

Supplementary Table S1. Descriptive statistics of the bacterial wilt resistance reaction for the two parents and the 412 RIL lines

Year ¹	YZ9102	wt09-0023	RIL Population				
	♀	♂	Range (%)	Mean (%)	SD	Kurt ²	Skew ³
2016_seedling	100.0%	83.3%	23.2%-100.0%	83.7%	0.2	0.5	-1.1
2016_flowering	100.0%	64.1%	13.3%-100.0%	77.0%	0.2	-0.1	-0.9
2016_pegging	100.0%	53.0%	0.0%-100.0%	72.7%	0.3	-0.5	-0.8
2016_harvesting	75.6%	35.9%	0.0%-100.0%	54.5%	0.3	-1.1	-0.3
2017_seedling	95.8%	51.8%	22.6%-100.0%	82.6%	0.2	0.5	-1.1
2017_flowering	95.8%	35.0%	0.0%-100.0%	74.4%	0.3	-0.4	-0.8
2017_pegging	85.8%	35.0%	0.0%-100.0%	69.9%	0.3	-0.8	-0.7
2017_harvesting	85.8%	20.0%	0.0%-100.0%	57.1%	0.3	-1.2	-0.3
2018_seedling	95.0%	90.0%	39.7%-100.0%	90.9%	0.1	7.9	-2.2
2018_flowering	79.0%	46.7%	3.1%-100.0%	63.2%	0.3	-1.1	-0.4
2018_pegging	79.0%	46.7%	3.1%-100.0%	60.0%	0.3	-1.2	-0.4
2018_harvesting	73.7%	0.0%	0.0%-100.0%	40.5%	0.3	-1.4	0.3

1: Year 2016, 2017: RIL 1-412; Year 2018: RIL 413-512

2: Kurtosis

3: Skewness

Supplementary Table S2. ANOVA (p-value) and the broad-sense heritability (h^2) for bacterial wilt resistance of 412 RILs at four different stages in 2016 and 2017

Effect / Trait	Seedling	Flowering	Fruiting	Harvesting
Genotype	***	***	***	***
Environment	1.0	**	**	*
G x E interaction	0.2	*	*	0.1
h^2	0.8	0.9	0.9	0.9

*, <0.05; **, <0.001; ***, <0.0001

Supplementary Table S3 Summary of the sequencing and alignment results for RILs

Sample_ID	Bases(Mb)	GC(%)	Q20(%)	Total Reads	Mapped Reads	Mapped rate
P043	16660.87	37.29	96.10	116319322	113140270	99.87%
P044	18799.43	37.24	96.13	132815093	128495282	99.85%
P260	6143.16	38.11	94.81	43054305	42962021	99.79%
P261	4397.11	38.13	94.96	30797405	30713318	99.73%
P262	5843.66	38.11	95.05	40632409	40540016	99.77%
P263	4640.84	38.17	94.94	32374414	32275385	99.69%
P264	6805.13	38.06	95.10	47499967	47367679	99.72%
P265	4536.14	38.31	95.32	31842772	31738413	99.67%
P266	4282.03	38.08	95.51	30274193	30189611	99.72%
P267	5588.60	38.32	95.61	39294699	39168930	99.68%
P268	3293.47	38.31	98.04	23075219	23047099	99.88%
P269	2212.79	38.21	98.01	15477172	15463829	99.91%
P270	4949.28	38.11	98.22	34476170	34440905	99.90%
P271	2463.11	38.31	98.10	17164146	17153342	99.94%
P272	3698.97	38.24	98.16	25753273	25731495	99.92%
P273	4953.98	37.99	98.13	34823676	34800363	99.93%
P274	4266.42	38.00	98.19	30208449	30184576	99.92%
P275	3907.32	38.32	98.18	27374749	27349534	99.91%
P276	2987.49	38.53	97.85	20867627	20847636	99.90%
P277	1875.93	38.64	97.80	13095849	13077962	99.86%
P278	4179.23	38.58	98.05	29015682	28985793	99.90%
P279	2740.44	38.69	97.95	19121689	19104842	99.91%
P280	3263.76	38.91	97.99	22710314	22687153	99.90%
P281	3624.40	38.60	97.94	25396511	25379354	99.93%
P282	3765.98	38.51	98.03	26588721	26562528	99.90%
P283	4399.29	38.68	98.01	30885056	30844210	99.87%
P284	3600.58	38.23	98.01	25259617	25228083	99.88%
P285	1634.70	38.38	97.95	11422052	11412426	99.92%
P286	3681.31	38.53	98.19	25588535	25566817	99.92%
P287	1791.51	38.13	98.07	12493782	12480525	99.89%
P288	2967.74	38.14	98.14	20670093	20653476	99.92%
P289	2493.26	38.24	98.07	17479433	17465553	99.92%
P290	3205.02	38.27	98.15	22669979	22645922	99.89%
P291	1874.77	38.74	98.14	13191757	13158129	99.75%
P292	2352.21	38.34	97.95	16425315	16402451	99.86%
P293	1626.57	38.35	97.86	11364481	11353105	99.90%
P294	3486.08	38.39	98.11	24195914	24153955	99.83%
P295	2395.56	38.36	98.01	16698334	16661027	99.78%
P296	3633.43	38.48	98.08	25560042	25539236	99.92%
P297	2801.98	38.06	97.99	19625551	19606226	99.90%
P298	2724.64	38.12	98.09	19211560	19145803	99.66%
P299	4080.83	38.06	98.08	28656433	28629394	99.91%
P301	1794.35	38.60	97.95	12532453	12515542	99.87%
P302	3977.01	38.26	98.18	27546942	27529813	99.94%
P304	3647.11	38.24	98.14	25343072	25321032	99.91%
P305	3181.93	38.55	98.05	22320123	22295774	99.89%
P306	3079.27	38.12	98.15	21682882	21665327	99.92%
P307	2713.31	38.65	98.13	19017169	18992280	99.87%
P308	3288.12	38.14	97.99	23076144	23048619	99.88%
P309	2023.75	37.85	97.93	14153988	14142008	99.92%

Sample_ID	Bases(Mb)	GC(%)	Q20(%)	Total Reads	Mapped Reads	Mapped rate
P310	4014.65	38.09	98.17	27914813	27836009	99.72%
P311	2306.98	38.24	98.06	16159179	16132853	99.84%
P312	3421.40	38.11	98.12	23937556	23918672	99.92%
P313	3641.33	37.85	98.05	25499957	25434602	99.74%
P314	3517.48	38.11	98.15	24892055	24836781	99.78%
P315	4365.48	38.16	98.12	30659907	30614539	99.85%
P316	3337.99	38.51	97.98	23401656	23379575	99.91%
P317	8837.53	37.88	95.40	62059944	61960723	99.84%
P318	2290.86	38.63	98.14	16056252	16035914	99.87%
P319	1626.10	38.43	98.06	11425411	11408539	99.85%
P320	3837.11	38.54	98.12	26719579	26691305	99.89%
P321	4146.43	38.24	98.06	29000571	28965595	99.88%
P322	3640.59	38.29	98.11	25701204	25672424	99.89%
P323	4961.96	38.33	98.12	34798739	34763240	99.90%
P324	2933.05	38.21	97.93	20522036	20501364	99.90%
P325	2018.84	38.27	97.86	14125973	14110004	99.89%
P326	2488.59	38.22	98.11	17501131	17481471	99.89%
P327	1854.13	38.10	98.01	13061562	13047963	99.90%
P328	3711.09	38.13	98.06	25962961	25935625	99.89%
P329	3418.89	38.21	98.00	24044658	24021570	99.90%
P330	2119.26	38.09	98.07	15033713	15016357	99.88%
P331	3916.37	38.31	98.07	27591982	27550583	99.85%
P332	3184.68	38.37	98.05	22280966	22258200	99.90%
P333	2066.48	38.38	97.99	14455760	14436404	99.87%
P334	4182.36	38.40	98.20	29083942	29058937	99.91%
P335	2403.25	38.62	98.12	16749297	16730632	99.89%
P336	3676.94	38.35	98.18	25583036	25565900	99.93%
P337	4097.35	38.26	98.11	28761559	28716569	99.84%
P338	4685.00	38.24	98.17	33290378	33260408	99.91%
P339	3672.79	38.89	98.18	25778671	25746598	99.88%
P341	2172.86	38.67	97.85	15178611	15144534	99.78%
P342	3763.98	38.79	98.07	26107787	26056135	99.80%
P343	2537.67	38.88	97.91	17679546	17653287	99.85%
P344	4504.09	38.49	98.01	31395069	31358540	99.88%
P345	4207.93	38.45	97.88	29514689	29463955	99.83%
P346	3518.31	38.47	98.03	24860335	24825443	99.86%
P347	4145.32	38.76	97.93	29070010	29021944	99.83%
P348	3382.38	38.31	98.04	23669148	23641548	99.88%
P349	2342.49	38.35	98.00	16377575	16355333	99.86%
P350	3454.50	38.05	98.20	23924411	23906660	99.93%
P351	2869.47	38.49	98.03	20067964	20018557	99.75%
P352	4059.69	38.08	98.11	28227196	28208835	99.93%
P353	3885.68	38.31	98.02	27263761	27226507	99.86%
P354	3346.03	37.89	98.16	23628547	23592224	99.85%
P355	3721.46	38.11	98.05	26004577	25960909	99.83%
P356	2511.85	38.24	97.96	17626926	17600647	99.85%
P357	2349.64	37.89	98.02	16514220	16502964	99.93%
P358	2877.30	37.90	98.12	20025365	20010038	99.92%
P359	3025.41	37.95	98.08	21160243	21129272	99.85%
P360	2995.37	37.90	98.04	20917241	20902455	99.93%
P361	3668.78	37.87	98.06	25794106	25769625	99.91%
P362	2284.15	37.92	98.12	16162019	16150029	99.93%

