



Figure S1 - Picture of *Arundo donax* plant profile indicating the position of apical, median and basal leaves, as well as the pot containing the roots and the rhizome.

	Na ⁺				Ca ⁺²				K ⁺			
	CTR	Na	ALA	Na + ALA	CTR	Na	ALA	Na + ALA	CTR	Na	ALA	Na + ALA
<i>T0</i>												
<i>Apical leaf</i>	n.d.	---	---	---	2562.4 ± 391.8 AC	---	---	---	49935.5 ± 3202.4 B	---	---	---
<i>Median leaf</i>	n.d.	---	---	---	3846.3 ± 169.4 A	---	---	---	45057.1 ± 4983.2 B	---	---	---
<i>Basal leaf</i>	n.d.	---	---	---	4068.9 ± 498.8 A	---	---	---	44195.7 ± 4758.8 B	---	---	---
<i>Stems</i>	---	---	---	---	1347.8 ± 147.2 C	---	---	---	57691.9 ± 1455.8 A	---	---	---
<i>Roots</i>	7459.7 ± 831.4 A	---	---	---	1907.3 ± 568.2 C	---	---	---	14923.5 ± 748.1 C	---	---	---
<i>Rhizome</i>	1359.6 ± 879.1 B	---	---	---	544.2 ± 37.0 BC	---	---	---	14816.0 ± 985.3 C	---	---	---
<i>T2</i>												
<i>Apical leaf</i>	----	9024.3 ± 500.5 C a	---	4520.4 ± 857.0 B b	2735.7 ± 337.4 D b	6364.2 ± 667.1 A a	1844.8 ± 669.8 BC b	6957.7 ± 71.3 C a	42085.8 ± 1747.3 C a	37007.5 ± 3700.1 C a	34626.1 ± 1567.8 A a	33428.0 ± 876.8 AC a
<i>Median leaf</i>	1284.5 ± 189.7 B b	6756.9 ± 146.5 CD a	1392.8 ± 399.9 A b	5540.5 ± 833.7 B a	7153.8 ± 373.5 C a	6382.5 ± 198.1 A a	7957.1 ± 917.6 A a	7975.0 ± 218.6 C b	42722.8 ± 4559.2 C a	43068.0 ± 3385.8 AC a	45338.0 ± 1957.3 A a	36827.2 ± 3612.2 AC a
<i>Basal leaf</i>	3939.4 ± 644.5 B b	8829.3 ± 501.8 C a	2464.7 ± 623.4 A b	4055.1 ± 538.3 B b	8957.3 ± 268.5 A a	5438.0 ± 594.3 A b	9112.6 ± 1022.5 A a	9006.5 ± 780.8 A a	36123.7 ± 2733.5 AC a	44650.0 ± 1204.9 C a	40931.5 ± 4316.4 A a	40695.9 ± 5596.7 AC a
<i>Stems</i>	---	4993.6 ± 647.1 D a	1108.6 ± 789.7 A b	2171.9 ± 909.6 B b	612.7 ± 106.2 B a	294.1 ± 19.9 B b	613.8 ± 33.5 B a	566.3 ± 5.2 B a	40147.6 ± 2495.5 C a	48749.5 ± 1270.7 AC a	33184.9 ± 1737.0 AC a	43448.5 ± 3982.4 A a

