

Race specific Adult Plant Resistance (APR) in AVT entries (2018-19)

Table1: Race specific Adult Plant Resistance (APR) in AVT against selective pathotypes of yellow and leaf rust at IIWBR, RS, Shimla during 2018-19

S. No.	Entries	Yellow rust		Leaf rust	
		46S119	110S119	77-9	104-2
1.	HPW349 (C)	TMR	TR	0	0
2.	VL907 (C)	5MR	10S	0	-
3.	HS507 (C)	5MS	5S	TR	0
4.	HS652	TMR	0	20MS	10MR
5.	HS562 (C)	TMR	TR	10MS	0
6.	VL892 (C)	5MR	5MS	10MS	0
7.	HS490 (C)	10MS	0	TR	TR
8.	HPW468	5R	TMS	-	0
9.	HS673	10MR	5MR	-	0
10.	VL3020	TMS	10S	5MR	0
11.	UP3041	0	0	20S	5MR
12.	HPW467	TMS	TMS	TR	0
13.	HS674	5S	5MS	40S	0
14.	VL3019	0	5MS	10S	0
15.	VL3021	0	TR	20MR	5R
16.	WH1105 (C)	10S	10S	TR	0
17.	HD3226 (I)(C)	TS	TMR	0	0
18.	HD 3086 (C)	10MS	5MS	T	0
19.	PBW820	10S	TR	0	-
20.	DBW221	10S	5SMS	20MR	10MS
21.	DBW222	10S	5S	0	0
22.	PBW550 (C)	20S	20S	0	0
23.	PBW821	TR	TR	0	0
24.	HD2967 (C)	30MS	20S	TMS	0
25.	NW7049	-	TMR	TR	0
26.	DDW621-50 (C)	10S	20S	TMR	0
27.	DBW88 (C)	10S	20S	TMS	0
28.	PBW752 (I)(C)	0	TR	TR	0
29.	DBW173 (C)	5S	20S	TR	0
30.	WH1021 (C)	10S	80S	10R	0
31.	HD 3059 (C)	20S	80S	TR	TR
32.	WH1124 (C)	5S	5MS	TMR	5R
33.	PBW771	TMR	TR	0	0
34.	HII620 (I) (C)	TMS	5MS	0	0
35.	PBW796	TMR	TMS	TR	0
36.	HII628	5S	TR	TMS	0
37.	WH1142	TMS	5MS	10MS	-
38.	HD3043(C)	40S	20S	TMS	0
39.	PBW644 (C)	20MS	20S	TMS	0
40.	HD3237 (C)(I)	TMR	5MS	10MS	5MR
41.	BRW 3806	5MS	TMS	TR	0
42.	NIAW3170	10MS	5S	TR	0
43.	WH1080 (C)	TMR	0	TMR	-
44.	HD3249(C)	TMR	TMR	0	0
45.	HD2733 (C)	5MS	40S	TR	0

46.	PBW781	0	0	0	0
47.	DBW257	0	TR	10R	0
48.	DBW39 (C)	0	40S	TR	0
49.	HD3277	5MS	10MR	0	0
50.	RAJ4529	10S	20MS	0	0
51.	DBW187 (I) (C)	5MS	10MS	0	0
52.	WH1239	5MS	5MS	0	0
53.	K0307 (C)	10MS	20MS	0	0
54.	HD2967 (C)	20MS	60S	0	0
55.	K1317 (C)	20S	5MS	0	0
56.	HII612 (C)	5MR	5MS	TS	0
57.	HD3293	5MS	10S	0	0
58.	HD3171 (C)	5S	10SMS	TMRMS	0
59.	HD2888 (C)	10S	10MS	0	0
60.	DBW252	TMS	40S	TR	0
61.	K8027 (C)	TS	20S	0	-
62.	DBW 273	0	0	0	0
63.	HI8713 (d) (C)	5MR	TMS	-	0
64.	NIDW1158(d)	0	0	TR	0
65.	HI8811 (d)	-	0	TR	0
66.	HD3343	TMS	60S	TMS	-
67.	GW322 (C)	10S	40S	5S	TR
68.	HII544 (C)	40S	80S	0	0
69.	HI8737 (C)(d)	5MSS	20MR	TR	0
70.	HI8812 (d)	5MS	10MR	TR	0
71.	GW1348 (d)	5MRS	10MR	0	-
72.	DDW49 (d)	5S	20MS	0	0
73.	PBW822	0	0	TMS	0
74.	HD3345	40S	20S	TR	-
75.	DDW48(d)	10S	20S	TR	-
76.	HI8627 (d) (C)	TR	TR	TS	-
77.	DBW110(C)	5S	60S	TR	0
78.	UAS466 (d)	0	TR	5R	-
79.	MP3288 (C)	TMS	20S	0	-
80.	DBW277	0	10S	0	0
81.	DDW47 (d)	0	0	TR	0
82.	HD2932 (C)	10S	40S	5MR	0
83.	HD2864 (C)	20S	40S	0	-
84.	MP3336 (C)	5S	80S	TMR	0
85.	MP4010 (C)	10S	80S	0	TR
86.	CG1029	20S	80S	0	0
87.	UAS3002	60S	80S	20S	0
88.	HII633	40S	40S	0	0
89.	HII634	20MS	40S	0	0
90.	HI8808 (d)	-	10MS	0	0
91.	HI8807 (d)	5MS	10S	0	0
92.	PBW823	TR	O	0	0
93.	UAS 428 (d) (C)	0	0	0	0
94.	DDW49 (d)	10MS	TMS	TS	-
95.	UAS3001	40S	60S	20S	0
96.	MACS3949(d)(C)	0	TR	0	-
97.	MACS 6222 (C)	0	-	0	0
98.	GW322 (C)	20MS	5S	5MS	-