Sample_ID	Bases(Mb)	GC(%)	Q20(%)	Total Reads	Mapped Reads	Mapped rate
P363	4622.62	37.99	98.15	32535738	32492505	99.87%
P364	3751.62	38.12	97.96	26288357	26258205	99.89%
P365	2785.41	38.14	98.05	19475720	19458880	99.91%
P366	4131.53	38.24	98.12	28661522	28612305	99.83%
P367	4092.73	38.23	98.09	28552369	28528276	99.92%
P368	3893.63	38.31	98.02	27115980	27078674	99.86%
P369	4867.30	38.22	98.07	34160006	34130006	99.91%
P370	3741.81	38.29	98.07	26559875	26490110	99.74%
P371	5616.28	38.26	98.10	39487602	39450651	99.91%
P372	2675.78	38.10	98.02	18735035	18718390	99.91%
P373	2310.62	38.19	98.08	16170556	16155559	99.91%
P374	3533.75	38.20	98.17	24605918	24578968	99.89%
P375	2997.91	38.21	98.13	20915423	20897253	99.91%
P376	3061.02	38.12	98.08	21362473	21345406	99.92%
P377	3880.19	38.12	98.10	27252469	27231306	99.92%
P378	2717.44	37.92	98.14	19207872	19193205	99.92%
P380	2847.53	38.28	98.01	19865705	19609205	98.71%
P381	2788.35	38.28	98.06	19503200	19468219	99.82%
P382	3647.49	38.27	98.14	25329254	25308913	99.92%
P383	3952.35	38.33	98.13	27583015	27545283	99.86%
P384	2854.17	38.36	98.07	20014088	19990046	99.88%
P385	4446.42	38.18	98.07	31196648	31160352	99.88%
P386	3011.36	38.10	98.09	21287342	21267337	99.91%
P387	4746.78	38.33	98.14	33250372	33227135	99.93%
P388	2937.52	38.17	98.02	20657840	20638638	99.91%
P389	2333.38	38.21	98.08	16319303	16307409	99.93%
P390	2820.64	38.20	98.16	19597478	19578798	99.90%
P391	2989.65	38.26	98.16	20882492	20856721	99.88%
P393	4037.15	38.17	98.09	28392060	28343436	99.83%
P394	3068.28	38.04	98.14	21748780	21734739	99.94%
P395	4547.20	38.28	98.20	32003403	31977061	99.92%
P396	2589.12	37.27	98.07	18094608	18082601	99.93%
P397	1888.73	37.27	98.13	13214950	13205384	99.93%
P398	3300.32	37.32	98.20	22995966	22970695	99.89%
P399	2610.02	37.27	98.16	18225912	18213611	99.93%
P400	3289.25	37.26	98.13	22959319	22943420	99.93%
P401	3731.23	37.23	98.14	26179697	26160761	99.93%
P402	2400.22	37.15	98.16	16940110	16925533	99.91%
P403	4636.74	37.30	98.21	32618183	32589260	99.91%
P404	2332.69	37.42	98.05	16297323	16285346	99.93%
P405	2276.58	37.36	98.10	15924001	15910754	99.92%
P406	3281.82	37.40	98.19	22826884	22805496	99.91%
P407	2741.65	37.44	98.16	19112718	19095266	99.91%
P408	3097.17	37.34	98.12	21609862	21591565	99.92%
P409	3808.85	37.22	98.11	26772086	26754474	99.93%
P410	2842.33	37.13	98.16	20131889	20102114	99.85%
P411	4308.52	37.49	98.20	30282758	30256454	99.91%
P412	1502.20	38.99	98.06	10454183	10437794	99.84%
P413	2380.39	38.78	98.14	16665652	16651051	99.91%
P414	3371.72	38.86	98.24	23403766	23287996	99.51%
P415	2968.95	38.89	98.18	20703378	20575665	99.38%
P416	2383.50	38.74	98.12	16592992	16570615	99.87%

Sample_ID	Bases(Mb)	GC(%)	Q20(%)	Total Reads	Mapped Reads	Mapped rate
P418	2746.37	38.65	98.15	19379723	19363006	99.91%
P419	4709.26	38.78	98.22	33071439	33046615	99.92%
P420	2429.23	37.64	98.03	16983787	16962275	99.87%
P421	2537.05	37.46	98.06	17768836	17717499	99.71%
P422	3157.97	37.38	98.15	21919100	21905745	99.94%
P423	3449.44	37.43	98.13	24047080	24025013	99.91%
P424	2704.63	37.76	98.07	18830699	18815115	99.92%
P425	4558.41	37.38	98.08	32078794	32059713	99.94%
P426	1756.38	37.33	98.04	12321008	12312438	99.93%
P427	4939.96	37.48	98.15	34676812	34530526	99.58%
P428	3127.68	37.59	98.06	21889153	21869643	99.91%
P429	3110.31	37.62	98.12	21777837	21761996	99.93%
P430	3014.45	37.58	98.18	20846115	20829413	99.92%
P431	3958.67	37.75	98.17	27556207	27527570	99.90%
P432	3504.01	37.58	98.12	24389594	24371553	99.93%
P433	5520.01	37.67	98.13	38793765	38763258	99.92%
P434	2852.98	37.47	98.09	20185972	20135631	99.75%
P435	4484.29	37.82	98.20	31507275	31479753	99.91%
P437	2621.20	37.55	98.02	18307956	18298142	99.95%
P438	2829.69	37.88	98.10	19578183	19562884	99.92%
P439	4086.50	37.48	98.07	28482242	28423250	99.79%
P440	3162.45	37.64	98.03	21992440	21943314	99.78%
P441	4711.62	37.45	98.03	33090444	33045878	99.87%
P442	3160.63	37.39	98.03	22366371	22348461	99.92%
P443	6334.68	37.65	98.13	44649767	44615503	99.92%
P444	2227.89	38.72	98.01	15519243	15503171	99.90%
P445	1954.94	38.90	98.08	13629693	13613714	99.88%
P446	2933.93	38.69	98.14	20301902	20287301	99.93%
P447	3330.08	38.78	98.09	23227140	23206865	99.91%
P448	2824.46	38.86	98.07	19632546	19611898	99.89%
P449	3513.82	38.78	98.08	24610635	24589587	99.91%
P450	2895.95	38.49	98.04	20425167	20401721	99.89%
P451	3918.58	38.66	98.13	27405751	27379396	99.90%
P452	3300.85	37.38	97.95	23085416	23070853	99.94%
P453	2075.41	37.39	97.90	14536069	14522825	99.91%
P454	5097.55	37.40	98.09	35379543	35360441	99.95%
P455	2476.28	37.48	97.96	17247837	17228982	99.89%
P456	3692.80	37.35	98.02	25704057	25685301	99.93%
P457	3324.68	37.35	97.94	23343110	23302788	99.83%
P458	2763.10	37.27	98.03	19515222	19498547	99.91%
P459	4006.49	37.45	98.04	28151321	28124509	99.90%
P460	3668.39	37.97	98.04	25649939	25620292	99.88%
P461	3068.87	37.90	98.03	21473686	21456308	99.92%
P462	4498.12	37.79	98.14	31279915	31257829	99.93%
P464	4264.54	37.72	98.09	29620947	29596720	99.92%
P465	4721.84	37.80	98.02	33210361	33185851	99.93%
P466	3476.60	37.83	98.05	24587969	24546479	99.83%
P467	3657.23	38.47	98.08	25694999	25622278	99.72%
P468	3357.79	38.60	98.15	23509904	23495848	99.94%
P469	1841.34	38.66	98.07	12877063	12868438	99.93%
P470	3986.44	39.06	98.23	27734609	27697476	99.87%
P471	2298.55	38.68	98.10	16009882	15994827	99.91%

