

Table S2. Monthly temperature, precipitation and sunshine readings at the experimental sites in China in 2017 and 2018 cropping seasons

Sanya, Hainan Province														
Month	October		November		December		January		February		March		Sum	
Year	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018
Max. (°C)	29.0	28.0	28.0	24.0	25.0	22.0	24.0	23.0	24.0	24.0	27.0	34.0	157	155
Aver. (°C)	28.0	24.0	26.0	21.0	23.0	18.0	22.0	19.0	22.0	19.0	25.0	28.0	146	129
Min. (°C)	25.0	21.0	23.0	20.0	20.0	16.0	19	16.0	19.0	15.0	22.0	24.0	128	112
Rainfall (mm)	262.7	95.4	79.3	79.8	21.8	18.6	40.1	16.2	33.6	16.0	124.9	22.3	562.4	248.3
Sunshine (h)	166.5	202.5	136	90.5	132.5	155.5	131	124.5	138	173.5	200	245	904	991.5
Changping, Beijing														
Month	June		July		August		September		October		November		Sum	
Year	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018
Max. (°C)	30.0	33.0	37.0	33.0	36.0	32.0	32.0	26.0	20.0	21.0	11.0	14.0	166	159
Aver. (°C)	28.0	28.0	35.0	29.0	34.0	28.0	29.0	21.0	18.0	19.0	9.0	11.0	153	136
Min. (°C)	23.0	22.0	31.0	25.0	30.0	24.0	24.0	17.0	15.0	15.0	6.0	8.0	129	111
Rainfall (mm)	67.0	35.5	69.5	127	135.8	57.2	8.2	19.0	84.4	3.7	0.0	2.7	364.9	245.1
Sunshine (h)	323.5	350.5	336	303	314	329	325	316	173.5	219	215	207	1687	1724.5

Table S3. Analysis of variance (ANOVA) for effect of country of origin, maturity group, and seed color on variability of carotenoid and chlorophyll concentrations in soybean germplasm accessions grown in China for two years

Sources of variation	Chlorophyll components			Carotenoid components			
	Chlorophyll-a	Chlorophyll-b	Totchl	Lutein	Zeaxanthin	β-carotene	Totcar
Accession	***	***	***	***	*	***	***
Year	***	***	NS	***	***	NS	***
Year×Accession	NS	NS	NS	NS	NS	NS	NS
Country	*	**	*	***	NS	*	**
Year	***	NS	NS	***	***	NS	***
Year × Country	NS	NS	NS	NS	NS	NS	NS
MG	NS	NS	***	***	NS	NS	***
Year	NS	***	***	***	***	NS	***
Year × MG	NS	NS	***	***	NS	NS	***
Seed color	***	***	***	***	***	***	***
Year	***	***	NS	***	***	NS	***
Year × Seed color	NS	NS	NS	***	***	NS	***

*, ** and *** represent the significance levels at $p < 0.05$, 0.01, and 0.001, respectively; NS, not significant; Totchl, total chlorophyll; Totcar, Total carotenoid; MG, Maturity group.