

Appendix A Cluster Analysis

Group I			Group II			Group III					Group IV			Group V						
G	No.	Name	G	No.	Name	G	No.	Name	G	No.	Name	G	No.	Name	G	No.	Name			
52	130	Yueguang	46	129	Guangling Xiangnuo	21	76	Youmangzaodao	22	69	412	38	1	Taihuqing	20	105	Youmang-zaodao	54	138	9311
47	116	Nipponbare	7	82	Jinggunuo	21	103	Guozinuo	22	73	Huang30	38	10	Gankeqing	48	117	Suyunuo	11	108	Wuxidao
42	120	4901 (Yangfujing)	7	96	Guozinuo	21	12	Xiaohongdao	22	74	Yilimang	38	19	Niumanghuang				11	114	Majinnuo
49	118	Taibei 309	4	101	Niaoxiunuo	21	65	Nanjing Luohanhuang	22	16	Xiaoluohanhuang	38	2	AijiaoTaihuqing				8	115	Buxuenuo
53	134	Z2005	3	78	Xiangjingnuo	21	67	Zaoshidao	22	21	Qiaobinghuang	38	3	Changjiao Taihuqing				17	112	Huangganxian
43	124	9516 (Wuyunjing 8)	3	79	Xiangzhunuo	21	71	Huangkezaonianri	10	23	Bodao	38	38	Huangdao				16	107	Jiaobaixian
37	60	Danxuan 131	3	87	Baikenuo(743)	21	72	Huangkezaonianri	22	25	Yanglingdao	38	44	Yingtoujing				18	109	Jianlizi
51	121	Yangfujing7	3	15	Jijiaohong	24	62	73-208	22	32	Zaohuangdao	31	49	Tiejingqing				12	75	Xiaohongzao
44	137	K11 (Chizhong, high-quality)	3	77	Hongmang Xiangjingnuo	23	17	Xiaoluohan	22	43	Changqihuang	33	55	Xiaohuangzao				13	111	Xiandao
41	133	Z88	41	90	Shuangjiang Qingnuodao	23	33	Wanyedao	22	50	Yilimang	34	63	Jinwan 78101				15	106	Hongmangyishixin
41	136	413 (Wanjing)	2	104	Zaonuodao	23	40	Changdaotou	22	51	Zaoxiqiu	9	89	Jintannuo				14	113	Hongganxian
50	119	Zhendao8	2	93	Shuijingnuo	23	45	Feilafeng	22	52	Wanzhongqiu	32	13	Honggudao						
50	122	Yangfujing 4928	6	80	Xiangzhunuoxuan	23	47	Xiaofenghuang	22	53	Wanzhongqiu	32	31	Xiaohuangdao						
45	123	Guangling Xiangjing	6	4	Luoshuangqing	23	57	Wheat2 (Ai)	35	11	Tianjiqing	32	35	Wanyangdao						
45	125	Wuyujing3	10	100	Zhimanuo	23	58	Hongmangjing	35	127	Wujing 15	32	37	Daluzhong						
28	126	998 (Wuxiangjing No9)	10	24	Bodao	23	68	Huangdao	35	39	Changzhong	32	7	Lujingqing (44)						
28	128	9915 (Wuxiang 9915)	5	99	Maonuo	27	20	Juhuahuang	35	59	Hongmangshajing	32	8	Shengtaoqing						
45	131	W3 (Wuyujing3)	5	41	Zaoguangtou	19	91	Xueliqing Glutinous Rice	31	54	Juziguang	32	86	Baikenuo(748)						
28	132	9520	5	42	Wanmuxiqiu	26	14	Daheitouhong	31	83	Hongkenuo(741)	32	97	Huakenuo						
28	135	98-3 (Wanjing, high-quality)	5	64	Pudongqing	25	26	Zaixijie Rice	31	110	Datougui	30	61	Dongting2						
28	6	Lujingqing (43)	5	84	Hongkenuo(740)	25	28	Aimang Liushudao	31	27	Subeidao	29	92	Aiqibaikenuo						
			5	95	Putanuo	25	29	Datouwandao	31	48	Luhanbai	36	66	Yazihuang						

