Table S1. ANOVA corresponding to Figure 2, regarding the effect of support material on proliferation rates of willow shoots grown in continuous immersion bioreactors. Shoots were grown in MS medium with half strength nitrates, 0.22 µM BA and 3% sucrose for 8 weeks. Values are the mean ± standard error from 3 replicates with 20 explants each. NS number of shoots, SL length of the longest shoot, MC multiplication coefficient.

	Source of Variation	Sum of squares	df	Mean square	F	Significance
NS	Between groups	0.011	1	0.011	0.006	0.940
	Within groups	112.972	58	1.948		
	Total	112.983	59			
SL	Between groups	570.025	1	570.025	1.043	0.311
	Within groups	31706.708	58	546.667		
	Total	32276.733	59			
MC	Between groups	124.844	1	124.844	11.383	0.001
	Within groups	636.139	58	10.968		
	Total	760.983	59			

Table S2. Two-way ANOVA corresponding to Figure 3, regarding the effect of support material (rockwool and plastic boxes) and sucrose supplementation (0 and 3% sucrose) on proliferation rates of willow shoots grown in continuous immersion bioreactors. Shoots were grown in MS medium with half strength nitrates and 0.22 µM BA for 8 weeks. Values are the mean ± standard error from 3 replicates with 20 explants each. Due to the significant interaction found in MC, Bonferroni's adjustment was applied to detect simple main effects. NS number of shoots, SL length of the longest shoot, MC multiplication coefficient.

	Source of Variation	Sum of squares	df	Mean square	F	Significance
NS	Sucrose	4.422	1	4.422	1.646	0.202
	Support	13.135	1	13.135	4.889	0.029
	Sucrose x Support	0.152	1	0.152	0.057	0.812
SL	Sucrose	1414.238	1	1414.238	1.546	0.216
	Support	67623.581	1	67623.581	73.947	0.000
	Sucrose x Support	411.138	1	411.138	0.450	0.504
MC	Sucrose	738.871	1	738.871	20.231	0.000
	Support	2219.382	1	2219.382	60.770	0.000
	Sucrose x Support	331.491	1	331.491	9.077	0.003

Pairwise comparisons for Multiplication Coefficient after Bonferroni adjustment

Support x Sucrose

Support	I (Sucrose)	J (Sucrose)	Mean Difference (I-J)	Std. error	Significance
Cubes	0%	3%	1.553	1.406	0.271
	3%	0%	-1.553	1.406	0.271
Boxes	0%	3%	7.852*	1.548	0.000
	3%	0%	-7.852*	1.548	0.000

Sucrose x Support

Sucrose	I (Support)	J (Support)	Mean Difference (I-J)	Std. error	Significance
0%	Cubes	Boxes	-11.299*	1.521	0.000
	Boxes	Cubes	11.299*	1.521	0.000
3%	Cubes	Boxes	-5.000*	1.435	0.001
	Boxes	Cubes	5.000*	1.435	0.001

Table S3. Two-way ANOVA corresponding to Figure 4, regarding the effect of support material (rockwool cubes and plastic boxes) and sucrose supplementation (0 and 3% sucrose) on pigment content of willow shoots grown in continuous immersion bioreactors. Shoots were grown in MS medium with half strength nitrates and 0.22 µM BA for 8 weeks. Due to the significant interaction found in all the parameters Bonferroni's adjustment was applied to detect simple main effects.

	Source of Variation	Sum of squares	df	Mean square	F	Significance
Chlorophyll a	Sucrose	282503.799	1	282503.799	25.190	0.000
	Support	398.931	1	398.931	0.036	0.851
	Sucrose x Support	118897.232	1	118897.232	10.602	0.002
Chlorophyll b	Sucrose	141411.692	1	141411.692	26.708	0.000
	Support	3137.888	1	3137.888	0.593	0.446
	Sucrose x Support	43428.026	1	43428.026	8.202	0.006
Carotenoids	Sucrose	15010.193	1	15010.193	21.628	0.000
	Support	79.892	1	79.892	0.115	0.736
	Sucrose x Support	10019.571	1	10019.571	14.437	0.000

Pairwise comparisons after Bonferroni adjustment for variables with interaction p value ≤ 0.05						

