

Dataset S2. Normalized values of metabolites in nodules of chickpea plants. Plants were inoculated with either the *McCP-31* or the *MmSWR19* and grown over a period of 30 d after sowing under Pi-sufficient (+P) or -deficient (-P) conditions. Data presented are the means \pm SE of four independent biological replicates. The values in bold and green indicate a significant increase in -P plants relative to +P plants, whereas the values in bold and red indicate a significant decrease in -P plants relative to +P plants. Data with different letters are significantly different as measured by a Duncan's multiple range test ($P \leq 0.05$).

Normalized values of metabolites	<i>MmSWR19</i>			<i>McCP-31</i>		
	Sufficient-Pi	Deficient-Pi	Response ratio [-P/+P]	Sufficient-Pi	Deficient-Pi	Response ratio [-P/+P]
Amino acids						
L-Glutamine	0.150 \pm 0.02 ^b	0.210 \pm 0.02 ^b	1.40	0.180 \pm 0.01 ^b	0.300 \pm 0.02 ^a	1.67
L-Asparagine	3.070 \pm 0.03 ^b	6.540 \pm 0.60 ^a	2.13	3.700 \pm 0.60 ^b	3.760 \pm 0.80 ^b	1.01
L-Phenylalanine	1.160 \pm 0.10 ^b	1.550 \pm 0.07 ^a	1.33	0.980 \pm 0.06 ^{bc}	0.830 \pm 0.10 ^c	0.84
GABA	0.950 \pm 0.10 ^a	0.310 \pm 0.06 ^{bc}	0.32	0.090 \pm 0.004 ^c	0.350 \pm 0.08 ^b	3.89
L-Homoserine	2.460 \pm 0.84 ^b	5.900 \pm 0.50 ^a	2.39	6.420 \pm 0.60 ^a	6.750 \pm 1.80 ^a	1.05
β -Alanine	0.240 \pm 0.01 ^a	0.170 \pm 0.006 ^b	0.70	0.082 \pm 0.01 ^c	0.140 \pm 0.030 ^{bc}	1.7
L-Threonine	2.000 \pm 0.11 ^a	1.600 \pm 0.05 ^b	0.84	0.950 \pm 0.11 ^c	1.380 \pm 0.07 ^b	1.45
D-Isoleucine	0.270 \pm 0.05 ^b	0.650 \pm 0.03 ^a	2.40	0.240 \pm 0.04 ^b	0.280 \pm 0.06 ^b	1.16
L-Alanine	9.600 \pm 1.50 ^a	8.800 \pm 1.20 ^a	0.84	3.100 \pm 0.92 ^b	8.800 \pm 1.70 ^a	2.83
L-Valine	2.500 \pm 0.13 ^{ab}	2.900 \pm 0.50 ^a	1.16	2.400 \pm 0.20 ^b	2.100 \pm 0.19 ^b	0.87
L-Serine	1.900 \pm 0.08 ^a	1.700 \pm 0.09 ^{ab}	0.89	1.400 \pm 0.17 ^b	1.700 \pm 0.20 ^{ab}	1.21
3-Cyano-L-alanine	0.110 \pm 0.01 ^{bc}	0.250 \pm 0.03 ^a	2.27	0.060 \pm 0.006 ^c	0.150 \pm 0.01 ^b	2.50
Methionine	0.450 \pm 0.07 ^b	0.610 \pm 0.05 ^a	1.35	0.270 \pm 0.04 ^c	0.350 \pm 0.01 ^c	1.29
L-Aspartate	0.130 \pm 0.01 ^b	0.140 \pm 0.007 ^b	1.07	0.110 \pm 0.008 ^b	0.200 \pm 0.11 ^a	1.81
L-Glutamate	0.260 \pm 0.01 ^a	0.220 \pm 0.009 ^{ab}	0.84	0.130 \pm 0.01 ^c	0.200 \pm 0.02 ^b	1.53
L-Cystine	0.048 \pm 0.02 ^a	0.008 \pm 0.0008 ^b	0.21	0.004 \pm 0.0007 ^b	0.007 \pm 0.001 ^b	1.40
Glycine	0.190 \pm 0.01 ^a	0.190 \pm 0.006 ^a	1.00	0.130 \pm 0.01 ^b	0.140 \pm 0.008 ^b	1.07
L-Lysine	0.840 \pm 0.03 ^{bc}	1.230 \pm 0.08 ^a	1.46	0.680 \pm 0.07 ^c	0.970 \pm 0.04 ^b	1.42
L-Tyrosine	0.520 \pm 0.08 ^b	0.930 \pm 0.06 ^a	1.78	0.570 \pm 0.09 ^b	0.530 \pm 0.08 ^b	0.92