5	98	Bainuodao	25	30	Lidongdao	31	5	Tiejingqing	40	36	Laodiegu
			25	34	Changqiyedao	39	102	Zhaolaizhong	40	85	Hongkenuo(742)
			23	46	Feilaifeng	39	81	Yaxuenuo			
			25	88	Hongmangnuo	38	56	Buliuming			
			25	18	Wanniumaohuang	38	70	Zhoujiazhong			
			25	22	Manbaidao	38	9	Daichangqing			
						38	94	Wushinuo			

Note: Gene combinations(G); variety number (No.); variety name (Name)

Appendix B Codes of alleles

Alleles	Code
<i>wx/Wxa/ Wxb</i>	1/2/3
<i>(CT)8/(CT)11/(CT)16/(CT)17/(CT)18/(CT)19/(CT)20</i>	1/2/3/4/5/6/7
<i>(AATT)5/(AATT)6</i>	1/2
<i>GBSSIIa/GBSSIIb</i>	1/2
<i>Sbe1 i /Sbe1 j</i>	1/2
<i>Sbe3 i/Sbe3 j</i>	1/2
<i>SSSI a/ SSSI c/ SSSI i / SSSI j</i>	1/2/3/4
<i>SSSII-1a/SSSII-1b</i>	1/2
<i>SSSII-2 i / SSSII-2 j</i>	1/2
<i>SSSIII-1a/ SSSIII-1c/hybrid/SSSIII-1b</i>	1/2/3/4
<i>SSSIII-2a/ SSSIII-2b/SSSIII-2c</i>	1/2/3
<i>SSSIV-1a/ SSSIV-1b</i>	1/2
<i>SSSIV-2a/ SSSIV-2b</i>	1/2
<i>ISAA/ ISAb</i>	1/2
<i>PULa/ PULb</i>	1/2
<i>AGPlara/ AGPlarb/AGPlarc</i>	1/2/3
<i>AGPmaa/ AGPmab</i>	1/2
<i>AGPisoa/ AGPisob</i>	1/2

Appendix C 41 allele combinations of 115 varieties

No. of Variety	Genotype	<i>Wx(GBSS I)</i>	(CT)n	(AATT)n	<i>GBSS II</i>	<i>Sbe1</i>	<i>Sbe3</i>	<i>SSS I</i>	<i>SSS II -1</i>	<i>SSS II -2</i>	<i>SSS II -3</i>	<i>SSSIII-1</i>	<i>SSSIII-2</i>	<i>SSSIV-1</i>	<i>SSSIV-2</i>	<i>Isa-1</i>	<i>Pull</i>	<i>AGPlar</i>	<i>AGP_{sma}</i>	<i>AGP_{iso}</i>
1	1	1	3	1	1	2	2	4	1	2	1	1	2	1	1	1	1	1	1	1
2	2	1	4	1	1	1	2	4	1	2	1	1	2	1	1	1	1	1	1	1
5	3	1	4	1	1	1	2	4	1	2	1	3	2	1	1	1	1	1	1	1
1	4	1	4	1	1	1	2	4	2	2	1	1	2	1	1	1	1	1	1	2
7	5	1	4	1	1	2	2	4	1	2	1	1	2	1	1	1	1	1	1	1
1	6	1	4	1	1	2	2	4	1	2	1	1	2	1	1	1	1	1	1	2
2	7	1	4	1	1	2	2	4	2	2	1	1	2	1	1	1	1	1	1	1
1	8	1	4	1	2	1	1	2	1	1	1	2	3	2	2	2	1	2	3	2
1	9	1	5	1	1	1	2	4	2	2	1	1	2	1	1	1	1	1	1	1
2	10	1	5	1	1	2	2	4	1	2	1	1	2	1	1	1	1	1	1	1
2	11	2	1	1	2	1	2	3	1	1	1	3	3	2	2	2	1	3	3	2
1	12	2	2	1	2	1	1	1	1	1	3	2	3	2	2	2	1	2	3	2
1	13	2	2	2	2	1	1	1	1	1	1	1	3	2	2	2	1	3	3	2
1	14	2	2	2	2	1	1	1	1	1	1	2	3	2	2	2	1	2	3	2
1	15	2	2	2	2	1	1	2	1	1	1	2	3	2	2	2	1	2	3	2
1	16	2	2	2	2	1	2	2	1	1	3	2	3	2	2	2	1	2	3	2
1	17	2	2	2	2	1	2	3	1	1	3	1	3	2	2	2	1	1	3	2
1	18	2	2	2	2	1	2	4	1	1	3	1	3	2	2	2	1	2	3	2
1	19	2	5	1	1	2	2	4	1	2	1	1	2	1	1	1	1	1	1	1
1	20	2	6	1	1	1	1	4	2	2	1	3	2	1	1	1	1	1	1	2