99.	DDW48 (d)	10MS	20MS	0	-
100.	Macs6478	20S	40S	0	-
101.	HD3343	5S	40S	TS	-
102.	WHD 963 (d)	TR	0	0	0
103.	HI8807(d)	TS	5MS	0	-
104.	HI 1633	10S	30MS	TR	0
105.	UAS3002	10S	20S	10S	0
106.	Raj4083(d)	10S	20S	TR	0
107.	HD2932 (C)	40S	40S	10S	0
108.	GW509	40S	60S	-	0
109.	HD3090 (C)	40S	60S	-	0
110.	NIAW3170	10MSS	20S	0	-
111.	GW1346(d)	40S	10MSS	TR	0
112.	MACS 4058(d)	5MR	5MS	TMS	0
113.	DBW93 (C)	20S	10MS	-	0
114.	HI8805 (d)	TR	TR	0	0
115.	AKDW2997-16 (d) (C)	TR	0	0	0
116.	Macs6695	-	-	5S	0
117.	UAS446 (d)(C)	0	TMR	0	0
118.	HI1605 (C)	10S	10S	0	-
119.	Macs 6696	0	20S	5S	-
120.	NIDW1149 (d)	TMS	0	-	-
121.	HI8802 (d)	0	0	-	-
122.	DDK1029 (C)	40S	40S	5R	TR
123.	MACS5052	20S	40S	0	0
124.	MACS6222 (C)	10MR	10MS	0	0
125.	DDK1056	40S	40S	20R	0
126.	HW1098(C)	-	40S	5R	10R
127.	Macs 5053	20S	40S	TR	0
128.	DDK1057	20S	60S	10R	0
129.	HD3317	5S	10S	20MS	TR
130.	WH1254	5S	10MS	0	0
131.	DBW301	0	0	TMR	-
132.	WH1270	TMR	0	0	-
133.	HD2967	5MS	-	0	-
134.	PBW824	10S	-	0	0
135.	UP3043	0	5MS	0	-
136.	DBW187	10S	5MR	TS	0
137.	PBW825	5MS	10S	0	0
138.	DBW303	10MS	5S	0	0
139.	DBW304	10MR	TR	0	-
140.	UP3042	10S	20S	TR	0
141.	DBW302	5MS	5MR	5R	-
142.	PBW825	10S	10S	5MR	0
143.	HD3347	10S	10S	0	0
144.	WH1223	TR	5MR	0	-
145.	KRL 19 (C)	10S	0	80S	0
146.	Kharchia 65	40S	60S	0	0
147.	NW7060	5MS	10S	5MS	-
148.	KRL 210(C)	5S	10S	0	0
149.	WH1228	10MS	TMS	-	0
150.	NW7062	20S	20S	0	0
151.	PBW 757 (C)	0	0	0	0

152.	WR544 (C)	10S	-	TR	-
153.	HD3298	-	TMR	0	-
154.	HD3271	0	5MR	TR	-
155.	DBW 14 (C)	10S	10MS	0	-
156.	DBW71 (C)	5MS	5S	-	-
157.	HI1621	TR	TR	-	-
158.	PBW 797	TMR	5MR	-	-

Table2: Race Specific APR in AVT entries (NHZ, NWPZ and NEPZ) against selective pathotypes of yellow and leaf rust at Ludhiana and Delhi centres during 2018-19.