	<i>Roots</i>	8194.6 ± 1406.9 A c	21242.5 ± 848.7 A d	2562.3 ± 91.0 A b	33302.6 ± 1601.8 A a	2874.9 ± 14.0 D a	2615.0 ± 425.9 C a	1240.3 ± 336.2 BC b	945.0 ± 114.0 B b	19114.0 ± 662.4 B a	6402.6 ± 300.0 B b	21957.1 ± 2225.0 B a	9716.5 ± 1716.1 B b
	<i>Rhizome</i>	2966.6 ± 696.5 B b	12264.9 ± 740.5 B c	2658.8 ± 751.4 A b	19445.8 ± 1879.8 C a	3979.1 ± 123.4 D a	753.8 ± 9.4 C b	333.6 ± 99.1 C b	505.4 ± 112.1 B b	9290.7 ± 506.4 B b	9294.1 ± 510.0 B b	13129.4 ± 31.2 B b	27059.3 ± 2394.5 C a
<i>R</i>	<i>Apical leaf</i>	n.d.	2474.3 ± 360.5 B	n.d.	n.d.	1547.9 ± 472.7 B a	509.6 ± 44.9 BC a	709.6 ± 145.2 B a	686.4 ± 82.8 B a	44218.9 ± 4197.2 A a	43342.0 ± 2866.4 A a	41991.9 ± 5897.4 A a	44963.7 ± 2322.8 AC a
	<i>Median leaf</i>	5381.8 ± 676.1 C bc	14516.9 ± 1207.0 C a	2376.4 ± 190.3 B b	6910.2 ± 19.9 B c	5986.7 ± 306.4 C ab	4566.4 ± 228.5 A b	4033.5 ± 504.6 A b	8209.3 ± 921.5 A a	26564.5 ± 2258.2 BC a	32623.4 ± 2279.8 A a	29241.0 ± 2792.3 A a	30334.2 ± 4782.8 AC a
	<i>Basal leaf</i>	6174.6 ± 599.5 C a	---	4344.7 ± 440.9 B a	---	8875.4 ± 268.5 A a	---	5212.6 ± 295.8 A b	---	35033.3 ± 3236.0 AC a	---	30423.2 ± 4554.9 AB a	---
	<i>Stems</i>	896.5 ± 127.8 B b	929.3 ± 304.4 B a	---	4051.6 ± 521.2 B a	437.7 ± 60.8 B a	520.3 ± 127.4 BC a	367.1 ± 41.2 B a	437.1 ± 53.7 B a	18152.1 ± 3519.2 B a	36080.7 ± 3643.2 A a	21176.8 ± 3701.0 B a	35405.5 ± 2822.7 A a
	<i>Roots</i>	8424.7 ± 739.7 A b	22414.7 ± 516.1 A a	2170.1 ± 2037 B c	29668.1 ± 2631.9 A a	3780.4 ± 550.6 D a	1348.6 ± 297.7 B b	1685.6 ± 376.7 B b	1100.2 ± 355.6 B b	25488.5 ± 2683.7 BC a	16046.3 ± 3319.8 B a	17599.3 ± 252.8 B a	15640.5 ± 2206.9 BC a
	<i>Rhizome</i>	3787.4 ± 877.7 BC c	17292.1 ± 627.7 C a	6380.8 ± 1004.1 A a	14264.2 ± 1360.7 C a	4666.6 ± 15.5 B a	349.2 ± 121.9 C b	427.5 ± 39.9 B b	609.9 ± 165.3 B b	13322.8 ± 823.0 B a	11150.6 ± 890.5 B a	15472.7 ± 2680.0 B a	10781.1 ± 4243.2 B a

Table S1 – Concentration ($\mu\text{g} / \text{g}$) of mineral elements (Na^+ ; Ca^{+2} ; K^+) measured at different time points (T0, T2 and R) in the apical, median, and basal leaves as well as in stems, roots and rhizome of *Arundo donax* controls (CTR), salt-stressed (Na), ALA-treated (ALA) and both salt-stressed and ALA-treated (Na + ALA) plants. Mean values \pm SE are shown. At any time point, uppercase letters indicate statistically significant differences between (apical, median and basal) leaves, roots and rhizome of

plants undergoing the same treatment; lowercase letters indicate statistically significant differences between the (apical, median and basal) leaves, roots and rhizome of plants undergoing different treatments ($P < 0.05$; $n = 3$).