7	21	2	6	1	1	1	2	4	1	2	1	1	2	1	1	1	1	1	1
13	22	2	6	1	1	1	2	4	2	2	1	1	2	1	1	1	1	1	1
8	23	2	6	1	1	2	2	4	1	2	1	1	2	1	1	1	1	1	1
1	24	2	6	1	1	2	2	4	1	2	2	1	2	1	1	1	1	1	1
9	25	2	6	1	1	2	2	4	2	2	1	1	2	1	1	1	1	1	1
1	26	2	6	1	1	2	2	4	2	2	1	3	2	1	1	1	1	1	1
1	27	2	7	1	1	2	2	4	1	2	1	1	2	1	1	1	1	1	1
1	28	3	4	1	1	2	2	4	1	2	2	1	2	1	1	1	1	1	1
1	29	3	4	1	1	2	2	4	2	2	1	1	2	1	1	1	1	1	1
1	30	3	4	1	1	2	2	4	2	2	1	3	2	1	1	1	1	1	1
6	31	3	5	1	1	1	2	4	1	2	1	1	2	1	1	1	1	1	1
8	32	3	5	1	1	1	2	4	2	2	1	1	2	1	1	1	1	1	1
1	33	3	5	1	1	1	2	4	2	2	1	3	2	1	1	1	1	1	1
1	34	3	5	1	1	1	2	4	3	2	1	3		1	1	1	1	1	1
3	35	3	5	1	1	2	2	4	1	2	1	1	2	1	1	1	1	1	1
1	36	3	5	1	1	2	2	4	1	2	1	3	2	1	1	1	1	1	1
1	37	3	5	1	1	2	2	4	1	2	2	3	2	1	1	1	1	1	1
12	38	3	5	1	1	2	2	4	2	2	1	1	2	1	1	1	1	1	1
2	39	3	5	1	1	2	2	4	2	2	1	1	2	1	1	1	1	1	2
2	40	3	5	1	1	2	2	4	2	2	1	3	2	1	1	1	1	1	1
1	41	1	4	1	1	1	2	4	1	2	1	3	2	1	1	1	1	1	1