Sample_ID	Bases(Mb)	GC(%)	Q20(%)	Total Reads	Mapped Reads	Mapped rate
P472	4116.42	38.70	98.20	28735448	28691876	99.85%
P473	3887.05	38.64	98.08	27389830	27368660	99.92%
P474	3072.50	38.68	98.15	21710913	21686876	99.89%
P475	3819.75	38.68	98.13	26782826	26761967	99.92%
P476	2926.50	37.34	98.05	20438603	20424905	99.93%
P477	2056.21	37.34	98.02	14363061	14351303	99.92%
P478	2816.84	37.39	98.13	19519625	19498585	99.89%
P479	2539.36	37.38	98.04	17684199	17669901	99.92%
P480	3615.15	37.34	98.09	25208520	25192187	99.94%
P481	3371.23	37.31	98.02	23690828	23671023	99.92%
P482	3620.99	37.15	98.02	25690158	25668992	99.92%
P483	4393.91	37.36	98.08	30866520	30837773	99.91%
P484	6350.95	36.93	97.56	44617634	44574395	99.90%
P485	3437.67	36.94	97.47	24012832	23958190	99.77%
P486	5455.76	37.03	97.54	38025539	37966506	99.84%
P487	3673.54	36.95	97.43	25639922	25609031	99.88%
P488	5987.83	36.91	97.57	41842420	41807604	99.92%
P489	3549.01	37.01	97.50	24899130	24868066	99.88%
P490	3337.05	36.99	97.56	23618992	23592325	99.89%
P491	3568.07	37.50	97.55	25019752	24972190	99.81%
P492	6316.63	37.01	97.59	44337637	44301743	99.92%
P493	4763.50	36.59	97.49	33359129	33329521	99.91%
P494	6142.13	36.55	97.57	42699606	42670846	99.93%
P495	4541.81	36.57	97.48	31631385	31601928	99.91%
P496	4976.51	36.67	97.59	34716388	34677670	99.89%
P497	5377.54	36.98	97.53	37893643	37849306	99.88%
P498	3809.68	36.57	97.59	26948991	26920380	99.89%
P499	6373.57	36.90	97.58	44911789	44867110	99.90%
P500	7421.50	36.60	96.74	43849983	43770358	99.82%
P502	3255.37	36.49	96.75	22828318	22781374	99.79%
P503	1753.47	36.50	96.65	12312817	12282593	99.75%
P504	6868.86	36.30	96.74	48092264	47953762	99.71%
P505	3736.05	36.41	96.68	26170149	26119956	99.81%
P506	3450.54	36.37	96.71	24413636	24356140	99.76%
P507	3954.16	37.10	96.79	27697092	27645351	99.81%
P508	4556.32	37.20	96.64	31936528	31864308	99.77%
P509	3420.46	37.10	96.47	23913429	23854549	99.75%
P511	3150.23	37.46	96.49	22045666	21980562	99.70%
P512	3075.75	37.19	96.66	21333312	21282544	99.76%
P513	3116.36	37.32	96.52	21840588	21787365	99.76%
P514	3661.05	37.29	96.55	25959099	25881245	99.70%
P515	3073.83	37.96	96.63	21547905	21496562	99.76%
P516	5040.17	38.08	97.68	35172817	35144511	99.92%
P517	5603.62	36.95	96.62	39187372	39097757	99.77%
P518	3482.15	36.91	96.46	24308215	24247340	99.75%
P519	5339.86	36.93	96.62	37113774	37022386	99.75%
P520	3824.45	36.89	96.48	26644093	26582182	99.77%
P521	6810.45	36.69	96.64	47726648	47629139	99.80%
P522	3554.21	37.52	96.54	25000388	24935562	99.74%
P523	3288.96	36.88	96.61	23276421	23231129	99.81%
P524	4397.39	37.50	96.66	30948692	30856800	99.70%
P525	5843.36	37.09	96.29	40963929	40814626	99.64%

Sample_ID	Bases(Mb)	GC(%)	Q20(%)	Total Reads	Mapped Reads	Mapped rate
P526	3680.64	36.94	96.12	25686646	25574720	99.56%
P527	4815.82	37.19	96.22	33362209	33241224	99.64%
P528	4154.27	37.25	96.11	28953002	28815301	99.52%
P529	5803.84	37.00	96.29	40422800	40275114	99.63%
P530	6376.65	36.91	96.19	44844093	44667830	99.61%
P531	3495.07	37.13	96.21	24672673	24580150	99.63%
P532	3962.87	37.46	96.28	27789818	27607155	99.34%
P533	7197.81	36.64	96.06	50617921	50479155	99.73%
P534	3805.56	36.85	96.00	26649091	26566511	99.69%
P535	4062.56	36.90	96.14	28205458	28130077	99.73%
P536	3376.54	37.08	95.93	23549169	23463185	99.63%
P537	4322.75	36.91	96.07	30053220	29960458	99.69%
P538	4154.09	36.82	96.13	29194745	29088630	99.64%
P539	2170.33	36.90	96.24	15299856	15262305	99.75%
P540	3270.65	37.28	96.15	23012811	22944921	99.70%
P541	3968.07	37.15	98.28	27886225	27872658	99.95%
P542	2323.56	37.25	98.24	16256811	16247575	99.94%
P543	2940.95	37.12	98.39	20429186	20414883	99.93%
P544	2656.67	37.10	98.31	18578254	18567669	99.94%
P545	3903.86	37.11	98.36	27247231	27232484	99.95%
P546	3651.53	37.13	98.32	25687354	25674221	99.95%
P547	2586.27	37.03	98.46	18303814	18294233	99.95%
P548	3594.61	37.14	98.45	25257420	25244255	99.95%
P549	1796.65	37.28	98.45	12569677	12563271	99.95%
P550	4318.58	38.09	97.68	30156621	30137726	99.94%
P551	1957.83	37.20	98.49	13781666	13773546	99.94%
P552	2067.62	37.10	98.56	14378716	14371408	99.95%
P553	2336.86	37.33	98.55	16344839	16334487	99.94%
P554	2583.33	37.29	98.53	18046685	18030988	99.91%
P555	3710.75	37.22	98.56	26192290	26177078	99.94%
P556	2557.84	37.26	98.70	18228935	18218873	99.94%
P557	3941.42	37.24	98.71	27718385	27694902	99.92%
P558	2709.91	37.30	98.27	18923327	18882300	99.78%
P559	3225.89	37.35	98.31	22548576	22535769	99.94%
P560	3694.55	37.20	98.40	25638247	25620563	99.93%
P561	3701.99	37.39	98.38	25751852	25728585	99.91%
P563	5062.85	37.26	98.41	35555682	35531624	99.93%
P564	4359.48	37.14	98.51	30873896	30850300	99.92%
P565	6279.55	37.31	98.54	44080391	44054420	99.94%
P566	3111.12	37.14	98.24	21778499	21766109	99.94%
P567	2663.31	37.21	98.27	18592034	18577787	99.92%
P568	3008.03	37.04	98.35	20855498	20843994	99.94%
P569	3726.35	37.14	98.35	25994130	25954731	99.85%
P570	3216.12	37.15	98.32	22332734	22319243	99.94%
P571	5243.39	37.12	98.38	36843103	36825406	99.95%
P572	3842.02	36.93	98.48	27177088	27159274	99.93%
P573	6643.39	37.12	98.52	46811526	46776064	99.92%
P574	2557.98	37.73	98.23	17854997	17837600	99.90%
P575	2460.50	37.62	98.28	17179768	17164397	99.91%
P576	3289.19	37.59	98.36	22860423	22838852	99.91%
P577	3918.32	37.96	98.36	27377942	27336530	99.85%
P578	3143.45	37.73	98.31	21886373	21855532	99.86%

