

willow competition experiment - Osbornes ponds, willow data

	Block	Elev (m)	row within block	Willow stage	treatment	willow random #	Willow height (cm) 10 SEP 2010	Willow # leaves 10 SEP 2010	Willow stem diameter 10 SEP 2010
1	I	0	1	seedling	alone	79	No plant		
2	I	0	8	tall cutting	alone	53	100.05	389	9.7
3	I	0	9	seedling	alone	56	No plant		
4	I	0	10	tall cutting	alone	51	92.6	333	9.2
5	I	0	11	short cutting	alone	69	51.1	49	9.7
6	I	0	12	short cutting	alone	60	101.9	157	10.9
7	I	0.25	1	tall cutting	high density sawgrass	31	89.2	162	9.7
8	I	0.25	2	seedling	high density sawgrass	39	6.2	3	1.0 ← estimated
9	I	0.25	3	seedling	low density sawgrass	8	14.6	0	2.5
10	I	0.25	4	seedling	alone	41	4.1	0	1.0 ←
11	I	0.25	5	short cutting	high density sawgrass	65	81.2	115	9.2
12	I	0.25	6	seedling	alone	59	No plant		
13	I	0.25	7	short cutting	low density sawgrass	14	70.3	122	10.6
14	I	0.25	8	tall cutting	alone	57	85.4	188	7.8
15	I	0.25	9	short cutting	alone	27	72.4	135	15.4
16	I	0.25	10	short cutting	alone	57	76.5	228	5.3 ← Plant split at fork.
17	I	0.25	11	tall cutting	low density sawgrass	26	111.7	57	11.3
18	I	0.25	12	tall cutting	alone	62	80.3	137	7.6
19	I	0.38	1	short cutting	low density sawgrass	8	60.3	152	12.4
20	I	0.38	2	tall cutting	low density sawgrass	75	104.9	48	8.7
21	I	0.38	3	seedling	low density sawgrass	43	No plant		
22	I	0.38	4	seedling	high density sawgrass	49	13.2	0	2.5 ← Green stem
23	I	0.38	5	tall cutting	alone	20	69.8	55	10.5
24	I	0.38	6	short cutting	alone	80	59.2	86	11.4

d.c.

willow competition experiment - Osbornes ponds, willow data

	Block	Elev (m)	row within block	Willow stage	treatment	willow random #	Willow height (cm) 10 SEP 2010	Willow # leaves 10 SEP 2010	Willow stem diameter 10 SEP 2010
25	I	0.38	7	tall cutting	high density sawgrass	59	59.6	61	7.3
26	I	0.38	8	short cutting	high density sawgrass	70	54.6	25	11.4
27	I	0.38	9	short cutting	alone	73	48.2	67	8.4
28	I	0.38	10	seedling	alone	19	No plant		
29	I	0.38	11	seedling	alone	3	No plant		
30	I	0.38	12	tall cutting	alone	39	57.9	147	12.7
31	I	0.5	1	tall cutting	alone	76	57.3	38	12.0
32	I	0.5	4	seedling	alone	78	17.8	27	3.4
33	I	0.5	6	short cutting	alone	75	60.7	43	10.0
34	I	0.5	7	tall cutting	alone	46	82	130	9.9
35	I	0.5	9	short cutting	alone	66	48.4	76	7.6
36	I	0.5	12	seedling	alone	27	29.1	29	4.0
37	II	0	1	short cutting	alone	1	82.3	77	12.7
38	II	0	2	tall cutting	alone	4	99.8	200	8.3
39	II	0	5	tall cutting	alone	42	97.8	116	9.0
40	II	0	10	seedling	alone	30	No plant		
41	II	0	11	seedling	alone	65	No plant		
42	II	0	12	short cutting	alone	68	54.0	23	5.4
43	II	0.25	1	tall cutting	low density sawgrass	68	73.2	98	11.8
44	II	0.25	2	short cutting	alone	41	82.5	149	11.0
45	II	0.25	3	seedling	low density sawgrass	69	6.8	3	0.7
46	II	0.25	4	tall cutting	high density sawgrass	25	91.9	71	11.8
47	II	0.25	5	seedling	alone	22	No plant		
48	II	0.25	6	seedling	alone	38	No plant		

dc.