Appendix D Performance of cooking quality traits of landraces in Table 5

varieties	G	AAC%	ASV	GC	TPS						RVA					
					ΔH	Tp	To	Tc	W	PV	TV	BDV	FV	SBV	PT	PAT
Taihuqing	38	16.05	5.5	75.75	28.34	70.05	63.65	77.40	10.80	2633.5	1699.5	934.0	2569.5	-64.0	6.37	72.85
Aijiaotaihuqing	38	15.85	5.5	64.92	26.22	70.25	64.40	76.90	9.70	2348.0	1477.5	870.5	2670.5	322.5	6.10	82.30
Luoshuangqing	1	1.79	6.0	110.17	31.39	71.00	63.70	78.80	11.45	1451.5	619.0	832.5	780.5	-671.0	3.57	70.45
Tiejingqing	31	16.04	5.0	65.50	27.58	71.55	66.00	78.10	9.55	2746.0	1827.5	918.5	3021.0	275.0	6.40	75.23
Lujingqing(43)	28	17.47	5.0	72.83	29.31	74.05	67.85	80.90	9.85	2710.5	1598.0	1112.5	2770.5	60.0	6.04	75.58
Lujingqing(44)	32	15.81	5.0	71.17	28.52	71.30	65.50	77.90	9.70	2773.5	1932.5	841.0	2962.0	188.5	6.30	73.65
Daichangqing	38	16.56	5.5	72.08	26.49	70.00	64.25	76.40	9.30	2743.5	1847.0	896.5	2732.0	-11.5	6.40	72.43
Gankeqing	38	16.21	5.5	65.67	28.31	71.55	65.40	78.20	9.80	2444.5	1474.5	970.0	2525.5	81.0	6.10	74.80
Tianjiqing	35	15.14	5.5	68.33	25.49	71.35	65.70	77.85	9.15	2623.0	1477.0	1146.0	2622.5	-0.5	6.03	74.03
Honggudao	32	15.62	5.0	67.33	29.33	71.50	66.15	77.85	9.00	2715.0	1656.5	1058.5	2837.5	122.5	6.13	72.88
Jijiaohong	3	1.53	5.0	106.58	30.33	71.25	64.50	78.75	10.90	1449.0	544.0	905.0	705.0	-744.0	3.60	70.85
Niumanghuang	38	15.93	5.0	66.00	27.53	70.80	64.75	77.65	10.10	2678.0	1869.0	809.0	2871.5	193.5	6.50	73.63
Bodao	22	2.16	5.0	110.42	30.21	71.65	64.40	79.70	11.60	1542.5	672.5	870.0	842.5	-700.0	3.74	71.13
Xiaohuangdao	32	15.07	5.5	65.17	27.96	70.80	65.15	77.30	9.75	2434.5	1650.5	784.0	2662.5	228.0	6.40	74.80
Changqiyedao	25	17.79	5.5	49.50	26.69	70.90	64.30	77.70	10.35	2668.5	1985.5	683.0	3092.0	423.5	6.47	73.63
Wanyangdao	32	16.84	5.0	70.58	28.86	71.25	65.55	77.85	9.50	2915.0	2141.5	773.5	3039.5	124.5	6.63	74.08
Wujing15	40	15.55	5.5	69.85	25.07	70.50	64.35	77.70	10.15	2894.0	1991.5	902.5	2914.5	20.5	6.54	73.20
Huangdao	38	16.31	5.5	72.17	29.99	70.30	64.80	77.25	9.65	3010.5	2003.5	1007.0	3015.5	5.0	6.43	72.03
Changzhong	35	17.26	5.0	70.33	29.12	69.95	64.30	77.40	9.90	2917.0	1923.0	994.0	3041.0	124.0	6.47	73.23
Zaoguangtou	5	2.75	5.0	104.83	33.80	73.25	66.40	80.65	11.20	1534.5	752.0	782.5	977.0	-557.5	3.94	73.28
Zaoxiqiu	22	2.13	5.0	106.00	32.30	72.05	65.65	79.80	10.75	1477.5	518.0	959.5	690.5	-787.0	3.67	72.10
Changqiguang	22	17.68	5.5	75.83	27.52	70.20	64.15	76.90	10.15	2840.0	1854.0	986.0	2962.5	122.5	6.30	72.40
Luganbai	31	15.40	5.0	70.67	27.85	71.10	65.70	78.05	9.65	3000.5	2146.5	854.0	3211.5	211.0	6.50	73.13
Juziguang	31	17.60	5.0	69.33	28.68	70.55	64.80	77.60	10.20	2644.5	1851.0	793.5	2946.0	301.5	6.43	73.33
Xiaohuangzao	33	15.95	5.5	63.50	24.29	70.10	64.35	77.55	10.00	2552.0	1795.5	756.5	2964.0	412.0	6.50	87.30
Buliuming	38	17.52	5.5	71.67	24.82	69.45	63.65	76.15	9.75	2977.5	2171.5	806.0	3227.5	250.0	6.57	72.78
Hongmangshajing	35	14.69	5.0	83.00	27.68	71.30	65.10	78.75	10.65	3107.5	2148.0	959.5	3354.5	247.0	6.60	74.45
Dongting2	30	16.48	5.0	80.00	27.72	69.70	63.15	77.35	10.90	2628.5	1756.0	872.5	2800.5	172.0	6.34	73.20
Jinwan78101	34	15.00	5.0	90.50	31.04	77.65	67.60	83.80	13.20	3092.5	1821.5	1271.0	2924.0	-168.5	6.17	78.73