Sample_ID	Bases(Mb)	GC(%)	Q20(%)	Total Reads	Mapped Reads	Mapped rate
P579	5080.48	37.62	98.36	35719179	35651120	99.81%
P580	3136.51	37.54	98.42	22158216	22120554	99.83%
P581	5248.55	37.83	98.50	36751666	36725526	99.93%
P582	2795.66	37.19	98.19	19553784	19544480	99.95%
P583	2517.97	37.26	98.25	17660030	17639082	99.88%
P584	2547.55	37.19	98.31	17693431	17677074	99.91%
P585	4058.58	37.21	98.31	28400842	28390416	99.96%
P586	3371.83	37.25	98.28	23531327	23518346	99.94%
P587	3761.81	37.13	98.33	26461241	26440096	99.92%
P588	6132.17	37.30	98.47	20556516	20516059	99.80%
P589	6132.17	37.30	98.47	43164469	43129293	99.92%
P590	2658.90	37.52	98.26	18457230	18421017	99.80%
P591	5057.25	37.25	98.30	35492086	35471983	99.94%
P592	3519.68	37.12	98.40	24530085	24500834	99.88%
P593	4250.25	37.27	98.37	29738384	29721858	99.94%
P594	3608.40	37.25	98.35	25206823	25188518	99.93%
P595	6143.64	37.07	98.40	43261085	43237453	99.95%
P596	4301.30	37.14	98.49	30476944	30453318	99.92%
P597	4614.63	37.29	98.53	32370164	32336512	99.90%
P598	3059.89	37.67	98.33	21411751	21390076	99.90%
P599	3358.19	37.56	98.37	23565744	23552661	99.94%
P600	3142.65	37.41	98.45	21810048	21800880	99.96%
P601	3200.83	37.56	98.43	22295472	22271415	99.89%
P602	3946.92	37.50	98.42	27563544	27549761	99.95%
P603	4212.84	37.67	98.46	29553698	29484830	99.77%
P604	3395.26	37.48	98.55	24030693	24017850	99.95%
P605	5464.40	37.53	98.59	38332226	38312970	99.95%
P607	3084.02	38.40	97.86	21554108	21531402	99.89%
P608	3579.33	38.37	97.97	24864835	24846348	99.93%
P609	4043.74	38.44	97.97	28170065	28146377	99.92%
P610	3020.65	38.38	97.90	21005373	20988032	99.92%
P611	5125.00	38.45	97.96	35975115	35932714	99.88%
P612	3919.55	38.33	98.05	27684906	27659412	99.91%
P613	5189.59	38.49	98.12	36257819	36231847	99.93%
P614	2295.02	37.15	97.65	16049900	16037728	99.92%
P615	2796.54	37.03	97.70	19626996	19613069	99.93%
P616	3212.26	37.09	97.81	22348689	22274191	99.67%
P617	3994.14	37.23	97.80	27951294	27921235	99.89%
P618	2909.65	37.24	97.71	20301569	20285993	99.92%
P620	2835.18	36.96	97.68	20098826	20083517	99.92%
P621	4915.92	37.24	97.81	34547884	34520823	99.92%
P622	2423.49	37.27	98.03	16971255	16951313	99.88%
P623	3041.89	37.20	98.09	21344549	21327917	99.92%
P624	3954.95	38.13	97.66	27415206	27359585	99.80%
P625	3025.01	37.17	98.17	21021160	20994038	99.87%
P626	3759.17	37.25	98.14	26263283	26241024	99.92%
P627	2147.93	37.21	98.10	14992001	14980735	99.92%
P628	4810.84	37.22	98.12	33826374	33800756	99.92%
P629	2899.43	37.07	98.09	20489182	20471645	99.91%
P630	6117.01	37.25	98.19	43006224	42960022	99.89%
P631	2876.35	37.12	97.77	20063763	20047144	99.92%
P632	4536.40	37.15	97.86	31898447	31689647	99.35%

Sample_ID	Bases(Mb)	GC(%)	Q20(%)	Total Reads	Mapped Reads	Mapped rate
P633	4308.74	37.16	97.93	29963378	29924261	99.87%
P634	4845.12	37.10	97.88	33861677	33829103	99.90%
P635	3805.46	37.16	97.84	26552626	26527243	99.90%
P636	5841.53	36.98	97.89	41126928	41074252	99.87%
P637	4167.53	37.04	97.88	29632592	29608569	99.92%
P639	3817.03	37.05	97.72	26761076	26742930	99.93%
P640	3295.27	37.01	97.80	23095600	23079214	99.93%
P641	3818.75	37.04	97.86	26547355	26527010	99.92%
P642	3877.84	37.02	97.82	27009032	26981365	99.90%
P643	3433.74	37.00	97.77	23885716	23868136	99.93%
P644	4592.40	36.99	97.80	32233925	32207657	99.92%
P645	3234.80	37.47	97.77	22938557	22893798	99.80%
P646	4358.38	37.04	97.85	30738975	30716179	99.93%
P647	2405.12	37.14	97.89	16849342	16831650	99.90%
P648	2308.16	38.47	95.97	15910801	15825733	99.47%
P649	2427.61	37.13	98.09	16898323	16878016	99.88%
P650	2427.89	37.08	97.95	16988201	16905945	99.52%
P651	3090.19	37.06	97.99	21589402	21550640	99.82%
P652	1924.49	37.20	97.90	13487989	13478566	99.93%
P653	1820.18	37.06	98.05	12934886	12926930	99.94%
P654	2267.88	37.23	98.01	15852787	15839025	99.91%
P655	2761.80	38.06	97.93	19279047	19260567	99.90%
P656	2042.15	38.22	97.92	14258946	14218402	99.72%
P657	3144.76	38.14	98.07	21852137	21834116	99.92%
P658	2589.20	38.08	97.95	18035149	17981304	99.70%
P659	3435.09	38.07	97.99	23904474	23884619	99.92%
P660	3967.03	37.94	97.95	27867556	27847734	99.93%
P661	2183.23	38.06	97.99	15396911	15380140	99.89%
P662	2922.76	38.10	97.99	20465225	20445704	99.90%
P663	2919.21	38.05	98.04	20344644	20330652	99.93%
P664	2228.49	38.32	98.01	15576464	15563807	99.92%
P665	2573.85	38.17	98.16	17795315	17777480	99.90%
P666	2296.93	38.08	98.05	15934558	15920739	99.91%
P667	3725.51	38.02	98.09	25949255	25926102	99.91%
P668	4099.52	38.07	97.67	28524199	28493159	99.89%
P669	3323.13	38.01	98.03	23316705	23297003	99.92%
P671	3688.42	38.10	98.10	25853412	25795178	99.77%
P672	3736.85	37.94	97.81	26110657	26083169	99.89%
P673	2879.66	38.00	97.78	20115048	20103710	99.94%
P674	3582.54	38.07	97.94	24798575	24778157	99.92%
P675	3091.05	38.15	97.80	21491510	21451991	99.82%
P676	3833.61	37.94	97.87	26576019	26553530	99.92%
P677	4398.58	37.94	97.79	30831412	30716825	99.63%
P678	2349.42	37.87	97.80	16504338	16489853	99.91%
P679	4510.76	38.01	97.82	31616252	31588189	99.91%
P680	4269.53	36.87	97.81	29927607	29907626	99.93%
P681	2922.23	36.98	97.81	20459408	20440020	99.91%
P682	2376.97	36.87	97.96	16625733	16612224	99.92%
P683	2883.20	37.32	97.85	20141901	20125863	99.92%
P684	3310.42	36.86	97.88	23033878	23019603	99.94%
P685	4507.76	36.80	97.82	31674962	31637196	99.88%
P686	2678.41	36.68	97.88	18835409	18807096	99.85%

