Table S1. Metabolite pool sizes

		nmol·gFW^{-1}				nmol·mg^{-1} chlorophyll	
Compound	LL	Ref. 5	Ref. 16	Ref. 17	HL-ACC	LL	HL-ACC
RUBP	71.0 ± 20.2	46.7 ± 8.2	118.0 ± 11.0	42.0 ± 8.2	10.2 ± 7.1	115.1 ± 32.7	25.9 ± 18.0
3-PGA	180.2 ± 33.9	200.0 ± 45.0	168.0 ± 15.0	n.d.	57.3 ± 45.6	292.5 ± 55.1	145.5 ± 115.8
DHAP	66.5 ± 18.1	2.7 ± 0.6	57.3 ± 4.2	13.2 ± 2.9	30.0 ± 12.4	108.0 ± 29.4	76.2 ± 31.5
FBP	11.64 ± 4.5	8.9 ± 2.3	31.2 ± 2.4	3.1 ± 0.2	3.6 ± 2.0	18.8 ± 7.3	9.2 ± 5.1
G6P	228.1 ± 56.5	173.0 ± 51.0	272.0 ± 15.0	159.2 ± 17.4	109.5 ± 35.3	370.2 ± 91.7	278.1 ± 89.5
F6P	175.0 ± 16.9	86.4 ± 14.6	128.0 ± 8.0	71.5 ± 12.5	126.4 ± 21.8	283.9 ± 27.5	321.0 ± 55.4
G1P	29.0 ± 12.7	11.7 ± 2.4	11.4 ± 1.2	17.9 ± 1.6	33.7 ± 7.9	47.0 ± 20.7	98.7 ± 20.0
S7P	58.9 ± 12.0	28.0 ± 5.4	87.5 ± 4.3	33.8 ± 11.6	48.4 ± 14.1	95.6 ± 19.5	122.9 ± 35.9
R5P	5.2 ± 0.8	1.2 ± 0.2	3.3 ± 0.8	6.2 ± 1.8	3.9 ± 1.0	8.5 ± 1.4	10.0 ± 2.5
UDPG	163.4 ± 38.7	35.7 ± 5.7	151.0 ± 4.0	86.0 ± 4.8	127.2 ± 37.2	265.1 ± 62.7	323.1 ± 94.4
ADPG	2.7 ± 0.7	0.6 ± 0.1	1.0 ± 0.1	1.0 ± 0.3	5.0 ± 1.9	4.5 ± 1.2	12.7 ± 4.9
Glycerate	101.1 ± 18.2	169.0 ± 65.0	290.0 ± 11.0	522.3 ± 101.0	209.4 ± 66.4	164.1 ± 29.6	531.8 ± 168.7
2-PGA	8.5 ± 3.4	20.0 ± 4.5	nd	nd	3.6 ± 2.2	13.8 ± 5.5	9.0 ± 5.7
Glycolate	33.1 ± 9.2	nd	nd	nd	44.8 ± 5.1	53.8 ± 14.9	113.8 ± 13.0
Aconitate	143.0 ± 61.9	14.5 ± 5.5	22.8 ± 1.6	nd	106.3 ± 40.5	232.0 ± 100.5	270.0 ± 102.9
2-OG	174.7 ± 27.1	63.1 ± 18.8	90.4 ± 2.6	132.6 ± 32.8	236.8 ± 87.5	283.4 ± 43.9	601.4 ± 222.2
Succinate	353.5 ± 105.4	84.0 ± 48.2	122.0 ± 7.0	nd	472.3 ± 201.0	573.6 ± 171.1	1,199.4 ± 510.4
Fumarate	12,988.8 ± 1,620.8	1,154.0 ± 47.0	nd	nd	26,330.2 ± 3,621.6	21077.1 ± 2,630.2	66,866.4 ± 9,197.2
Malate	9,213.0 ± 1,381.4	1,820.0 ± 547.0	3,222.0 ± 185.0	1,1147.0 ± 1,217.0	9,301.1 ± 1,557.1	14,950.1 ± 2,241.7	23,620.5 ± 3,954.4

Metabolite pool sizes in LL and HL-ACC leaves were measured on the basis of leaf fresh weight and chlorophyll content (SD, $n > 4$), and compared with reported metabolite data (1–3). Although generally comparable several metabolite pools decreased in size with acclimation. The changes were further confirmed with independent replicates involving additional experiments that included spiked standards (Dataset S1). All samples were processed identically with care to avoid shading and using internal standards to correct for effects due to sample loss during the extraction, matrix contributions, and ion suppression. Of note, RUBP concentration dropped the most in the HL-ACC condition, although remained comparable to others' measured values (3–6). Hexose phosphate levels were far from equilibrium, consistent with a regulatory role for starch production relative to RuBP regeneration (7, 8). Other metabolites such as organic acids were comparable to literature values (3, 9, 10). Further raw data can be found in Dataset S1. nd, not detected.

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