willow competition experiment - Osbornes ponds, willow data

	Block	Elev (m)	row within block	Willow stage	treatment	willow random #	Willow height (cm) 10 SEP 2010	Willow # leaves 10 SEP 2010	Willow stem diameter 10 SEP 2010
49	II	0.25	7	short cutting	alone	61	33.7	10	4.8
50	II	0.25	8	tall cutting	alone	2	70.4	67	14.1
51	II	0.25	9	seedling	high density sawgrass	37	8.1	1	1.0 — estimated
52	II	0.25	10	tall cutting	alone	22	83.8	122	12.3
53	II	0.25	11	short cutting	high density sawgrass	44	75.1	131	14.0
54	II	0.25	12	short cutting	low density sawgrass	74	90.7	87	6.6
55	II	0.38	1	tall cutting	low density sawgrass	56	53.8	33	5.2
56	II	0.38	2	short cutting	alone	7	77.2	91	12.0
57	II	0.38	3	tall cutting	alone	9	71.3	43	11.9
58	II	0.38	4	short cutting	alone	22	63.5	106	12.1
59	II	0.38	5	short cutting	low density sawgrass	25	82.1	64	11.9
60	II	0.38	6	seedling	low density sawgrass	70	No plant		
61	II	0.38	7	tall cutting	alone	12	58.4	33	7.9
62	II	0.38	8	seedling	high density sawgrass	68	No plant		
63	II	0.38	9	seedling	alone	52	No plant		
64	II	0.38	10	short cutting	high density sawgrass	2	51.5	32	11.0
65	II	0.38	11	tall cutting	high density sawgrass	65	116.1	34	13.1
66	II	0.38	12	seedling	alone	35	No plant		
67	II	0.5	2	seedling	alone	14	26.6	17	3.7
68	II	0.5	3	tall cutting	alone	36	86.1	85	13.6
69	II	0.5	4	short cutting	alone	19	46.5	158	6.8
70	II	0.5	6	seedling	alone	62	18.5	17	3.2
71	II	0.5	7	short cutting	alone	47	48.7	18	11.9
72	II	0.5	12	tall cutting	alone	23	58.2	91	12.9

L.C.

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	Block	Elev (m)	row within block	Willow stage	treatment	willow random #	Willow height (cm) 10 SEP 2010	Willow # leaves 10 SEP 2010	Willow stem diameter 10 SEP 2010
73	III	0	3	seedling	alone	51	No plant	.	.
74	III	0	7	tall cutting	alone	37	123.2	59	10.1
75	III	0	8	tall cutting	alone	5	132.3	550	11.7
76	III	0	9	short cutting	alone	3	114.8	156	10.0
77	III	0	11	seedling	alone	17	DEAD	.	.
78	III	0	12	short cutting	alone	33	121.2	70	13.5
79	III	0.25	1	tall cutting	alone	44	85.6	96	6.8
80	III	0.25	2	short cutting	low density sawgrass	56	70.0	138	6.5
81	III	0.25	3	seedling	low density sawgrass	71	No plant	.	.
82	III	0.25	4	seedling	alone	61	No plant	.	.
83	III	0.25	5	short cutting	high density sawgrass	34	79.1	79	8.6
84	III	0.25	6	short cutting	alone	23	85.5	88	12.0
85	III	0.25	7	seedling	high density sawgrass	28	No plant	.	.
86	III	0.25	8	tall cutting	low density sawgrass	16	80.8	70	8.7
87	III	0.25	9	tall cutting	high density sawgrass	72	83.4	32	9.4
88	III	0.25	10	short cutting	alone	35	97.6	105	11.9
89	III	0.25	11	tall cutting	alone	24	105.9	159	12.4
90	III	0.25	12	seedling	alone	63	No plant	.	.
91	III	0.38	1	short cutting	low density sawgrass	17	81.3	187	18.4
92	III	0.38	2	tall cutting	high density sawgrass	78	78.1	128	11.8
93	III	0.38	3	tall cutting	alone	27	80.4	153	8.3
94	III	0.38	4	seedling	high density sawgrass	26	No plant	.	.
95	III	0.38	5	short cutting	high density sawgrass	42	70.6	48	6.5
96	III	0.38	6	short cutting	alone	48	73.9	191	10.9

