

**Supplemental Table 1. Positions of SNPs of 24 *B. rapa* accessions with variable erucic acid content in the seeds**

Name	Origin	Breeding method	Erucic acid content (%)	Accession no.	SNPs													
					88	113	122	123	507	591	675	696	735	758	825	866	968	1020
Qingyou 11	China	Cultivar	0	KF999634	G	T	T	T	A	G	C	A	C	T	T	G	C	G
Sanjiecaizi -1	China	Landrace	0	KF999615	G	T	T	T	A	A	C	A	T	T	T	G	T	G
HJa 96368	Finland	Cultivar	0	KF999623	G	T	T	T	A	G	C	A	C	T	T	G	C	G
HJa.Vankka	Finland	Cultivar	4.79	KF999625	G	T	T	T	A	G	C	A	C	T	T	G	C	G
86027	China	Cultivar	11.51	KF999618	G	T	T	T	A	G	C	A	C	T	T	G	C	G
99-02	China	Cultivar	13.83	KF999616	G	T	T	T	A	A	C	A	T	C	T	G	T	G
98023	China	Cultivar	14.26	KF999619	G	A	T	A	A	A	C	A	T	T	T	G	T	A
HJa 988-622	Finland	Cultivar	19.21	KF999621	G	T	T	T	A	G	C	A	C	T	T	G	C	G
98027	China	Cultivar	21.43	KF999620	G	T	C	A	A	A	C	A	T	T	T	G	T	G
9807	China	Cultivar	21.91	KF999617	G	T	T	A	A	G	C	A	C	C	T	G	T	G
Akesuheiyoucai	China	Landrace	25.98	KF999626	G	T	T	T	T	T	T	G	T	T	T	G	T	G
Linchuanxiaoyoucai	China	Landrace	27.79	KF999630	G	A	T	A	A	A	C	A	T	C	T	G	T	G
HJa 670-16	Finland	Cultivar	27.85	KF999624	G	T	T	T	A	A	C	A	T	C	T	G	C	G
Dongchuanxiaoyoucai	China	Landrace	30.25	KF999627	G	T	T	T	A	A	C	A	T	T	T	G	T	G
Pingchengxiaoyoucai	China	Landrace	30.72	KF999633	G	T	T	A	A	A	C	A	T	T	T	G	C	G
Maojiaoba	China	Landrace	33.09	KF999631	G	T	T	A	A	A	C	A	T	T	G	G	C	A
Qingyou 7	China	Cultivar	40.25	KF999635	G	A	T	A	A	A	C	A	T	C	T	G	T	G
Qingyou 3	China	Cultivar	42.33	KF999636	G	T	T	T	A	A	C	A	T	T	T	G	T	G
Wuxianzangcaizi	China	Landrace	48.59	KF999638	A	T	T	T	A	G	C	A	C	T	T	G	C	A
Xinghuaazaoyoucai	China	Landrace	50.00	KF999639	G	T	C	A	A	A	C	A	T	C	T	A	C	A
Guanyou 1	China	Cultivar	50.68	KF999628	G	T	T	T	A	G	C	A	T	T	T	G	C	A
Liyangtianyoucai	China	Landrace	51.59	KF999629	G	T	T	T	A	G	C	A	C	C	T	G	C	A
Qingyuanbendiyoucai	China	Landrace	52.34	KF999637	G	T	T	T	A	A	C	A	T	C	T	G	C	G
Nanhualinggongdacaizi	China	Landrace	55.47	KF999632	G	T	T	T	A	A	C	A	T	T	T	G	C	G

**Supplemental Table 1. Positions of SNPs of 24 *B. rapa* accessions with variable erucic acid content in the seeds (Continued)**

Name	Origin	Breeding method	Erucic acid content(%)	Accession no.	SNPs											
					1090	1098	1184	1203	1209	1217	1237	1265	1315	1332	1353	1422
Qingyou 11	China	Cultivar	0	KF999634	A	G	G	A	G	C	G	T	G	G	G	G
Sanjiecaizi -1	China	Landrace	0	KF999615	A	G	G	A	G	C	G	T	G	G	G	G
HJa 96368	Finland	Cultivar	0	KF999623	A	G	G	A	C	C	G	T	G	G	G	G
HJa.Vankka	Finland	Cultivar	4.79	KF999625	A	G	G	A	G	C	G	T	G	G	G	G
86027	China	Cultivar	11.51	KF999618	A	G	G	A	G	C	G	T	G	G	G	G
99-02	China	Cultivar	13.83	KF999616	A	G	G	A	A	C	G	T	G	G	G	G
98023	China	Cultivar	14.26	KF999619	A	G	G	A	G	C	G	T	G	G	A	A
HJa 988-622	Finland	Cultivar	19.21	KF999621	A	G	G	A	G	C	G	T	G	G	G	G
98027	China	Cultivar	21.43	KF999620	A	G	G	A	G	C	G	T	G	G	G	G
9807	China	Cultivar	21.91	KF999617	A	G	G	A	G	C	G	T	G	G	G	G
Akesuheiyoucai	China	Landrace	25.98	KF999626	A	G	G	C	G	G	G	T	G	G	G	G
Linchuanxiaoyoucai	China	Landrace	27.79	KF999630	A	G	G	A	G	C	G	T	G	G	G	G
HJa 670-16	Finland	Cultivar	27.85	KF999624	A	G	G	A	G	C	G	T	G	G	G	G
Dongchuanxiaoyoucai	China	Landrace	30.25	KF999627	A	G	G	A	G	C	G	T	G	G	G	G
Pingchengxiaoyoucai	China	Landrace	30.72	KF999633	A	G	G	A	G	C	G	T	G	G	G	A
Maojiaoba	China	Landrace	33.09	KF999631	A	A	A	A	G	C	G	T	G	A	A	G
Qingyou 7	China	Cultivar	40.25	KF999635	A	G	G	A	G	C	G	T	G	G	G	G
Qingyou 3	China	Cultivar	42.33	KF999636	A	G	G	A	G	C	G	T	G	G	G	G
Wuxianzangcaizi	China	Landrace	48.59	KF999638	A	G	G	A	A	C	G	T	G	G	G	A
Xinghuazaoyoucai	China	Landrace	50.00	KF999639	T	A	A	A	G	C	G	T	C	G	A	A
Guanyou 1	China	Cultivar	50.68	KF999628	A	G	G	A	G	C	A	C	G	A	A	A
Liyangtianyoucai	China	Landrace	51.59	KF999629	A	G	G	A	G	C	G	T	G	G	G	A
Qingyuanbendiyoucai	China	Landrace	52.34	KF999637	A	G	G	A	G	C	G	T	G	G	G	G
Nanhualinggongdacaizi	China	Landrace	55.47	KF999632	A	G	G	A	G	C	G	T	G	G	G	G

