

Fold_Change_Of_Primary_Metabolites

Maize Nitrogen Deficit				
	FoldChange	log2(FC) Maize	p.value	-log10(p_value)
1,3-diaminopropane	0.362555808	-1.4637250094	7.7E-06	5.11305715748
1,6-anhydro-glucose	1.017820532	0.025483199944	0.70924	0.14920811902
2-hydroxypyridine	1.133174789	0.180370410287	0.34823	0.4581337865
3-hydroxypyridine	0.922807092	-0.11589900306	0.30752	0.51212916514
3,4 dihydroxyphenylalanine (DOPA)	1.477596857	0.563252702606	0.03782	1.42233053322
3,4-dihydroxybenzoic acid	0.824137132	-0.27904368152	0.20632	0.68545561688
3,5-dimethoxy-4-hydroxycinnamic acid	2.345913661	1.230149917496	4.3E-07	6.37122145113
4-hydroxy-3-methoxybenzoic acid	0.94797134	-0.07708465242	0.59511	0.22540240665
4-hydroxybenzoic acid	1.270765191	0.345697477034	0.04374	1.35907930525
4-hydroxycinnamic acid	0.920010627	-0.12027756877	0.38159	0.41840837096
5,6-dihydrouracil	0.5134446594	-0.96171387342	0.0046	2.33695696051
acetohydroxamic acid	1.56076489	0.642253229474	0.02136	1.67044407149
adenine	0.602594916	-0.73073959339	0.0152	1.81803023663
adenosine	0.450588544	-1.15011746189	0.00152	2.81805205908
allantoin	0.03315122	-4.91479422661	2.1E-09	8.68299487475
alpha ketoglutaric acid	1.091126252	0.125818042552	0.5186	0.28516450495
Antiarol	0.425472529	-1.23286210913	0.00176	2.75375156576
arachidic acid	1.093471997	0.128916274133	0.4372	0.35931516494
arbutin	1.069880711	0.0974499494	0.86846	0.06125104321
aspartic acid	0.234530629	-2.0921517494	2.2E-06	5.6567910245
benzene-1,2,4-triol	1.01347462	0.019309960512	0.88892	0.05113695273
benzoic acid	1.195436527	0.257537530746	0.18903	0.72346394695
benzoquinone	1.755488059	0.8118721829	0.00235	2.62954420071
Beta- alanine	0.063186257	-3.98424538779	0.00013	3.90261340296
beta-cyano-L-alanine	0.238963978	-2.06513493556	0.00171	2.76796826519
beta-gentiobiose	1.390670409	0.475780539002	0.02095	1.67891485324
caffeic acid	4.845156245	2.27654319006	0.00427	2.36955100052
capric acid	0.223433627	-2.16208176747	0.00457	2.33994961182
citric acid	0.496910844	-1.00894106885	2.9E-06	5.53531069941
D-glucose	1.012697007	0.018202593069	0.942	0.02595098321
D-glucose-6-phosphate	0.768272818	-0.38030938415	0.14374	0.84242659069
D-malic acid	0.546113867	-0.87272630546	2.8E-05	4.54758552313
D-mannitol	1.104531849	0.143435019304	0.56678	0.24658457504
D-mannose	1.01275246	0.018281588931	0.94172	0.0260800023
D-saccharic acid	1.549159689	0.631485866766	0.06266	1.20303517655
dehydroascorbic acid	0.558716235	-0.8398123523	0.00122	2.91216603794
eicosapentaenoic acid	0.994972022	-0.0072721358	0.98849	0.00502906903
elaidic acid	2.09480215	1.066813990311	1.2E-05	4.93444882762
ethanolamine	0.832170989	-0.26504810125	0.52484	0.2799763355
ferulic acid	1.427592264	0.513583988416	0.00236	2.62631022464
fructose	0.786788556	-0.34595212055	0.01124	1.94906005493
fumaric acid	0.538612177	-0.89268124712	2.7E-05	4.57033535873
galactinol	0.539244026	-0.89098980557	0.00014	3.85049308974
gamma-aminobutyric acid (GABA)	0.200400636	-2.31904100461	4.8E-06	5.32077688608
glyceric acid	0.634254433	-0.65686639692	0.00748	2.12638400616
glycerol	1.705708754	0.77037133033	0.24647	0.60824113987
glycerol 1-phosphate	2.697213766	1.431469865835	3.1E-05	4.50801463406