Plant partially buried in mud

Plant emerged uphill of original site

d.c.

willow competition experiment - Osbornes ponds, willow data

	Block	Elev (m)	row within block	Willow stage	treatment	willow random #	Willow height (cm) 10 SEP 2010	Willow # leaves 10 SEP 2010	(mm) Willow stem diameter 10 SEP 2010
97	III	0.38	7	seedling	alone	40	No plant	.	.
98	III	0.38	8	short cutting	alone	38	89.0	134	10.3
99	III	0.38	9	seedling	alone	36	No plant	.	.
100	III	0.38	10	seedling	low density sawgrass	42	No plant	.	.
101	III	0.38	11	tall cutting	low density sawgrass	58	89.6	165	12.6
102	III	0.38	12	tall cutting	alone	13	98.2	120	13.0
103	III	0.5	1	tall cutting	alone	79	No plant	.	.
104	III	0.5	3	seedling	alone	55	No plant	.	.
105	III	0.5	5	seedling	alone	6	No plant	.	.
106	III	0.5	7	short cutting	alone	64	65.8	174	10.0
107	III	0.5	8	short cutting	alone	78	59.3	90	7.5
108	III	0.5	10	tall cutting	alone	66	105.3	196	13.2
109	IV	0	1	seedling	alone	13	109.5	57	6.6
110	IV	0	5	short cutting	alone	63	26.1	0	9.5
111	IV	0	8	tall cutting	alone	63	119.5	1039	9.4
112	IV	0	9	short cutting	alone	58	48.0	0	10.4
113	IV	0	10	tall cutting	alone	80	116.5	173	10.5
114	IV	0	11	seedling	alone	10	8.3	0	4.0
115	IV	0.25	1	tall cutting	alone	30	70.7	89	8.9
116	IV	0.25	2	tall cutting	high density sawgrass	38	99.5	124	9.4
117	IV	0.25	3	seedling	alone	64	No plant	.	.
118	IV	0.25	4	short cutting	alone	77	DEAD	.	.
119	IV	0.25	5	short cutting	alone	20	87.2	122	10.8
120	IV	0.25	6	seedling	high density sawgrass	74	No plant	.	.