Sample_ID	Bases(Mb)	GC(%)	Q20(%)	Total Reads	Mapped Reads	Mapped rate
P687	3828.69	37.38	97.88	26830287	26800159	99.89%
P688	3970.59	37.53	97.45	27759320	27730096	99.89%
P689	2141.14	37.67	97.42	14890635	14875116	99.90%
P690	5269.84	37.52	97.31	36584589	36557236	99.93%
P691	3478.10	37.66	97.32	24174912	24147511	99.89%
P692	3341.92	37.61	97.38	23124859	23067273	99.75%
P693	4907.05	37.54	97.41	34381498	34338415	99.87%
P694	3462.64	37.40	97.51	24377517	24353124	99.90%
P695	2896.27	38.01	97.52	20134522	20103770	99.85%
P696	3591.21	37.25	97.63	25046304	25025390	99.92%
P697	2558.68	37.23	97.62	17855085	17813523	99.77%
P698	5097.61	37.66	97.50	35876839	35839387	99.90%
P699	2823.41	37.25	97.53	19799961	19777961	99.89%
P700	4697.61	37.22	97.57	32705668	32653550	99.84%
P701	3702.90	37.06	97.59	26074918	25557536	98.02%
P702	4035.15	37.01	97.69	28540068	28502605	99.87%
P703	1702.04	38.02	97.68	11779592	11730856	99.59%
P704	2339.67	37.57	96.88	16319554	16290249	99.82%
P705	1911.22	37.67	96.82	13333667	13317238	99.88%
P706	3148.71	37.54	96.66	21770570	21728242	99.81%
P707	2702.77	37.83	96.69	18819781	18795119	99.87%
P709	3576.87	37.48	96.79	25087464	25048258	99.84%
P710	2572.78	37.46	96.90	18124228	18104259	99.89%
P711	3121.92	37.60	96.91	21855717	21824308	99.86%
P712	2262.21	38.79	97.03	15752294	15722199	99.81%
P713	5935.08	38.12	95.46	41105657	41006894	99.76%
P714	1900.40	38.41	96.87	13143427	13066227	99.41%
P715	3036.87	38.52	96.89	21125217	21102803	99.89%
P716	3136.43	38.51	96.95	21753300	21730369	99.89%
P717	3360.15	38.51	96.97	23483481	23448488	99.85%
P718	2045.68	38.26	97.07	14507322	14486474	99.86%
P719	3185.71	38.47	97.08	22241335	22214632	99.88%
P720	2546.80	37.80	97.53	17861527	17839947	99.88%
P721	2238.83	38.02	97.52	15581371	15566059	99.90%
P722	4642.67	37.76	97.38	32150784	32122741	99.91%
P723	3987.40	37.86	97.42	27730741	27698124	99.88%
P724	4223.34	37.79	97.49	29333770	29188631	99.51%
P725	3652.46	37.85	97.50	25749141	25726411	99.91%
P726	2772.10	37.67	97.56	19653477	19634917	99.91%
P727	4087.57	37.83	97.59	28538522	28505127	99.88%
P728	2421.61	37.70	96.89	16998499	16929980	99.60%
P729	2254.44	37.70	96.86	15751919	15629664	99.22%
P730	3471.33	37.81	96.75	24193387	24161275	99.87%
P731	3103.83	37.72	96.73	21583460	21560792	99.89%
P732	3286.31	37.73	96.82	22968433	22939576	99.87%
P733	4526.81	37.73	96.88	31769305	31719305	99.84%
P734	3144.24	37.59	97.03	22189860	22167290	99.90%
P735	4048.79	37.60	97.00	28380555	28347075	99.88%
P736	3055.04	37.70	97.37	21362408	21344717	99.92%
P737	1591.59	37.75	97.38	11062346	11028614	99.70%
P738	3675.11	37.56	97.23	25423193	25401452	99.91%
P739	1954.16	37.76	97.23	13545045	13504194	99.70%

Sample_ID	Bases(Mb)	GC(%)	Q20(%)	Total Reads	Mapped Reads	Mapped rate
P740	5011.06	37.80	97.31	34967759	34942485	99.93%
P741	3837.78	37.96	97.33	26894421	26847325	99.82%
P742	3808.31	37.51	97.42	26994999	26956407	99.86%
P743	4212.51	37.63	97.41	29671471	29648148	99.92%
P744	1707.93	38.03	97.43	11930456	11910824	99.84%
P745	6839.06	37.78	95.53	47574611	47460405	99.76%
P746	3692.60	37.38	97.34	25650134	25620533	99.88%
P747	2551.37	37.64	97.45	17727391	17694233	99.81%
P748	2421.09	37.44	97.38	16799063	16787205	99.93%
P749	3465.12	37.33	97.56	24344964	24313022	99.87%
P750	2213.27	37.41	97.46	15621208	15594537	99.83%
P751	4354.42	37.51	97.62	30600005	30576803	99.92%
P752	2617.05	37.65	97.30	18234346	18218257	99.91%
P753	2319.10	37.68	97.45	16193618	16168617	99.85%
P754	3679.56	37.63	97.20	25395473	25369065	99.90%
P755	3658.97	37.93	97.31	25454034	25419999	99.87%
P756	3345.14	37.69	97.25	23288354	23229360	99.75%
P757	4256.45	37.82	97.43	29907467	29853947	99.82%
P758	3295.12	37.46	97.42	23220655	23197550	99.90%
P759	4992.05	37.68	97.50	34965560	34925471	99.89%
P760	4223.15	37.83	96.63	29422268	29360834	99.79%
P762	4309.54	37.78	96.82	29825484	29693702	99.56%
P763	3861.57	37.83	96.72	26776493	26716800	99.78%
P764	4874.72	37.77	96.70	33909510	33846859	99.82%
P765	5068.13	38.05	96.87	35556440	35481067	99.79%
P766	3668.38	38.19	96.87	25889139	25826709	99.76%
P767	3488.97	37.92	96.96	24314914	24275676	99.84%
P768	4348.00	36.94	95.54	30375861	30327109	99.84%
P769	4808.65	37.04	95.76	33794552	33751585	99.87%
P770	4617.64	37.03	95.72	32054082	32015795	99.88%
P771	4148.74	36.96	95.66	28850638	28785945	99.78%
P772	4968.86	37.00	95.59	34671474	34623568	99.86%
P773	5082.79	37.04	95.80	35721263	35665068	99.84%
P774	3860.40	36.83	95.65	27293465	27255941	99.86%
P775	5431.76	37.07	95.87	38150269	38104083	99.88%
P776	3345.89	38.41	96.48	23291740	23204757	99.63%
P777	3141.14	38.24	96.62	21881537	21837287	99.80%
P778	4499.25	38.30	96.57	31230556	31163237	99.78%
P779	4193.25	38.29	96.55	29150656	29099982	99.83%
P780	3915.54	38.17	96.49	27181673	26887890	98.92%
P781	4841.53	38.16	96.70	33925861	33878448	99.86%
P782	3453.38	38.28	96.58	24357767	24319498	99.84%
P783	5187.13	38.39	96.73	36456071	36382682	99.80%
P784	4261.08	37.18	95.81	29830207	29776736	99.82%
P785	4092.56	37.20	95.97	28624282	28577177	99.84%
P786	4416.22	37.29	96.01	30658418	30540204	99.61%
P787	4481.51	37.19	95.96	31203988	31149548	99.83%
P788	4425.82	37.08	95.87	30871398	30812414	99.81%
P789	5573.71	37.05	96.09	39207042	39115033	99.77%
P790	3862.97	37.18	96.11	27325573	27290993	99.87%
P791	4670.40	37.32	96.26	32815308	32753816	99.81%
P792	4648.21	37.54	95.39	32461865	32326430	99.58%

Sample_ID	Bases(Mb)	GC(%)	Q20(%)	Total Reads	Mapped Reads	Mapped rate
P793	3537.52	37.68	95.54	24673452	24560737	99.54%
P794	4848.37	37.58	95.50	33625441	33545181	99.76%
P795	6959.79	38.11	97.80	48356424	48313876	99.91%
P796	5639.80	37.70	95.50	39398399	39316433	99.79%
P797	5404.54	37.63	95.42	37695441	37586018	99.71%
Total	1918802.63	-	-	13399642792	13372048129	-

Note: P043 is the female parent (Yuanza9102) and P044 is the male parent (wt09-0023).

Supplementary Table S4 Chromosomal locations and primer sequences for the KASP markers used in this study

