

Table S1. Basic Information of the Regional Trial in 2019 and 2020

Test Units	Test Locations	Longitude	Latitude	Altitude (m)
College of Agriculture, Anhui Agricultural University	Hefei City, Anhui Province	117°27′	31°86′	35
Wuhu Qingyi River Seed Industry Co., Ltd.	Yijiang Town, Nanling County, Anhui Province	118°27′	30°54′	12.2
Huanggang City Agricultural Science Research Institute	Meijiadun Farm, Huanggang City, Hubei Province	114°05′	30°27′	31.2
Jingzhou Academy of Agricultural Sciences	Wangjiaqiao, East Suburb of Shashi, Hubei Province	112°02′	30°24′	32
Hubei Hefu Agricultural Technology Co., Ltd.	Hongshan Village, Shihe Town, Tianmen City, Hubei Province	113°01′	30°39′	37
Zhenjiang Runjian Agricultural Technology Co., Ltd.	Xingxiang Village, Baitu Town, Jurong City, Jiangsu Province	119°17′	31°58′	9
Crop Research Institute, Shanghai Academy of Agricultural Sciences	Fengxian District, Shanghai City	121°38′	30°88′	30
Zhejiang Academy of Agricultural Sciences	Haining Experimental Base, Zhejiang Province	120°24′	30°26′	12
Hangzhou Seed Group Co., Ltd.	Yuhang Jingshan Experimental Base, Zhejiang Province	119°90′	30°19′	20
Zhejiang Kecheng Seed Industry Co., Ltd.	Wenzhou City Agricultural Science Institute Tengqiao Base, Zhejiang Province	120°40′	28°01′	6

Table S2. Yield and Main Agronomic Economic Traits of Zheyongyou810 in Various Trial Sites in Regional Trials of 2019 and 2020

