

Adult plant response of AVT 1st year material against wheat rusts under field conditions (artificial inoculations) during 2012-13												
Sr. No.	Variety	RUST RESPONSE (HIGHEST SCORE AND ACI)								Postulated Gene		
		South				North				Sr	Lr	Yr
		STEM		LEAF		LEAF		STRIPE				
		HS	ACI	HS	ACI	HS	ACI	HS	ACI			
AVT 1st Year												
I. NORTHERN HILL ZONE												
1	HPW 376	80S	25.0	20MR	3.5	TS	0.2	30S	5.3	Sr5+	Lr13+10+	Yr2+
2	HPW 380	30S	14.0	60S	16.2	20S	7.6	40S	19.5	Sr7b+	Lr13+10+	Yr2+
3	HPW 381	40S	9.9	10MR	1.0	0	0.0	40S	13.2	Sr2+24+	Lr24+	Yr2+
4	HPW 387	40MS	12.0	20S	10.4	TR	0.0	40S	25.2	Sr8a + 11 +	Lr13+3+	Yr2+
5	HPW 388	30MR	3.4	10S	3.7	20MR	2.6	20S	8.4	Sr24+	Lr24+	-
6	HPW 397	40MR	6.2	80S*	16.7	40S*	8.1	20S	7.7	Sr9b+13+	Lr13+	Yr2+
7	HPW 398	60S	20.0	80S	19.8	40S*	8.0	20S	8.1	Sr8a+11+	Lr13+10+	Yr2+
8	HPW 399	40MS	13.4	20S	8.7	10S	2.8	20S	7.5	Sr9b+11+	Lr13+10+	R
9	HS 557	20S	10.8	20S	5.8	40S*	8.0	5S	1.1	-	Lr23+3+1+	R
10	HS 574	20MS	8.2	20S	5.4	40S	10.0	60S	24.6	Sr7b+	-	-
11	HS 575	10S	4.4	10S	4.0	10S	3.6	40S	11.0	Sr31+	Lr26+23+3+1+	Yr9+
12	HS 576	15MS	5.6	40S	13.0	20S	4.0	20S	3.9	Sr9b+13+	Lr13+10+1+	R
13	HS 577	10MS	4.4	60S	15.4	30S	10.0	60S	9.0	Sr2+7b+11+	Lr13+10+3+	R
14	HS 578	30MR	3.3	20S	4.2	20S	8.4	40S	17.9	Sr24+	Lr24+ R	Yr2+
15	UP 2871	15MS	7.0	30MS	6.3	10S	2.0	60S	13.7	-	Lr13+10+1+	YrA
16	UP 2872	5MS	1.6	20S	5.1	20S	7.8	40S	18.9	Sr24+	Lr24+ R	Yr2+
17	VL 1001	60S*	16.2	10S	4.1	10MR	0.8	40S	8.5	Sr7b+	Lr13+10+	Yr2+
18	VL 1002	20S	6.4	10S	2.4	10MR	0.8	40S	5.2	Sr7b+	Lr13+10+3+	R
19	VL 3001	20MR	2.8	20S	4.4	10S	2.0	10S	2.9	Sr2+28+	Lr13+10+	R
20	VL 3002	40MS	9.1	40S	15.7	20S	4.0	10S	2.3	R	Lr13+10+	R
20. A	INFECTOR	100S	76.0	100S	76.7	80S	64.0	90S	70.0	-	-	-
21	VL 3003	40MS	14.4	30MS	6.7	20S	4.8	60S	12.5	Sr9b+11+	Lr13+10+	Yr2+
22	VL 967	30MR	6.7	20S	6.0	20S	4.0	20S	7.8	Sr8a+9b+11+	Lr13+10+	Yr2+
II. NORTH WESTERN PLAIN ZONE												
23	DBW 101	60S	23.0	20S	7.4	5S	2.2	40S	14.1	Sr7b+	Lr13+3+	-