**Supplemental Table 2. Fatty acid composition of different individuals  
from *B. rapa* Sanjiecaizi**

<b>Lines</b>	<b>C16:0 (%)</b>	<b>C18:0 (%)</b>	<b>C18:1 (%)</b>	<b>C18:2 (%)</b>	<b>C18:3 (%)</b>	<b>C20:1(%)</b>	<b>C22:1(%)</b>
<b>Sanjiecaizi -1</b>	4.32	1.98	52.18	24.35	16.21	0.00	0.00
-2	2.40	3.20	52.90	22.50	11.30	7.70	0.00
-3	7.70	8.50	50.20	11.60	11.20	10.80	0.00
-4	1.60	3.10	60.80	15.30	10.10	9.10	0.00
-5	3.90	4.90	57.70	13.90	11.90	7.70	0.00
-6	6.80	7.10	46.20	14.40	14.20	11.30	0.00
-7	6.30	7.30	48.20	15.90	11.10	11.20	0.00
-8	2.60	4.00	54.70	17.40	14.70	6.60	0.00
-9	1.30	2.10	61.80	17.60	11.90	5.30	0.00
-10	2.40	3.00	56.10	15.70	16.30	6.50	0.00
-11	2.20	3.60	56.10	11.20	10.80	16.50	0.00
-12	1.40	2.80	59.70	17.10	16.20	2.80	0.00
-13	2.60	3.70	51.10	22.10	18.70	1.80	0.00
-14	2.30	5.20	57.40	17.70	17.50	0.00	0.00
-15	1.80	6.90	60.90	13.40	17.00	0.00	0.00
-16	3.00	4.50	55.60	16.70	17.40	2.80	0.00
-17	7.04	3.00	57.61	17.05	16.22	0.00	0.00
-18	8.07	3.60	48.23	22.13	10.54	7.42	0.00
-19	7.51	2.80	54.86	17.66	17.48	0.00	0.00
-20	5.79	3.70	60.45	13.37	17.02	0.00	0.00
-21	7.33	5.20	53.14	16.71	17.44	1.02	0.00
-22	7.04	6.90	52.50	17.18	17.18	0.00	0.00
-23	6.14	4.50	51.06	18.88	17.65	0.84	0.00
-24	7.66	5.60	50.46	19.37	17.09	0.50	0.00
-25	2.60	2.10	54.00	28.10	2.20	10.70	0.00
-26	2.90	6.90	43.20	13.40	17.00	5.30	0.00
-27	2.29	1.22	50.80	11.59	17.39	8.46	8.37
-28	4.45	1.76	39.46	18.58	9.12	9.20	13.84
-29	6.80	8.00	33.41	17.60	8.50	7.90	18.50
-30	2.41	1.75	48.51	11.27	8.50	6.98	20.15
-31	13.60	10.31	35.14	6.87	9.57	0.00	23.07
-32	6.90	7.80	30.80	9.20	12.90	8.20	23.50
-33	9.40	17.61	16.61	8.50	13.17	0.00	24.73
-34	3.80	9.70	27.90	14.70	8.10	7.20	25.20
-35	13.59	12.97	27.42	7.04	13.74	0.00	25.24
-36	7.61	14.61	27.86	8.06	16.49	0.00	25.25
-37	7.00	3.10	24.70	14.30	15.60	9.90	25.40
-38	4.98	23.16	29.60	13.77	0.00	2.06	25.96
-39	2.20	1.90	32.60	18.60	8.40	9.20	27.10
-40	2.97	1.27	35.59	12.05	10.58	10.16	27.12
-41	4.30	4.70	32.20	9.80	9.60	10.40	27.80
-42	2.30	2.70	23.20	19.70	16.79	2.10	29.52
-43	11.12	18.81	25.12	14.83	0.00	0.00	30.12
-44	3.10	2.83	34.53	12.93	8.62	7.10	30.89
-45	3.10	4.10	21.80	11.80	10.30	10.60	31.50
-46	15.39	17.75	22.95	11.12	0.00	0.00	32.80
-47	3.90	4.20	28.60	11.00	9.90	8.40	33.00
-48	1.60	2.30	29.20	12.60	8.20	13.10	33.10
-49	5.78	2.65	20.67	18.63	11.81	6.57	33.22
-50	6.95	23.08	14.26	9.00	12.97	0.00	33.74