

TABLE. Mean and separate analysis data of the parental lines and the RILs for the studied traits.

NO	2016						2017					
	HD	SN	HKW	BIO	YD	HI	HD	SN	HKW	BIO	YD	HI
1	67	442	0.582	41.36	5.51	13.23	71	547	0.610	56.20	6.13	10.85
2	50.5	369	1.029	43.15	7.02	16.27	55.5	475	1.270	57.22	11.27	19.67
3	51.5	752	2.342	98.73	35.42	37.24	55	953	3.260	117.88	54.45	45.84
4	51.5	773	2.210	101.29	31.37	30.95	55.5	1068	3.228	137.53	48.34	35.38
5	51.5	989	2.554	192.15	52.84	27.21	56	1108	3.739	256.25	71.20	27.60
6	67.5	469	0.727	83.11	8.09	9.74	70	652	1.009	102.86	14.11	13.72
7	50	549	2.457	93.08	16.86	23.72	53.5	791	3.176	169.56	25.39	15.14
8	50.5	754	1.670	85.12	18.06	23.49	55	1036	2.771	124.02	26.62	21.45
9	62.5	92	1.233	79.14	4.20	5.35	67	119	1.752	99.56	3.92	3.93
10	52	912	1.373	72.60	17.57	24.97	55.5	1136	2.260	105.25	21.76	20.99
11	67.5	367	0.523	40.01	2.82	7.10	74	515	0.755	56.61	5.90	10.42
12	68.5	488	0.693	75.64	5.44	7.22	75	635	0.625	94.88	7.36	7.75
13	72.5	355	0.859	70.53	5.30	7.59	77	435	1.015	91.56	8.84	9.71
14	53.5	1024	2.363	103.09	54.45	53.79	57.5	1260	3.263	129.01	69.48	54.33
15	59	585	1.347	70.30	12.89	19.55	67	724	1.714	105.45	17.38	16.61
16	51	791	2.533	124.90	31.84	35.46	55.5	967	3.489	239.53	45.94	18.87
17	53.5	295	1.296	84.78	9.04	10.57	58.5	503	1.945	119.24	18.54	15.55
18	50.5	1013	1.500	110.50	19.98	19.46	55	1354	2.274	164.88	24.44	16.51
19	59	689	1.590	81.53	18.77	25.49	67	805	1.682	118.06	26.22	22.20
20	51.5	831	1.471	51.92	17.14	33.64	55.5	1125	1.834	78.40	23.21	29.59
21	72.5	266	0.927	88.56	4.51	5.10	78	341	1.130	114.65	8.24	7.19
22	49.5	233	1.041	45.35	6.44	14.23	54.5	337	1.400	56.93	8.56	15.03
23	65.5	276	1.679	99.65	8.97	9.04	70	328	2.400	126.53	15.08	11.91
24	54.5	862	1.747	89.38	24.08	27.68	62.5	1315	2.279	118.92	33.07	27.80
25	62.5	349	1.182	91.49	7.05	7.74	67	469	1.625	119.73	11.88	9.92
26	66.5	259	0.616	53.93	3.65	6.80	68	413	1.369	68.02	6.26	9.21
27	77	357	2.202	100.47	9.54	9.50	81.5	446	2.835	128.90	14.46	11.33