L-Tryptophan	1.450 \pm 0.24 ^a	1.260 \pm 0.14 ^{ab}	0.86	0.860 \pm 0.17 ^b	0.770 \pm 0.03 ^b	0.89
L-5-Oxoproline	4.220 \pm 0.11 ^{ab}	4.820 \pm 0.15 ^a	1.14	3.690 \pm 0.30 ^b	4.440 \pm 0.17 ^a	1.20

Hydroxylamine	0.016±0.004 ^a	0.020±0.005 ^a	1.25	0.021±0.002 ^a	0.030±0.005 ^a	1.42
L-Proline	0.079±0.001 ^a	0.078±0.002 ^a	0.98	0.063±0.008 ^b	0.064±0.002 ^b	1.01
L-Histidine	0.003±0.002 ^a	0.005±0.0002 ^a	1.67	0.004±0.0008 ^a	0.004±0.0004 ^a	1.00
L-Leucine	0.016±0.003 ^a	0.018±0.002 ^a	1.12	0.017±0.002 ^a	0.019±0.003 ^a	1.11
L-Ornithine	0.015±0.004 ^a	0.035±0.006 ^a	2.34	0.036±0.01 ^a	0.041±0.005 ^a	1.13
Sugars						
D-Arabinose	0.890±0.11 ^b	1.200±0.15 ^a	1.34	0.430±0.02 ^c	0.750±0.06 ^b	1.74
D-Fructose	1.490±0.12 ^a	1.880±0.16 ^a	1.26	1.740±0.17 ^a	1.530±0.21 ^a	0.87
D-Fructose-6P	0.470±0.03 ^a	0.430±0.03 ^a	0.91	0.300±0.04 ^b	0.470±0.03 ^a	1.56
D-Glucose-6P	0.970±0.06 ^a	0.700±0.05 ^b	0.72	0.690±0.08 ^b	0.790±0.11 ^{ab}	1.14
Sucrose	0.940±0.01 ^b	1.210±0.036 ^a	1.28	0.690±0.03 ^c	1.020±0.02 ^b	1.47
myo-Inositol-1P	0.390±0.03 ^a	0.280±0.01 ^b	0.71	0.200±0.02 ^c	0.290±0.02 ^b	1.45
D-Trehalose	0.490±0.03 ^b	0.680±0.07 ^a	1.38	0.700±0.03 ^a	0.770±0.06 ^a	1.10
D-Ribose	0.340±0.01 ^b	0.500±0.02 ^a	1.47	0.370±0.03 ^b	0.370±0.01 ^b	1.00
Isomaltose	0.065±0.01 ^a	0.035±0.003 ^b	0.53	0.013±0.003 ^c	0.036±0.008 ^b	2.76
D-Saccharate	0.420±0.05 ^c	1.350±0.20 ^a	3.21	0.720±0.07 ^{bc}	0.980±0.2 ^{ab}	1.36
meso-Erythritol	0.200±0.09 ^a	0.160±0.03 ^a	0.80	0.220±0.05 ^a	0.150±0.02 ^a	0.68
1,6-Anhydro-β-D-glucose	2.100±0.14 ^{ab}	2.630±0.26 ^a	1.25	1.830±0.07 ^b	2.480±0.16 ^a	1.35
Glycerate	0.140±0.02 ^a	0.150±0.02 ^a	1.07	0.120±0.01 ^a	0.110±0.02 ^a	0.91
myo-Inositol	31.32±4.20 ^a	28.33±1.10 ^a	0.90	15.77±1.0 ^b	30.46±1.90 ^a	1.93
Glycerol	0.040±0.005 ^a	0.020±0.002 ^b	0.50	0.018±0.001 ^b	0.037±0.007 ^a	2.05
D-Arabitol	0.072±0.01 ^a	0.058±0.0003 ^{ab}	0.80	0.044±0.0005 ^b	0.057±0.001 ^{ab}	1.29
D-Glucose	0.045±0.002 ^b	0.055±0.002 ^a	1.23	0.053±0.004 ^{ab}	0.053±0.0007 ^{ab}	1.00
D-Raffinose	0.004±0.002 ^b	0.005±0.002 ^b	1.25	0.001±0.0003 ^b	0.008±0.003 ^a	8.00
Galactinol	0.007±0.002 ^{ab}	0.007±0.003 ^{ab}	1.00	0.002±0.0006 ^b	0.012±0.002 ^a	6.00
Organic acids						
Citrate	19.80±1.90 ^a	17.10±0.72 ^a	0.86	11.52±0.90 ^b	18.60±0.65 ^a	1.61
α-Ketoglutarate	1.060±0.05 ^a	1.100±0.16 ^a	1.03	1.460±0.20 ^a	1.090±0.15 ^a	0.74
L-Malate	155.1±3.40 ^b	190.7±10.9 ^a	1.23	185.0±2.00 ^a	195.4±10.0 ^a	1.05
L-Citramalate	5.110±0.77 ^b	8.350±0.49 ^a	1.63	7.790±0.20 ^a	8.700±10.0 ^a	1.11
L-Threonate	2.640±0.53 ^a	1.920±0.16 ^{ab}	0.72	1.660±0.10 ^b	2.050±0.05 ^{ab}	1.23
Fumarate	1.550±0.19 ^a	1.490±0.14 ^a	0.96	0.910±0.10 ^b	1.600±0.14 ^a	1.75