Pudongqing	5	10.16	3.0	96.17	29.82	72.85	65.50	80.75	11.30	2133.5	1505.5	628.0	2091.5	-42.0	5.40	74.83
Yazihuang	36	14.48	3.7	81.67	26.61	72.40	66.60	78.85	9.60	3299.0	2300.5	998.5	3458.0	159.0	6.50	75.58
Zhoujiazhong	38	15.20	3.0	69.33	28.01	73.50	66.50	80.25	10.20	2827.0	2189.5	637.5	3283.5	456.5	6.74	75.23
Huangkezaonianri	21	15.90	5.5	43.67	22.92	69.55	62.90	77.40	11.25	2508.0	1849.5	658.5	3294.0	786.0	6.54	86.95
Hongmangxiangjingnuo	3	2.40	5.5	116.50	30.58	72.30	65.95	79.85	6.05	1594.0	716.5	877.5	903.0	-691.0	3.70	72.05
Xiangjingnuo	3	2.10	5.5	114.00	30.03	71.55	65.00	79.25	10.95	1648.5	673.0	975.5	862.0	-786.5	3.74	71.40
Xiangzhunuo	3	2.27	4.5	118.00	33.67	72.65	66.20	80.45	10.75	1905.5	847.0	1058.5	1058.0	-847.5	3.84	72.35
Xiangzhunuoxuan	6	2.15	3.0	116.25	31.83	73.35	67.25	80.70	10.25	1677.0	890.5	786.5	1090.5	-586.5	3.93	73.70
Jinggunuo	7	2.17	4.0	117.67	34.15	73.10	65.55	80.95	11.65	1551.5	768.0	783.5	966.5	-585.0	3.90	72.88
Hongkenuo(741)	31	1.75	5.0	115.67	33.13	72.25	65.55	80.15	11.15	1546.0	664.0	882.0	843.5	-702.5	3.73	72.10
Baikenuo(748)	32	3.06	5.5	117.83	29.34	71.90	65.35	78.75	10.40	1406.5	651.0	755.5	848.5	-558.0	3.80	72.05
Jintannuo	9	2.59	3.5	111.67	33.27	74.25	67.05	81.10	10.65	1683.0	915.0	768.0	1144.0	-539.0	4.03	74.08
Shuangjiangqingnuodao	41	2.28	4.0	113.25	31.67	72.55	66.80	79.20	9.35	1805.0	777.5	1027.5	966.0	-839.0	3.70	72.48
Aiqinuo	29	2.81	5.5	110.33	30.49	70.80	64.45	77.60	10.60	1471.0	700.5	770.5	886.5	-584.5	3.77	70.85
Shuijingnuo	2	3.09	3.0	110.83	31.10	73.20	66.05	80.65	11.20	1646.5	819.0	827.5	1024.5	-622.0	3.87	72.43
Wushinuo	38	3.08	4.5	110.00	30.54	72.15	65.30	79.95	26.35	1614.0	705.0	909.0	912.0	-702.0	3.77	71.65
Putaoonuo	5	2.70	4.5	111.75	31.63	73.50	66.70	80.85	10.95	1488.5	782.5	706.0	1010.0	-478.5	4.07	74.30
Guozinuo	7	2.99	6.0	110.00	33.81	70.90	63.55	79.10	12.05	1479.5	640.0	839.5	834.5	-645.0	3.73	70.78
Bainuodao	5	2.54	4.5	107.17	32.26	72.60	66.30	80.45	10.55	1666.0	817.5	848.5	1014.0	-652.0	3.87	73.20
Maonuo	5	1.89	6.0	110.00	30.83	70.55	64.10	77.55	10.55	1545.5	667.0	878.5	825.5	-720.0	3.60	70.80
Zhimanuo	10	1.88	6.0	110.25	28.88	70.80	64.10	78.15	10.90	1421.5	609.5	812.0	778.5	-643.0	3.77	71.68
Niaoxiunuo	4	3.22	5.0	106.83	30.89	71.35	64.95	78.65	10.65	1649.0	770.5	878.5	977.0	-672.0	3.74	71.65
Zaonuodao	2	2.79	2.0	110.17	33.64	72.90	66.20	79.65	10.30	1430.0	716.0	714.0	908.0	-522.0	3.84	73.28
Wuxidao	11	25.22	1.5	100.75	26.97	76.80	72.30	81.90	7.80	1791.0	1243.0	548.0	2249.0	458.0	5.70	79.55
Datougui	31	23.88	6.5	72.17	26.11	70.95	65.25	77.20	9.45	1229.0	832.0	397.0	1466.5	237.5	5.50	74.48
Huangganxian	17	24.91	1.5	72.42	29.75	77.40	73.10	82.90	7.75	2380.0	1631.5	748.5	3010.0	630.0	5.80	79.43
Majinnuo	11	3.24	2.0	115.50	31.57	74.80	67.35	81.80	11.05	1161.5	776.0	385.5	1009.5	-152.0	4.24	74.88
Buxuenuo	8	3.15	2.5	110.00	31.13	72.80	65.60	80.95	11.75	2497.5	1029.5	1468.0	1287.5	-1210.0	3.74	71.35

