

Accessory Publication

Table S1. Concentration of ammonium and selected free amino acids ($\mu\text{mol mg DW}^{-1}$) in root and shoot tissue of *Arabidopsis* and *Lobelia anceps* grown with no N or 10 mM N of indicated sources

Plants were germinated and grown axenically for 20 days (*Arabidopsis*) or 35 days (*Lobelia*). Values represent mean \pm s.d. ($n = 3\text{--}6$).

Missing root tissue values (n.d. = not determined) occur where insufficient tissue was available to perform UPLC analysis or where root and shoot tissue could not be separated adequately. Values represents mean of three to six replicates \pm s.d.. d.l. = detection limit.

Species	Treatment	Compound ($\mu\text{mol mg DW}^{-1}$)						
		Root						
		NH_4^+	Arg	Ser	Gln	Gly	Ala	Phe
<i>Arabidopsis</i>	No N	95 ± 51	6 ± 13	5 ± 5	3 ± 3	61 ± 29	<d.l.	<d.l.
	NH_4NO_3	223 ± 106	4 ± 2	23 ± 8	73 ± 32	12 ± 9	24 ± 10	0 ± 1
	Gln	214 ± 73	3 ± 2	28 ± 12	204 ± 119	15 ± 9	58 ± 27	0 ± 1
	Ala	39 ± 26	23 ± 9	139 ± 79	2503 ± 1557	61 ± 68	710 ± 486	<d.l.
	Gly	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
	Gly-Gly	194 ± 34	5 ± 2	299 ± 70	45 ± 16	128 ± 48	26 ± 7	<d.l.
	Gly-Gly-Gly	251 ± 62	9 ± 6	784 ± 255	100 ± 17	463 ± 130	33 ± 15	<d.l.
	Gly-Gly-Gly-Gly	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
	Gly-Ala	422 ± 388	7 ± 2	299 ± 229	392 ± 327	189 ± 175	172 ± 115	0 ± 1
	Ala-Gln	207 ± 53	3 ± 1	48 ± 15	420 ± 127	20 ± 10	115 ± 45	1 ± 1
	Ala-Ala	220 ± 69	3 ± 2	61 ± 28	154 ± 43	18 ± 4	178 ± 99	<d.l.
	Gly-Phe	458 ± 205	7 ± 8	123 ± 27	2 ± 2	66 ± 60	10 ± 11	363 ± 74
<i>Lobelia</i>	No N	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
	NH_4NO_3	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
	Gln	42 ± 28	43 ± 22	16 ± 9	967 ± 613	20 ± 33	37 ± 15	2 ± 1
	Ala	76 ± 29	19 ± 5	44 ± 4	306 ± 67	18 ± 23	250 ± 57	1 ± 1
	Gly	80 ± 80	54 ± 26	893 ± 571	642 ± 369	383 ± 272	43 ± 26	3 ± 2
	Gly-Gly	69 ± 60	3 ± 1	138 ± 41	95 ± 31	65 ± 35	12 ± 3	2 ± 0
	Gly-Gly-Gly	53 ± 16	5 ± 4	72 ± 22	43 ± 23	17 ± 1	7 ± 3	1 ± 1
	Gly-Gly-Gly-Gly	83 ± 37	1 ± 1	42 ± 18	28 ± 15	10 ± 4	6 ± 2	1 ± 0
	Gly-Ala	101 ± 72	6 ± 4	13 ± 6	38 ± 28	1 ± 1	7 ± 4	1 ± 1
	Ala-Gln	139 ± 79	3 ± 1	6 ± 5	45 ± 46	4 ± 2	12 ± 8	1 ± 1
	Ala-Ala	187 ± 53	5 ± 3	5 ± 3	17 ± 17	4 ± 4	6 ± 2	1 ± 1
	Gly-Phe	475 ± 606	8 ± 8	38 ± 32	83 ± 112	11 ± 13	29 ± 22	47 ± 64

(continued)