24	DBW 102	40S	14.0	30S	12.5	TR	0.1	60S	27.4	Sr9b+11+	Lr13+	Yr2+
25	DBW 110	40S*	10.4	20MS	6.3	20S	6.8	60S	35.0	Sr13+11+	Lr13+10+	Yr2+

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		South				North				Sr	Lr	Yr
		STEM		LEAF		LEAF		STRIPE				
		HS	ACI	HS	ACI	HS	ACI	HS	ACI			
26	HD 3109	60S	16.8	20MS	7.8	20S	4.0	40S	14.5	_	Lr 13+10+1+	_
27	HD 3117	100S	34.8	40S	10.8	20S	6.0	60S	25.4	Sr 7b+	Lr 23+1+	Yr 2+
28	HD 3119	60S	38.0	60MR	8.0	20S	4.0	40S	9.7	_	_	Yr 2+
29	HD 3120	60S	28.0	40MR	9.2	10S	2.8	60S	13.7	_	Lr 13+10+	_
30	HD 3121	40MS	16.0	80MR	9.7	20S	4.8	20S	5.3	_	_	R
31	HD 3122	40MS	12.0	40S	11.3	40S	21.6	60S	19.5	Sr 13+11+	Lr 13+3+	Yr 2+
32	HD 3123	10S	4.4	60S	13.5	40S	12.8	50S	9.8	Sr 31+	Lr 26+23+3+1+	Yr 9+
33	HI 8735	10S	5.2	15MS	6.2	20S	10.8	80S	17.9	R	Lr 18+	Yr 2+
34	HI 8736	40MR	5.0	30S	11.0	20S	7.2	10S	2.0	Sr 11+	Lr 23+	Yr A+
35	HI 8738	40S	12.4	20MS	5.7	10S	3.6	20MS	4.2	Sr 2+7b+	Lr 23+	_
36	HI 8739	20MR	2.4	10MS	4.1	5MR	0.4	30S	5.0	Sr 2+9e+13+	Lr 23+	Yr 2+
37	HUW 662	15MS	4.4	5S	1.9	30S	9.4	80S	19.3	Sr 2+8a+9b+11+	Lr 23+10+	Yr 2+
38	HUW 664	80S	25.2	20S	11.5	40S	12.8	80S	26.0	Sr 11+	Lr 13+	Yr A+
39	HUW 666	40MS	8.2	30MR	4.7	20S	5.0	60S	12.8	Sr 9b+11+	_	_
40	HUW 668	40S*	9.6	10S	4.2	10S	3.0	80S	26.1	R	R	Yr 9+
40. A	INFECTOR	100S	72.0	100S	76.7	80S	64.0	80S	74.0	-	-	-
41	HUW 669	80S	24.2	15MS	5.9	20S	5.4	40S	12.8	_	Lr 23+13+	Yr A+
42	JAUW 598	10MS	2.7	20S	4.9	TR	0.0	80S	26.4	R	Lr 26+23+3+	Yr 9+
43	K 1114	30MS	10.4	60S	15.7	40S	14.0	60S	22.1	_	Lr 13+10+	Yr 2+
44	MACS 3929	25S	8.4	60MR	5.7	10S	3.2	40S	11.4	Sr 2+	Lr 23+13+3+	_
45	MP 3392	40S	21.4	15S	5.7	20S	4.4	60S	16.9	_	Lr 13+10+1+	Yr 2+
46	NIAW 1951	20S	8.0	20S	6.0	20S	4.4	80S	20.1	Sr 8a+	Lr 13+10+	Yr A
47	NIDW 706	20S	10.8	80MR	8.7	10S	3.2	40S	6.7	Sr 2+7b+	Lr 23+	Yr 2+
48	PBW 681	40MS	14.8	20MS	9.2	10S	2.0	10S	1.0	Sr 11+	Lr 13+10+1+	R
49	PBW 683	40MR	7.6	20S	6.8	20S	4.0	80S	24.0	Sr 2+	R	R
50	PBW 689	60S*	16.0	60S	12.4	20S	10.0	60S	26.7	Sr 2+11+	Lr 14a+	Yr 2+