28	60.5	696	1.296	42.61	12.78	30.45	67	906	1.342	59.52	18.19	30.54
29	61	401	1.126	88.99	7.67	8.67	67	678	1.470	116.92	12.72	10.87
30	73	471	1.020	88.92	10.87	12.36	78	505	1.061	95.71	14.25	14.88
31	53	1209	1.764	75.35	26.17	35.40	57.5	1324	2.569	104.20	33.36	32.46
32	50.5	554	2.325	103.81	17.85	16.31	55	669	3.251	114.09	26.47	23.18
33	55.5	800	1.696	92.06	18.98	20.69	62.5	1070	1.971	120.48	21.30	17.66
34	68.5	688	1.432	79.52	16.43	20.58	72	1026	1.646	116.14	22.01	18.91
35	52.5	615	2.176	101.43	19.13	19.87	55.5	850	3.022	142.17	22.06	15.76
36	61.5	295	1.547	96.79	10.01	10.37	66.5	579	2.220	130.14	12.88	9.88
37	52.5	903	1.794	55.23	29.38	53.16	57	1141	2.437	89.66	34.69	37.88
38	68	1122	2.656	110.83	52.70	47.68	73	1313	3.170	135.47	66.05	48.85
39	57	782	1.802	103.56	25.22	23.68	63.5	929	2.082	146.42	36.51	26.75
40	61.5	276	0.803	81.63	11.28	13.49	66.5	255	1.020	107.60	11.73	10.90
41	57.5	473	1.955	85.85	14.91	16.23	65	633	2.748	128.30	22.99	18.11
42	68	309	1.020	65.71	6.90	10.55	71	328	1.595	82.28	8.67	10.52
43	75.5	263	0.731	41.17	3.28	7.96	80.5	289	1.065	51.80	7.47	14.40
44	51.5	873	2.100	106.25	36.92	33.78	55	1087	1.870	168.98	51.77	30.33
45	51.5	1083	1.930	92.04	47.46	51.36	55.5	1325	2.958	127.05	68.16	53.67
46	53.5	882	1.148	83.36	13.32	16.73	57	830	1.404	123.85	19.07	15.40
47	52	777	2.185	109.08	41.81	41.51	55.5	946	2.275	111.61	53.66	49.30
48	57	429	1.709	80.56	17.38	21.41	63.5	520	1.950	107.49	19.69	18.30
49	66.5	1033	1.250	64.93	20.39	47.59	68	1162	1.089	119.40	26.69	21.97
50	68.5	252	1.203	73.09	16.91	23.64	71	341	1.530	116.77	18.32	15.68
51	64.5	463	1.114	42.68	8.48	19.87	69	515	0.981	53.21	12.42	23.34
52	58	536	1.543	81.03	10.70	13.11	66	796	1.738	112.54	14.38	12.76
53	49.5	360	2.907	91.74	15.63	24.03	53	344	3.817	166.19	19.21	12.62
54	51.5	1051	1.874	73.90	28.90	42.68	56.5	1239	2.395	111.46	43.98	40.03
55	60	619	1.377	50.38	8.16	16.21	67	872	1.540	69.40	15.47	22.27