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glycine	0.832800694	-0.26395682339	0.52674	0.278407606
glyoxylic acid	0.863775025	-0.21127249089	0.10662	0.97217826764
heptanoic acid	1.743508388	0.801993305271	0.01068	1.97134926859
itaconic acid	1.028615619	0.04070396606	0.82019	0.08608788287
L-alanine	0.978679101	-0.03109220327	0.82139	0.08545155119
L-asparagine	0.191050351	-2.38797518765	0.00037	3.42959704733
L-glutamic acid	0.443393052	-1.17334193055	4.7E-06	5.32569842336
L-glutamine	0.040450077	-4.62771375472	0.00204	2.69043612969
L-homoserine	0.377737717	-1.40454325164	4.9E-07	6.31135241427
L-Isoleucine	0.425370574	-1.23320786011	0.03611	1.44237192011
L-leucine	0.425464611	-1.23288895819	0.03622	1.44109630894
L-lysine	0.914010365	-0.12971756926	0.61764	0.20926149896
L-mimosine	1.089499732	0.123665841522	0.72919	0.13715883185
L-proline	0.241955075	-2.04718889378	0.14313	0.84427669424
L-serine	0.296545531	-1.75367446233	0.00192	2.71635323704
L-threonine	0.217572147	-2.20043421867	0.00046	3.33523271246
L-tryptophan	0.926059183	-0.11082369792	0.62668	0.20295517052
L-valine	0.263301454	-1.92521260637	7.5E-06	5.12307204776
lactose	0.750180827	-0.41468970394	0.31008	0.5085280283
lauric acid	1.653726957	0.725721053828	0.23541	0.6281742703
maleic acid	2.428874419	1.280287899616	0.00046	3.33310783121
maltose	1.040432607	0.057183518974	0.66801	0.17521396204
myo-inositol	0.641307437	-0.64091195783	0.00351	2.45513126672
myristic acid	0.347049329	-1.52678735546	1.9E-07	6.72672412711
nicotinic acid	0.998669948	-0.00192013649	0.99586	0.00180140173
oxalic acid	0.978769664	-0.03095870739	0.82281	0.08469942267
palmitic acid	1.024713948	0.035221232871	0.61528	0.21092845196
pantothenic acid	0.51898557	-0.94623366875	0.00459	2.33796871548
pelargonic acid (nonanoic acid)	0.91464399	-0.12871778731	0.53907	0.26835358967
phosphoric acid	1.068163068	0.095131908762	0.66261	0.17874193918
Pyruvic acid	1.293039287	0.370766109322	0.01991	1.7008217047
quinic acid	1.416156721	0.501980932608	0.00017	3.77858913332
ribose	1.03406306	0.048324168391	0.39985	0.39810724888
sedoheptulose anhydride monohydrate	0.739922417	-0.43455408744	0.00722	2.14144537488
serotonin	0.513629516	-0.96119998437	0.25507	0.59334283263
shikimic acid	1.647202416	0.720017851108	5.2E-05	4.28381753225
spermidine	0.968681162	-0.04590620887	0.60938	0.2151114346
stearic acid	1.336677061	0.418650954931	0.28263	0.54878108559
succinic acid	2.418504626	1.274115297158	0.00045	3.34468528802
Sucrose	1.055125401	0.077414473177	0.43257	0.36394118536
threonic acid	0.225166429	-2.15093634851	1.3E-06	5.89922510434
trans-aconitic acid	0.975659965	-0.03554966527	0.72528	0.13949517209
Trehalose	1.396150304	0.481454264952	0.01946	1.71078637494
tyrosine	0.723436401	-0.46706190282	0.01613	1.79232637544
xylose	0.548901533	-0.86538072567	0.04336	1.36291723819
Maize Phosporus Deficit				
	FoldChange	log2(FC)	p.value	-log10
serotonin	0.107905591	-3.21215848256	0.04895	1.31022796269
L-glutamine	0.115678559	-3.11180661444	0.00339	2.46992631324

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capric acid	0.217308676	-2.20218231791	0.00431	2.36550029617
D-glucose-6-phosphate	0.23120021	-2.1127853884	0.0002	3.70452402775
Beta- alanine	0.234217415	-2.09407974321	0.0005	3.30132582984
L-asparagine	0.327815906	-1.60904223869	0.00136	2.86702530338
beta-cyano-L-alanine	0.344945446	-1.53555987958	0.00358	2.44563088874
gamma-aminobutyric acid (GABA)	0.35684399	-1.48663461836	3.7E-07	6.4362395566
adenosine	0.361968137	-1.46606538954	0.00043	3.36980534453
myristic acid	0.435466285	-1.19936706815	5.6E-08	7.24917644893
Antiarol	0.442591119	-1.17595359158	0.00015	3.82263269991
glycerol 1-phosphate	2.097624204	1.068756237814	5.1E-07	6.28910073055
1,3-diaminopropane	0.508766255	-0.97492511043	5.1E-05	4.29425573808
5,6-dihydrouracil	0.543702196	-0.87911144001	0.00468	2.32995020199
L-threonine	0.556223777	-0.84626267883	0.00242	2.61691510604
glyceric acid	0.584918164	-0.77369330472	0.00067	3.17212978953
maleic acid	0.588023116	-0.7660552239	0.00036	3.44373531521
succinic acid	0.588459853	-0.7649841026	0.00034	3.46902007578
L-proline	0.605332697	-0.72419981497	0.45172	0.34513208243
xylose	0.653657573	-0.61339303631	0.05117	1.29100935714
phosphoric acid	0.654603587	-0.61130658686	1.7E-05	4.77871406362
aspartic acid	0.65724665	-0.60549321211	1.1E-05	4.950611526
alpha ketoglutaric acid	0.65921818	-0.60117206507	0.00645	2.19044197827
L-serine	0.667892535	-0.58231210463	0.01687	1.77297128448
allantoin	0.669889432	-0.57800510312	0.00101	2.99759025784
shikimic acid	1.487809472	0.57318978749	2.9E-06	5.54376261289
L-glutamic acid	0.672564861	-0.57225469008	1.1E-06	5.96550968178
galactinol	0.672975643	-0.57137380375	6.7E-05	4.17362132898
citric acid	0.681646504	-0.55290433167	1.5E-06	5.81509368277
threonic acid	0.693909444	-0.52718069253	0.0011	2.96023254447
L-lysine	0.704801293	-0.50471152424	0.0757	1.12092137212
L-valine	0.706872679	-0.50047771265	0.00517	2.28661743224
stearic acid	0.731019283	-0.45201863274	0.03033	1.51815619223
L-homoserine	0.746673248	-0.42145105292	0.00186	2.72982214235
nicotinic acid	0.74730043	-0.42023974222	0.12708	0.89590947805
quinic acid	1.325845488	0.406912655344	1.3E-06	5.87952872954
3,4 dihydroxyphenylalanine (DOPA)	1.309627684	0.389156723875	0.12624	0.89881325428
pantothenic acid	0.772824986	-0.37178635668	0.07982	1.09786327489
fumaric acid	0.776965764	-0.36407706472	0.00324	2.48985761807
lactose	0.780142012	-0.35819132888	0.35112	0.4545435846
pelargonic acid (nonanoic acid)	1.277989941	0.353876480731	0.00453	2.34412616382
maltose	0.784631527	-0.34991279017	0.01371	1.86307224996
benzoquinone	1.228554816	0.296962230063	0.05931	1.22685043145
acetohydroxamic acid	0.814510135	-0.29599544515	0.49697	0.30366892358
caffeic acid	1.212695738	0.278217627292	0.56679	0.24657886154
adenine	1.211488311	0.276780485144	0.64136	0.19290143677
dehydroascorbic acid	0.829169401	-0.27026121686	0.02134	1.67072470225
beta-gentiobiose	1.204346087	0.268250032182	0.1216	0.91505114841
Trehalose	1.204343769	0.268247255605	0.1216	0.91505122915
D-malic acid	0.838764053	-0.25366306255	0.00248	2.60556308478
glycerol	0.848989105	-0.23618205529	0.01178	1.92877182155