ID	Chrom	Position	Primer AlleleFAM	Primer AlleleHEX	Primer Common	AlleleFAM	AlleleHEX
A12.3337247	Arahy.12	3337247	CGTACACCTTATTAATTTAGAGGGGG	ACGTACACCTTATTAATTTAGAGGGGA	GCACTGGCGGAGCCACGTTATA	G	A
A12.3365381	Arahy.12	3365381	TTTAACTAAAGTACTATGGGTATCACT	AACCTAAAGTACTATGGGTATCACG	ATCAAATACATACTTAGTGGTGGCTGATTT	A	C
A12.3428172	Arahy.12	3428172	GTAATTTGGTCATGACTAGTGTTAGAAAAAT	GTAATTTGGTCATGACTAGTGTTAGAAAAA	GATGTTAAGAATCTGTTGTTTTTAGTATA	A	T
A12.4058716	Arahy.12	4058716	CAACCTGTGTGCATGACCTCAC	CCAACCTGTGTGCATGACCTCAT	CGCCCTCACTAAGCTTACTATGGAT	C	T
A12.4079137	Arahy.12	4079137	AGTTGGGCCGGTTCAGGC	CTAGTTGGGCCGGTTCAGGA	TCCGAACCGAAGAAACCTCTAGAA	C	A
A12.4097252	Arahy.12	4097252	CAAAACAGCAAGTTGAAGAATGTTAG	CAAAACAGCAAGTTGAAGAATGTTAC	TACAATCCTTTTAGTGGCCTTACTC	G	C
A12.4237459	Arahy.12	4237459	CATAATCAACTCAATAAGCAAGTAC	CAACATAATCAACTCAAAAACCTCAAAT	CAGATTGAGTTACAATCACTTGCCAC	C	T
A12.4240574	Arahy.12	4240574	GAGAAAAATAGGGTTATTTCTGCCTTGTT	GAAAAATAGGGTTATTTCTGCCTTGTC	TACAGTAAGATGTCAGAAGCTTGAGCCTT	A	G
A12.4255141	Arahy.12	4255141	AAAAGCAGTCTCAAAATTCATAGTTAGTC	CAAAAGCAGTCTCAAAATTCATAGTTAGTT	ATAAAGTATAGTCCTCTAAGATAACATAAA	G	A
A12.4255592	Arahy.12	4255592	ATAATGATAACATAACAGATGTCAATAAATG	CTATAATGATAACATAACAGATGTCAATAAATA	CATGATGGTATAAATGGTTATGACACGTAT	C	T
A12.4277067	Arahy.12	4277067	TGGCTTTCAGTGAAGCTTCAAGA	GGCTTTCAGTGAAGCTTCAAGG	CCCACCTTCAAATACTTGAACCCTAAATT	A	G
A12.4278514	Arahy.12	4278514	GAGCTTGACACTGCGGTCGC	AGAGCTTGACACTGCGGTCGT	AGCTCCGATCGCAGCACCGTAT	C	T
A12.4471816	Arahy.12	4471816	AAAAATTTAATTAAGTGGCATTTCATTTAAGAA	AAAAATTTAATTAAGTGGCATTTCATTTAAGAG	GAGATAATTGTGAAGGATCGGATGAGATA	A	G
A12.4574468	Arahy.12	4574468	ATTATACTTTAATATATATTCACTACTTATACA	ATACTTTAATATATATTCACTACTTATACG	TCCTTCCTAGCTAGCTTGTTTCTTTAAAA	A	G
A12.4628249	Arahy.12	4628249	GAACCTATCTGCCTACGTACCGAA	AACTTATCTGCCTACGTACCGAG	GGCTTCATGCCAGCTGTCCGAT	T	C
A12.4875700	Arahy.12	4875700	GTCCGATTTCTGTACCTCAAATTTTAAAT	GTCCGATTTCTGTACCTCAAATTTTAAA	ACAAATCGAACCGTGCGATTTGTGTTAAA	A	T
A12.5049380	Arahy.12	5049380	TTTGCATTGTGTATACAACAACCTCATTAG	AAATTTGCATTGTGTATACAACAACCTATTAA	GACGAACCTAATGACTAATTCGTTGTATATT	C	T

Supplementary Table S5 Bacterial wilt resistance of advanced generation breeding materials

ID	Accession	Pedigree	Derived from Yuanza9102	Survival Rate %
1	YZ9102	baisha1016/A.chacoense	Yes	82.40%
2	2015-W196	(baisha1016/(fuqing/A.chacoense))/(baitu131/YZ9102)-0-0-Sd-12-2-1-1	Yes	93.20%
3	2015-W215	YZ9102/02CG005-N-0-Sd-Sd-Sd-Sd-2	Yes	96.70%
4	2015-W219	YZ9102/((baisha1016/A.vill)/luhua9)-N-0-7-2-2-2	Yes	98.10%
5	2015-W221	YZ9102/((baisha1016/A.vill)/luhua9)-N-0-29-1-2-2	Yes	93.80%
6	2015-W223	YZ9102/((baisha1016/A.vill)/luhua9)-N-0-3-1-1-1-2	Yes	89.10%
7	2015-W227	YZ9102/(yuhua7/(fuqing/(lankaoduoli/A.chacoense)))	Yes	76.60%
8	2015-W233	YZ9102/(yuhua7/(fuqing/(lankaoduoli/A.chacoense)))	Yes	75.40%
9	2015-W244	YZ9102/(yuhua11/((lankaoduoli/A.chacoense)/(xu7506-57/P12)))	Yes	85.30%
10	2015-W312	(YZ9102/shiyouhong4)/(mH8/baipi)-N-0-Sd-1-3-1	Yes	96.70%
11	2015-W361	YZ9102/wt08-0932(w1004)-N1-0-41-2-2	Yes	96.70%
12	2015-W362	YZ9102/wt08-0932(w1004)-N1-0-70-1-1	Yes	96.30%
13	2015-W363	YZ9102/wt09-0023(w1005)-N2-0-4-2-1	Yes	96.20%
14	2015-W365	YZ9102/wt09-0023(w1005)-N1-0-Sd-270(N)-Sd-1	Yes	97.30%
15	2015-W384	(YZ9102/shitouqi)/wt08-0932-N-0-3-1-1	Yes	74.40%
16	2017-W108	YZ9102/((baisha1016/A.vill)/luhua9)-N-0-28-1-1-1-1-1	Yes	76.60%
17	2017-W1107	YZ9102/02CG005-N-0-82-1-1-1-2-2	Yes	76.00%
18	2017-W115	YZ9102/(yuanza9307/((baisha1016/A.villosa)/luhua9))-0-0-8-1-2-1	Yes	95.40%
19	2017-W1204	YZ9102/(yuanza9307/((baisha1016/A.villosa)/luhua9))-0-0-34-1-1	Yes	81.50%
20	2017-W1205	YZ9102/(yuanza9307/((baisha1016/A.villosa)/luhua9))-0-0-68-1-3	Yes	83.70%
21	2017-W1511	YZ9102/DF12-0-3-1-7(N)-3	Yes	83.20%
22	2017-W197	(YZ9102/(baisha1016/(yuhua7/A.villosa)))/YuhuaY09-1-0-0-Sd-sd-sd-1	Yes	92.00%
23	2017-W211	(YZ9102/shitouqi)/wt09-0023-N-0-Sd-sd-sd-9	Yes	96.40%
24	2017-W235	YZ9102/(yuanza9307/((baisha1016/A.villosa)/luhua9))-0-0-sd-sd-16	Yes	76.50%
25	2017-W236	YZ9102/(yuanza9307/((baisha1016/A.villosa)/luhua9))-0-0-sd-sd-22	Yes	100.00%
26	2017-W239	YZ9102/(yuanza9307/((baisha1016/A.villosa)/luhua9))-0-0-sd-sd-52	Yes	72.40%
27	2017-W241	YZ9102/(yuanza9307/((baisha1016/A.villosa)/luhua9))-0-0-sd-sd-56	Yes	85.30%
28	2017-W322	yuhua15/((YZ9102/yuhua11)/((baisha1016/A.vill)/luhua9))-0-0-sd-4	Yes	75.60%
29	2017-W328	YZ9102/w9908-N-0-Sd-Sd-Sd-10-Sd-1	Yes	96.50%
30	2017-W329	YZ9102/w9908-N-0-Sd-Sd-Sd-12-Sd-1	Yes	94.40%
31	2017-W332	YZ9102/w9908-N-0-Sd-Sd-Sd-42-Sd-2	Yes	82.20%
32	shanghua5	yuhua9414/YZ9102	Yes	88.90%
33	yuhua23	zheng9316/YZ9102	Yes	84.70%
34	yuanza6	YZ9102/shitouqi	Yes	86.20%
35	yueyou18	yueyou13/YZ9102	Yes	81.30%
36	2015-W217	YZ9102/(yuhua4/zheng8903)-N-0-Sd-Sd-Sd-Sd-3	Yes	64.90%
37	2015-W303	(YZ9102/yuhua11)/((baisha1016/A.villosa)/luhua9)-N-0-Sd-4-1-2-1	Yes	60.60%
38	2017-W1104	tianfu15/(baitu131/YZ9102)-0-0-Sd-Sd-Sd-2-1-1	Yes	0.00%
39	2017-W1303	yuhua15/((YZ9102/yuhua11)/((baisha1016/A.villosa)/luhua9))-0-0-1	Yes	2.60%
40	2017-W147	yuhua15/((YZ9102/yuhua11)/((baisha1016/A.villosa)/luhua9))-0-0-7-1	Yes	5.60%
41	2017-W154	yuhua15/((YZ9102/yuhua11)/((baisha1016/A.villosa)/luhua9))-0-0-72-1	Yes	9.30%
42	2017-W161	yuhua15/((YZ9102/yuhua11)/((baisha1016/A.villosa)/luhua9))-0-0-122-1	Yes	2.80%
43	2017-W165	yuhua15/((YZ9102/yuhua11)/((baisha1016/A.villosa)/luhua9))-0-0-188-1	Yes	0.00%
44	2017-W324	yuhua15/((YZ9102/yuhua11)/((baisha1016/A.vill)/luhua9))-0-0-sd-16	Yes	0.00%
45	luohua8	YZ9102/yuhua15	Yes	0.00%
46	yuhua40	9541-2-1/YZ9102	Yes	2.90%
47	yuanza5	YZ9102/shiyouhong4	Yes	11.80%
48	yuanza9614	YZ9102/yuhua11	Yes	20.80%
49	2015-W277	(baisha1016/(fuqing/A.chacoense))/(zheng8903/yuhua4)(w0827)-N-0-Sd-Sd-Sd-Sd-3	No	80.00%
50	2015-W279	(baisha1016/(fuqing/A.chacoense))/(baisha1016/A.villosa)/luhua9(w0828)-N-0-Sd-Sd-Sd-Sd-4	No	98.90%
51	2015-W376	(baisha1016/(fuqing/A.chacoense))/m04-0213(w1007)-N1-0-83-1-1	No	95.00%
52	2017-W1111	huayu20/(86036/A.mon)(w0833)-N-/-0-Sd-Sd-Sd-2-1	No	70.50%
53	2017-W1210	yuhua9/mutant1 with high oil(w1103)-0-0-113	No	89.30%
54	2017-W1211	yuhua1/mutant1 with high protein(w1105)-0-0-57	No	82.20%
55	2017-W242	(baisha1016/(fuqing/A.chacoense))/(baisha1016/(zheng8903/yuhua4))(w1016)-0-0-sd-sd-25	No	71.20%
56	2017-W245	(baisha1016/(fuqing/A.chacoense))/(baisha1016/(zheng8903/yuhua4))(w1016)-0-0-sd-sd-48	No	73.30%
57	2017-W297	yuhua9/mutant with high oil(w1103)-0-0-sd-13	No	72.20%
58	2017-W268	(baisha1016/(fuqing/A.chacoense))/(baisha1016/kainongxuan01-6)(w1020)-0-0-sd-sd-25	No	8.50%
59	2017-W294	yuhua1/w4296(w1106)-0-0-sd-sd-46	No	10.80%
60	2017-W295	yuhua1/w4296(w1106)-0-0-sd-sd-72	No	21.00%
61	2017-W201	(baisha1016/(fuqing/A.chacoense))/wt08-0932(w1006)-N1-0-Sd-sd-sd-3	No	4.80%
62	2017-W296	yuhua9/mutant1 with high oil(w1103)-0-0-sd-6	No	44.30%
63	2015-W272	yuhua9502/(yuhua7/(fuqing/(lankaoduoli/A.chacoense)))(w0825)-N-0-Sd-Sd-Sd-Sd-10	No	33.80%
64	2017-W1002	yuhua9326/(86036/A.mon)(w0822)-N-0-Sd-Sd-Sd-6-1-1	No	0.00%
65	2017-W1003	yuhua9326/(86036/A.mon)(w0822)-N-0-Sd-Sd-Sd-6-1-2	No	0.00%
66	2017-W1004	yuhua9326/(86036/A.mon)(w0822)-N-0-Sd-Sd-Sd-1-2	No	0.00%
67	2017-W1008	(baisha1016/(fuqing/A.chacoense))/(baisha1016/kainongxuan01-6)(w1020)-0-0-23-1-1	No	0.00%
68	2017-W107	jinhua5/(yuhua4/(A.chacoense/(xihuaxiaozibai/A.chacoense)))(w0724)-0-0-Sd-Sd-Sd-Sd-6-1-1	No	0.00%
69	2017-W1106	jinhua5/(yuhua4/(A.chacoense/(xihuaxiaozibai/A.chacoense)))(w0724)-0-0-Sd-Sd-Sd-Sd-5-1	No	0.00%
70	2017-W1309	baisha1016/A.monticola(W0603)-N-0-23-Sd(N)-Sd-Sd-Sd-1(N)-1-B-B	No	5.60%
71	2017-W302	yuhua9/mutant1 with high oil(w1103)-0-0-sd-39	No	15.70%
72	2017-W313	yuhua9326/mutant1 with high oleic acid(w1104)-0-0-sd-56	No	0.00%