Test Site	YEAR	Y (kg/hm ²)	CWCK	GP (d)	EP (10 ⁴ /hm ²)	PH (cm)	PL (cm)	NFGP	SS (%)	TGW (g)
Anhui Agricultural University College of Agriculture	2019	9319.9±717.4	2.08±0.2	152.0±0.0	297.0±27.0	129.3±0.6	21.5±0.3	206.7±18.9	84.5±1.4	25.3±0.2
	2020	11142.6±687.3	14.75±1.7	161.0±0.5	247.5±17.4	127.3±1.0	20.7±0.5	250.4±17.4	70.3±1.3	24.0±0.1
Hangzhou Seed Group Co., Ltd.	2019	9810.0±733.2	15.14±1.6	159.0±0.0	153.0±13.2	131.1±1.0	22.6±0.6	313.3±20.4	88.6 ±2.1	27.1±0.4
	2020	11606.6±504.3	12.75±2.5	160.0±0.6	220.5±21.9	127.6±0.6	21.9±0.3	325.6±15.6	77.1±3.1	23.6±0.5
Hubei Hefu Agricultural Technology Co., Ltd	2019	9260.6±498.7	4.14±0.6	144.0±0.5	220.5±11.3	132.7± 0.6	21.6±0.2	232.3±19.9	80.8 ±0.5	24.4±0.3
	2020	10447.4±567.8	9.71±2.3	153.0±0.0	220.5±14.5	131.4±0.6	21.3±0.4	247.0±21.3	73.7±1.9	25.7±0.2
Huanggang City Agricultural Science Research Institute	2019	11838.3±768.5	16.70±3.2	136.0±0.0	262.5±26.4	120.5±1.0	21.5±0.9	263.3±18.5	83.4±1.2	26.4±0.5
	2020	11263.8±435.2	21.05±3.6	145.0±0.0	229.5±21.5	120.2±0.6	22.6±0.8	214.6±22.1	91.0±2.1	24.1±0.6
Jingzhou Academy of Agricultural Sciences	2019	11652.5±654.3	17.97±4.2	146.0±0.5	207.0±16.7	131.3±1.0	22.3±0.4	294.9±23.4	80.9±1.4	24.3±0.7
	2020	9830.1±457.8	4.68±0.8	151.0±0.0	214.5±23.6	130.7±0.6	21.4±0.3	280.0±26.4	75.5±2.3	24.2±0.1
Shanghai Academy of Agricultural Sciences	2019	10116.5±721.9	0.93±0.2	161.0±0.5	285.0±28.4	123.4±1.0	21.9±1.1	169.1±11.2	83.7±1.9	22.4±0.5
	2020	11992.4±622.4	10.30±4.3	160.0±0.0	315.0±25.5	117.4±0.0	22.4±1.3	249.8±22.9	85.69±2.4	23.0±0.5
Wuhu Qingyi River Seed Industry Co., Ltd.	2019	9019.9±433.4	17.60±4.1	152.0±0.5	312.0±18.9	117.2±0.6	20.7± 0.7	161.9±12.3	87.0±1.6	25.4±0.6
	2020	10159.9±568.9	14.71±2.2	158.0±0.0	276.0±16.8	123.5±0.6	21.3± 0.8	254.8±27.8	67.2±1.7	24.6±0.7
Zhejiang Kecheng Seed Industry Co., Ltd.	2019	9139.9±453.2	4.76±1.1	137.0±0.6	228.0±23.5	129.7±1.0	23.7±0.6	267.4±26.7	86.4±2.5	28.1±0.2
	2020	9480.0±345.8	6.41± 1.0	141.0±0.0	241.5±18.9	125.6±0.6	21.7±0.5	279.0±28.6	83.2±3.1	23.6±0.3
Zhejiang Academy of Agricultural Sciences	2019	12112.5±567.4	31.30±4.5	158.0±0.5	192.0±34.3	126.2±1.0	22.4±1.1	281.0±24.9	92.7±4.1	25.4±0.5
	2020	10219.9±983.2	16.64±3.4	158.0±0.0	180.0±11.9	117.4±0.6	22.2±0.8	366.7±29.6	83.9±2.3	24.9±0.2
Zhenjiang Runjian Agricultural Technology Co., Ltd.	2019	12214.9±879.5	8.24 ±2.1	160.0±0.0	255.0±25.3	125.7±1.0	22.5±0.7	259.2±18.4	83.8±1.4	25.3±0.4
	2020	11634.3±768.5	9.92±1.9	162.0±0.0	274.5±17.5	123.3±0.6	24.0±0.6	245.2±17.2	85.7±3.1	22.4±0.2
Average of 10 sites	2019	10697.8±1518.5	13.07±9.8	151.5±9.3	244.5±49.5	126.6±5.1	22.1±0.8	244.8±51.4	85.1±3.6	25.3±1.6
	2020	10777.7±859.5	12.09±4.9	154.9±7.2	241.5±37.5	124.4±4.3	21.9±1.8	215.0±40.9	79.31±7.7	24±0.9
Mean		10737.75±1189	12.58	153.2±8.3	243.0±87.0	125.5±4.7	22.0±2.6	229.9±46.2	82.2±5.7	24.7±1.3

Note: Y, Yield; CWCK, Comparison with CK; GP, Growing Period; EP, Effective Panicles; PH, Plant Height; PL, Panicle Length; NFGP Number of Filled Grains per Panicle; SS, seed setting rate; TGW, Thousand Grain Weight.

Table S3. Yield, Growth Period, and Main Agronomic Economic Traits of Zheyongyou810 in Various Trial Sites in production trial of 2020

Test Site	YP	CWCK	SD	IHD	MD	GP
Crop Research Institute, Shanghai Academy of Agricultural Sciences	830.88	16.24	5/17	9/1	10/29	165
Wuhu Qingyi River Seed Industry Co., Ltd.	654.80	13.96	5/25	9/4	10/19	147
Jingzhou Academy of Agricultural Sciences	748.80	9.60	6/4	9/8	10/26	144
Zhejiang Academy of Agricultural Sciences	844.40	13.65	5/25	9/6	10/21	149
Zhenjiang Runjian Agricultural Technology Co., Ltd.	846.87	13.36	5/15	8/28	10/30	168