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heptanoic acid	0.857416108	-0.22193257428	0.67145	0.1729847461
ethanolamine	0.861860993	-0.21447289534	0.00741	2.13044251536
glycine	0.862382858	-0.21359959439	0.00759	2.11987719067
D-mannitol	1.15732717	0.210796763787	0.3963	0.401973514
4-hydroxy-3-methoxybenzoic acid	1.134854474	0.182507307424	0.11757	0.92969344645
myo-inositol	0.882913666	-0.17965572096	0.06262	1.20332010192
L-mimosine	1.131274387	0.177948893146	0.62372	0.20501222729
trans-aconitic acid	1.12575856	0.17089744749	0.01304	1.88467060273
tyrosine	0.894356106	-0.16107871007	0.14127	0.84993694585
3,5-dimethoxy-4-hydroxycinnamic acid	0.896919949	-0.15694886562	0.1417	0.84863731342
fructose	0.910592459	-0.13512258247	0.10102	0.9955896074
4-hydroxycinnamic acid	1.097310364	0.133971635716	0.33427	0.47590193698
glyoxylic acid	0.921334658	-0.11820281062	0.30301	0.51854884731
oxalic acid	1.082866203	0.114854997131	0.29767	0.52626815826
L-alanine	1.080399751	0.111565212906	0.31285	0.50466012192
L-tryptophan	1.079870247	0.110857974764	0.48729	0.31221483402
Sucrose	0.927177292	-0.10908286118	0.00717	2.1446708702
Pyruvic acid	1.072030864	0.100346441774	0.21968	0.65821333621
2-hydroxypyridine	1.066111356	0.09235813621	0.17663	0.75294534471
D-glucose	1.064916137	0.090739821299	0.71349	0.14660984297
ferulic acid	0.939104245	-0.09064278202	0.45119	0.34564073919
arachidic acid	0.940373095	-0.0886948323	0.03689	1.4331080593
D-mannose	1.0616954	0.086369917017	0.72644	0.13879905443
sedoheptulose anhydride monohydrate	0.944143189	-0.08292241935	0.22572	0.64642363594
arbutin	0.946134853	-0.0798822691	0.89775	0.04684563399
3,4-dihydroxybenzoic acid	0.956748564	-0.06378826385	0.61379	0.2119770747
spermidine	0.956887277	-0.06357911215	0.04762	1.32224493071
benzene-1,2,4-triol	1.037320271	0.052861392958	0.22771	0.6426124006
itaconic acid	0.964670738	-0.05189149017	0.74644	0.12700667491
3-hydroxypyridine	0.966519588	-0.04912912426	0.52378	0.28085257374
lauric acid	1.02764904	0.039347642897	0.60984	0.21478457815
4-hydroxybenzoic acid	0.974821223	-0.03679043496	0.38298	0.41682724135
benzoic acid	0.976546671	-0.03423909996	0.62694	0.20277475671
elaidic acid	1.021438653	0.030602558934	0.8005	0.09663793644
palmitic acid	0.984830547	-0.02205258355	0.23038	0.63756074228
1,6-anhydro-glucose	1.012283139	0.017612872851	0.55842	0.25303854805
ribose	1.010739047	0.015410569872	0.74703	0.12666198667
eicosapentaenoic acid	1.004672508	0.006725304524	0.99192	0.00352169388
L-Isoleucine	1.003074068	0.004428139794	0.9894	0.00462615157
L-leucine	1.00298118	0.004294534727	0.98973	0.00448541878
D-saccharic acid	0.999429939	-0.00082265857	0.99597	0.00175213407
Sorghum_Nitrogen_Deficit				
	FoldChange	log2(FC)	p.value	-log10
L-asparagine	0.126201107	-2.9862035304	1.3E-05	4.88912514424
beta-cyano-L-alanine	0.126920327	-2.97800494853	5.2E-05	4.284581685
Beta- alanine	0.133614777	-2.90384852289	3E-05	4.51979497087
L-glutamine	0.1526831	-2.71138770767	6.2E-05	4.21064546182
5,6-dihydrouracil	0.166922435	-2.58275022583	6.5E-06	5.18952591457
allantoin	0.213289914	-2.22911235174	2.3E-06	5.64536654125

