

Supplementary Materials

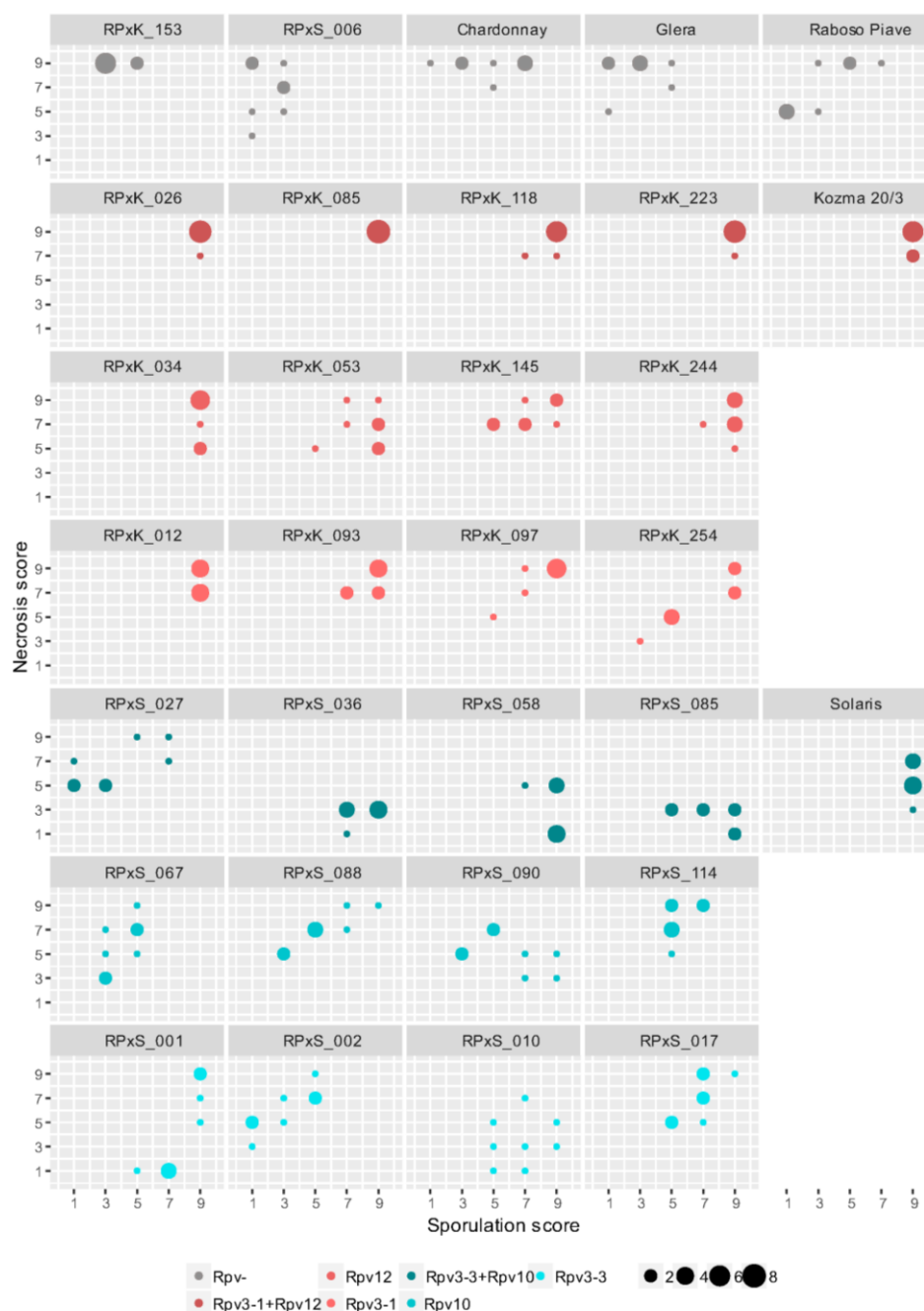


Figure S1. Leaf discs records for sporulation and necrosis at 9 dpi from the two phenotyping experiments for the different studied genotypes. Chardonnay, Glera and Raboso Piave are three *V. vinifera* varieties sensitive to *P. viticola* while Kozma 20/3 and Solaris two resistant ones. “RPxK_n” and “RpxS_n” are progenies of the crosses Raboso Piave x Kozma 20/3 and Raboso Piave x Solaris respectively, segregating for the resistance loci carried by the parental plants. Point’s sizes are related to the number of discs showing the same combinations of symptoms as reported in the legend. Colors grouped the genotypes by resistance class.

Table S1. The parental plants of the progenies together with their carried *Rpv* loci. Subsequently, the markers associated to the loci utilized for the marker assisted selection (MAS) and in bold and underlined the resistance associate allele haplotypes.

Parental Plants	Resistance Loci	Markers Associated to the Loci	Parental Alleles	Reference for the Loci	Marker Sequences	
					Forward and Reverse Primers	
Kozma 20-3	<i>Rpv3-1</i>	UDV305; UDV737; VMC7f2	<u>299</u> /356 <u>282</u> /297 <u>211</u> /200	[4,5]	TGGTGCAATGGTCATAATTT TTTGCATGCGATACCTGAAGC AAGAAAGTTTGCAGTTTATGGTG	GAGGAAAAGAGAAAGCAAAGA TCCTGCAGCTGTTGACGATA AAGATGACAATAGCGAGAGAGAA