still green stem

In very poor shape

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	Block	Elev (m)	row within block	Willow stage	treatment	willow random #	Willow height (cm) 10 SEP 2010	Willow # leaves 10 SEP 2010	Willow stem diameter 10 SEP 2010
121	IV	0.25	7	tall cutting	low density sawgrass	8	55.3	75	10.2
122	IV	0.25	8	seedling	low density sawgrass	54	No plant		
123	IV	0.25	9	short cutting	low density sawgrass	43	61.1	73	4.7
124	IV	0.25	10	seedling	alone	66	No plant		
125	IV	0.25	11	short cutting	high density sawgrass	31	100.1	141	13.5
126	IV	0.25	12	tall cutting	alone	35	103.8	100	10.5
127	IV	0.38	1	tall cutting	low density sawgrass	18	72.3	195	12.6
128	IV	0.38	2	short cutting	alone	15	65.7	89	9.4
129	IV	0.38	3	seedling	alone	23	No plant		
130	IV	0.38	4	tall cutting	high density sawgrass	70	66.4	71	7.0
131	IV	0.38	5	tall cutting	alone	69	99.4	143	11.4
132	IV	0.38	6	seedling	high density sawgrass	33	4.1	0	1.5
133	IV	0.38	7	tall cutting	alone	73	71.9	147	11.5
134	IV	0.38	8	short cutting	alone	46	79.6	51	11.1
135	IV	0.38	9	short cutting	high density sawgrass	5	48.7	142	12.2
136	IV	0.38	10	seedling	alone	9	No plant		
137	IV	0.38	11	short cutting	low density sawgrass	29	66.5	62	14.4
138	IV	0.38	12	seedling	low density sawgrass	31	No plant		
139	IV	0.5	2	seedling	alone	50	No plant		
140	IV	0.5	3	short cutting	alone	62	51.4	95	10.1
141	IV	0.5	4	short cutting	alone	4	50.9	79	8.3
142	IV	0.5	5	tall cutting	alone	77	68.5	12	11.5
143	IV	0.5	8	seedling	alone	4	No plant		
144	IV	0.5	11	tall cutting	alone	50	91.3	151	14.6

green stem

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willow competition experiment - Osbornes ponds, willow data

	Block	Elev (m)	row within block	Willow stage	treatment	willow random #	Willow height (cm) 10 SEP 2010	Willow # leaves 10 SEP 2010	Willow stem diameter 10 SEP 2010
145	V	0	2	short cutting	alone	10	132.7	611	12.75
146	V	0	3	seedling	alone	48	18.8*	0	1.7
147	V	0	4	tall cutting	alone	33	46.3	0	8.8
148	V	0	5	tall cutting	alone	34	58.7	0	12.2
149	V	0	6	seedling	alone	58	29.0	0	4.4
150	V	0	8	short cutting	alone	59	45.9	6	7.8
151	V	0.25	1	short cutting	alone	67	72.2	34	6.8
152	V	0.25	2	seedling	high density sawgrass	21	No plant		
153	V	0.25	3	seedling	alone	32	No plant.		
154	V	0.25	4	tall cutting	low density sawgrass	40	121.7	184	16.5
155	V	0.25	5	short cutting	high density sawgrass	18	82.6	125	10.75
156	V	0.25	6	tall cutting	alone	21	96.5	101	12.7
157	V	0.25	7	short cutting	alone	55	70.3	94	7.1
158	V	0.25	8	tall cutting	high density sawgrass	3	71.0	42	10.3
159	V	0.25	9	tall cutting	alone	71	72.7	162	11.8
160	V	0.25	10	seedling	alone	24	10.1	7	1.0 - estimated
161	V	0.25	11	seedling	low density sawgrass	11	10.2	2	1.4
162	V	0.25	12	short cutting	low density sawgrass	13	115.0	187	15.2
163	V	0.38	1	short cutting	alone	9	74.3	42	8.7
164	V	0.38	2	short cutting	alone	50	52.1	88	8.5
165	V	0.38	3	tall cutting	high density sawgrass	32	75.3	94	11.6
166	V	0.38	4	tall cutting	alone	67	66.7	130	7.7
167	V	0.38	5	short cutting	low density sawgrass	76	46.8	32	6.3
168	V	0.38	6	seedling	low density sawgrass	45	No plant		

J.C.