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stearic acid	0.238993164	-2.06495874459	0.18152	0.74108003638
L-threonine	0.270068976	-1.88860017481	3.8E-06	5.41866195921
caffeic acid	3.170510361	1.664715091589	0.00866	2.06237173888
shikimic acid	2.991944947	1.581083629153	0.00454	2.34276123832
L-valine	0.345554265	-1.53301580855	1.8E-06	5.73946895706
gamma-aminobutyric acid (GABA)	0.349517966	-1.51656147896	1.4E-07	6.85021582614
3,5-dimethoxy-4-hydroxycinnamic acid	2.811605678	1.491394273528	0.00091	3.04292434231
capric acid	0.364595189	-1.45563257225	1.5E-05	4.82390668391
L-serine	0.366929126	-1.44642666608	2.7E-05	4.56706788091
1,3-diaminopropane	0.382483889	-1.386529115	0.00014	3.84710365578
L-proline	0.399763724	-1.32278053317	0.00723	2.1410408068
itaconic acid	0.41746068	-1.26028777639	0.00433	2.36378523842
aspartic acid	0.435339345	-1.19978768008	5E-06	5.29915364393
maleic acid	2.214571593	1.147027637511	9.1E-05	4.0391648517
succinic acid	2.200078289	1.137554862225	9.2E-05	4.03792912469
Antiarol	0.464545694	-1.10610758509	0.00192	2.7161322289
spermidine	0.488621805	-1.03320984805	0.00174	2.76058705825
threonic acid	0.494842464	-1.014958788	0.00023	3.63389372807
galactinol	1.973533736	0.980781181066	0.1204	0.91936424256
elaidic acid	1.971475842	0.979276032465	0.00343	2.46449719595
L-glutamic acid	0.514442583	-0.95891802925	2.9E-05	4.53092811556
myristic acid	0.517659624	-0.94992429857	0.00319	2.49630056487
myo-inositol	1.917291545	0.939069731291	0.02331	1.63251293149
citric acid	0.555921381	-0.84704722465	0.00075	3.12281223475
adenosine	0.563171781	-0.82835304848	0.00115	2.93987519524
quinic acid	1.724097937	0.785841728566	0.00476	2.3220161061
3,4 dihydroxyphenylalanine (DOPA)	1.713364019	0.776831697129	0.07758	1.11022449369
dehydroascorbic acid	0.602272773	-0.73151105541	0.00241	2.61734639129
L-homoserine	0.653847632	-0.61297361436	0.01462	1.83515454466
serotonin	0.656669957	-0.6067596422	0.0354	1.4510445118
3,4-dihydroxybenzoic acid	1.495861982	0.580977068432	0.17038	0.76857543426
alpha ketoglutaric acid	1.47324735	0.558999670818	0.02898	1.53792090229
L-alanine	1.408194869	0.49384699066	0.00059	3.23136734083
oxalic acid	1.404146862	0.489693837047	0.00064	3.19245662575
arachidic acid	0.722904094	-0.46812383371	0.00308	2.5110085084
L-leucine	0.731708137	-0.45065979145	0.10557	0.97644932456
L-Isoleucine	0.732025946	-0.45003331103	0.10574	0.97577814746
L-tryptophan	1.348043772	0.430867342622	0.01468	1.83326242428
D-malic acid	0.743730569	-0.42714802428	0.01445	1.84024733191
glyceric acid	0.747656668	-0.41955217459	0.00942	2.02602305136
benzoquinone	1.33708607	0.419092336497	0.01968	1.70603156379
eicosapentaenoic acid	0.752600362	-0.41004411074	0.12346	0.90846639067
4-hydroxybenzoic acid	1.291773848	0.369353517807	0.25119	0.59999051835
D-glucose-6-phosphate	0.778462616	-0.36130033632	0.10537	0.9772666087
adenine	0.786844009	-0.34585044289	0.42525	0.37135274605
fumaric acid	0.788459597	-0.34289126636	0.07793	1.10829758528
glycine	0.825639889	-0.27641542203	0.03189	1.4963176565
ethanolamine	0.827200568	-0.27369091822	0.03291	1.48264247677
L-lysine	1.206721294	0.271092508156	0.37628	0.42448614329

Fold_Change_Of_Primary_Metabolites

glycerol	1.179488347	0.238161165271	0.28858	0.53974062965
4-hydroxy-3-methoxybenzoic acid	1.166177887	0.221787871592	0.3109	0.50737724218
L-mimosine	0.867059828	-0.20579655012	0.4395	0.35703642561
D-saccharic acid	0.872139916	-0.19736849223	0.51646	0.28696058421
Sucrose	1.142903424	0.192703499863	0.05385	1.26879671636
heptanoic acid	1.135237469	0.182994112271	0.39097	0.40785714715
lactose	1.134086049	0.18153010949	0.09357	1.02887798266
4-hydroxycinnamic acid	0.887045366	-0.17292020471	0.33093	0.48026937638
lauric acid	0.889529613	-0.16888546061	0.15152	0.81952739435
benzoic acid	1.116565688	0.159068127481	0.06821	1.16612891527
xylose	1.112992876	0.154444357754	0.43169	0.36483171834
pantothenic acid	0.898666439	-0.15414236967	0.53847	0.26883535051
Trehalose	1.11255469	0.153876256826	0.49058	0.3092905524
pelargonic acid (nonanoic acid)	0.901533323	-0.14954727647	0.18675	0.72874138574
glycerol 1-phosphate	0.9021365	-0.14858235482	0.40969	0.38754176452
beta-gentiobiose	1.103945617	0.142669103501	0.52871	0.27678192308
ferulic acid	1.093526273	0.128987883154	0.17152	0.76567514415
trans-aconitic acid	1.091167361	0.125872395748	0.41127	0.3858694738
phosphoric acid	1.084176371	0.116599469382	0.38953	0.40946156652
Pyruvic acid	1.08008614	0.111146376064	0.34935	0.45673871015
2-hydroxypyridine	0.933244825	-0.09967249177	0.57054	0.24371390243
fructose	0.933902039	-0.09865686816	0.3718	0.42969260256
acetohydroxamic acid	1.06522559	0.091158991501	0.5005	0.30059336936
arbutin	0.96417429	-0.05263413424	0.9183	0.03701712495
palmitic acid	1.032674833	0.046386052177	0.38853	0.41057792552
D-mannose	0.971489842	-0.04172918394	0.65697	0.18245463389
D-glucose	0.971681913	-0.04144397991	0.65893	0.1811600719
D-mannitol	0.972394885	-0.04038579066	0.66812	0.17514426167
glyoxylic acid	1.026250461	0.037382869776	0.85898	0.06601458167
benzene-1,2,4-triol	0.978056187	-0.03201074855	0.55575	0.25512269463
1,6-anhydro-glucose	1.022058191	0.031477338536	0.53049	0.27532110278
tyrosine	0.981421149	-0.02705573414	0.83488	0.0783738842
sedoheptulose anhydride monohydrate	0.983322519	-0.02426341293	0.83101	0.0803916263
ribose	1.012828328	0.018389661324	0.80423	0.09462112983
nicotinic acid	1.009407948	0.013509351539	0.93953	0.02708794394
3-hydroxypyridine	0.996891591	-0.00449147052	0.96562	0.01519512183
maltose	1.00055257	0.000796969255	0.99595	0.00176263491
Sorghum Phosphorus Deficit				
	FoldChange	log2(FC)	p.value	-log10
D-glucose-6-phosphate	0.208797622	-2.25982281561	2.4E-05	4.62757970922
5,6-dihydrouracil	0.226048306	-2.1452969881	1.4E-05	4.86922452954
beta-cyano-L-alanine	0.227285532	-2.13742224644	0.00014	3.86828795082
L-asparagine	0.240799979	-2.05409282751	4E-05	4.40029326415
serotonin	4.103188135	2.036745304605	0.10951	0.96054720976
stearic acid	0.356893831	-1.48643313259	0.27217	0.56516140511
L-glutamine	0.35724488	-1.48501476196	0.00045	3.34231895394
capric acid	0.40173401	-1.31568749113	3.9E-05	4.4136577417
itaconic acid	0.480391238	-1.05771825594	0.01137	1.94405318288
glycerol 1-phosphate	0.481941325	-1.05307058164	0.00022	3.65451691495