	<i>Rpv12</i>	UDV350; UDV360	<u>308</u> /302 <u>208</u> /201	[6]	TTTTGGGAGTTTCCATGTCC TGCTTTACAGGTGACCATCAA TGGTGCAATGGTCATAATTT	AAGACACCTTGGGGGATAAAA GCAACCAATTGAGGGGATTA GAGGAAAAGAGAAAGCAAAGA
Solaris	<i>Rpv3-3</i>	UDV305; UDV737; VMC7f2	<u>null</u> /334 <u>274</u> /307 <u>200</u> /198	[4,5]	TTTGCATGCGATACCTGAAGC AAGAAAGTTTGCAGTTTATGGTG CATCGTTTCCTTTCTTACTCGCT	TCCTGCAGCTGTTGACGATA AAGATGACAATAGCGAGAGAGAA GCTAATGGAGGGTAGTGCTCAA
	<i>Rpv10</i>	Gf09-44; Gf09-46; Gf09-47	<u>232</u> /248 <u>410</u> /419 <u>297</u> /294	[10]	GAGAGATTTGAGGGATTGTTGG CCACATTCTTCCTGCACATAAA	ATCCACGTTTGTAGCCTTTTGT CTGTTGTAAGGGCTCCCAATTA
Raboso Piave	<i>Rpv-</i>	//	//	//		

Table S2. Segregation numbers and MAS selected progenies.

Population	Seedlings	Two Loci %		One Locus %		No Loci %		Maintained Plants
RPxK	224	<i>Rpv3-1+</i>	13.27	<i>Rpv3-1</i>	20,85	<i>Rpv-</i>	45.97	110
		<i>Rpv12</i>		<i>Rpv12</i>	19,91			
RPxS	538	<i>Rpv3-3+</i>	23.20	<i>Rpv3-3</i>	27,10	<i>Rpv-</i>	28.07	255
		<i>Rpv10</i>		<i>Rpv10</i>	21.64			

Table S3. Genotypes characterized in the study. “RPxK_n” and “RpxS_n” are progenies of the crosses Raboso Piave x Kozma 20/3 and Raboso Piave x Solaris respectively. The mean sporulation and necrosis values for two independent experiments was calculated at 9 dpi from four leaf discs each.