willow competition experiment - Osbornes ponds, willow data

	Block	Elev (m)	row within block	Willow stage	treatment	willow random #	Willow height (cm) 10 SEP 2010	Willow # leaves 10 SEP 2010	Willow stem diameter 10 SEP 2010
169	V	0.38	7	seedling	alone	12	No plant	.	.
170	V	0.38	8	tall cutting	low density sawgrass	60	83.1	93	11.3
171	V	0.38	9	seedling	alone	7	No plant	.	.
172	V	0.38	10	short cutting	high density sawgrass	24	92.8	106	13.9
173	V	0.38	11	tall cutting	alone	28	91.5	117	11.3
174	V	0.38	12	seedling	high density sawgrass	75	No plant	.	.
175	V	0.5	2	short cutting	alone	79	79.4	107	11.2
176	V	0.5	3	seedling	alone	16	23.2	47	4.6
177	V	0.5	4	tall cutting	alone	6	65.7	132	9.1
178	V	0.5	7	tall cutting	alone	48	49	51	4.2
179	V	0.5	8	seedling	alone	18	19.5	29	2.6
180	V	0.5	9	short cutting	alone	49	69.7	66	10.3
181	VI	0	1	seedling	alone	47	42.9	0	4.6
182	VI	0	3	tall cutting	alone	7	129.2	719	11.3
183	VI	0	4	short cutting	alone	71	29.5*	0	6.05
184	VI	0	10	short cutting	alone	16	107.4	468	9.7
185	VI	0	11	seedling	alone	1	45.6	29	5.2
186	VI	0	12	tall cutting	alone	47	82*	0	10.3
187	VI	0.25	1	short cutting	alone	51	79.7	131	10.3
188	VI	0.25	2	tall cutting	alone	61	76.6	51	4.5
189	VI	0.25	3	seedling	alone	57	No plant	.	.
190	VI	0.25	4	short cutting	low density sawgrass	30	97.5	100	12.2
191	VI	0.25	5	tall cutting	low density sawgrass	45	83.4	41	9.7
192	VI	0.25	6	short cutting	high density sawgrass	40	71.5	62	14.8

Height to top of bare stem
Has adventitious roots

Unsure if dead or alive - no green in stem
submerged beneath aquatic but still has green stem
plant submerged beneath aquatic still has buds, green stem

* Height measured to top of green stem

J.C.

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	Block	Elev (m)	row within block	Willow stage	treatment	willow random #	Willow height (cm) 10 SEP 2010	Willow # leaves 10 SEP 2010	(mm) Willow stem diameter 10 SEP 2010
193	VI	0.25	7	seedling	alone	25	No plant	.	.
194	VI	0.25	8	seedling	low density sawgrass	2	No plant	.	.
195	VI	0.25	9	short cutting	alone	37	69.4	198	12.4
196	VI	0.25	10	seedling	high density sawgrass	60	No plant	.	.
197	VI	0.25	11	tall cutting	alone	64	77.9	189	7.4
198	VI	0.25	12	tall cutting	high density sawgrass	41	82.3	200	12.1
199	VI	0.38	1	seedling	alone	67	No plant	.	.
200	VI	0.38	2	tall cutting	high density sawgrass	54	79.0	78	9.5
201	VI	0.38	3	tall cutting	alone	17	74.4	62	9.3
202	VI	0.38	4	seedling	low density sawgrass	77	No plant	.	.
203	VI	0.38	5	seedling	high density sawgrass	80	No plant	.	.
204	VI	0.38	6	tall cutting	low density sawgrass	29	56.2	83	12.0
205	VI	0.38	7	short cutting	alone	53	43.9	75	9.4
206	VI	0.38	8	seedling	alone	72	No plant	.	.
207	VI	0.38	9	tall cutting	alone	19	64.5	77	10.9
208	VI	0.38	10	short cutting	high density sawgrass	39	73.7	66	9.4
209	VI	0.38	11	short cutting	alone	28	59.1	140	13.4
210	VI	0.38	12	short cutting	low density sawgrass	21	84.3	67	10.2
211	VI	0.5	2	seedling	alone	15	No plant	.	.
212	VI	0.5	5	tall cutting	alone	14	67.3	110	12.6
213	VI	0.5	7	seedling	alone	44	No plant	.	.
214	VI	0.5	8	tall cutting	alone	49	72.7	79	10.4
215	VI	0.5	10	short cutting	alone	36	56.2	180	11.5
216	VI	0.5	12	short cutting	alone	11	56.3	143	11.0