Fold_Change_Of_Primary_Metabolites

1,3-diaminopropane	0.486397017	-1.0397937143	0.00091	3.04309232826
L-threonine	0.495273054	-1.01370396235	0.00029	3.53346174093
L-mimosine	0.567373771	-0.81762863553	0.02722	1.56513766793
myristic acid	0.568864936	-0.8138419355	0.00546	2.26283623105
succinic acid	0.572905203	-0.80363165607	0.02365	1.62621236473
maleic acid	0.573913871	-0.80109385213	0.0249	1.60383463468
Beta- alanine	0.579883035	-0.78616616455	0.0057	2.24445355492
L-serine	0.585324565	-0.77269126886	0.00069	3.16318772413
adenosine	0.603455532	-0.7286806318	0.00118	2.92751798281
L-valine	0.629548633	-0.66761026405	0.00042	3.37724328316
spermidine	0.632621682	-0.66058509162	0.02768	1.55788741953
3,5-dimethoxy-4-hydroxycinnamic acid	1.570382791	0.651116268111	3.8E-06	5.4197794256
citric acid	0.640603918	-0.64249547267	0.00222	2.65284423393
adenine	0.641862079	-0.63966476574	0.19192	0.71688272126
phosphoric acid	0.649974331	-0.62154535011	0.00432	2.36451957741
caffeic acid	1.472883549	0.558643370818	0.00549	2.26077013382
glycine	0.701359297	-0.51177438686	0.00357	2.44757231257
ethanolamine	0.701959102	-0.51054111742	0.00357	2.4470688043
alpha ketoglutaric acid	1.386659346	0.471613411105	0.01105	1.95650898747
L-proline	0.721727727	-0.47047341461	0.18706	0.72801077922
myo-inositol	1.373639966	0.458003920134	0.00287	2.54203839697
aspartic acid	0.729842037	-0.45434384659	0.0003	3.52820026044
glyceric acid	0.742015038	-0.43047966992	0.00807	2.09309526259
threonic acid	0.74853931	-0.41785001269	0.0122	1.91365082663
L-leucine	0.753074065	-0.40913633341	0.13365	0.87402717787
L-Isoleucine	0.753146029	-0.40899847661	0.13382	0.87347088335
Antiarol	0.758452734	-0.39886881831	0.11137	0.9532409809
Trehalose	0.765521021	-0.38548610078	3.1E-05	4.51174974229
beta-gentiobiose	0.77043593	-0.37625310809	4.1E-05	4.39026863924
D-saccharic acid	0.792368972	-0.33575570753	0.01407	1.85174085562
4-hydroxycinnamic acid	1.255013514	0.327702899547	0.01443	1.84073925097
glycerol	0.797679523	-0.32611885109	0.19384	0.7125457001
L-glutamic acid	0.808725107	-0.30627869491	0.00494	2.30642522725
arachidic acid	0.8141868	-0.29656826365	0.06626	1.17873280478
benzoquinone	1.223601983	0.291134350238	0.04852	1.31409201961
maltose	0.832519116	-0.26444469618	0.00245	2.6111641015
pantothenic acid	0.834929541	-0.26027364035	0.27031	0.56813269522
pelargonic acid (nonanoic acid)	0.840505124	-0.25067147987	0.09	1.04576024488
L-homoserine	0.859342673	-0.21869455708	0.30698	0.51289551248
quinic acid	0.880122361	-0.18422398385	0.23533	0.62831439463
trans-aconitic acid	0.882095704	-0.18099290334	0.12556	0.9011556534
nicotinic acid	0.883192032	-0.17920093893	0.30901	0.51003208766
elaidic acid	1.129004927	0.175051782707	0.16049	0.79454980489
arbutin	0.891129487	-0.16629301422	0.73701	0.13252446897
galactinol	1.119796904	0.163237096737	0.40175	0.39604396918
lactose	0.896956855	-0.15688950324	0.5056	0.29618935193
heptanoic acid	0.898785348	-0.15395148866	0.57126	0.24316809936
2-hydroxypyridine	1.103429995	0.141995104078	0.32547	0.48749059728
acetohydroxamic acid	0.910226391	-0.13570267936	0.49114	0.30879034748