Supplementary Table S6 Bacterial wilt resistance of 317 peanut germplasms

ID	Variant	Survival Rate-2019 %	Survival Rate-2020 %
N730	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	80.00%	86.36%
N853	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	100.00%	90.63%
N551	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	100.00%	75.00%
N495	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	100.00%	85.78%
N425	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	100.00%	85.13%
N725	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	100.00%	93.30%
N695	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	100.00%	96.43%
N412	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	100.00%	86.67%
N453	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	100.00%	84.96%
N406	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	100.00%	71.05%
N523	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	100.00%	76.67%
N498	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	95.00%	97.06%
N609	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	94.74%	70.38%
N610	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>fastigiata</i>	94.44%	93.75%
N590	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	94.12%	89.01%
N414	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	94.12%	96.43%
N537	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	94.12%	72.22%
N756	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	93.75%	92.68%
N575	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	90.00%	77.47%
N711	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	89.47%	84.03%
N554	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	89.47%	46.41%
N420	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	89.47%	72.22%
N716	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	88.89%	95.00%
N418	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	88.89%	83.33%
N753	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	85.71%	86.67%
N484	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	85.71%	86.15%
N415	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	85.71%	16.67%
N752	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	83.33%	73.33%
N514	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	80.00%	51.67%
N570	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	80.00%	78.75%
N535	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	80.00%	85.71%
N728	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	80.00%	84.38%
N531	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	75.00%	97.22%
N424	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	75.00%	83.33%
N486	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	73.68%	90.00%
N692	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	21.43%	19.87%
N401	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	50.00%	29.41%
N461	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	57.14%	6.67%
N439	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	14.29%	51.89%
N550	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	18.75%	58.33%
N456	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	27.78%	16.23%
N474	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	11.76%	6.70%
N405	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	30.00%	14.29%
N404	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	43.75%	11.54%
N477	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	11.76%	24.68%
N576	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	43.75%	14.36%
N471	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	43.75%	11.11%

ID	Variant	Survival Rate-2019 %	Survival Rate-2020 %
N448	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	27.78%	22.73%
N466	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	11.76%	10.71%
N553	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	5.88%	16.67%
N442	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	27.78%	3.85%
N593	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	29.41%	25.89%
N559	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	46.15%	8.33%
N530	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	28.57%	20.83%
N601	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	16.67%	5.00%
N457	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	11.76%	21.59%
N413	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	16.67%	7.14%
N568	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	31.58%	16.67%
N449	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	16.67%	19.64%
N547	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	42.86%	33.08%
N569	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	33.33%	28.57%
N469	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	64.29%	61.11%
N742	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	6.25%	10.56%
N524	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	26.32%	6.25%
N727	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	7.69%	29.86%
N561	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	31.25%	20.59%
N464	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	31.25%	12.92%
N472	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	41.18%	5.56%
N712	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	37.50%	25.00%
N422	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	23.53%	45.38%
N732	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	41.18%	24.36%
N467	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	31.25%	11.54%
N410	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	23.53%	13.94%
N432	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	31.25%	40.97%
N417	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	55.00%	35.00%
N437	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	40.00%	35.83%
N429	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	0.00%	19.01%
N476	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	66.67%	27.23%
N460	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	28.57%	51.25%
N485	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	23.53%	39.39%
N708	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	43.75%	60.00%
N822	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	37.50%	41.43%
N427	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	9.09%	64.29%
N706	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	46.67%	26.67%
N431	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>fastigiata</i>	37.50%	0.00%
N421	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>fastigiata</i>	47.06%	10.00%
N462	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>fastigiata</i>	6.67%	18.68%
N411	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>fastigiata</i>	6.25%	4.17%
N544	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>fastigiata</i>	70.00%	3.57%
N724	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	18.75%	33.33%
N717	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	23.08%	27.43%
N526	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	23.53%	4.17%
N622	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>fastigiata</i>	62.50%	0.00%
N402	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>fastigiata</i>	47.37%	10.71%
N483	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>fastigiata</i>	64.71%	12.50%
N613	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>fastigiata</i>	41.18%	0.00%