Cont. 1

NO	2016						2017					
	HD	SN	HKW	BIO	YD	HI	HD	SN	HKW	BIO	YD	HI
56	57	146	2.117	62.46	6.72	10.77	65.5	222	2.215	83.85	13.89	16.53
57	50.5	772	1.539	44.82	17.26	38.55	56	850	2.187	66.81	24.55	36.84
58	57	799	2.032	82.56	29.18	35.21	63.5	942	2.146	157.47	43.59	29.45
59	52	810	2.529	115.60	29.94	26.12	55.5	842	3.380	147.98	42.74	28.59
60	62.5	344	1.883	86.56	16.09	18.06	67	338	2.601	102.28	12.63	12.41
61	45	469	1.819	45.45	9.61	21.07	49	560	2.282	66.64	17.93	26.88
62	49.5	901	1.653	117.09	21.77	24.37	54	1158	2.445	207.43	32.76	17.47
63	61.5	927	1.445	101.79	27.13	23.39	66.5	962	2.066	177.74	39.95	22.06
64	49.5	472	2.431	105.08	21.60	21.92	53	461	3.213	163.90	30.00	18.30
65	54.5	985	2.287	184.56	46.55	25.18	60.5	1180	3.276	247.97	67.09	26.36
66	54.5	411	1.628	101.01	11.60	11.67	60.5	425	2.217	140.42	19.78	13.14
67	57	729	1.313	63.02	14.28	21.44	63.5	789	1.622	92.26	21.22	23.35
68	66.5	141	1.475	119.09	6.43	5.37	66	162	1.485	153.07	12.02	7.93
69	57	484	0.884	51.38	9.74	18.99	64	492	0.906	61.37	13.77	22.44
70	52.5	794	2.036	83.37	31.03	36.10	55.5	923	2.871	124.30	46.23	37.52
71	68.5	1023	1.398	81.26	22.53	26.72	72	1154	1.492	116.59	32.54	27.66
72	66.5	617	0.740	103.41	9.29	9.01	69	630	0.789	133.58	15.01	11.51
73	64.5	332	0.497	92.55	5.94	6.42	70	436	0.717	111.62	5.14	4.60
74	51.5	880	1.581	84.08	27.71	32.90	56.5	979	2.382	111.72	42.53	38.87
75	66.5	592	1.377	120.36	12.40	10.34	67	645	1.024	135.36	16.05	11.99
76	51.5	980	1.896	117.13	35.45	29.77	55	1118	3.027	186.53	51.21	26.54
77	57.5	480	2.223	85.71	15.15	18.15	64.5	610	2.185	122.04	22.10	18.08
78	60.5	792	1.390	69.25	15.73	26.01	66	1021	1.505	118.09	24.20	21.66
79	55.5	973	1.475	67.82	26.63	38.11	62.5	1159	2.028	103.38	39.65	37.97
80	63.5	961	1.343	87.62	19.48	22.26	67	1177	1.367	107.20	27.57	25.33
81	59.5	856	1.670	91.06	33.52	40.77	67	956	1.879	101.78	50.22	48.93
82	69.5	343	0.582	64.64	8.65	12.92	76	382	1.177	91.19	11.74	12.85
83	68.5	465	1.534	97.74	10.58	10.87	75	592	1.960	134.43	19.83	13.93
84	49.5	496	2.397	118.96	22.10	24.25	53	627	3.281	225.40	26.54	11.36
85	50.5	780	1.760	117.10	29.40	26.61	55.5	961	2.714	120.00	40.76	33.44
86	50.5	821	2.185	145.07	28.55	19.13	55	929	3.839	225.96	43.09	18.97
87	68.5	371	1.998	114.03	13.50	10.87	71	429	1.873	171.03	16.70	10.00
88	51.5	276	0.769	103.26	5.69	5.61	55.5	374	0.735	141.15	11.84	8.53
89	64.5	578	1.326	63.61	12.75	29.91	68.5	617	1.189	120.13	15.93	13.25
90	57	1008	1.373	74.04	29.33	37.78	63.5	1238	1.831	119.66	37.68	31.16
91	52.5	782	2.044	147.71	34.62	28.54	56.5	1030	2.766	280.15	44.31	15.56
92	50	642	2.019	114.64	26.31	23.28	55.5	746	3.085	140.98	28.39	20.13
93	54	324	0.986	97.00	8.78	9.15	57	445	0.995	130.94	16.26	12.70
94	64.5	654	1.135	73.18	10.81	14.78	68	1096	1.133	91.23	15.20	16.65
95	53.5	1246	1.424	137.53	56.58	43.17	58.5	1648	3.804	138.26	68.03	50.02
96	52.5	972	2.104	101.07	33.73	35.07	57	1035	2.842	164.14	42.38	31.41
97	53.5	807	1.449	111.74	23.67	20.45	57.5	827	2.126	122.70	34.47	27.81
98	72.5	596	1.968	78.08	22.17	27.64	78.5	706	2.170	117.20	29.30	25.30
99	62.5	720	1.806	88.20	24.53	27.50	67	829	2.016	115.56	30.69	26.21
100	51.5	969	1.594	130.19	43.63	34.30	56	1172	2.733	156.22	64.20	44.16
101	53	678	1.505	73.06	22.84	30.87	57	693	2.363	104.00	36.27	34.50
102	51.5	620	1.458	123.25	12.25	10.44	56.5	867	2.571	174.31	18.03	10.50
103	52	575	1.789	61.06	16.30	30.06	55.5	684	2.698	106.35	26.86	25.24
104	53	1066	2.491	122.68	43.27	35.46	57.5	1213	3.338	149.83	58.43	42.46
105	48.5	425	1.330	95.88	8.44	8.83	55.5	427	1.448	121.69	11.62	9.72
106	53	343	2.529	108.29	14.20	14.96	58.5	453	3.137	170.21	24.96	13.88
107	57	768	0.803	96.49	7.34	7.62	64	948	1.099	120.11	14.19	11.82
108	61	355	1.305	56.90	7.90	15.06	69	502	1.835	104.80	15.20	14.49
109	54	430	2.703	132.20	16.48	15.60	60	468	3.171	121.43	27.83	23.08
110	68	561	1.058	90.80	13.83	15.70	71	579	1.197	149.98	19.31	13.42