Support x Sucrose

Dependent variable	Support	I (Sucrose)	J (Sucrose)	Mean Difference (I-J)	Std. error	Significance
Chlorophyll a	Cubes	0%	3%	55.494	41.478	0.188
		3%	0%	-55.494	41.478	0.188
	Boxes	0%	3%	260.480*	47.360	0.000
		3%	0%	-260.480*	47.360	0.000
Chlorophyll b	Cubes	0%	3%	49.834	28.500	0.088
		3%	0%	-49.834	28.500	0.088
	Boxes	0%	3%	173.720*	32.541	0.000
		3%	0%	-173.720*	32.541	0.000
Carotenoids	Cubes	0%	3%	6.664	10.318	0.522
		3%	0%	-6.664	10.318	0.522
	Boxes	0%	3%	66.170*	11.781	0.000
		3%	0%	-66.170*	11.781	0.000

Sucrose x Support

Dependent variable	Sucrose	I (Support)	J (Support)	Mean Difference (I-J)	Std. error	Significance
Chlorophyll a	0%	Cubes	Boxes	-96.556*	42.689	0.029
		Boxes	Cubes	96.556*	42.689	0.029
	3%	Cubes	Boxes	108.430*	46.271	0.024
		Boxes	Cubes	-108.430*	46.271	0.024
Chlorophyll b	0%	Cubes	Boxes	-78.594*	29.332	0.010
		Boxes	Cubes	78.594*	29.332	0.010
	3%	Cubes	Boxes	45.293	31.793	0.161
		Boxes	Cubes	-45.293	31.793	0.161
Carotenoids	0%	Cubes	Boxes	-32.410*	10.620	0.004
		Boxes	Cubes	32.410*	10.620	0.004
	3%	Cubes	Boxes	27.096*	11.511	0.023
		Boxes	Cubes	-27.096*	11.511	0.023

Table S4. ANOVA tables corresponding to Figure 7, regarding the shoot height of willow plantlets cultured for 4 weeks in the phytotron and 6 weeks in the greenhouse in three types of soil.

A) ANOVA table corresponding to the first 4 weeks in the phytotron. Phy0: plant height after planting in pots and placing them in the phytotron. Phy2w, Phy4w, plant height after two (Phy2w) and four weeks (Phy4w) in the phytotron.

	Source of Variation	Sum of squares	df	Mean square	F	Significance
Phy0w	Between groups	0.400	1	0.400	0.474	0.499
	Within groups	18.599	22	0.845		
	Total	19.000	23			
Phy2w	Between groups	24.000	1	24.000	3.087	0.093
	Within groups	171.018	22	7.774		
	Total	195.018	23			
Phy4w	Between groups	264.007	1	264.007	16.432	0.001
	Within groups	353.458	22	16.066		
	Total	617.465	23	0.400		

B) Two-way ANOVA corresponding to the final stage of acclimation after 4 weeks in the phytotron and 6 weeks in the greenhouse in three types of soil. Factors are sucrose (the sucrose concentration during micropropagation) and the soil type (peat, forest soil and crop soil).

Source of Variation	Sum of squares	df	Mean square	F	Significance
Sucrose	29.704	1	29.704	1.638	0.217
Soil type	1269.966	2	634.983	35.026	0.000
Sucrose x Soil type	10.848	2	5.424	0.299	0.745

Table S5. Two-way ANOVA corresponding to basal diameter of willow plantlets cultured for 4 weeks in the phytotron and 6 weeks in the greenhouse in three types of soil. Factors are sucrose (the sucrose concentration during micropropagation) and the soil type (peat, forest soil and crop soil).

Source of Variation	Sum of squares	df	Mean square	F	Significance
Sucrose	0.002	1	0.002	0.006	0.941
Soil type	7.676	2	3.838	13.184	0.000
Sucrose x Soil type	0.841	2	0.420	1.444	0.262

Table S6. Two-way ANOVA corresponding to Figure 8, regarding the aerial and root biomass of willow plantlets cultured for 4 weeks in the phytotron and 6 weeks in the greenhouse in three types of soil. Factors are sucrose (the sucrose concentration during micropropagation) and the soil type (peat, forest soil and crop soil).

	Source of Variation	Sum of squares	df	Mean square	F	Significance
Aerial biomass	Sucrose	1.712	1	1.712	8.889	0.008
	Soil type	27.594	2	13.797	71.639	0.000
	Sucrose x Soil type	1.665	2	0.832	4.322	0.029
Root biomass	Sucrose	0.014	1	0.014	0.198	0.662
	Soil type	1.128	2	0.564	7.959	0.003
	Sucrose x Soil type	0.174	2	0.087	1.227	0.317

Pairwise comparisons for Aerial biomass after Bonferroni adjustment.					