Appendix E 87 improved cultivars

No.	Name	No.	Name	No.	Name	No.	Name
1	9311	23	Lianjing No.3(L97-1)	45	Suxiangjing No.2	67	Yangfujing 4928
2	9520	24	Lianjing No.5	46	Suyunuo	68	Yangfujing No.7
3	413(Wanjing)	25	Liaojing 371	47	Suijing No.4	69	Yangjing 4038
4	4901(Yangfujing)	26	Longdao No.3	48	Taibei 167	70	Yangjing 9538
5	9516(Wuyunjing No.8)	27	Longdao No.7	49	Taibei 309	71	Yangjingnuo No. 1
6	98-3(Wanjing high-quality)	28	American Rice Variety-1	50	Taihunuo	72	Yi 7001
7	9915(Wuxiang 9915)	29	American Rice Variety-2	51	Wu2645	73	Yinyu 2084
8	99-295	30	American Rice Variety -3	52	Wu5021	74	Yujing No.6
9	9983(Wuxiangjing No.9)	31	American Rice Variety-4	53	Wujing 15	75	Yueguang
10	K11(chizhong, high-quality)	32	Nanjing 44	54	Wuxiangjing 14(99-15)	76	Yuncun 2544
11	RJZZOTTO	33	Nanjing 46	55	Wuyujing No.3	77	Zhen2005
12	Guanglingxiangjing	34	Nongkeng 57	56	Yan 1439	78	Zhen 88
13	Guanglingxiangnuo	35	Japan	57	Yandao 30237	79	Zhendao196
14	Huajing No.3	36	Nipponbare	58	Yandao No.9	80	Zhendao413
15	Huaidao No.11	37	Shennong265	59	Yanhui 93005	81	Zhendao609
16	Huaidao No.5	38	Shengdao14	60	Yanjing 204	82	Zhendao631
17	Jijing 88	39	Shijin	61	Yanjing 48	83	Zhendao No.8
18	Jiaxing 04-33	40	ShuijingNo.3	62	Yanjing No.6	84	Zhendao9424

