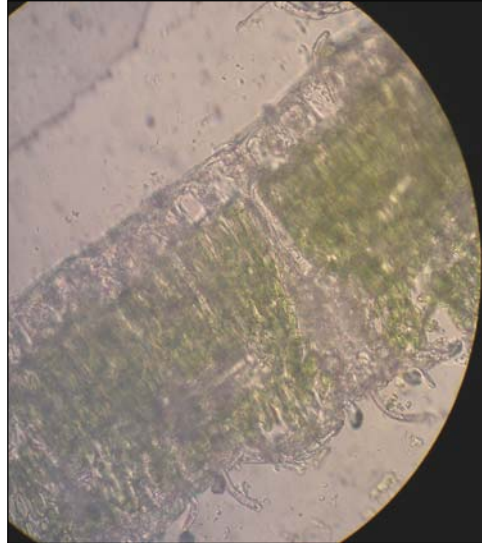
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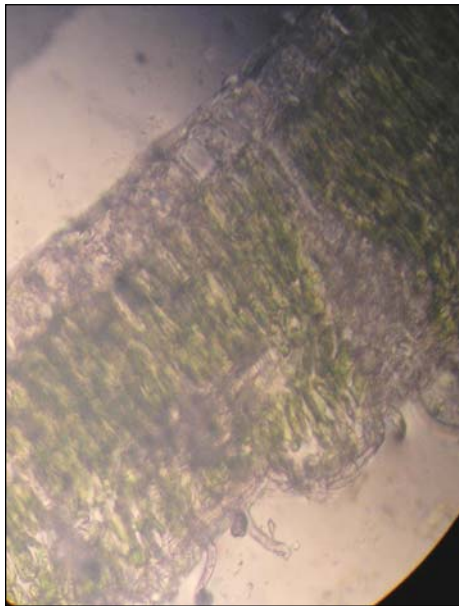
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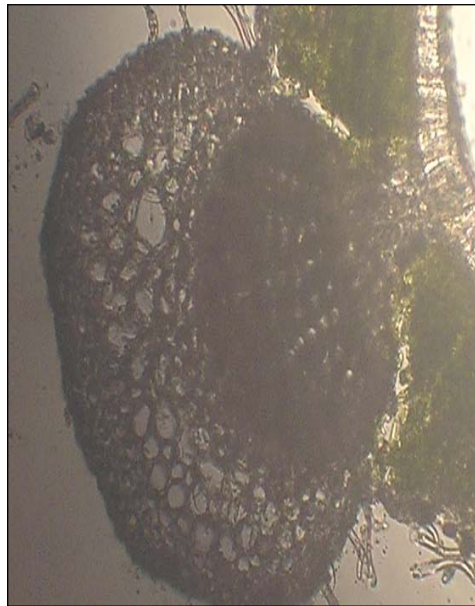
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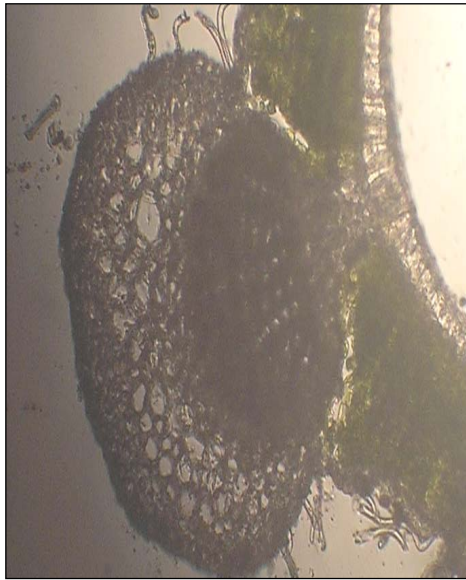
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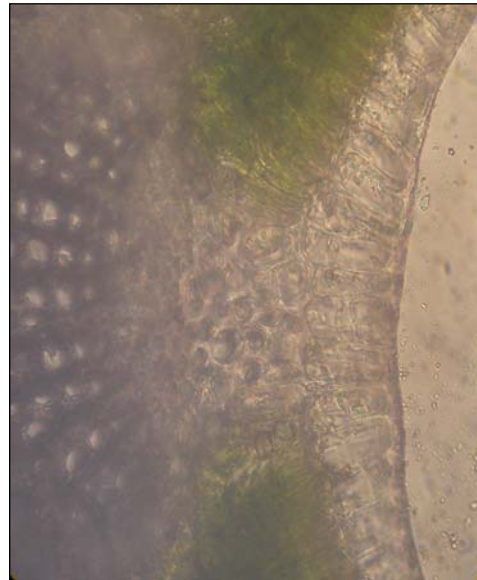
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8 (7)
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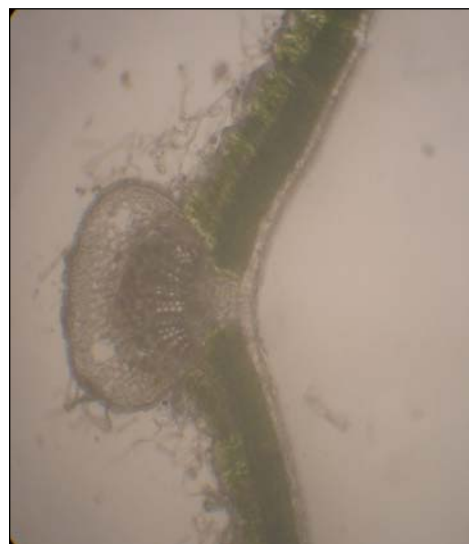
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150 + / 12 (12)
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- (15) . *Ziziphus spina-christ wild*
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- Lycopersicon* .(2001)
- *esculentum* Mill
- .(1994)
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- .(2006)
- Citrus aurantium* L.
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- .(1992)
- 275 .
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