S. No.	Entries	Yellow rust pathotypes				Leaf rust pathotypes		
		110S119		46S119		77-5		77-9
		Ludhiana	Delhi	Ludhiana	Delhi	Ludhiana	Delhi	Ludhiana
I. Northern Hill Zone								
1	HPW349 (C)	5S	10S	20MS	10S	0	5MR	40S
2	VL907 (C)	40S	10S	40S	10S	0	0	40S
3	HS507 (C)	5MS	5MR	10S	10MS	0	0	5S
4	HS652	40S	10MS	40S	10MS	0	10MR	40S
5	HS562 (C)	0	15S	5S	20S	5S	10S	10S
6	VL892 (C)	60S	40S	60S	10MR	0	5MR	5S
7	HS490 (C)	40S	40S	40S	10MR	0	5MS	10S
8	HPW468	20S	10S	40S	10MR	0	5MR	40S
9	HS673	5S	0	10S	10S	40S	10MS	40S
10	VL3020	40S	10MS	40S	5S	0	0	10S
11	UP3041	10S	10S	10S	5MS	0	0	10S
12	HPW467	40S	15S	40S	5MS	0	0	40S
13	HS674	40S	10S	40S	10S	0	10MR	60S
14	VL3019	40S	10S	20S	5S	10S	5MR	10S
15	VL3021	5S	5S	5S	5S	0	10MR	10S
II. North Western Plain Zone								
16	WH1105 (C)	60S	40S	60S	40S	0	5MR	40S
17	HD3226(I) (C)	5S	TR	5S	TR	0	5MS	5S
18	HD3086 (C)	0	5MS	10S	10S	60S	5S	40S
19	PBW820 ^M	5S	TR	5S	5MS	0	TR	0
20	DBW 221*	10S	40S	40S	40S	40S	15S	40S
20A	Infector	-	100S	-	100S	-	100S	-
21	DBW 222*	20S	10MR	40S	5MR	0	0	10S
22	PBW550 (C)	60S	80S	80S	60S	0	0	0
23	PBW821 ^M	0	0	0	0	0	0	0
24	HD2967 (C)	60S	80S	60S	80S	0	5MR	0
25	NW 7049	40S	10MS	40S	20S	0	5MR	10S
26	DPW621-50 (C)	60S	80S	60S	80S	0	5MR	10S
27	DBW88 (C)	60S	60S	60S	80S	0	TR	10S
28	PBW752(I) (C)	0	10S	0	0	5S	10MS	10S
29	DBW173 (C)	60S	60S	60S	60S	0	5MR	0
30	WH1021 (C)	40S	80S	60S	80S	0	TR	5S
31	HD3059 (C)	60S	80S	60S	80S	0	5MR	10MS
32	WH1124 (C)	0	5S	40S	10MS	60S	5S	40S
33	PBW 771*	0	0	10S	0	0	0	20S

34	HI1620(I) (C)	40S	30S	40S	20S	0	TS	10S
35	PBW 796	5S	10S	5S	10S	0	5S	20S
36	HI 1628*	0	40S	40S	30S	0	5S	5S
37	WH1142 (C)	5MS	5S	20S	5S	5S	5S	TS
38	HD3043 (C)	40S	40S	60S	30S	60S	10S	60S
39	PBW644 (C)	40S	60S	60S	40S	0	5S	5S
40	HD3237(I) (C)	10MS	10MR	5S	10MR	60S	5S	60S
40A	Infector	-	100S	-	100S	-	100S	-
41	BRW 3806*#	40S	40S	40S	30S	0	TR	40S
42	NIAW 3170*	10S	40S	40S	30S	0	5MR	0
43	WH1080 (C)	TS	40S	20S	30S	TS	5MS	60S
III. North Eastern Plain Zone								
44	HD3249*#Q	20S	30S	5S	30S	0	5S	40S
45	HD2733 (C)	60S	80S	60S	80S	0	5MR	5S
46	PBW 781	0	0	0	0	10S	TS	20S
47	DBW 257	0	20S	5S	20S	10S	5MR	10S
48	DBW39 (C)	60S	80S	60S	80S	0	5MR	10S
49	HD 3277	TS	TR	5S	5MS	0	0	0
50	RAJ 4529	20MS	50S	20S	30S	60S	5MR	40S
51	DBW187(I) (C)	20MS	50S	20MS	30S	10S	5S	0
52	WH 1239	5MS	40S	20MS	20S	5S	5MR	10S
53	K0307 (C)	40S	80S	60S	60S	0	5MR	5S
54	HD2967 (C)	40S	80S	60S	80S	0	5MR	0
55	K1317 (C)	20S	40S	20MS	20S	10S	5S	20S
56	HI1612 (C)	10S	5MR	5S	20S	0	5R	0
57	HD 3293	20MS	10MS	40S	10S	40S	5R	40S
58	HD3171 (C)	40MS	20S	40S	20S	40S	5MS	20S
59	HD2888 (C)	40S	60S	60S	30S	0	0	TS
60	DBW 252*#	60S	60S	60S	40S	0	5R	5S
60A	Infector	-	100S	-	100S	-	100S	-
61	K8027 (C)	60S	60S	60S	30S	0	TR	20S
62	DBW 273	20S	40S	40S	30S	5S	5S	TS