	A ($\mu\text{mol m}^{-2} \text{s}^{-1}$)				gs ($\mu\text{mol m}^{-2} \text{s}^{-1}$)				Ci (ppm)			
	CTR	Na	ALA	Na + ALA	CTR	Na	ALA	Na + ALA	CTR	Na	ALA	Na + ALA
<i>T0</i>	21.35 \pm 0.96 A	---	---	---	0.262 \pm 0.028 A	---	---	---	228 \pm 9 A	---	---	---
<i>1st</i> apical	26.33 \pm 0.89 A	---	---	---	0.328 \pm 0.034 A	---	---	---	248 \pm 8 A	---	---	---
<i>2nd</i> apical	22.37 \pm 1.10 A	---	---	---	0.291 \pm 0.029 AB	---	---	---	235 \pm 10 A	---	---	---
<i>median</i>	15.83 \pm 1.53 B	---	---	---	0.176 \pm 0.030 B	---	---	---	203 \pm 14 A	---	---	---
<i>basal</i>	21.86 \pm 1.37 A a	18.28 \pm 0.71 A a	21.50 \pm 1.77 A a	18.93 \pm 1.39 A a	0.327 \pm 0.076 A a	0.183 \pm 0.015 A b	0.202 \pm 0.018 AC a	0.168 \pm 0.016 A a	248 \pm 31 A a	202 \pm 12 A a	244 \pm 9 A a	188 \pm 5 A a
<i>T1</i>	24.33 \pm 2.26 A a	19.42 \pm 0.95 A a	22.00 \pm 1.29 A a	19.32 \pm 1.99 A a	0.359 \pm 0.078 A a	0.183 \pm 0.018 A b	0.227 \pm 0.016 A a	0.197 \pm 0.033 A a	246 \pm 40 A a	197 \pm 13 A a	250 \pm 15 A a	207 \pm 18 A a
<i>1st</i> apical	20.18 \pm 1.19 AB a	14.93 \pm 1.89 AB a	17.75 \pm 1.97 AB ab	12.51 \pm 0.40 B b	0.263 \pm 0.066 A a	0.123 \pm 0.022 AB b	0.134 \pm 0.014 BC ab	0.076 \pm 0.009 B b	234 \pm 25 A ab	172 \pm 14 A b	245 \pm 10 A a	176 \pm 10 A ab
<i>2nd</i> apical	13.22 \pm 2.41 B a	9.88 \pm 0.91 B a	12.34 \pm 0.87 B a	7.50 \pm 1.02 B a	0.128 \pm 0.026 A a	0.079 \pm 0.005 B b	0.100 \pm 0.022 B a	0.081 \pm 0.006 B a	207 \pm 2 A a	176 \pm 22 A a	207 \pm 9 A a	136 \pm 32 A a
<i>median</i>	19.90 \pm 1.00 AC a	7.89 \pm 0.54 A b	17.90 \pm 1.06 A a	10.97 \pm 0.52 A a	0.209 \pm 0.025 A a	0.061 \pm 0.004 A b	0.225 \pm 0.026 A a	0.093 \pm 0.009 C c	215 \pm 13 A ac	171 \pm 3 A b	239 \pm 9 A a	185 \pm 9 A bc
<i>T2</i>	22.03 \pm 1.05 A a	8.00 \pm 0.85 A c	18.06 \pm 0.87 A a	12.79 \pm 0.67 A b	0.229 \pm 0.022 A a	0.070 \pm 0.008 A b	0.209 \pm 0.020 A a	0.134 \pm 0.007 A c	212 \pm 18 A a	194 \pm 10 A a	229 \pm 9 A a	208 \pm 7 A a
<i>1st</i> apical	15.60 \pm 1.22 C a	6.94 \pm 0.94 A b	15.02 \pm 1.65 A a	8.06 \pm 0.75 B b	0.151 \pm 0.020 AB ac	0.058 \pm 0.008 A b	0.177 \pm 0.032 AB a	0.072 \pm 0.006 BC c	205 \pm 11 A a	188 \pm 10 A a	230 \pm 12 A a	198 \pm 6 A a
<i>2nd</i> apical	7.90 \pm 0.70 B a	6.35 \pm 0.98 A a	9.23 \pm 0.32 B a	6.61 \pm 0.32 B a	0.068 \pm 0.012 B ab	0.057 \pm 0.008 A b	0.100 \pm 0.009 B a	0.055 \pm 0.004 B b	187 \pm 22 A a	200 \pm 7 A a	226 \pm 10 A a	186 \pm 7 A a
<i>median</i>	14.50 \pm 1.54 A a	18.50 \pm 0.31 AB a	17.68 \pm 0.46 A a	17.38 \pm 0.63 A a	0.171 \pm 0.034 A a	0.202 \pm 0.018 AC a	0.180 \pm 0.010 A a	0.192 \pm 0.010 A a	237 \pm 11 A a	222 \pm 11 A a	214 \pm 7 A a	227 \pm 7 A a
<i>R</i>	16.93 \pm 2.09 A a	19.58 \pm 0.97 A a	14.95 \pm 1.10 AC a	17.53 \pm 1.09 A a	0.207 \pm 0.034 A a	0.227 \pm 0.016 A a	0.146 \pm 0.020 A a	0.194 \pm 0.020 A a	242 \pm 6 A a	233 \pm 6 A ab	209 \pm 7 A b	226 \pm 6 A ab
<i>1st</i> apical	11.90 \pm 0.36 AB a	11.81 \pm 2.63 BC a	11.20 \pm 0.98 BC a	13.73 \pm 0.68 AB a	0.128 \pm 0.007 A a	0.134 \pm 0.014 BC a	0.102 \pm 0.014 AB a	0.145 \pm 0.008 AB a	230 \pm 6 A ab	237 \pm 8 A a	200 \pm 10 A b	224 \pm 5 A ab
<i>2nd</i> apical	6.71 \pm 0.77 B a	9.19 \pm 1.81 C a	8.05 \pm 1.10 B a	10.21 \pm 1.02 B a	0.064 \pm 0.064 A a	0.100 \pm 0.020 B a	0.063 \pm 0.022 B a	0.102 \pm 0.010 B a	215 \pm 3 A a	228 \pm 7 A a	200 \pm 11 A a	214 \pm 9 A a
<i>median</i>												
<i>basal</i>												