ID	Variant	Survival Rate-2019 %	Survival Rate-2020 %
N451	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>fastigiata</i>	27.78%	9.40%
N549	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>fastigiata</i>	20.00%	15.38%
N618	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>fastigiata</i>	37.50%	7.69%
N548	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>fastigiata</i>	45.00%	10.71%
N479	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>fastigiata</i>	41.18%	17.42%
N438	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>fastigiata</i>	55.56%	20.19%
N608	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>fastigiata</i>	29.41%	12.14%
N468	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>fastigiata</i>	30.00%	7.74%
N543	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>fastigiata</i>	15.00%	17.19%
N434	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>fastigiata</i>	0.00%	9.09%
N435	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>fastigiata</i>	36.84%	0.00%
N455	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>fastigiata</i>	15.38%	13.33%
N505	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>fastigiata</i>	22.22%	3.33%
N564	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>fastigiata</i>	38.89%	11.54%
N589	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>fastigiata</i>	20.00%	7.14%
N741	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>fastigiata</i>	28.57%	0.00%
N450	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	40.00%	20.51%
N443	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	17.65%	7.69%
N563	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hirsuta</i>	6.67%	27.38%
N532	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hirsuta</i>	38.89%	11.76%
N675	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hirsuta</i>	36.84%	7.29%
N507	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hirsuta</i>	50.00%	5.56%
N614	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hirsuta</i>	36.84%	20.00%
N506	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hirsuta</i>	26.67%	38.57%
N625	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hirsuta</i>	35.71%	22.73%
N491	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hirsuta</i>	11.76%	61.22%
N665	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hirsuta</i>	5.88%	15.34%
N624	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hirsuta</i>	55.56%	15.34%
N644	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hirsuta</i>	18.75%	7.42%
N770	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	22.22%	0.00%
N739	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	60.00%	40.06%
N815	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	15.38%	65.00%
N541	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	37.50%	46.15%
N579	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	31.58%	17.86%
N689	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	20.00%	16.67%
N446	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	50.00%	18.45%
N581	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	55.56%	58.33%
N574	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	23.53%	5.56%
N534	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	42.86%	35.71%
N562	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	40.00%	30.15%
N661	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	37.50%	18.75%
N840	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	20.00%	50.00%
N510	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	33.33%	14.29%
N628	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	44.44%	23.61%
N620	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	21.05%	13.89%
N627	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	26.32%	23.64%
N744	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	42.86%	11.31%
N677	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	6.67%	11.86%
N556	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	18.75%	17.46%

ID	Variant	Survival Rate-2019 %	Survival Rate-2020 %
N518	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	44.44%	37.50%
N651	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	5.56%	24.04%
N445	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	31.58%	10.00%
N555	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	10.53%	25.00%
N691	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	31.25%	51.89%
N525	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	27.27%	16.67%
N540	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	18.75%	2.94%
N542	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	33.33%	20.00%
N566	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	20.00%	49.52%
N580	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	0.00%	13.33%
N591	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	11.76%	15.63%
N660	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	18.75%	3.57%
N668	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	11.76%	8.82%
N671	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	18.75%	20.78%
N721	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	21.43%	43.59%
N743	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	7.14%	0.00%
N767	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	23.53%	12.14%
N854	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	20.00%	59.38%
N546	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	50.00%	58.65%
N664	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	41.18%	6.25%
N816	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	50.00%	49.39%
N487	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	10.53%	7.69%
N516	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	16.67%	45.71%
N538	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	44.44%	36.61%
N843	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	16.67%	36.32%
N847	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	10.53%	57.29%
N647	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	40.00%	55.21%
N656	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	35.29%	11.11%
N642	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	17.65%	27.27%
N621	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	33.33%	18.82%
N638	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	10.53%	34.92%
N645	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	15.38%	18.18%
N779	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	22.22%	15.63%
N496	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	13.33%	35.00%
N650	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	20.00%	17.42%
N652	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	26.67%	4.55%
N842	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	6.67%	10.80%
N851	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	13.33%	43.81%
N637	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	12.50%	10.24%
N735	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	56.25%	51.37%
N557	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	16.67%	31.92%
N635	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	11.11%	14.71%
N768	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	16.67%	33.33%
N646	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	35.29%	14.24%
N482	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	33.33%	18.75%
N492	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	11.76%	17.86%
N508	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	50.00%	7.14%
N539	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	18.75%	17.18%
N558	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	44.44%	53.13%

ID	Variant	Survival Rate-2019 %	Survival Rate-2020 %
N634	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	17.65%	7.69%
N653	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	41.18%	5.00%
N667	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	5.26%	7.14%
N672	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	26.67%	19.17%
N713	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	20.00%	23.53%
N490	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	30.77%	55.95%
N707	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	38.89%	13.94%
N818	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	26.32%	16.67%
N536	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	57.89%	0.00%
N699	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	30.00%	29.17%
N577	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	22.22%	13.33%
N702	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	27.78%	59.19%
N545	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	61.11%	41.67%
N700	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	50.00%	5.00%
N408	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	25.00%	37.50%
N470	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	26.32%	40.38%
N604	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	52.63%	12.50%
N696	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	26.32%	22.50%
N850	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	38.46%	3.13%
N789	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	18.18%	31.41%
N606	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	20.00%	37.01%
N503	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	42.86%	29.87%
N595	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	14.29%	48.33%
N790	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	41.18%	35.00%
N762	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	25.00%	18.75%
N585	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	16.67%	21.49%
N693	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	8.33%	27.88%
N489	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	7.69%	3.85%
N750	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	28.57%	22.22%
N718	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	33.33%	43.18%
N765	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	46.67%	38.89%
N502	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	6.25%	0.00%
N838	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	25.00%	13.39%
N499	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	26.32%	8.33%
N407	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	26.32%	32.74%
N501	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	41.18%	20.00%
N511	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	0.00%	13.84%
N528	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	7.14%	10.00%
N701	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	37.50%	54.76%
N703	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	6.67%	18.83%
N719	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	26.67%	25.48%
N734	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	35.29%	44.64%
N754	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	16.67%	13.49%
N630	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	29.41%	28.17%
N710	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	28.57%	48.35%
N473	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	40.00%	19.17%
N698	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	40.00%	54.76%
N603	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	57.14%	6.67%
N731	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	35.29%	50.59%

ID	Variant	Survival Rate-2019 %	Survival Rate-2020 %
N705	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	27.78%	22.25%
N600	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	35.71%	26.44%
N594	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	18.75%	18.61%
N632	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	20.00%	6.46%
N776	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	25.00%	19.09%
N598	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	47.06%	8.82%
N666	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	47.06%	19.64%
N766	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	14.29%	7.14%
N433	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	31.58%	19.19%
N481	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	26.32%	11.76%
N428	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	35.29%	57.34%
N636	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	29.41%	10.99%
N640	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	10.00%	14.05%
N723	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	16.67%	20.00%
N674	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	46.15%	45.78%
N715	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	35.29%	40.98%
N720	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	11.11%	34.24%
N633	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	46.67%	19.55%
N648	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	33.33%	19.17%
N626	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	17.65%	5.56%
N509	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	18.18%	41.96%
N521	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	10.53%	48.21%
N684	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	20.00%	18.18%
N527	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	25.00%	28.08%
N619	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	7.14%	3.57%
N764	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	33.33%	12.50%
N722	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	7.14%	20.83%
N629	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	37.50%	20.98%
N641	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	6.25%	17.18%
N729	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	21.05%	10.00%
N605	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	25.00%	52.78%
N631	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	18.75%	8.33%
N662	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	27.78%	18.96%
N685	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	26.32%	0.00%
N687	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	26.32%	35.00%
N616	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	30.00%	12.50%
N512	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	7.69%	19.46%
N607	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	8.33%	17.14%
N623	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	17.65%	33.81%
N639	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	33.33%	4.55%
N649	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	27.78%	22.05%
N658	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	30.77%	16.59%
N669	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	0.00%	6.67%
N670	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	15.79%	16.67%
N673	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	15.79%	11.67%
N704	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	16.67%	6.90%
N738	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	5.88%	61.11%
N830	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	23.53%	31.90%
N834	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	22.22%	21.05%

ID	Variant	Survival Rate-2019 %	Survival Rate-2020 %
N849	<i>A. hypogaea</i> subsp. <i>hypogaea</i> var. <i>hypogaea</i>	31.25%	21.11%
N493	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	54.55%	38.89%
N436	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	27.78%	14.29%
N586	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	41.18%	13.64%
N856	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	26.32%	29.23%
N688	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	16.67%	18.75%
N444	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	21.43%	17.69%
N475	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	23.53%	0.00%
N447	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	23.53%	29.41%
N478	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	7.69%	28.75%
N567	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	13.33%	11.76%
N565	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	57.89%	16.67%
N686	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	23.53%	16.31%
N615	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	42.86%	4.17%
N465	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	17.65%	31.60%
N463	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	21.05%	34.38%
N855	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	18.75%	18.75%
N419	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	12.50%	50.00%
N714	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	28.57%	7.69%
N697	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	26.32%	31.92%
N497	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	26.32%	26.14%
N748	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	38.46%	43.75%
N751	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	0.00%	0.00%
N848	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	25.00%	58.18%
N852	<i>A. hypogaea</i> subsp. <i>fastigata</i> var. <i>vulgaris</i>	50.00%	59.38%