Genotype ID	<i>Rpv</i> Class ^a	Exp.	Sporulation Mean Score	Sporulation Frequency	Necrosis Mean Score	Necrosis Frequency
Chardonnay	<i>Rpv</i> -	A	4.0	1.00	9.0	0.00
Chardonnay	<i>Rpv</i> -	B	5.5	1.00	8.5	0.25
Glera	<i>Rpv</i> -	A	1.5	1.00	8.0	0.25
Glera	<i>Rpv</i> -	B	4.0	1.00	8.5	0.25
Raboso Piave	<i>Rpv</i> -	A	1.5	1.00	5.0	1.00
Raboso Piave	<i>Rpv</i> -	B	5.0	1.00	9.0	0.00
Kozma 20/3	<i>Rpv3-1+Rpv12</i>	A	9.0	0.00	8.5	0.25
Kozma 20/3	<i>Rpv3-1+Rpv12</i>	B	9.0	0.00	8.5	0.25
Solaris	<i>Rpv3-3+Rpv10</i>	A	9.0	0.00	5.5	1.00
Solaris	<i>Rpv3-3+Rpv10</i>	B	9.0	0.00	5.5	1.00
RPxK_153	<i>Rpv</i> -	A	3.5	1.00	9.0	0.00
RPxK_153	<i>Rpv</i> -	B	3.5	1.00	9.0	0.00
RPxS_006	<i>Rpv</i> -	A	2.0	1.00	8.5	0.25
RPxS_006	<i>Rpv</i> -	B	2.0	1.00	5.0	1.00
RPxK_034	<i>Rpv12</i>	A	9.0	0.00	9.0	0.00
RPxK_034	<i>Rpv12</i>	B	9.0	0.00	6.5	0.75
RPxK_053	<i>Rpv12</i>	A	8.5	0.25	7.5	0.50
RPxK_053	<i>Rpv12</i>	B	8.0	0.50	6.0	1.00
RPxK_145	<i>Rpv12</i>	A	7.0	0.75	8.0	0.50
RPxK_145	<i>Rpv12</i>	B	8.0	0.50	7.5	0.75
RPxK_244	<i>Rpv12</i>	A	9.0	0.00	8.5	0.25
RPxK_244	<i>Rpv12</i>	B	8.5	0.25	6.5	1.00
RPxK_012	<i>Rpv3-1</i>	A	9.0	0.00	7.5	0.75
RPxK_012	<i>Rpv3-1</i>	B	9.0	0.00	8.5	0.25
RPxK_093	<i>Rpv3-1</i>	A	8.0	0.50	7.0	1.00
RPxK_093	<i>Rpv3-1</i>	B	9.0	0.00	9.0	0.00
RPxK_097	<i>Rpv3-1</i>	A	7.0	0.75	7.5	0.50
RPxK_097	<i>Rpv3-1</i>	B	9.0	0.00	9.0	0.00
RPxK_254	<i>Rpv3-1</i>	A	4.5	1.00	4.5	1.00
RPxK_254	<i>Rpv3-1</i>	B	9.0	0.00	8.0	0.50
RPxK_026	<i>Rpv3-1+Rpv12</i>	A	9.0	0.00	9.0	0.00
RPxK_026	<i>Rpv3-1+Rpv12</i>	B	9.0	0.00	8.5	0.25
RPxK_085	<i>Rpv3-1+Rpv12</i>	A	9.0	0.00	9.0	0.00
RPxK_085	<i>Rpv3-1+Rpv12</i>	B	9.0	0.00	9.0	0.00
RPxK_118	<i>Rpv3-1+Rpv12</i>	A	8.5	0.25	8.0	0.50
RPxK_118	<i>Rpv3-1+Rpv12</i>	B	9.0	0.00	9.0	0.00
RPxK_223	<i>Rpv3-1+Rpv12</i>	A	9.0	0.00	8.5	0.25
RPxK_223	<i>Rpv3-1+Rpv12</i>	B	9.0	0.00	9.0	0.00
RPxS_067	<i>Rpv10</i>	A	3.5	1.00	4.0	1.00
RPxS_067	<i>Rpv10</i>	B	4.5	1.00	7.5	0.75
RPxS_088	<i>Rpv10</i>	A	5.5	0.75	7.0	0.75
RPxS_088	<i>Rpv10</i>	B	5.5	1.00	7.0	0.75
RPxS_090	<i>Rpv10</i>	A	4.0	1.00	6.0	1.00
RPxS_090	<i>Rpv10</i>	B	8.0	0.50	4.0	1.00
RPxS_114	<i>Rpv10</i>	A	6.0	1.00	9.0	0.00
RPxS_114	<i>Rpv10</i>	B	5.5	1.00	7.0	1.00
RPxS_001	<i>Rpv3-3</i>	A	6.5	1.00	1.0	1.00
RPxS_001	<i>Rpv3-3</i>	B	9.0	0.00	7.5	0.50
RPxS_002	<i>Rpv3-3</i>	A	3.0	1.00	6.0	1.00
RPxS_002	<i>Rpv3-3</i>	B	3.0	1.00	7.0	0.50
RPxS_010	<i>Rpv3-3</i>	A	5.5	1.00	4.0	1.00
RPxS_010	<i>Rpv3-3</i>	B	8.0	0.50	3.0	1.00
RPxS_017	<i>Rpv3-3</i>	A	6.5	0.75	6.5	0.75