Fold_Change_Of_Primary_Metabolites

shikimic acid	0.91980144	-0.12060563891	0.46216	0.33520674122
allantoin	0.925506647	-0.11168474382	0.44584	0.35082160771
4-hydroxybenzoic acid	0.945760364	-0.08045341443	0.48266	0.31635431369
eicosapentaenoic acid	0.951117224	-0.07230493237	0.76312	0.11740837762
L-tryptophan	0.956861477	-0.06361801051	0.64684	0.18920560053
sedoheptulose anhydride monohydrate	0.957102992	-0.0632539157	0.55191	0.25813538334
D-mannitol	0.958533558	-0.06109915402	0.47253	0.32557468306
D-mannose	0.958685214	-0.06087091286	0.47457	0.32370121601
Sucrose	1.042999872	0.06073898022	0.12144	0.91563289813
D-glucose	0.960876506	-0.05757707066	0.50572	0.29608778351
3,4 dihydroxyphenylalanine (DOPA)	1.039170144	0.05543188743	0.8376	0.07696473369
fructose	0.963452506	-0.0537145456	0.54293	0.26525777991
benzene-1,2,4-triol	0.963470046	-0.05368828054	0.40982	0.38740177391
3-hydroxypyridine	0.963636854	-0.05343852423	0.48184	0.31709270564
L-alanine	0.966735027	-0.04880758051	0.56699	0.24642739248
oxalic acid	0.967590917	-0.0475308686	0.58155	0.23541268298
tyrosine	0.97080884	-0.04274084945	0.70828	0.1497953313
3,4-dihydroxybenzoic acid	1.029112077	0.041400109724	0.39652	0.40173626827
xylose	0.972266233	-0.04057667821	0.82891	0.08149226606
lauric acid	0.972297243	-0.04053066393	0.81812	0.08718075897
palmitic acid	1.022189629	0.031662859438	0.3915	0.4072694331
Pyruvic acid	1.020728731	0.02959950579	0.65361	0.18468380124
fumaric acid	0.98088854	-0.02783888445	0.85403	0.06852676466
ferulic acid	1.019216985	0.02746122567	0.6883	0.16222356298
D-malic acid	0.983335566	-0.0242442706	0.84189	0.07474329145
dehydroascorbic acid	1.016627276	0.023790843622	0.83831	0.07659367052
gamma-aminobutyric acid (GABA)	0.983894156	-0.02342497114	0.86093	0.06503158629
1,6-anhydro-glucose	1.010624371	0.015246876227	0.74657	0.12692981588
ribose	0.99292681	-0.01024071556	0.84628	0.07248362073
4-hydroxy-3-methoxybenzoic acid	0.994912047	-0.00735910237	0.9584	0.018454206
L-lysine	1.004916924	0.007076238776	0.97298	0.01189703844
glyoxylic acid	1.003119011	0.004492778472	0.9762	0.01046306885
benzoic acid	1.002155326	0.003106131891	0.96108	0.01723964775
Paspalum Nitrogen Deficit				
	FoldChange	log2(FC)	p.value	-log10
xylose	0.13344705	-2.90566068081	0.04086	1.38865790558
allantoin	0.146596725	-2.77007522363	0.00065	3.18610528686
glyceric acid	0.231880981	-2.10854360107	0.02145	1.66854647036
L-proline	0.273859505	-1.86849213884	0.11064	0.95610103353
Trehalose	3.215359593	1.684980092056	0.02045	1.68925647091
4-hydroxy-3-methoxybenzoic acid	2.837981449	1.504865159026	0.20259	0.69337411598
maleic acid	2.694072759	1.429788814515	2E-05	4.69914369455
succinic acid	2.688252356	1.426668575282	1.9E-05	4.73011958169
L-lysine	2.535717677	1.342394126887	1.6E-08	7.7909943652
1,3-diaminopropane	0.431139956	-1.2137718252	0.00936	2.02869140329
beta-gentiobiose	2.006194519	1.004461495321	0.03059	1.51448144991
glycerol 1-phosphate	1.979111095	0.984852598573	0.00065	3.18580221401
shikimic acid	1.960724704	0.971386988182	2E-05	4.70182460074
quinic acid	1.940460436	0.956399018514	0.00012	3.90420634096

Fold_Change_Of_Primary_Metabolites

threonic acid	0.518206112	-0.94840206228	0.04496	1.3472012096
D-glucose-6-phosphate	1.839132157	0.879025153042	0.00636	2.19666132238
gamma-aminobutyric acid (GABA)	0.54426116	-0.87762901067	0.06206	1.20716192957
sedoheptulose anhydride monohydrate	1.831407381	0.872952742313	0.00036	3.43850441779
pantothenic acid	1.719265202	0.781792102122	0.00152	2.81697002827
alpha ketoglutaric acid	1.699429465	0.765050483794	0.0013	2.88497449797
aspartic acid	0.599644991	-0.73781946235	0.00236	2.62661482192
galactinol	1.626620219	0.701877451619	0.00515	2.28779617869
Beta- alanine	0.618662256	-0.69277607493	0.0746	1.12727895637
4-hydroxybenzoic acid	1.569470886	0.650278267284	0.028	1.55286110161
heptanoic acid	1.549933675	0.632206480678	0.02076	1.68267050621
acetohydroxamic acid	1.48151699	0.567075171641	0.02012	1.6964487062
dehydroascorbic acid	0.680238135	-0.55588820828	0.04592	1.33798781021
tyrosine	1.419831148	0.505719369166	3.5E-05	4.45920054277
L-valine	0.71828154	-0.47737865617	0.1678	0.77521969212
L-homoserine	0.732013704	-0.4500574371	0.12411	0.9061795759
D-mannose	1.361460627	0.445155260517	0.00546	2.262516733
D-glucose	1.360767915	0.444421029451	0.00539	2.26817940423
D-mannitol	1.36006858	0.443679400017	0.00561	2.25067679503
L-tryptophan	0.743979587	-0.4266650576	0.2158	0.66593892601
nicotinic acid	1.337450452	0.419485445673	0.04531	1.34383493838
stearic acid	0.762880299	-0.3904713877	0.38849	0.4106147418
D-malic acid	0.776230252	-0.36544343493	0.12112	0.91679952427
eicosapentaenoic acid	0.778417648	-0.36138367631	0.44485	0.35178221851
phosphoric acid	1.282927949	0.359440148629	0.02854	1.54452240543
L-mimosine	1.273285473	0.348555909971	0.35147	0.45411088722
3,4-dihydroxybenzoic acid	0.791993732	-0.3364390828	0.14174	0.84852156291
fumaric acid	0.794657856	-0.33159426081	0.17844	0.74850269654
L-alanine	1.251181813	0.32329144674	0.00094	3.02880505312
oxalic acid	1.249587555	0.321451990874	0.00082	3.08440698076
benzoic acid	1.245206331	0.31638481655	0.00188	2.72482330159
arachidic acid	1.241687375	0.31230198557	0.03135	1.50377935425
L-glutamic acid	0.809879026	-0.30422167011	0.1587	0.79941298087
3-hydroxypyridine	0.81412178	-0.29668347896	0.00672	2.17267679268
benzoquinone	1.226802683	0.294903227377	0.20545	0.68730295587
beta-cyano-L-alanine	1.224805263	0.292552387313	0.35035	0.4554968313
adenine	1.20516558	0.269231375218	0.17113	0.76667211544
2-hydroxypyridine	0.835135861	-0.25991717878	0.07724	1.11215869744
L-Isoleucine	0.837902545	-0.25514563935	0.56482	0.24809028204
lauric acid	1.191325259	0.252567355757	0.02264	1.64517465428
L-leucine	0.839481697	-0.25242922372	0.56823	0.2454794453
D-saccharic acid	0.859042849	-0.21919800019	0.26861	0.57087670851
L-serine	0.863343726	-0.21199303619	0.65375	0.18458964235
ethanolamine	1.150627003	0.202420233005	0.48285	0.31618415474
glycine	1.149635263	0.201176220005	0.48606	0.31331212778
benzene-1,2,4-triol	1.148913211	0.200269820387	0.14055	0.85216215039
L-threonine	0.87342663	-0.1952415761	0.67806	0.16873143372
L-glutamine	0.878122051	-0.18750661906	0.48667	0.31276870507
glycerol	1.136688219	0.184836592799	0.39318	0.40540824824

