

Online Resource 1

Article title: Mapping of quantitative adult plant field resistance to leaf rust and stripe rust in two European winter wheat populations reveals co-location of three QTL conferring resistance to both rust pathogens.

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Online resource 1: Detailed description of leaf rust experiments

population	year	country ¹	location	coordinates	experimental design	No. repl.	plot			spreader	
							No. of rows per RIL	length in m	spacing in cm	cultivars	arrangement
CA	2008	RO	Fundulea	44°30' N, 24°10' E	not random	2	single row	1.5	30	Ritmo+Arina	after each row
CA	2008	HU	Martonvásár	47°19'05" N, 18°46'26"E	not random	2	double row	1	20	Alcedo+Mv9kr1	after each double row
CA	2008	AT	Probstdorf	48°00' 10" N, 16°37' 25" E	RCB ²	2	double row	1	17	Ritmo+Arina	after each double row
CA	2008	AT	Tulln	48°20' 0" N, 16°3' 0" E	RCB ²	2	double row	1	17	Ritmo+Arina	after each double row
CA	2008	AT	Rust	48°18' 60" N, 15°55' 23" E	RCB ²	2	double row	1	17	Ritmo+Arina	after each double row
CA	2008	AT	Schmida	48°22' 50" N, 16°08' 00" E	RCB ²	2	double row	1	17	Ritmo+Arina	after each double row
CA	2009	AT	Rust	48°18' 60" N, 15°55' 23" E	RCB ²	2	double row	1	17	Ritmo+Arina	after each double row
CA	2009	AT	Tulln	48°20' 0" N, 16°3' 0" E	RCB ²	2	double row	1	17	Ritmo+Arina	after each double row
CF	2004	AT	Tulln	48°20' 0" N, 16°3' 0" E	RCB ²	2	double row	1	17	Ritmo+Arina	after each double row
CF	2006	AT	Probstdorf	48°00' 10" N, 16°37' 25" E	RCB ²	2	double row	1	17	Ritmo+Arina	after each double row
CF	2007	AT	Tulln	48°20' 0" N, 16°3' 0" E	RCB ²	2	double row	1	17	Ritmo+Arina	after each double row
CF	2008	AT	Tulln	48°20' 0" N, 16°3' 0" E	RCB ²	2	double row	1	17	Ritmo+Arina	after each double row

¹ Country abbreviated by the ISO 3166 country code, ² RCB = randomized complete block design.

popu lation	year	location	inoculation technique	inoculation date	spores	scoring
CA	2008	Fundulea	dusting a mixture of spores: talcum on spreaders	8.4+21.4	collection of urediniospores from the previous year	% diseased leaf area
			planting infected seedlings into spreader rows	12.3+24.3+26.3	collection of urediniospores from the previous year	
CA	2008	Martonvásár	inoculation of spreaders by syringe (10 plants/m)	30.4	urediniospores multiplied in greenhouse	% diseased leaf area
CA	2008	Probstdorf	spray inoculation of spreaders	7.5+14.5	collection of urediniospores from the previous year	% diseased leaf area
CA	2008	Tulln	spray inoculation of spreaders	2.5+9.5+23.5	collection of urediniospores from the previous year	% diseased leaf area
CA	2008	Rust	spray inoculation of spreaders	5.5+8.5+23.5	collection of urediniospores from the previous year	% diseased leaf area
CA	2008	Schmida	spray inoculation of spreaders	6.5.+13.5+23.5	collection of urediniospores from the previous year	% diseased leaf area
CA	2009	Rust	spray inoculation of spreaders and lines + planting of infected seedlings into spreader rows	15.4+19.4	collection of urediniospores from the previous year	% diseased leaf area
CA	2009	Tulln		15.4+19.4	collection of urediniospores from the previous year	% diseased leaf area
CF	2004	Tulln	planting of infected seedlings into spreader rows	unknown	collection of urediniospores from the previous year	% diseased leaf area
CF	2006	Probstdorf	spray inoculation of spreaders	19.5+31.5	collection of urediniospores from the previous year	% diseased leaf area
CF	2007	Tulln	spray inoculation of spreaders + planting infected seedlings into spreaders	12.4+7.5 25.4+2.5	collection of urediniospores from the previous year	% diseased leaf area
CF	2008	Tulln	spray inoculation of spreaders	2.5+9.5+23.5	collection of urediniospores from the previous year	% diseased leaf area