

Table S1. Tea plants metabolites and the differences under different fertilization conditions

metabolites	Log ₂ FC			
	T1	T2	T3	T4
Norvaline			−1.68	−4.03
Urea				
3-hydroxybutyric acid				−1.03
L-alanine	3.03	2.87	2.24	2.44
N-methylalanine				
Pipecolic acid	−1.08	−1.07	−1.09	
Phenylalanine		−1.59	−2.56	−3.72
Methanolphosphate	1.04	1.19		
Succinic acid			−1.08	−1.25
L-valine	1.59	1.66	1.42	1.44
L-isoleucine	0.99	1.15	0.92	
L-proline	1.55	1.53	1.34	1.22
Glycine	1.44	1.44	1.18	1.38
Fumaric acid	1.01	0.93		
Serine	1.27	1.23	0.94	
L-threonine	2.12	2.02	1.86	1.97
O-acetylserine		0.95		
2-hydroxybutanoic acid	0.95	0.98		
N-carbamoylaspartate	1.48	1.69	2.05	1.99
N-acetylputrescine	1.28			
L-tyrosine	1.90	2.07	1.77	1.56
N-acetylornithine		1.17	1.36	1.56
Methionine		2.68		
Pyroglutamic acid	2.95	2.22	2.69	2.85
L-aspartic acid	2.43		2.08	2.35
Oxoglutaric acid		−0.98	−1.24	
Ornithine	4.30	3.95	3.26	3.51
L-glutamic acid	1.67	1.61	1.52	1.68
L-asparagine	2.64	2.24	2.39	2.56
Guanidinosuccinate	2.82	2.96	3.14	2.30
Tranexamic acid	1.36		1.18	1.15
L-glutamine	6.24	5.91	5.57	5.72
Saccharopine	14.70	14.30	14.06	14.12
Citrulline	5.27	5.07	4.59	4.96
Oxalic acid		1.13	1.11	1.14
Citric acid		−1.06	−1.00	
L-lysine	−1.49			
Dl-dopa	−1.36	−1.12	−1.19	−1.18
Organic acids and derivatives	4.15	2.25	2.03	3.93
Caprylic acid			−1.22	−3.43

4-hydroxybutyric acid	2.07	2.29	2.19	1.55
Octadecanol	6.31	5.83		6.47
2-monostearin	1.02	0.92		
2-monopalmitin	2.73	2.77	2.52	2.83
2-monoolein	−1.78	−1.41	−1.53	−1.50
Maltitol	1.45	1.22	1.02	
Glycerol 3-phosphate		1.05		
Chenodeoxycholic acid	2.76	3.32	3.08	2.99
Cholic acid	−2.83	−2.38	−2.94	−3.15
Beta-sitosterol	−1.02	−1.02	−1.16	−1.33
Cholesterone	−1.09		−2.17	−3.22
Cholesterol	−1.22		−2.00	−3.07
Lipids and lipid-like molecules	−0.51	0.73	−1.47	−1.17
Trehalose	2.36	2.31	1.90	1.90
Trehalose-6-phosphate	1.80	1.89	1.80	1.70
Phosphogluconic acid		0.93		
Glucose	1.22			
Saccharic acid	2.14	1.96		
Gluconic acid	−1.18	−1.12	−1.27	−1.43
Galactinol	0.98	1.01		
N-acetyl-d-hexosamine	1.44	1.55	1.21	
Glucose-6-phosphate		0.96		
Organic oxygen compounds	0.76	0.85	0.13	1.36
4-aminophenol	2.63	2.15	2.57	3.22
Benzylalcohol	0.99	0.99		
Phenylethanol	−1.39	−0.99	−1.62	−1.84
1,2,3-trihydroxybenzene			−1.17	−1.33
Phenylpyruvic acid			3.74	4.29
1,2,4-benzenetriol	2.30	2.39	2.32	2.52
Naproxen	−1.05		−1.21	−1.29
3,4-dihydroxyphenylglycol	−1.03	−1.11	−1.12	−1.17
Benzenoids	−0.83	−0.64	−1.02	−1.00
Guanosine	2.07	1.83	1.65	1.66
1-methyladenosine	−1.10		−1.08	−1.09
Uridine 5'-monophosphate	9.41	9.22	8.90	9.30
Adenosine	1.77	1.99	1.59	1.51
2'-deoxyguanosine	−1.31	−1.11	−1.40	−1.37
Cytidine	−1.34	−1.36	−1.17	−1.16
Nucleosides, nucleotides, and analogues	−0.39	−0.20	−0.48	−0.48
Ethylamine			−1.12	−2.67

2-hydroxypyrazinyl-2-propenoic acid			−1.18	−2.51
2-mercapto-4,6-dimethylnicotinonitrile				−1.72
2-ketoglucose dimethylacetal	1.15	1.51	1.16	
Isobutene glycol	1.75	1.70	1.45	1.32
Ethanolamine		1.06		
Xylonolactone			−1.56	
Cyclohexylamine	3.45	3.38	3.18	8.11
2,5-dihydroxypyrazine	1.48	1.31		
Hydroxycarbamate	5.33	5.21	5.07	5.14
Cyanoalanine	1.92	2.22	1.89	1.97
Tetracosane				1.48
Phosphenodiimidic amide	0.99	1.13		
3-indoleacetonitrile	5.74	6.12	6.28	6.49
Trans-4-hydroxyproline	1.83	1.61	1.36	1.44
2-piperidinobenzonitrile	1.39	1.34	1.23	1.26
5-hydroxynorvaline	9.74	9.47	9.41	9.67
3,17,20-trihydroxy-pregn-5-en-11-one		1.30		
5,5-dimethylhydantoin	4.85	4.26	4.07	4.32
L-glutamine dehydrated	11.55	10.93	10.77	11.19
5-hydroxypipicollic acid	−1.29	−1.08	−1.38	−1.49
Nicotianamine	1.73	1.80	1.66	1.64
6-hydroxy- α -methyl-naphthaleneacetic acid	5.98	5.51	5.25	5.23
D-xylulose	1.89	1.70	1.44	1.75
Xanthurenic acid	1.23	1.58	1.22	1.25
6-deoxyglucitol	3.39	3.24	2.47	2.55
Inosine-5'-monophosphate	7.82	7.55	7.33	7.83
Caffeine	1.72	1.81	1.41	1.28
cholesterol				
Adenine	1.60	1.12		
Sophorose		1.03		
N-methyldiethanolamine				
D6 cholesterol				−1.03
Epicatechin			−0.99	−1.11
2,4,7-trihydroxypteridine	−1.09	−1.10	−1.12	−1.14
Uric acid	−1.24	−1.18	−1.82	−1.77
L-tryptophan	−1.16		−1.13	
Spermine				
Maltotriitol		1.29		
Trisaccharide				
4',5-dihydroxy-7-glucosyloxyflavanone				
Gallocatechin	−1.40	−1.19	−2.19	−2.71
Other metabolites	−0.20	0.02	−0.75	−1.05