

Table S1 Two-way ANOVA test for contents of metabolites related to starch biosynthesis

Difference	SS	df	MS	F	P-value	F crit
Sucrose						
Genotype	2243.601	1	2243.601	8583.931	1.95E-38	4.170877
Growth condition	209.8805	2	104.9402	401.4972	2.22E-22	3.31583
Interaction	167.7829	2	83.89144	320.9654	5.58E-21	3.31583
Interior	7.841167	30	0.261372			
Total	2629.106	35				
Glucose						
Genotype	88.42267778	1	88.42267778	1220.202855	7.35891E-26	4.170876786
Growth condition	80.17243889	2	40.08621944	553.1761833	2.10923E-24	3.315829501
Interaction	81.43077222	2	40.71538611	561.8584692	1.68008E-24	3.315829501
Interior	2.173966667	30	0.072465556			
Total	252.1999	35				
Fructose						
Genotype	88.83063	1	88.83063	1823.434	2E-28	4.170877
Growth condition	74.39202	2	37.19601	763.5258	1.87E-26	3.31583
Interaction	81.47355	2	40.73678	836.2074	4.91E-27	3.31583
Interior	1.461483	30	0.048716			
Total	246.1577	35				
Total starch						
Genotype	224.0011	1	224.0011	2515.767	1.7E-30	4.170877
Growth condition	66.16267	2	33.08134	371.5381	6.82E-22	3.31583
Interaction	81.57954	2	40.78977	458.1118	3.29E-23	3.31583
Interior	2.671167	30	0.089039			
Total	374.4145	35				
Amylose						
Genotype	53.26567	1	53.26567	408.8152	4.97E-19	4.170877
Growth condition	16.07921	2	8.039603	61.70413	2.34E-11	3.31583
Interaction	10.86191	2	5.430953	41.68268	2.19E-09	3.31583
Interior	3.908783	30	0.130293			
Total	84.11556	35				
Protein						
Genotype	31.26674	1	31.26674	451.0746	1.25E-19	4.170877
Growth condition	20.21902	2	10.10951	145.8464	3.51E-16	3.31583
Interaction	22.79344	2	11.39672	164.4166	6.81E-17	3.31583
Interior	2.079483	30	0.069316			
Total	76.35868	35				