51	UP 2841	10MS	3.2	40S	13.3	20MR	2.6	60S	15.0	Sr 2+31+	Lr 26+1+	Yr 9+
52	UP 2843	5MS	1.2	10S	3.4	30S	6.0	60S	22.0	Sr 31+	Lr 26+1+	Yr 9+
53	UP 2847	10S	3.7	20S	5.4	10S	2.8	40S	10.5	Sr 31+	Lr 26+1+	Yr 9+A+
54	UP 2848	20MR	2.5	20S	5.3	20S	5.8	60S	16.0	R	Lr 13+3+	R

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		STEM		LEAF		LEAF		STRIPE				
		HS	ACI	HS	ACI	HS	ACI	HS	ACI			
55	UPD 94	25S	6.6	20S	5.8	10MR	1.4	40S	8.2	-	Lr 23+	Yr 2+
56	WH 1128	20S	10.6	60MR	10.7	40S	18.0	60S	22.6	Sr 8a+9b+11+	Lr 13+	Yr 2+
57	WH 1129	60S	21.0	60MR	7.0	20S	4.2	40S	6.9	Sr 9b+11+	Lr 13+10+	Yr 2+
58	WH 1130	60S	21.2	60MR	11.7	20S	4.2	60S	15.0	Sr 11+	Lr 13+	Yr 2+
59	WH 1138	80S	38.0	40S	13.7	10S	5.4	40S	8.8	Sr 7b+	Lr 13+10+3+	Yr 2+
60	WH 1139	60S	21.8	40S*	11.7	30S	6.0	60S	16.4	-	Lr 23+10+	Yr 2+
60. A	INFECTOR	100S	78.0	100S	73.3	80S	68.0	90S	75.0	-	-	-
61	WH 1142	40MR	8.0	60S	18.7	40S*	9.2	40S	11.8	Sr 31+	Lr 26+3+1+	Yr 9+
<b>III. NORTH EASTERN PLAIN ZONE</b>												
62	BRW 3723	20S	9.4	80S*	15.0	20S	10.0	60S	24.4	Sr 11+	Lr 13+10+	Yr A
63	DBW 107	60S*	14.5	60S	14.0	20S	7.2	40S	20.7	Sr 31+	Lr 26+3+	Yr 9+
64	HD 3110	80S	24.4	40S	17.5	20S	4.0	100S	25.9	-	Lr 13+10+	Yr 2+
65	HD 3111	40S	11.4	40MR	3.7	20S	6.0	20S	6.2	-	Lr 13+10+	R
66	HD 3118	40S	17.0	20S	7.8	10S	2.0	30S	12.0	Sr 9b+11+	Lr 13+	Yr 2+
67	HUW 667	40S	15.2	40MS	8.5	40S	16.2	80S	19.2	Sr 9b+11+	Lr 13+10+	Yr 2+
68	K1105	60S	24.4	40MR	9.0	5MR	0.4	20S	11.0	-	Lr 13+10+	Yr 2+
69	NW 5064	60S	24.2	60S	21.7	60S	16.2	80S	26.5	Sr 31+	Lr 26+1+	Yr 2+
70	PBW 688	40S	15.4	20MR	5.7	40S*	8.0	60S	16.0	Sr 9b+11+	Lr 23+	R
71	UAS 347	40MS	14.0	80S	19.7	40S	12.0	60S	36.4	Sr 2+	Lr 13+10+1+	Yr 2+
72	UP 2844	60S*	12.2	5S	1.3	40S*	8.0	60S	20.1	Sr 31+	Lr 26+1+	Yr 9+
73	WH 1136	80S	25.0	20S	6.7	10S	2.1	80S	21.6	Sr 7b+	Lr 13+10+	Yr 2+
74	WH 1137	80S	21.2	80MR	7.7	10S	3.0	10MS	3.1	Sr 7b+	Lr 23+1+	R
<b>IV. CENTRAL ZONE</b>												
75	DDW 23	40MR	9.2	40MR	5.8	20MR	2.4	20S	4.4	Sr 2+11+	R	Yr 2+