Table S2 – Photosynthetic CO₂ assimilation arte (A); stomatal conductance (gs), intercellular CO₂ concentration (Ci) measured at different time points (T0, T1, T2 and R) in (1st, 2nd) apical, median and basal leaves of *Arundo donax* controls (CTR), salt-

stressed (Na), ALA-treated (ALA) and both salt-stressed and ALA-treated (Na + ALA) plants. Mean values \pm SE are shown. At any time point, uppercase letters indicate statistically significant differences between (apical, median and basal) leaves of plants undergoing the same treatment, and lowercase letters indicate statistically significant differences between (apical, median and basal) leaves of plants undergoing different treatments ($P < 0.05$; $n = 3$).

	CTR	Na ⁺	ALA	Na ⁺ + ALA
<i>T0</i>				
<i>apical</i>	1.47 ± 0.21 A	---	---	---
<i>median</i>	1.64 ± 0.01 A	---	---	---
<i>basal</i>	---	---	---	---
<i>T2</i>				
<i>apical</i>	0.87 ± 0.05 B a	0.91 ± 0.16 A a	0.83 ± 0.08 A a	0.83 ± 0.07 A a
<i>median</i>	1.38 ± 0.03 A a	0.82 ± 0.09 A b	1.28 ± 0.11 A a	0.87 ± 0.08 A b
<i>basal</i>	1.30 ± 0.08 A a	---	1.27 ± 0.18 A a	---
<i>R</i>				
<i>apical</i>	0.86 ± 0.05 B b	0.89 ± 0.03 B bc	1.08 ± 0.01 A a	0.75 ± 0.03 B b
<i>median</i>	1.33 ± 0.06 A a	1.14 ± 0.03 A ab	1.14 ± 0.09 A ab	0.88 ± 0.03 A b
<i>basal</i>	0.82 ± 0.05 B a	---	0.93 ± 0.08 A a	---

Table S3 – Total chlorophylls concentration (mg / g) measured at different time points (T0, T2 and R) in apical, median and basal leaves of *Arundo donax* controls (CTR), salt-stressed (Na), ALA-treated (ALA) and both salt-stressed and ALA-treated (Na + ALA) plants. Mean values ± SE are shown. At any time point, uppercase letters indicate statistically significant differences between (apical, median and basal) leaves of plants undergoing the same treatment, and lowercase letters indicate statistically significant differences between (apical, median and basal) leaves of plants undergoing different treatments ($P < 0.05$; $n = 3$).

