

**Table S3 Two-way ANOVA test for expression levels of the genes involved in starch biosynthesis**

Difference	SS	df	MS	F	P-value	F crit
<b><i>OsFBA</i></b>						
Genotype	27.8784	1	27.8784	835.0438	1.85E-23	4.170877
Growth condition	8.617267	2	4.308633	129.0568	1.83E-15	3.31583
Interaction	2.235267	2	1.117633	33.47655	2.28E-08	3.31583
Interior	1.001567	30	0.033386			
Total	39.7325	35				
<b><i>OsFBPI</i></b>						
Genotype	21.6225	1	21.6225	954.87	2.64E-24	4.170877
Growth condition	6.130872	2	3.065436	135.3725	9.63E-16	3.31583
Interaction	1.940717	2	0.970358	42.85194	1.61E-09	3.31583
Interior	0.679333	30	0.022644			
Total	30.37342	35				
<b><i>OsFBP-L</i></b>						
Genotype	38.13063	1	38.13063	699.509	2.4E-22	4.170877
Growth condition	6.918239	2	3.459119	63.45779	1.67E-11	3.31583
Interaction	3.462117	2	1.731058	31.75639	3.92E-08	3.31583
Interior	1.635317	30	0.054511			
Total	50.1463	35				
<b><i>OsFBP2</i></b>						
Genotype	68.31023	1	68.31023	1056.643	6.04E-25	4.170877
Growth condition	17.1266	2	8.5633	132.4597	1.29E-15	3.31583
Interaction	13.5242	2	6.7621	104.5982	2.99E-14	3.31583
Interior	1.93945	30	0.064648			
Total	100.9005	35				
<b><i>OsFBP3</i></b>						
Genotype	63.09654	1	63.09654	3420.073	1.78E-32	4.170877
Growth condition	5.033839	2	2.516919	136.4266	8.68E-16	3.31583
Interaction	1.631072	2	0.815536	44.20516	1.14E-09	3.31583
Interior	0.553467	30	0.018449			
Total	70.31492	35				
<b><i>OsPGI2</i></b>						
Genotype	78.08668	1	78.08668	2298.244	6.51E-30	4.170877
Growth condition	18.53271	2	9.266353	272.727	5.71E-20	3.31583
Interaction	15.14924	2	7.574619	222.9359	9.87E-19	3.31583
Interior	1.0193	30	0.033977			
Total	112.7879	35				
<b><i>OsPGM</i></b>						
Genotype	27.12674	1	27.12674	644.179	7.84E-22	4.170877
Growth condition	5.954689	2	2.977344	70.70304	4.43E-12	3.31583

Interaction	2.250956	2	1.125478	26.72674	2.16E-07	3.31583
Interior	1.263317	30	0.042111			
Total	36.5957	35				
<b><i>OsSPS2</i></b>						
Genotype	31.41603	1	31.41603	1022.047	9.82E-25	4.170877
Growth condition	13.35971	2	6.679853	217.3134	1.41E-18	3.31583
Interaction	7.299617	2	3.649808	118.738	5.59E-15	3.31583
Interior	0.92215	30	0.030738			
Total	52.9975	35				
<b><i>OsSPS11</i></b>						
Genotype	36.02	1	36.02	1737.16	4.08E-28	4.170877
Growth condition	5.023617	2	2.511808	121.1386	4.28E-15	3.31583
Interaction	0.012606	2	0.006303	0.303968	0.74013	3.31583
Interior	0.62205	30	0.020735			
Total	41.67828	35				
<b><i>OsSPPL1</i></b>						
Genotype	43.80234	1	43.80234	1460.862	5.24E-27	4.170877
Growth condition	12.13029	2	6.065144	202.2801	3.86E-18	3.31583
Interaction	7.662689	2	3.831344	127.7801	2.1E-15	3.31583
Interior	0.899517	30	0.029984			
Total	64.49483	35				
<b><i>OsSPPL2</i></b>						
Genotype	48.23303	1	48.23303	669.1338	4.54E-22	4.170877
Growth condition	20.46162	2	10.23081	141.9314	5.08E-16	3.31583
Interaction	13.42455	2	6.712275	93.11898	1.36E-13	3.31583
Interior	2.162483	30	0.072083			
Total	84.28168	35				
<b><i>OsFrKI</i></b>						
Genotype	38.1718	1	38.1718	794.8687	3.79E-23	4.170877
Growth condition	12.72137	2	6.360686	132.4514	1.29E-15	3.31583
Interaction	4.700439	2	2.350219	48.93968	3.59E-10	3.31583
Interior	1.440683	30	0.048023			
Total	57.0343	35				
<b><i>OsHXX1</i></b>						
Genotype	150.8393	1	150.8393	6785.904	6.53E-37	4.170877
Growth condition	39.0296	2	19.5148	877.9246	2.39E-27	3.31583
Interaction	15.39549	2	7.697744	346.3033	1.88E-21	3.31583
Interior	0.66685	30	0.022228			
Total	205.9313	35				
<b><i>OsHXX4</i></b>						
Genotype	34.08614	1	34.08614	3690.973	5.73E-33	4.170877
Growth condition	13.78082	2	6.890411	746.1192	2.63E-26	3.31583
Interaction	5.975089	2	2.987544	323.5024	4.99E-21	3.31583
Interior	0.27705	30	0.009235			