76	GW 1292 (d)	40S	10.0	40S	18.3	20MS	5.2	80S	34.2	Sr 2+9e+12+	-	Yr 2+
77	GW 440	30MS	9.8	60S	20.3	30S	10.8	80S	44.0	Sr 9b+11+	Lr 13+	Yr 2+
78	HD 3114	40MS	17.6	40S	15.0	60S	14.8	80S	39.8	Sr 9b+11+	-	Yr 2+
79	HI 1588	40S*	10.0	20MS	4.5	10MR	1.2	100S	44.2	Sr 2+	R	Yr 2+
80	HI 8737 (d)	40MS	9.8	40MR	5.7	20MS	3.2	10S	2.4	Sr 2+9e+	R	Yr 2+
80. A	INFECTOR	100S	74.0	100S	78.3	80S	60.0	90S	75.0	-	-	-

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		South				North				Sr	Lr	Yr
		STEM		LEAF		LEAF		STRIPE				
		HS	ACI	HS	ACI	HS	ACI	HS	ACI			
81	HI 8742 (d)	20MR	3.2	40S*	8.4	20S	5.1	50S	9.7	Sr 11+	Lr 23+	—
82	K 1116	40MS	14.4	40S	16.2	60S*	12.8	60S	17.9	—	Lr 13+10+	Yr 2+
83	MACS 3915 (d)	40S	16.6	60S	23.0	40S	12.0	30S	6.0	Sr 11+	Lr 18+	R
84	MACS 6568	40S	24.8	40S	20.0	40S	24.0	60S	26.8	—	—	Yr 2+
85	MP 3379	40MR	5.8	30MS	6.9	20S	4.4	80S	53.0	Sr 8a+9b+11+	Lr 9+	Yr 2+
86	MP 3382	20MS	9.2	10S	3.7	10S	2.0	80S	25.6	Sr 9b+11+	Lr 13+3+	Yr A
87	NIAW 1885	50S	15.6	80MS	16.3	20S	4.0	60S	33.8	Sr 7b+	Lr 13+10+	Yr 2+
88	Raj 4295	60S*	16.0	40S	10.8	20S	6.4	80S	37.5	Sr 9b+11+	Lr 13+10+	Yr 9+
89	UAS 348	40S	17.6	30MS	10.3	TR	0.0	60S	28.8	—	Lr 13+10+	Yr 2+
90	UAS 446 (d)	20S	6.6	60MR	9.0	30S	11.6	60S	16.2	Sr 11+	Lr 23+	Yr 2+
<b>V. PENINSULAR ZONE</b>												
91	GW 446	10S	4.6	60S*	11.7	20S	7.0	80S	26.9	Sr 31+	Lr 26+1+	Yr 9+
92	HD 3116	20S	10.0	20S	7.3	10MS	3.2	80S	24.4	Sr 7b+	Lr 13+10+	R
93	MACS 6583	40MR	3.4	30MR	4.0	10S	3.2	80S	20.0	Sr 2+24+31+	Lr 24+26+ R	Yr 9+
94	MP 1270 <sup>Q</sup>	20MR	2.0	60MR	6.7	40S	13.6	80S	54.0	Sr 2+24+31+	Lr 26+24+ R	Yr 9+
95	NIAW 1994	40S	23.2	40S	12.9	20S	5.2	80S	51.0	Sr 9b+11+	Lr 23+1+	Yr A+
96	NIDW 699(d)	40MR	8.8	20S	8.0	10S	2.4	40S	10.9	Sr 11+	Lr 23+	Yr 2+
97	UAS 342	40S	13.0	60MR	6.3	20S	8.8	60S	21.8	Sr 7b+	Lr 13+10+3+	Yr 2+
98	UAS 447(d)	20S	7.2	20S	5.0	10S	2.0	60S	8.5	Sr 2+9e+12+	R	Yr 2+
99	UP 2845	60S	23.2	60S	21.3	10S	6.0	80S	33.8	—	—	Yr A
<b>VI. SOUTHERN HILLS ZONE</b>												