Species	Treatment	Compound ($\mu\text{mol mg DW}^{-1}$)						
		Shoot						
		NH_4^+	Arg	Ser	Gln	Gly	Ala	Phe
<i>Arabidopsis</i>	No N	37 \pm 28	<d.l.	<d.l.	<d.l.	28 \pm 30	<d.l.	<d.l.
	NH_4NO_3	9 \pm 2	2 \pm 1	17 \pm 5	21 \pm 8	2 \pm 1	20 \pm 8	<d.l.
	Gln	12 \pm 5	6 \pm 8	12 \pm 5	71 \pm 82	5 \pm 2	24 \pm 18	2 \pm 2
	Ala	25 \pm 22	77 \pm 39	93 \pm 61	1750 \pm 762	7 \pm 8	93 \pm 62	<d.l.
	Gly	38 \pm 13	28 \pm 8	801 \pm 188	1131 \pm 295	164 \pm 106	17 \pm 3	2 \pm 2
	Gly-Gly	13 \pm 6	2 \pm 1	141 \pm 59	79 \pm 36	30 \pm 12	21 \pm 10	1 \pm 1
	Gly-Gly-Gly	16 \pm 9	3 \pm 1	116 \pm 44	69 \pm 27	14 \pm 5	23 \pm 12	2 \pm 1
	Gly-Gly-Gly-Gly	89 \pm 128	5 \pm 5	285 \pm 246	126 \pm 113	58 \pm 49	49 \pm 51	1 \pm 1
	Gly-Ala	11 \pm 5	3 \pm 1	44 \pm 9	9 \pm 31	0 \pm 4	105 \pm 9	1 \pm 0
	Ala-Gln	10 \pm 5	4 \pm 2	13 \pm 6	146 \pm 51	3 \pm 3	23 \pm 11	2 \pm 0
	Ala-Ala	14 \pm 5	5 \pm 2	31 \pm 12	159 \pm 63	15 \pm 13	63 \pm 26	<d.l.
	Gly-Phe	31 \pm 73	0	126 \pm 70	2 \pm 3	125 \pm 69	53 \pm 35	1066 \pm 705
<i>Lobelia</i>	No N	65 \pm 67	1 \pm 0	2 \pm 1	<d.l.	3 \pm 3	<d.l.	<d.l.
	NH_4NO_3	34 \pm 27	78 \pm 49	13 \pm 7	782 \pm 582	3 \pm 3	33 \pm 19	2 \pm 2
	Gln	2 \pm 2	22 \pm 5	6 \pm 2	174 \pm 70	5 \pm 6	28 \pm 8	2 \pm 1
	Ala	31 \pm 16	6 \pm 1	13 \pm 2	80 \pm 20	3 \pm 2	23 \pm 4	2 \pm 0
	Gly	5 \pm 10	49 \pm 11	39 \pm 12	230 \pm 137	16 \pm 14	34 \pm 7	2 \pm 1
	Gly-Gly	33 \pm 9	8 \pm 4	11 \pm 5	29 \pm 16	5 \pm 4	17 \pm 9	1 \pm 1
	Gly-Gly-Gly	68 \pm 75	6 \pm 4	9 \pm 3	19 \pm 12	3 \pm 2	13 \pm 10	2 \pm 2
	Gly-Gly-Gly-Gly	43 \pm 36	1 \pm 1	5 \pm 2	5 \pm 4	4 \pm 3	10 \pm 3	1 \pm 0
	Gly-Ala	85 \pm 32	5 \pm 2	7 \pm 5	15 \pm 6	4 \pm 4	17 \pm 4	2 \pm 1
	Ala-Gln	106 \pm 111	2 \pm 0	3 \pm 2	11 \pm 3	1 \pm 1	17 \pm 8	1 \pm 0
	Ala-Ala	82 \pm 56	5 \pm 2	6 \pm 3	19 \pm 8	5 \pm 6	17 \pm 6	2 \pm 1
	Gly-Phe	38 \pm 17	6 \pm 4	5 \pm 3	17 \pm 11	3 \pm 3	15 \pm 5	52 \pm 50