Total	54.1191	35				
<b><i>OsHXX7</i></b>						
Genotype	29.8298	1	29.8298	1370.68	1.34E-26	4.170877
Growth condition	4.672817	2	2.336408	107.358	2.12E-14	3.31583
Interaction	2.034772	2	1.017386	46.74891	6.05E-10	3.31583
Interior	0.652883	30	0.021763			
Total	37.19028	35				
<b><i>OsSUS1</i></b>						
Genotype	41.79623	1	41.79623	1809.143	2.24E-28	4.170877
Growth condition	18.11721	2	9.058603	392.1002	3.13E-22	3.31583
Interaction	11.26745	2	5.633725	243.8549	2.79E-19	3.31583
Interior	0.693083	30	0.023103			
Total	71.87396	35				
<b><i>OsSUS2</i></b>						
Genotype	30.17671	1	30.17671	1734.072	4.19E-28	4.170877
Growth condition	5.77805	2	2.889025	166.0147	5.97E-17	3.31583
Interaction	1.921772	2	0.960886	55.21629	8.81E-11	3.31583
Interior	0.522067	30	0.017402			
Total	38.3986	35				
<b><i>OsSUS4</i></b>						
Genotype	31.64063	1	31.64063	1278.61	3.71E-26	4.170877
Growth condition	10.16569	2	5.082844	205.3997	3.11E-18	3.31583
Interaction	3.451467	2	1.725733	69.73756	5.25E-12	3.31583
Interior	0.742383	30	0.024746			
Total	46.00016	35				
<b><i>OsSUS5</i></b>						
Genotype	281.9041	1	281.9041	2284.639	7.11E-30	4.170877
Growth condition	2.299372	2	1.149686	9.317414	0.000712	3.31583
Interaction	0.916617	2	0.458308	3.714273	0.036205	3.31583
Interior	3.701733	30	0.123391			
Total	288.8218	35				
<b><i>OsSUS6</i></b>						
Genotype	108.5764	1	108.5764	4398.576	4.21E-34	4.170877
Growth condition	9.189572	2	4.594786	186.141	1.23E-17	3.31583
Interaction	6.959817	2	3.479908	140.9758	5.57E-16	3.31583
Interior	0.740533	30	0.024684			
Total	125.4663	35				
<b><i>OsSUS7</i></b>						
Genotype	359.9241	1	359.9241	9141.446	7.6E-39	4.170877
Growth condition	14.9114	2	7.4557	189.3618	9.67E-18	3.31583
Interaction	9.200556	2	4.600278	116.839	6.93E-15	3.31583
Interior	1.181183	30	0.039373			
Total	385.2173	35				
<b><i>OsAGPL1</i></b>						