Succinate	36.40±1.70 ^a	34.89±1.10 ^{ab}	0.95	21.86±2.10 ^c	30.23±0.45 ^b	1.38

Glycolate	0.170±0.01 ^a	0.160±0.08 ^{ab}	0.94	0.110±0.004 ^{bc}	0.130±0.001 ^c	1.18
Pyruvate	0.160±0.02 ^a	0.150±0.02 ^a	0.93	0.069±0.01 ^b	0.140±0.01 ^a	2.02
Malonate	147.2±9.80 ^a	119.8±5.70 ^b	0.81	170.1±7.6 ^a	147.7±8.20 ^a	0.86
Itaconate	0.370±0.07 ^a	0.270±0.02 ^a	0.72	0.130±0.05 ^b	0.230±0.01 ^a	1.76
D-Quinate	16.56±0.76 ^a	16.51±0.54 ^a	0.99	16.92±0.88 ^a	17.73±1.67 ^a	1.04
Galactonate	1.570±0.30 ^b	3.880±0.15 ^a	2.40	3.970±0.26 ^a	3.580±0.53 ^a	0.90
Threonic acid-1,4-lactone	0.029±0.002 ^a	0.020±0.001 ^{ab}	0.68	0.019±0.003 ^b	0.023±0.003 ^{ab}	1.21
Shikimate	0.063±0.008 ^a	0.059±0.007 ^{ab}	0.93	0.036±0.006 ^b	0.061±0.006 ^a	1.69
Isocitrate	0.0017±0.0002 ^a	0.0019±0.0001 ^a	1.11	0.0012±0.0001 ^b	0.002±0.0001 ^a	1.67
Suberic acid	0.0027±0.0002 ^a	0.0027±0.0004 ^a	1.00	0.003±0.0004 ^a	0.0026±0.0006 ^a	0.87
Glutarate	0.006±0.0008 ^a	0.006±0.001 ^a	1.00	0.004±0.0006 ^a	0.0060±0.0001 ^a	1.50
Other metabolites						
Spermidine	0.730±0.02 ^b	0.880±0.05 ^{ab}	1.20	1.020±0.06 ^a	1.040±0.07 ^a	1.01
α-Linolenic acid (18:3)	3.401±0.31 ^c	30.27±3.90 ^a	5.35	12.25±0.39 ^b	2.750±0.21 ^c	0.28
Serotonin	0.106±0.01 ^b	0.310±0.05 ^a	2.90	0.11±0.03 ^b	0.075±0.01 ^b	0.65
Oleic acid (18:1)	0.506±0.13 ^b	2.490±0.56 ^a	4.92	2.660±0.21 ^a	0.930±0.29 ^b	0.34
Nicotianamine	0.530±0.15 ^a	0.550±0.09 ^a	1.03	0.360±0.08 ^a	0.360±0.04 ^a	1.00
Sitosterol	1.430±0.04 ^b	2.320±0.08 ^a	1.62	2.470±0.25 ^a	1.720±0.14 ^b	0.69
Luteolin	0.260±0.02 ^a	0.150±0.01 ^{bc}	0.57	0.105±0.01 ^c	0.210±0.04 ^{ab}	2.00
5,6-Dihydrouracil	25.08±0.77 ^a	10.19±2.30 ^b	0.40	5.370±0.59 ^c	2.830±0.40 ^c	0.52
Tryptamine	0.350±0.02 ^{ab}	0.380±0.05 ^a	1.08	0.380±0.01 ^a	0.270±0.02 ^b	0.71
Phosphate	126.7±2.90 ^a	79.1±4.30 ^{bc}	0.62	68.700±5.00 ^c	97.40±12.2 ^b	1.41
D-Pinitol	161.6±15.7 ^a	172.9±9.6 ^a	1.06	141.00±2.50 ^a	143.0±3.60 ^a	1.01
Stigmasterol	0.030±0.007 ^a	0.024±0.003 ^a	0.80	0.028±0.003 ^a	0.033±0.002 ^a	1.17
Palmitic acid (16:0)	0.028±0.007 ^b	0.068±0.008 ^a	2.42	0.030±0.003 ^b	0.020±0.001 ^b	0.67
Nicotinate	0.020±0.002 ^{ab}	0.027±0.003 ^a	1.35	0.013±0.002 ^b	0.022±0.002 ^a	1.69
trans-Caffeic acid	0.0490±0.005 ^a	0.073±0.01 ^a	1.48	0.066±0.01 ^a	0.047±0.010 ^a	0.71
1,3-Diaminopropane	0.0046±0.001 ^b	0.0061±0.002 ^{ab}	1.32	0.012±0.002 ^a	0.0023±0.002 ^b	0.19
Phytol	0.0048±0.001 ^b	0.007±0.0004 ^a	1.40	0.0071±0.0002 ^a	0.0070±0.0007 ^a	0.98
Apigenin	0.0018±0.0003 ^a	0.0025±0.001 ^a	1.39	0.0011±0.0004 ^a	0.0028±0.00043 ^a	2.54
Putrescine	0.0006±0.00007 ^a	0.0007±0.00004 ^a	1.16	0.0007±0.00003 ^a	0.0006±0.00005 ^a	0.85