RPxS_017	<i>Rpv3-3</i>	B	7.0	1.00	7.5	0.50
RPxS_027	<i>Rpv3-3+Rpv10</i>	A	5.0	1.00	6.5	0.75
RPxS_027	<i>Rpv3-3+Rpv10</i>	B	3.0	1.00	6.5	0.75
RPxS_036	<i>Rpv3-3+Rpv10</i>	A	7.0	1.00	2.5	1.00
RPxS_036	<i>Rpv3-3+Rpv10</i>	B	9.0	0.00	3.0	1.00
RPxS_058	<i>Rpv3-3+Rpv10</i>	A	9.0	0.00	1.0	1.00
RPxS_058	<i>Rpv3-3+Rpv10</i>	B	8.5	0.25	5.0	1.00
RPxS_085	<i>Rpv3-3+Rpv10</i>	A	6.0	1.00	3.0	1.00
RPxS_085	<i>Rpv3-3+Rpv10</i>	B	9.0	0.00	2.0	1.00

^a according to the presence of SSR alleles associated to the analyzed *Rpv*-resistances.

Table S4. Statistics of the fitted linear mixed models (LMM). As intercept were defined the class *Rpv-* and the Exp. A. The “Estimate mean” describes the effects (positives or negatives) of the fixed factors on sporulation and necrosis scores taking as reference the intercept.

Predictors	LMM Sporulation		LMM Necrosis	
	Estimate Mean	Std. Error	Estimate Mean	Std. Error
Intercept - (<i>Rpv-</i> ; Exp. A)	2.81	0.68	8.02	0.64
<i>Rpv10</i>	2.06	0.94	-1.75	0.86
<i>Rpv3-3</i>	2.81	0.94	-2.88	0.86
<i>Rpv3-3+Rpv10</i>	3.81	0.94	-4.50	0.86
<i>Rpv3-1</i>	4.81	0.94	-0.56	0.86
<i>Rpv12</i>	5.13	0.94	-0.75	0.86
<i>Rpv3-1+Rpv12</i>	5.69	0.94	0.56	0.86
Exp. B	0.88	0.28	0.34	0.41
Random Effect				
Genotype	1.10		0.56	
std. dev.				
Residual	1.07		1.53	
std. dev.				
p from F Test on Fixed Effects (Satterthwaite Approximation)				
Resistance class	0.0001		0.0001	
Experiment	0.0048		0.4133	