Cont. 2

NO	2016						2017					
	HD	SN	HKW	BIO	YD	HI	HD	SN	HKW	BIO	YD	HI
111	66.5	721	1.139	54.62	8.35	15.44	66	974	1.212	64.27	13.70	21.30
112	50	789	2.805	197.48	37.40	19.02	55	1043	3.329	244.78	55.73	24.55
113	58.5	417	1.148	43.39	9.21	21.39	64	528	1.465	69.63	17.56	25.33
114	64.5	839	1.194	70.70	14.59	21.38	69	1045	1.108	71.77	19.62	27.33
115	59	452	0.982	44.07	7.74	17.59	65	456	1.207	61.34	14.36	23.39
116	61.5	711	1.390	75.22	11.87	16.94	67	899	1.385	117.44	18.27	15.55
117	52.5	874	1.649	78.34	29.27	36.11	56.5	1066	2.441	137.51	37.14	26.42
118	72.5	547	1.122	44.20	13.49	33.55	77.5	605	1.080	68.33	9.90	14.41
119	54.5	647	1.458	32.25	17.21	56.59	60.5	775	2.063	43.90	23.46	54.73
120	53.5	741	2.329	128.49	32.94	25.37	57.5	830	3.019	168.34	49.75	29.84
121	57	183	1.318	58.38	8.73	15.03	64	194	2.457	75.08	14.13	19.89
122	54.5	679	1.653	103.19	13.95	14.41	62.5	764	1.993	106.73	24.17	21.53
123	51.5	567	1.543	86.81	12.96	14.85	56	766	2.360	122.88	17.52	14.46
124	54.5	861	1.233	52.89	17.01	31.18	60.5	927	2.586	75.94	22.52	32.35
125	52	792	2.988	169.36	41.37	23.11	58	965	3.405	240.69	61.94	25.97
126	67.5	349	1.152	67.46	8.41	12.52	73	543	1.575	86.50	11.66	13.89
127	57	252	2.210	89.46	10.03	11.12	63.5	291	2.437	115.77	16.84	15.14
128	73	491	0.629	34.90	5.32	15.15	78.5	631	0.735	46.96	7.37	20.03
129	51.5	706	2.231	81.53	26.07	31.33	55	961	3.348	131.56	37.32	25.81
130	51.5	752	1.530	78.84	23.00	29.14	56	814	2.088	125.43	28.59	23.57
131	69.5	371	1.050	50.22	12.45	24.52	75	402	1.110	72.01	18.09	25.56
132	52.5	467	2.091	82.13	13.66	16.62	56.5	612	3.084	108.76	22.58	20.74
133	48.5	464	2.427	63.07	15.56	29.78	52	458	3.107	104.43	21.88	21.38
134	60	721	0.727	41.59	10.68	25.53	66	1167	1.459	56.28	16.88	29.99
135	49.5	251	3.005	123.10	10.09	8.22	53	301	2.916	161.03	18.07	11.28
136	50.5	602	2.508	97.47	29.22	26.57	55	748	3.174	152.50	36.63	22.26
137	67	285	1.016	92.70	9.42	10.16	69.5	296	1.170	113.72	13.79	12.12
138	57.5	681	1.751	103.70	17.67	16.81	66	915	2.145	128.33	26.74	20.59
139	48	291	2.737	92.41	10.78	11.73	51	361	3.256	125.75	20.06	16.32
140	57	528	2.176	70.18	22.74	35.69	63.5	559	2.333	108.30	29.70	27.02
HYP	69	892	2.810	202.49	35.58	17.57	70	1017	3.230	249.78	45.73	18.31
DTP	66	777	2.179	150.07	27.95	18.63	67.5	909	2.843	204.96	33.64	16.41
Mean	58.08	622.51	1.634	88.71	18.90	22.11	62.87	759.57	2.124	123.36	26.63	21.96
RLSD _{0.05}	1.43	59.36	0.181	9.20	3.39	4.83	2.53	71.61	0.434	17.24	4.90	6.96
Separate analysis												
RILs	**	**	**	**	**	**	**	**	**	**	**	**

*P<0.05, **P<0.01