Sucrose x Soil type					
Sucrose	**I (Soil type)**	**J (Soil type)**	**Mean Difference (I-J)**	**Std. error**	**Significance**
0%	Peat	Forest	2.835[*]	0.310	0.000
		Crop	2.540[*]	0.310	0.000
	Forest	Peat	-2.835[*]	0.310	0.000
		Crop	-0.295	0.310	1.000
	Crop	Peat	-2.540[*]	0.310	0.000
		Forest	0.295	0.310	1.000
3%	Peat	Forest	2.210[*]	0.310	0.000
		Crop	1.250[*]	0.310	0.002
	Forest	Peat	-2.210[*]	0.310	0.000
		Crop	-.960[*]	0.310	0.019
	Crop	Peat	-1.250[*]	0.310	0.002
		Forest	.960[*]	0.310	0.019

Soil type x Sucrose					
Soil type	**I (Sucrose)**	**J (Sucrose)**	**Mean Difference (I-J)**	**Std. error**	**Significance**
Peat	0%	3%	1.172[*]	0.310	0.001
	3%	0%	-1.172[*]	0.310	0.001
Forest	0%	3%	0.547	0.310	0.095
	3%	0%	-0.547	0.310	0.095
Crop	0%	3%	-0.118	0.310	0.709
	3%	0%	0.118	0.310	0.709

Table S7. Two-way ANOVA corresponding to Figure 9, regarding the photosynthetic pigments of willow plantlets cultured for 4 weeks in the phytotron and 6 weeks in the greenhouse in three types of soil. Factors are sucrose (the sucrose concentration during micropropagation) and the soil type (peat, forest soil and crop soil).

	Source of Variation	Sum of squares	df	Mean square	F	Significance
Chlorophyll a	Sucrose	113506.260	1	113506.260	19.602	0.000
	Soil type	565328.581	2	282664.290	48.815	0.000
	Sucrose x Soil type	3633.271	2	1816.635	0.314	0.735
Chlorophyll b	Sucrose	43367.002	1	43367.002	21.015	0.000
	Soil type	185543.523	2	92771.762	44.956	0.000
	Sucrose x Soil type	1805.053	2	902.527	0.437	0.652
Carotenoids	Sucrose	7155.307	1	7155.307	17.751	0.001
	Soil type	65101.553	2	32550.776	80.752	0.000
	Sucrose x Soil type	138.681	2	69.340	0.172	0.843

Table S8. Two-way ANOVA corresponding to Table 2, regarding the enzymatic activity of the soils after being used for culturing willow plantlets during 6 weeks in the greenhouse. Factors are sucrose (the sucrose concentration during micropropagation) and the soil type (peat, forest soil and crop soil).

	Source of Variation	Sum of squares	df	Mean square	F	Significance
Urease	Sucrose	4.912	1	4.912	3.324	0.085
	Soil type	695.483	2	347.742	235.285	0.000
	Sucrose x Soil type	7.914	2	3.957	2.677	0.096
Dehydrogenase	Sucrose	0.017	1	0.017	11.603	0.003
	Soil type	0.534	2	0.267	185.683	0.000
	Sucrose x Soil type	0.017	2	0.009	5.944	0.052
Acid phosphomonoesterase	Sucrose	1.359	1	1.359	5.277	0.034
	Soil type	130.576	2	65.288	253.529	0.000
	Sucrose x Soil type	0.712	2	0.356	1.382	0.276
ß-glucosidase	Sucrose	0.051	1	0.051	2.477	0.133
	Soil type	54.271	2	27.135	1313.991	0.000
	Sucrose x Soil type	0.104	2	0.052	2.529	0.108
Invertase	Sucrose	0.397	1	0.397	2.092	0.165
	Soil type	156.767	2	78.384	413.208	0.000
	Sucrose x Soil type	0.489	2	0.244	1.288	0.300
Arylsulfatase	Sucrose	0.000	1	0.000	0.000	1.000
	Soil type	0.466	2	0.233	235.680	0.000
	Sucrose x Soil type	0.000	2	0.000	0.233	0.795