19	Jinchuan No.1	41	Sidao No.11	63	Yannuo 12	85	Zhendao18
20	Jinyuan 45	42	Songjing No.6	64	Yang 2601	86	Zhengdao No.5
21	Jinyuan 4515	43	Songjing No.9	65	Yang 4227	87	Zhongjiang 01
22	Jingdao No.7	44	Suxiangjing No.1	66	Yangdao No. 6		

Appendix F Pedigree of some improved varieties and relationship between landrace and improved varieties

Improved varieties	Pedigree of improved varieties			
Zhendao196	Ribenqing	Zhendao88	Wuyunjing8	Wuyujing3
Yinyu2084	Wuxiangjing9	Wuyujing3		
Yandao9	Wuyunjing8	Wuyujing3		
Yangjingnuo1	Guanglingxiangnuo			
Suxiangjing2	Suxiangjing1			
Zhendao8	Nongken57			
Jinyuan4515	Jinyuan45	Ribenqing		
Yangjing9538	Wuyujing3	Huangkezaonianri(L)		
Nanjing46	Wuxiangjing9	Wuyujing3		
Zhendao9424	Ribenqing	Zhendao88	Huangkezaonianri(L)	
Yangjing9538	Wuyujing3	Ribenqing		
Yangjing4038	Wuyujing3			
Jinyuan45	Ribenqing			
zhendao413	Zhendao88			
Zhengdao18	Zhengdao5			
Shuijing3	Zhengdao5	Ribenqing		
Lianjing 3	Yujing6			
Lianjing5	Zhendao88			
Huajing3	Nongken57			
Yan1439	Nongken57			
Sidao11	Nongken57			
Huaidao5	Wuyujing3			
Taihunuo	Aiqibaikenuo(L)	Huangkezaonianri(L)		
Yangfujing4901	Wuyujing3			
Wuxiangjing9	Wuyujing3			
Guanglingxiangjing	Aiqibaikenuo(L)	Huangkezaonianri(L)	Wuyujing3	
Wuxiangjing14	Wuxiangjing9	Wuyujing3		
Wujing15	Aiqibaikenuo(L)	Huangkezaonianri(L)	Wuyunjing8	
Yangfujing4928	Wuyujing3			
Yangfujing7	Wuyujing3			

Note: L denotes landrace in parentheses, other varieties are improved varieties.

Appendix G The primers of molecular markers within genes related starch synthesis

Targeted Gene	Molecular marker	Primer Sequence	Type	Distinguishable Alleles
<i>Wx</i>	ND	ND-F: CACAGCAACAgCTAgACAACCAC ND-R: CACGACGACGGAGGGGAAC	STS	<i>Wx/wx</i>
	PCR-AccI	pAg: ACCATTCCTTCAGTTCTTTTG pBg: ATGATTTAACGAGAGTTGAA F: CTTTGTCTATCTCAAGACAC	CAPS	<i>Wx^a/Wx^b</i>
	(CT) _n	R: TTGCAGATGTTCTTCTCGATG F: TGCATCTTTCATTGCTCGTT	SSR	<i>(CT)8/(CT)11/(CT)16/(CT)17/(CT)18/(CT)19/(CT)20...</i>
	(AATT) _n	R: ACCCCTGGATGTGTTTCTCT	SSR	<i>(AATT)₅/(AATT)₆</i>
<i>GBSSII</i>	S004	S004-F: TTGCTGCGAATTATCTGCG S004-R: ACCTCCTCCCCTTCTTTGCT	STS	<i>GBSSII^a or hybrid/GBSSII^b</i>
<i>SBE1</i>	S005	S005-F: GAGTTGAGTTGCGTCAGATC S005-R: AATGAGGTTGCTTGCTGCTG	STS	<i>Sbe1¹/Sbe1ⁱ</i>
<i>SBE3</i>	S006	S006-F:TCGGTCCTAATATTTTGGCGCTG S006-R:CCTTAACTTGACACCGAATCC	STS	<i>Sbe3¹/Sbe3ⁱ</i>
	488/489	488: GATCCGTTTTTGCTGTGCCC 489: CCTCCTCTCCGCCGATCCTG	STS	<i>Sss1¹/Sss1¹/Sss1^a/Sss1^b</i>
<i>SSSI</i>	S001	S001-F: GTAGGCAAGCTGCTACTTGT S001-R: CTTGAGGCGCTAATCAGGTT	STS	<i>with belt or not</i>
	PCR-HaeII	SSS I -22: CCAAAGCCTGTAATAATAAG SSS I -23: CACGCTAAACGAAGAAAT	CAPS	<i>Sss1¹/Sss1ⁱ</i>

