

Supplementary Table S1. Average seed starch content (%) of 17 soybean genotypes across 11 environments² to evaluate the stability of seed starch among high, medium, and low starch genotypes.

Starch group	Genotype	2015						2016					Mean ± SE
		E1	E2	E3	E4	E5	E6	E7	E8	E9	E10	E11	
High	IT25334	2.04	2.38	1.04	1.18	2.06	1.80	0.85	0.68	0.56	NA ^{y)}	1.07	1.34 ± 0.15
	IT141778	2.46	NA	0.86	1.22	1.64	1.11	1.06	0.93	0.64	NA	1.36	1.26 ± 0.12
	IT177744	1.46	1.68	0.55	0.83	1.38	1.96	0.55	0.71	0.46	0.52	0.72	1.02 ± 0.12
	IT183905	1.92	2.93	0.80	1.11	1.12	2.48	1.16	0.90	0.68	1.49	2.00	1.48 ± 0.17
	IT189276	1.79	2.36	1.07	1.31	1.69	1.75	1.25	0.68	0.96	1.27	1.52	1.39 ± 0.11
Medium	IT25344	0.74	1.05	0.48	0.54	0.86	1.25	0.53	0.40	0.39	0.53	0.49	0.66 ± 0.06
	IT115763	0.97	1.44	0.36	0.49	1.19	1.12	0.53	0.38	0.33	0.47	0.97	0.75 ± 0.09
	IT143112	0.80	1.12	0.52	0.74	1.07	1.11	0.75	0.50	0.35	NA	1.06	0.80 ± 0.07
	IT177234	1.24	1.00	0.62	0.62	1.25	0.90	0.65	0.53	0.61	0.94	1.11	0.85 ± 0.07
	IT189205	0.83	1.92	0.68	0.99	1.14	1.55	0.68	0.49	0.53	NA	0.64	0.99 ± 0.11
Low	IT228277	0.33	0.26	0.18	0.19	0.46	0.25	0.22	0.17	0.18	0.18	0.30	0.24 ± 0.02
	IT228577	0.18	0.22	0.23	0.20	0.31	0.28	0.34	0.22	0.22	0.29	0.32	0.25 ± 0.01
	IT228620	0.36	0.36	0.35	0.35	0.31	0.30	0.36	0.29	0.30	0.47	0.41	0.35 ± 0.01
	IT229949	0.44	0.68	0.33	0.41	0.47	0.40	0.29	0.36	0.29	0.35	0.45	0.41 ± 0.03
	IT230194	0.59	0.54	0.25	NA	0.50	0.41	0.26	0.48	0.30	0.35	0.57	0.41 ± 0.03
Check	Pungsannamul	0.77	0.87	0.48	0.63	0.83	0.72	0.56	0.49	0.54	0.53	0.56	0.64 ± 0.03
	Williams 82	0.52	NA	0.45	0.52	0.51	0.53	0.44	0.32	0.38	0.49	0.84	0.50 ± 0.04
	Mean (Environment)	1.03	1.25	0.54	0.78	0.99	1.05	0.62	0.50	0.45	0.61	0.85	
	LSD _{0.05}	0.52	0.49	0.28	0.35	0.47	0.58	0.45	0.37	0.17	0.17	0.69	
	Mean (Year)	0.93						0.60					
	H ^{2x)}	96.6						95.5					

²⁾Environments where soybeans were grown: E1 (30 May, Gunwi, Korea, 2015); E2 (20 June, Gunwi, Korea, 2015); E3 (2 June, Gwangju, Korea, 2015); E4 (25 June, Gwangju, Korea, 2015); E5 (2 June, Cheonan, Korea, 2015); E6 (30 June, Cheonan, Korea, 2015); E7 (29 May, Gunwi, Korea, 2016); E8 (29 May, Gwangju, Korea, 2016); E9 (23 June, Gwangju, Korea, 2016); E10 (2 June, Cheonan, Korea, 2016); E11 (29 June, Cheonan, Korea, 2016).

^{y)}NA: not available due to poor plant stands.

^{x)}Broad-sense heritability.

Supplementary Table S2. Average daily weather condition during the pod-filling period (September and October) at three locations in 2015 and 2016. The climatological data were collected from the Meteorological stations within 30 km from the soybean fields.

Year	Location	Month	Average daily mean temperature (°C)	Average daily maximum temperature (°C)	Average daily minimum temperature (°C)	Average daily cloudiness (hour/day)
2015	Gunwi	September	20.63	25.94	16.21	5.07
2016	Gunwi	September	21.88	25.90	18.73	7.76
2015	Gunwi	October	15.82	22.22	10.42	3.15
2016	Gunwi	October	16.63	20.97	13.06	6.38
2015	Gwangju	September	21.98	27.33	17.44	4.64
2016	Gwangju	September	23.02	27.63	19.62	6.83
2015	Gwangju	October	16.89	22.70	12.11	3.66
2016	Gwangju	October	17.21	21.53	13.62	6.74
2015	Cheonan	September	21.47	26.95	16.59	4.73
2016	Cheonan	September	22.71	27.00	18.98	6.80
2015	Cheonan	October	15.29	21.05	10.39	3.41
2016	Cheonan	October	15.85	20.49	12.10	6.65