Genotype	55.27923	1	55.27923	2012.878	4.63E-29	4.170877
Growth condition	7.590772	2	3.795386	138.2011	7.29E-16	3.31583
Interaction	4.724817	2	2.362408	86.02219	3.76E-13	3.31583
Interior	0.823883	30	0.027463			
Total	68.4187	35				
<b><i>OsAGPL3</i></b>						
Genotype	36.10007	1	36.10007	1854.614	1.55E-28	4.170877
Growth condition	10.45872	2	5.229358	268.6544	7.07E-20	3.31583
Interaction	6.019339	2	3.009669	154.6195	1.58E-16	3.31583
Interior	0.58395	30	0.019465			
Total	53.16208	35				
<b><i>OsAPGL4</i></b>						
Genotype	118.1931	1	118.1931	7020.679	3.93E-37	4.170877
Growth condition	3.201106	2	1.600553	95.07293	1.04E-13	3.31583
Interaction	2.427406	2	1.213703	72.09402	3.48E-12	3.31583
Interior	0.50505	30	0.016835			
Total	124.3267	35				
<b><i>OsAGPS1</i></b>						
Genotype	59.05923	1	59.05923	970.7391	2.08E-24	4.170877
Growth condition	15.55184	2	7.775919	127.8105	2.09E-15	3.31583
Interaction	7.872317	2	3.936158	64.69747	1.32E-11	3.31583
Interior	1.825183	30	0.060839			
Total	84.30856	35				
<b><i>OsUGP2</i></b>						
Genotype	74.07471	1	74.07471	3424.452	1.75E-32	4.170877
Growth condition	11.73776	2	5.868878	271.3165	6.15E-20	3.31583
Interaction	8.884422	2	4.442211	205.3621	3.12E-18	3.31583
Interior	0.648933	30	0.021631			
Total	95.34582	35				
<b><i>OsGBSSI</i></b>						
Genotype	194.9281	1	194.9281	16286.99	1.34E-42	4.170877
Growth condition	3.752622	2	1.876311	156.773	1.31E-16	3.31583
Interaction	2.970022	2	1.485011	124.0784	3.11E-15	3.31583
Interior	0.35905	30	0.011968			
Total	202.0098	35				
<b><i>OsSSIIc</i></b>						
Genotype	55.62674	1	55.62674	867.218	1.07E-23	4.170877
Growth condition	6.650339	2	3.325169	51.83922	1.84E-10	3.31583
Interaction	2.747639	2	1.373819	21.41778	1.67E-06	3.31583
Interior	1.924317	30	0.064144			
Total	66.94903	35				
<b><i>OsSSIVa</i></b>						
Genotype	29.28614	1	29.28614	2937.917	1.71E-31	4.170877
Growth condition	9.305489	2	4.652744	466.7525	2.51E-23	3.31583

Interaction	3.390156	2	1.695078	170.0463	4.29E-17	3.31583
Interior	0.29905	30	0.009968			
Total	42.28083	35				
<b><i>OsSSV</i></b>						
Genotype	44.66694	1	44.66694	3507.875	1.22E-32	4.170877
Growth condition	11.13051	2	5.565253	437.0617	6.51E-23	3.31583
Interaction	7.661206	2	3.830603	300.8327	1.41E-20	3.31583
Interior	0.382	30	0.012733			
Total	63.84066	35				
<b><i>OsBEIIa</i></b>						
Genotype	32.98588	1	32.98588	2205.594	1.2E-29	4.170877
Growth condition	2.378439	2	1.189219	79.5169	1.02E-12	3.31583
Interaction	0.740339	2	0.370169	24.7513	4.48E-07	3.31583
Interior	0.448667	30	0.014956			
Total	36.55332	35				
<b><i>OsBEIIb</i></b>						
Genotype	16.37551	1	16.37551	1284.242	3.48E-26	4.170877
Growth condition	3.476822	2	1.738411	136.3341	8.76E-16	3.31583
Interaction	1.313622	2	0.656811	51.51011	1.99E-10	3.31583
Interior	0.382533	30	0.012751			
Total	21.54849	35				
<b><i>OsBEIII</i></b>						
Genotype	61.57018	1	61.57018	2189.205	1.34E-29	4.170877
Growth condition	11.69887	2	5.849436	207.9841	2.61E-18	3.31583
Interaction	8.403372	2	4.201686	149.3962	2.53E-16	3.31583
Interior	0.843733	30	0.028124			
Total	82.51616	35				
<b><i>OsISAI</i></b>						
Genotype	39.39654	1	39.39654	2411.377	3.2E-30	4.170877
Growth condition	4.41395	2	2.206975	135.0842	9.92E-16	3.31583
Interaction	1.233672	2	0.616836	37.7552	6.42E-09	3.31583
Interior	0.490133	30	0.016338			
Total	45.5343	35				
<b><i>OsFLO6</i></b>						
Genotype	61.51788	1	61.51788	2060.67	3.28E-29	4.170877
Growth condition	3.763089	2	1.881544	63.02628	1.81E-11	3.31583
Interaction	3.722756	2	1.861378	62.35075	2.06E-11	3.31583
Interior	0.8956	30	0.029853			
Total	69.89932	35				
<b><i>OsAlaATI</i></b>						
Genotype	57.02767	1	57.02767	2614.815	9.62E-31	4.170877
Growth condition	4.85555	2	2.427775	111.3176	1.32E-14	3.31583
Interaction	3.078572	2	1.539286	70.57888	4.53E-12	3.31583
Interior	0.654283	30	0.021809			

