

Appendix A Race samples from different loci of Chinese leaf rust pathogens

Isolate	Accession	Location	Race	Isolate	Accession	Location	Race
Yunnan				39	13-29-47①	Jiange, Guangyuan	PHS
1	13-27-1①	Mangshi, Dehong	PHK	40	13-29-47②	Jiange, Guangyuan	FCG
2	13-27-1②	Mangshi, Dehong	PHR	Gansu			
3	13-27-4②	Mangshi, Dehong	THT	41	13-24-8①	Ningjing, Pingliang	NHS
4	13-27-31①	Linxiang, Lincang	SHJ	42	13-24-3①	Linzhao, Dingxi	PHT
5	13-27-33①	Linxiang, Lincang,	SHJ	43	13-24-6①	Linzhao, Dingxi	THK
6	13-27-37②	Linxiang, Lincang	FBB	44	13-24-6②	Linzhao, Dingxi	SHS
7	13-27-44②	Linxiang, Lincang	FBL	45	13-24-7①	Linzhao, Dingxi	SHF
8	13-27-50①	Linxiang, Lincang	PHS	46	13-24-7②	Linzhao, Dingxi	SHP
9	13-27-50②	Linxiang, Lincang	FGN	47	13-24-16①	Maiji, Tianshui	THF
10	13-27-52②	Linxiang, Lincang	FBL	48	13-24-5②	Gangu, Tianshui	SHF
11	13-27-39①	Linxiang, Lincang	PHT	49	13-24-2①	Gangu, Tianshui	SHP
12	13-27-49①	Linxiang, Lincang	PCQ	50	13-24-11②	Qinzhou, Tianshui	SHF
13	13-27-51②	Linxiang, Lincang	PHT	51	13-24-3①	Gangu, Tianshui	NHD
14	13-27-42①	Panlong, Kunming	PHP	52	13-24-9②	Qinzhou, Tianshui	SHD
15	13-27-42②	Panlong, Kunming	PHF	53	13-24-12①	Qinzhou, Tianshui	PHF
16	13-27-45①	Panlong, Kunming	THK	54	13-24-1①	Gangu, Tianshui	SHF
17	13-27-53①	Panlong, Kunming	PCH	55	13-24-21②	Maiji, Tianshui	NHP
18	13-27-54①	Panlong, Kunming	THT	56	13-24-13②	Qinzhou, Tianshui	PHF
Sichuan				Henan			
19	13-29-15①	Nanbu, Nanchong,	THJ	57	13-4-1①	Neixiang, Nanyang	THJ
20	13-29-13①	Pengshan, Meishan	THP	58	13-4-96①	Jiyuan, Jiaozuo	TCG
21	13-29-18①	Yanting, Mianyang	FBG	59	13-4-12①	Wancheng, Nanyang	SHJ
22	13-29-18②	Yanting, Mianyang	DBB	60	13-4-20①	Linying, Luohe	THT
23	13-29-48①	Zitong, Mianyang	THS	61	13-4-23①	Linying, Luohe	PHT
24	13-29-51②	Zitong, Mianyang	PCR	62	13-4-23②	Linying, Luohe	PHK
25	13-29-20①	Yanting, Mianyang	THF	63	13-4-24①	Linying, Luohe	THT

26	13-29-49①	Zitong, Mianyang	FCB	64	13-4-25①	Linying, Luohe	THK
27	13-29-49②	Zitong, Mianyang	QBC	65	13-4-28①	Linying, Luohe	PCH
28	13-29-50①	Zitong, Mianyang	FCH	66	13-4-30①	Linying, Luohe	THT
29	13-29-23①	Yanting, Mianyang	FGJ	67	13-4-31①	Lingbao, Sanmenxia	SHK
30	13-29-25①	Yanting, Mianyang	PBH	68	13-4-33①	Lingbao, Sanmenxia	SGJ
31	13-29-27①	Yanting, Mianyang	THP	69	13-4-35①	Lingbao, Sanmenxia	SHD
32	13-29-29①	Yanting, Mianyang	KGF	70	13-4-39②	Lingbao, Sanmenxia	SHJ
33	13-29-31①	Santai, Mianyang	THT	71	13-4-91②	Shanzhou, Sanmenxia	JHJ
34	13-29-32c	Santai, Mianyang	PCH	72	13-4-92①	Shanzhou, Sanmenxia	SHN
35	13-29-32②	Santai, Mianyang	PCR	73	13-4-92②	Shanzhou, Sanmenxia	SHJ
36	13-29-33①	Santai, Mianyang	THF	74	13-4-43①	Lushi, Sanmenxia	SHJ
37	13-29-52①	Zitong, Mianyang	THP	75	13-4-44②	Lushi, Sanmenxia	SHJ
38	13-29-52②	Zitong, Mianyang	PHP	76	13-4-45①	Lushi, Sanmenxia	SHS

Appendix B Virulence frequencies in the four *P. triticina* populations for known *Lr* genes

Tester	Genes	Yunnan (%)	Sichuan (%)	Gansu (%)	Henan (%)
RL6003	<i>Lr1</i>	77.8	72.7	100	95
RL6016	<i>Lr2a</i>	27.8	45.5	62.5	85
RL6019	<i>Lr2b</i>	83.3	77.3	87.5	90
RL6047	<i>Lr2c</i>	100	95.5	100	100
RL6002	<i>Lr3</i>	88.9	90.9	31.3	45
RL6042	<i>Lr3bg</i>	88.9	95.2	60	52.6
RL6007	<i>Lr3ka</i>	55.6	40.9	37.5	30
RL6010	<i>Lr9</i>	0	0	0	0
RL6004	<i>Lr10</i>	94.4	100	93.8	100
Hussar	<i>Lr11</i>	66.7	54.5	25	90
RL6013	<i>Lr14a</i>	94.4	95.5	100	100
RL6006	<i>Lr14b</i>	88.9	95.5	100	100
RL6052	<i>Lr15</i>	23.5	25	40	5.6
RL6005	<i>Lr16</i>	77.8	54.5	100	90
RL6008	<i>Lr17</i>	72.2	54.5	100	90
RL6009	<i>Lr18</i>	50	63.6	18.8	90
RL6040	<i>Lr19</i>	0	0	0	0
Thew	<i>Lr20</i>	70.6	47.6	6.3	11.1
RL6012	<i>Lr23</i>	33.3	36.4	25	31.6
RL6064	<i>Lr24</i>	0	0	0	0
Awend	<i>Lr25</i>	0	4.5	6.3	0
RL6078	<i>Lr26</i>	77.8	72.7	100	95
W3201	<i>Lr27+31</i>	66.7	86.4	13.3	50
CM2D-2M	<i>Lr28</i>	5.6	4.5	6.3	0
RL6080	<i>Lr29</i>	0	0	0	0
RL6049	<i>Lr30</i>	55.6	63.6	75	40
RL6086	<i>Lr32</i>	55.6	61.9	62.5	30
RL6057	<i>Lr33</i>	100	100	100	100
ER84048	<i>Lr36</i>	100	100	43.8	100
RL6097	<i>Lr38</i>	0	0	0	0