<i>SSSII-1</i>	S008	S008-F: CACCCACCGTTCTACTATGC S008-R: TCCATAGTTTCATTGAGATTGCTC	STS	<i>SSSII-1^a/SSSII-1^b/SSSII-1^c</i>
<i>SSSII-2</i>	S009	S009-F: AGATTTGAACTCAGGACTTGGTG S009-R: TCTATGGGCTCTATCCTTACTAGG	STS	<i>SssII-2¹/SssII-2¹</i>
<i>SSSII-3</i>	PCR-Taq I	S003-F: GCACTCCTGCCTGTTTATCTGAAG S003-R: GTCGTACAGCTTGAAGTGATCCAG	CAPS	<i>SSSII-3^a 或 SSSII-3^b/SSSII-3^c</i>
	PCR-Ban II	S020-F: GGTTCCTCGGTGAAGATGGC S020-R: GTGGTCCCAGCTGAGGTCC	CAPS	<i>SSSII-3^a 或 SSSII-3^c/SSSII-3^b</i>
<i>SSSIII-1</i>	S010	S010-F: AAGAAGGGAAGGGAGTCAGC S010-R: GCCATCTCCATTGCCAGC	STS	<i>SSSIII-1^a/SSSIII-1^b/SSSIII-1^c/hybrid</i>
<i>SSSIII-2</i>	S011	S011-F: GACCAACCGATTACCTTCTT S011-R: TTGCTCTTTTCTCAACCTGT	STS	<i>SSSIII-2^a 或 SSSIII-2^c/SSSIII-2^b</i>
	PCR-Xba I	S012-F: AAGTCCTTCGGCTTACTATTCC S012-R: GGAGAAGGAACATAACAGGGAC	CAPS	<i>SSSIII-2^a/SSSIII-2^b 或 SSSIII-2^c</i>
<i>SSSIV-1</i>	AY2	AY2-F: GCTTTCAGTTGTGTATGGATTC AY2-R: TGAGAGTTTACCTTATGGGAC	STS	<i>SSSIV-1^a/SSSIV-1^b</i>
<i>SSSIV-2</i>	AY1	AY1-F: TTCGTTCTCAGTAGTCTGCTCCT AY1-R: TTGCTAATGAATGTGCTGTGGTA	STS	<i>SSSIV-2^a/SSSIV-2^b/SSSIV-2^c</i>
<i>ISA-1</i>	S015	S015-F: ATAGATGCTAATGTGATGTGGC S015-R: TGGTATAGGCACAACCGTAGA	STS	<i>ISA^a/ISA^b</i>
<i>PULL</i>	S016	S016-F: CTGTATGGACTGAGTAGTCGATGG S016-R: TGAGCCTCATCTGCCAGAGT	STS	<i>PUL^a/PUL^b</i>
<i>AGPlar</i>	S017	S017-F: CGTTCAGGTTTCAGGCAATCA S017-R: GGAAGGGTGGTGATGTGGAG	STS	<i>AGPlar^a/AGPlar^b/AGPlar^c</i>
<i>AGP_{sma}</i>	S018	S018-F: TCTATTCTCAGCCCTCCAACC S018-R: GTGTGTTTAGAGGTGCTTTTGG	STS	<i>AGP_{sma}^a/AGP_{sma}^b</i>

<i>AGPiso</i>	PCR-Ecor I	S019-F: TGGAATGGGAACCTATTATTGG		
		S019-R: TCCCAACCTCTACCTTCAAATG	CAPS	<i>AGPiso^a/AGPiso^b/hybrid</i>