100	HW 1900	10S	3.7	20S	5.3	10S	4.0	80S	48.8	Sr 31+	Lr 26+1+ R	Yr 9+
100. A	INFECTOR	100S	74.0	100S	76.7	80S	68.0	90S	74.0	-	-	-
101	HW 4013	TR	0.0	20MR	1.4	5S	1.0	60S	13.4	R	Lr 28+	R
102	HW 4042	5S	1.4	30MR	3.4	10S	2.0	80S	36.5	Sr 31+	Lr 26+1+ R	Yr 9+
103	HW 5235	5S	1.4	20S	6.0	10MR	0.8	80S	47.1	Sr 5+31+	Lr 26+1+ R	Yr 9+
104	HW 5237	10S	3.4	15MS	3.0	5S	1.0	80S	46.6	Sr 31+	Lr 26+1+ R	Yr 9+
<b>VII. SPECIAL TRIAL</b>												
105	DBW 131	40MS	16.4	20S	10.5	10MS	1.6	40S	16.7	Sr 11+	Lr 13+	Yr 2+
106	DDK 1042	10MR	1.6	20MR	2.4	5S	1.0	70S	34.4	Sr 11+	Lr 23+	Yr 2+

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		STEM		LEAF		LEAF		STRIPE				
		HS	ACI	HS	ACI	HS	ACI	HS	ACI			
107	DDK 1044	5MR	0.8	10MR	1.7	20MR	1.6	60S	25.3	<i>Sr 11+</i>	<i>Lr 23+</i>	<i>Yr 2+</i>
108	DDK 1045	20MR	2.4	10MS	2.4	10S	2.4	60S	26.2	<i>Sr 11+</i>	<i>Lr 23+</i>	–
109	HW 1099	10MS	4.0	20S	6.0	5S	1.0	50S	25.6	<i>Sr 11+</i>	–	<i>Yr 2+</i>
110	KLP 1006	40MR	6.6	60MR	14.3	10S	3.6	60S	20.6	–	<i>Lr 23+</i>	<i>Yr 2+</i>
111	KRL 330	30MR	6.8	20S	8.1	5S	1.0	80S	25.9	<i>Sr 9b+11+</i>	<i>Lr 13+3+</i>	<i>Yr 2+</i>
112	KRL 345	40S	13.6	80S	19.3	20S	4.0	80S	28.3	<i>Sr 9b+11+</i>	<i>Lr 13+</i>	R
113	KRL 346	40S	13.8	20S	6.1	20S	6.0	80S	27.1	<i>Sr 9b+11+</i>	<i>Lr 13+</i>	<i>Yr 2+</i>
114	KRL 347	40S	20.6	40S	19.0	20S	4.2	40S	11.9	<i>Sr 9b+11+</i>	<i>Lr 13+</i>	<i>Yr 2+</i>
115	KRL 348	20S	9.6	20S	6.5	5S	1.0	40S	11.5	<i>Sr 2+8a+9b+11+</i>	<i>Lr 13+10+</i>	<i>Yr 2+</i>
116	MACS 5022	20MR	2.0	10MR	0.7	10S	3.2	60S	23.6	–	–	<i>Yr 2+</i>
117	MACS 5031	30S	8.4	20MS	3.4	10S	3.6	40S	26.8	<i>Sr 11+</i>	<i>Lr 23+3+</i>	<i>Yr 2+</i>
118	MACS 5032	30MS	8.4	40S	11.3	10S	2.8	60S	30.8	<i>Sr 7b+11+</i>	<i>Lr 13+</i>	<i>Yr 2+</i>
119	RAJ 4324	10S	4.4	20S	6.5	20S	5.0	50S	15.8	<i>Sr 2+</i>	R	<i>Yr 2+</i>
120	WH 1145	40MS	10.4	60S	17.7	10MS	1.6	40S	10.9	<i>Sr 2+7b+</i>	R	<i>Yr 2+</i>
120. A	INFECTOR	100S	78.0	100S	76.7	80S	64.0	90S	74.0	-	-	-