Fold_Change_Of_Primary_Metabolites

3,5-dimethoxy-4-hydroxycinnamic acid	1.124825141	0.169700745751	0.06509	1.18646734457
fructose	1.105793022	0.145081372414	0.21763	0.66229038578
ribose	0.909318677	-0.13714210884	0.07047	1.15202246479
maltose	1.093276549	0.128658383569	0.51522	0.28800394819
4-hydroxycinnamic acid	0.917594673	-0.12407107926	0.40615	0.39131369785
ferulic acid	1.089557611	0.123742481731	0.34073	0.46758654284
3,4 dihydroxyphenylalanine (DOPA)	0.920063099	-0.12019528852	0.23639	0.62637830138
trans-aconitic acid	0.92764593	-0.10835384188	0.44904	0.34771388759
itaconic acid	0.927987879	-0.10782213283	0.63986	0.19391298764
capric acid	1.074660731	0.103881274604	0.36054	0.44304984905
L-asparagine	1.073456146	0.10226325391	0.66654	0.17617557746
adenosine	0.932580437	-0.10069992818	0.63409	0.19785014301
lactose	1.065518812	0.091556064946	0.82105	0.08563216214
myo-inositol	0.940728151	-0.08815021739	0.69579	0.15752080982
spermidine	0.941520554	-0.0869355048	0.12996	0.88618077338
serotonin	0.950541342	-0.07317871871	0.72641	0.13881622397
5,6-dihydrouracil	0.955402825	-0.06581895191	0.31678	0.49923633409
glyoxylic acid	1.044836991	0.063277880148	0.65457	0.18404341066
Sucrose	1.042870945	0.060560636304	0.62046	0.20728590343
caffeic acid	0.965673386	-0.05039277782	0.57982	0.23670489582
1,6-anhydro-glucose	1.034676524	0.049179801751	0.05249	1.27990225754
Pyruvic acid	0.970121679	-0.04376238344	0.52664	0.27848564148
palmitic acid	0.972692451	-0.03994437349	0.43411	0.36240256907
Antiarol	0.979079972	-0.03050139041	0.83078	0.08051564844
citric acid	0.982688089	-0.02519452596	0.83212	0.07981423107
elaidic acid	1.006385057	0.009182406433	0.95639	0.01936624606
arbutin	1.006142127	0.008834113875	0.98301	0.00744323893
pelargonic acid (nonanoic acid)	0.998054289	-0.0028098024	0.9845	0.00678564636
myristic acid	0.998422846	-0.00227714907	0.98982	0.00444394043
Paspalum Phosphorus Deficit				
	FoldChange	log2(FC)	p.value	-log10
L-proline	0.168938443	-2.56543043618	0.07768	1.10967472506
xylose	0.170220826	-2.55452053697	0.04812	1.31769995682
Trehalose	5.584368583	2.481394166374	0.00864	2.06335851657
glyceric acid	0.215402267	-2.21489466066	0.01951	1.70980736183
L-tryptophan	0.391370261	-1.35339396207	0.01452	1.83808155138
galactinol	1.773102767	0.826276155772	0.01358	1.86708944734
4-hydroxybenzoic acid	1.707022655	0.771482205845	0.2716	0.56606761194
L-lysine	1.620653049	0.696575270053	0.02291	1.64001117184
myristic acid	1.55981747	0.641377214939	0.02097	1.67830254021
L-valine	0.658224217	-0.60334898922	0.15306	0.8151428792
glycerol 1-phosphate	0.674547336	-0.56800840843	0.0778	1.10902862597
D-glucose-6-phosphate	0.700061908	-0.51444558751	0.14485	0.83908847323
phosphoric acid	0.700822646	-0.51287869997	0.00029	3.53716349081
1,3-diaminopropane	1.408028383	0.493676416136	0.1535	0.81388639501
L-Isoleucine	0.712095116	-0.48985813646	0.43253	0.36398421045
L-leucine	0.71413946	-0.48572225695	0.43585	0.36066383615
alpha ketoglutaric acid	1.398259694	0.483632332586	0.06935	1.15898183462
3,4-dihydroxybenzoic acid	0.718337457	-0.47726634916	0.07932	1.10063056719