Table3: Race Specific APR in AVT entries (CZ and PZ) against selective pathotypes of stem rust at Indore and Mahabaleshwar centers during 2018-19.

S. No.	Entries	Stem rust pathotypes			
		40A		117-6	
		Indore	Mahabaleshwar	Indore	Mahabaleshwar
IV. Central Zone					
63	HI8713(d) (C)	10R	10MR	20S	TR
64	NIDW 1158 (d)	5MS	TR	20S	TMR
65	HI 8811 (d)	5MS	5MR	30S	10S
66	HD3343 ^M	10MS	5R	5MR	TMR
67	GW322 (C)	5S	10MS	10S	30S
68	HI1544 (C)	5R	TMR	0	10MR
69	HI8737(d) (C)	TMR	10MR	40S	TMR
70	HI 8812 (d)	TMS	5MR	10S	TMR
71	GW 1348 (d)	5S	5MR	20S	TMR
72	DDW 49 (d)	10S	10S	60S	30S
73	PBW 822 ^B	TMR	5MR	5MR	10MR
74	HD 3345 ^B	TMS	20S	TMS	20S
75	DDW 48 (d)	5S	5R	40S	TMR
76	HI8627(d) (C)	0	5MR	10S	TMR
77	DBW110 (C)	0	TR	0	20MS
78	UAS 466(d)*	5S	TMR	40S	TMR
79	MP3288 (C)	0	5MR	0	5MR
80	DBW 277	0	20S	TMS	20S
81	DDW 47(d)* ^Q	0	5MR	20S	20MS
82	HD2932 (C)	0	20S	5MR	20S
83	HD2864 (C)	5R	5R	5MR	10MR
84	MP3336 (C)	10S	10S	10MS	30S
85	MP4010 (C)	10MR	10MR	5R	20MS
86	CG1029	10R	5MR	5R	10MR
87	UAS3002	5MR	5MR	5MR	20S
88	HI1633	5R	TMR	0	20MS
89	HI1634	10R	5MS	TMR	20MR
90	HI8808 (d)	10S	5MR	20S	TMR
91	HI8807 (d)	5S	5MR	20S	TMR
V. Peninsular Zone					
92	PBW 823 ^B	10R	5R	0	TR
93	UAS428 (d) (C)	5S	TMR	20S	10MS
94	DDW 49 (d)	20S	10S	40S	20S
95	UAS 3001	0	TMS	TMS	10MR
96	MACS3949 (d) (C)	10S	5MR	40S	5MR
97	MACS6222 (C)	5R	TMR	0	TR
98	GW 322 (C)	5S	20S	0	20S
99	DDW 48 (d)	10S	10S	40S	10S

100	MACS6478 (C)	5S	20S	TMS	10MS
101	HD3343 ^M	TS	20S	5MR	TMS
102	WHD 963 (d)	TMR	TMR	20S	TR
103	HI8807(d)	10MR	10MR	10S	TR
104	HI1633	10MR	TR	0	10MR
105	UAS 3002	10MR	TMR	5S	5R
106	Raj4083 (C)	20MS	20S	5MR	20S
107	HD2932 (C)	20S	20S	5MR	10S
108	GW509	20MR	TR	0	TR
109	HD3090 (C)	10R	TR	0	TR
110	NIAW 3170*	10R	10S	10MR	10MS
111	GW 1346(d)*	10S	TMR	20S	10MR
112	MACS 4058(d)*	10S	10MR	40S	5MR
113	DBW93 (C)	10MR	TMR	5MR	5MR
114	HI 8805(d)*	0	TMR	10S	5MR
115	AKDW2997-16(d) (C)	5S	5R	20S	10S
116	MACS 6695*	20S	10S	5MR	20S
117	UAS446(d) (C)	5S	10MR	40S	TMS
118	HI1605 (C)	10MS	5R	0	30S
119	MACS 6696*	10MS	20S	5MR	30S
120	NIDW 1149(d)	0	5R	10S	TMS
121	HI 8802(d)*	0	10MR	5S	10MR