Total	65.61608	35				
<b><i>OsAlaAT4</i></b>						
Genotype	189.7965	1	189.7965	10749.96	6.73E-40	4.170877
Growth condition	5.066872	2	2.533436	143.4923	4.38E-16	3.31583
Interaction	4.102439	2	2.051219	116.1798	7.47E-15	3.31583
Interior	0.529667	30	0.017656			
Total	199.4955	35				
<b><i>OsPPDK1</i></b>						
Genotype	38.72988	1	38.72988	856.056	1.29E-23	4.170877
Growth condition	4.23245	2	2.116225	46.77544	6.01E-10	3.31583
Interaction	1.541906	2	0.770953	17.04056	1.14E-05	3.31583
Interior	1.357267	30	0.045242			
Total	45.8615	35				
<b><i>OsAMY3D</i></b>						
Genotype	74.6208	1	74.6208	10387.24	1.12E-39	4.170877
Growth condition	3.711606	2	1.855803	258.3284	1.23E-19	3.31583
Interaction	1.586439	2	0.793219	110.4164	1.47E-14	3.31583
Interior	0.215517	30	0.007184			
Total	80.13436	35				
<b><i>OsGluA1</i></b>						
Genotype	99.13521	1	99.13521	2448.589	2.55E-30	4.170877
Growth condition	6.8094	2	3.4047	84.09435	5.02E-13	3.31583
Interaction	2.583089	2	1.291544	31.90049	3.75E-08	3.31583
Interior	1.2146	30	0.040487			
Total	109.7423	35				
<b><i>OsGluA3</i></b>						
Genotype	64.1601	1	64.1601	4994.299	6.33E-35	4.170877
Growth condition	0.87245	2	0.436225	33.95628	1.97E-08	3.31583
Interaction	0.42395	2	0.211975	16.50039	1.47E-05	3.31583
Interior	0.3854	30	0.012847			
Total	65.8419	35				
<b><i>OsCysR10</i></b>						
Genotype	48.37203	1	48.37203	4145.187	1.02E-33	4.170877
Growth condition	26.45374	2	13.22687	1133.462	5.49E-29	3.31583
Interaction	13.53645	2	6.768225	579.9955	1.06E-24	3.31583
Interior	0.350083	30	0.011669			
Total	88.7123	35				
<b><i>OsZIP58</i></b>						
Genotype	68.31023	1	68.31023	6002.363	4.08E-36	4.170877
Growth condition	12.73302	2	6.366508	559.4198	1.79E-24	3.31583
Interaction	5.766217	2	2.883108	253.3363	1.63E-19	3.31583
Interior	0.341417	30	0.011381			
Total	87.15088	35				
<b><i>OsPRX81</i></b>						

Genotype	32.18671	1	32.18671	2960.151	1.52E-31	4.170877
Growth condition	10.33017	2	5.165086	475.0232	1.94E-23	3.31583
Interaction	4.630406	2	2.315203	212.9248	1.88E-18	3.31583
Interior	0.3262	30	0.010873			
Total	47.47349	35				

***OsPRX86***

Genotype	92.32007	1	92.32007	5671.734	9.5E-36	4.170877
Growth condition	11.78987	2	5.894936	362.1586	9.85E-22	3.31583
Interaction	7.645772	2	3.822886	234.8611	4.74E-19	3.31583
Interior	0.488317	30	0.016277			
Total	112.244	35				

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