Fold_Change_Of_Primary_Metabolites

eicosapentaenoic acid	1.385784319	0.470702736593	0.09465	1.02386063491
shikimic acid	1.354435545	0.437691740268	0.02774	1.55694419424
arbutin	1.35263207	0.435769464676	0.36543	0.43719004264
itaconic acid	1.329064373	0.410410982449	0.06709	1.1733679178
L-serine	0.760197692	-0.39555345009	0.54362	0.26470573825
threonic acid	0.762382341	-0.39141339194	0.27565	0.55963753948
glycine	0.764881306	-0.38669220736	0.39221	0.4064764337
acetohydroxamic acid	0.765323945	-0.38585755594	0.19627	0.70715360482
ethanolamine	0.767641763	-0.38149489294	0.39673	0.40150150473
maleic acid	0.774260836	-0.36910842517	0.20224	0.69412776272
heptanoic acid	0.776897552	-0.36420372855	0.18955	0.72226808208
succinic acid	0.779125933	-0.36007155972	0.21024	0.67728569647
fumaric acid	1.258905941	0.332170495906	0.13316	0.87561951244
Beta- alanine	0.794427968	-0.33201168071	0.32581	0.48703423341
quinic acid	1.251208227	0.323321903836	0.17863	0.74803432238
sedoheptulose anhydride monohydrate	1.249509798	0.321362214724	0.33072	0.48054266937
L-threonine	0.816332453	-0.29277128246	0.65861	0.18137251519
citric acid	1.201425342	0.264747000071	0.04741	1.3241131307
stearic acid	0.844775722	-0.24335972135	0.55074	0.25904973906
maltose	1.18182929	0.24102165991	0.3451	0.46205458061
nicotinic acid	1.181362371	0.240451564743	0.23078	0.63680190732
gamma-aminobutyric acid (GABA)	0.851915338	-0.23121803002	0.51528	0.28795970441
L-asparagine	1.170552383	0.227189497631	0.45095	0.34587177644
tyrosine	1.169059811	0.225348741895	0.06933	1.159058722
pantothenic acid	1.159542161	0.213555277464	0.46042	0.33684671177
4-hydroxycinnamic acid	1.159064225	0.212960509636	0.13901	0.85694511293
lactose	1.145186613	0.195582711083	0.59766	0.2235484997
L-homoserine	1.138147305	0.186687290796	0.48323	0.31584425005
beta-gentiobiose	1.133192993	0.180393585887	0.73523	0.13357937949
elaidic acid	1.133043704	0.180203510063	0.2226	0.65246927903
4-hydroxy-3-methoxybenzoic acid	0.886978875	-0.17302834963	0.65021	0.18694825851
serotonin	0.890344634	-0.16756421396	0.63369	0.19812129843
dehydroascorbic acid	1.116405217	0.158860771145	0.41253	0.38454011497
D-saccharic acid	1.107771069	0.147659766594	0.387	0.41228880877
Antiarol	1.106314976	0.145762189511	0.29403	0.53161160004
2-hydroxypyridine	1.105745764	0.145019715787	0.2383	0.62288124923
Sucrose	1.098960885	0.136140037387	0.38257	0.41729206675
lauric acid	1.094152015	0.129813191233	0.15102	0.82097784496
myo-inositol	1.086506334	0.119696584626	0.59037	0.22887736171
glyoxylic acid	1.086027119	0.119060129381	0.40397	0.39365158833
3-hydroxypyridine	0.921368634	-0.11814960902	0.14694	0.83286998454
5,6-dihydrouracil	0.927342301	-0.10882613016	0.34106	0.46717198725
ribose	0.933129061	-0.09985146157	0.25791	0.58853725725
L-mimosine	1.069303621	0.096671553995	0.75496	0.12207432555
aspartic acid	0.937470124	-0.09315538116	0.55762	0.25366217924
capric acid	1.066455679	0.092824010067	0.35652	0.44791680227
benzene-1,2,4-triol	1.065287975	0.091243481599	0.27307	0.5637336352
D-mannose	1.061810785	0.086526700453	0.68564	0.16390184998
D-mannitol	1.061342766	0.085890657552	0.68796	0.16243646793

Fold_Change_Of_Primary_Metabolites

D-glucose	1.060952601	0.085360203542	0.68909	0.16172097674
arachidic acid	1.060232618	0.084380830507	0.35146	0.45412995264
fructose	1.049670458	0.06993646747	0.44356	0.3530448415
beta-cyano-L-alanine	1.048053073	0.067711775596	0.89747	0.04697892219
3,5-dimethoxy-4-hydroxycinnamic acid	1.04743134	0.066855677413	0.4694	0.32846069822
Pyruvic acid	0.956934003	-0.06350866475	0.44124	0.35532077255
ferulic acid	1.042527906	0.060086002375	0.61477	0.21128737037
trans-aconitic acid	0.963588707	-0.05351060879	0.73873	0.13151252506
oxalic acid	0.963652839	-0.05341459392	0.55547	0.25534017907
adenosine	1.035888476	0.050868691167	0.82402	0.08406288746
L-alanine	0.965431568	-0.05075409305	0.58599	0.23211227024
adenine	0.968936973	-0.04552527042	0.82465	0.08372865808
caffeic acid	1.029550643	0.042014796821	0.54632	0.26255222395
spermidine	0.97336149	-0.03895239758	0.47709	0.3213987615
benzoquinone	0.976661823	-0.03406899115	0.92969	0.03165993685
L-glutamic acid	0.977470467	-0.03287498075	0.85996	0.06552124554
benzoic acid	1.022439005	0.032014779675	0.80275	0.09541937949
allantoin	0.978401953	-0.03150081053	0.90415	0.04375885354
1,6-anhydro-glucose	1.02184986	0.031183237044	0.09381	1.02774964121
3,4 dihydroxyphenylalanine (DOPA)	1.021214722	0.030286240781	0.6885	0.1620940853
pelargonic acid (nonanoic acid)	1.020040449	0.028626362714	0.81037	0.09131405121
palmitic acid	0.980762799	-0.02802383791	0.64788	0.18850800227
D-malic acid	0.987620309	-0.01797159163	0.92928	0.03185379356
glycerol	1.004893017	0.00704191782	0.97856	0.00941073069
L-glutamine	0.997141533	-0.00412980129	0.99098	0.0039347185