	Methanol (nmol m ⁻² s ⁻¹)				Isoprene (μmol m ⁻² s ⁻¹)			
	CTR	Na	ALA	Na + ALA	CTRL	Na	ALA	Na + ALA
<i>T0</i>	6.70 ±				2.47 ±			
1 st apical	1.22 A	---	---	---	0.43 B	---	---	---
2 nd apical	3.27 ±				7.33 ±			
	0.60 B	---	---	---	1.25 C	---	---	---
median	1.39 ±				12.59 ±			
	0.12 B	---	---	---	1.16 A	---	---	---
basal	0.84 ±				9.09 ±			
	0.15 B	---	---	---	1.02 AC	---	---	---
<i>T1</i>	3.06 ±	1.98 ±	4.22 ±	1.11 ±	7.69 ±	11.57 ±	2.97 ±	11.07 ±
1 st apical	0.59 A a	0.79 A b	1.19 A a	0.15 A a	3.45 B a	3.02 A a	0.81 B b	1.74 A a
2 nd apical	1.65 ±	0.93 ±	2.33 ±	1.04 ±	20.86 ±	14.57 ±	7.06 ±	16.72 ±
	0.23 B ab	0.29 A b	0.15 AB a	0.03 A b	4.18 A a	3.09 A ab	1.78 AB b	3.29 A ab
median	1.58 ±	0.53 ±	1.17 ±	0.80 ±	18.87 ±	11.87 ±	9.81 ±	11.34 ±
	0.15 B a	0.19 A a	0.22 B a	0.54 A a	5.29 A a	1.69 A a	2.37 AB b	4.35 A a
basal	0.94 ±	0.73 ±	0.87 ±	1.06 ±	7.84 ±	7.57 ±	9.11 ±	6.86 ±
	0.21 B a	0.41 A a	0.32 B a	0.19 A a	1.98 A a	2.22 A a	1.30 A b	1.39 A a
<i>T2</i>	4.29 ±	1.56 ±	3.95 ±	0.99 ±	8.89 ±	7.84 ±	2.43 ±	15.23 ±
1 st apical	3.29 A a	0.71 A b	0.74 A a	0.29 A a	3.64 A a	1.89 A a	0.61 B b	4.49 A a
2 nd apical	1.45 ±	0.78 ±	1.63 ±	0.89 ±	11.83 ±	8.71 ±	7.38 ±	18.44 ±
	0.43 A a	0.29 A b	0.12 B a	0.16 A a	2.96 A b	1.06 A b	1.52 B b	3.95 A a
median	0.81 ±	0.66 ±	0.94 ±	0.82 ±	16.61 ±	7.48 ±	15.24 ±	15.54 ±
	0.10 A a	0.14 A a	0.21 B a	0.23 A a	1.27 A a	1.14 A b	2.50 A a	3.21 A a
basal	0.14 ±	0.56 ±	0.61 ±	0.51 ±	9.92 ±	4.60 ±	7.60 ±	10.53 ±
	0.12 A b	0.07 A ab	0.10 B a	0.10 A ab	1.38 A ab	1.03 A b	0.96 B ab	1.86 A a
<i>R</i>	2.26 ±	1.93 ±	1.64 ±	1.80 ±	3.88 ±	6.00 ±	10.77 ±	6.17 ±
1 st apical	0.16 A a	0.67 A a	0.23 A a	0.36 A a	1.58 B a	1.69 B a	3.56 A a	2.19 B a
2 nd apical	0.94 ±	1.46 ±	0.74 ±	1.17 ±	14.15 ±	10.06 ±	13.24 ±	6.07 ±
	0.26 B a	0.27 A a	0.13 B a	0.11 AB a	3.74 AB a	1.72 AB a	3.12 A a	0.90 B a
median	0.41 ±	1.01 ±	0.30 ±	0.39 ±	26.22 ±	15.06 ±	18.24 ±	18.99 ±
	0.20 B a	0.34 A a	0.06 B a	0.14 B a	4.72 A a	3.65 AB a	2.25 A a	1.27 A a
basal	0.80 ±	0.50 ±	0.31 ±	0.42 ±	18.02 ±	17.10 ±	16.26 ±	17.46 ±
	0.16 B a	0.15 A a	0.06 B a	0.08 B a	0.30 A a	2.46 A a	1.67 A a	2.74 A a

Table S4 – Emission of methanol and isoprene measured at different time points (T0, T1, T2 and R) in (1st, 2nd) apical, median and basal leaves of *Arundo donax* controls (CTR), salt-stressed (Na), ALA-treated (ALA) and both salt-stressed and ALA-treated (Na + ALA) plants. Mean values ± SE are shown. At any time point, uppercase letters indicate statistically significant differences between (apical, median and basal) leaves of plants undergoing the same treatment, and lowercase letters indicate statistically significant differences between (apical, median and basal) leaves of plants undergoing different treatments ($P < 0.05$; $n = 3$).

	callose ($\mu\text{g} / \text{g}$)
CTR	45.70 \pm 5.24 c
Na⁺	145.52 \pm 5.36 a
ALA	47.44 \pm 2.25 c
Na⁺ + ALA	10.38 \pm 1.28 b

Table S5 – Callose concentration measured in roots of *Arundo donax* controls (CTR), salt-stressed (Na), ALA-treated (ALA) and both salt-stressed and ALA-treated (Na + ALA) after the application of salt stress (at T2). Mean values \pm SE are shown and lowercase letters indicate statistically significant differences between plants undergoing different treatments ($P < 0.05$; n = 3).