Annexure 2: Seedling Resistance Test of AVT II year against black rust (P*uccinia graminis tritici*) pathotypes at Shimla during 2012-13

		P A T H O T Y P E S																								
S.No.	**Variety**	**11**	**11A**	**14**	**15-1**	**21-1**	**21A-2**	**24A**	**34-1**	**40A**	**40-1**	**40-2**	**40-3**	**42B**	**117-1**	**117-2**	**117-3**	**117-4**	**117-5**	**117-6**	**117A-1**	**184**	**184-1**	**295**	**117A**	**GENES**
I.NORTHERN HILL ZONE																										
1	HS 536	R	S	R	S	R	R	R	R	S	R	R	S	R	R	R	S	R	R	R	R	R	R	S	R	Sr2+5+8a+11+
2	HS 542	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr5+8a+9b+11+
3	HPW 251(C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr2+31+
4	HPW 349(C)	MR-MS	S	R	R	R	R	R	R	S	MR	R	S	R	R	R	R	R	R	S	R	R	R	S	R	_
5	HS277(C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr31+
6	HS 490(C)	S	R	R	R	R	R	R	R	R	R	R	R	MR	R	R	MS	R	R	R	R	R	R	R	R	Sr2+9b+
7	HS 507(C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr31+
8	VL 804(C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr5+31+
9	VL 829(C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr5+31+
10	VL892(C)	R	R	R	R	R	R	R	R	S	R	R	MR-MS	R	R	R	R	R	R	R	R	R	R	S	R	R
11	VL 907(C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr31+
II. NORTH WESTERN PLAIN ZONE																										
12	DBW 74	R	R	R	R	R	R	R	R	S	MR	R	R	R	R	R	R	R	R	MR	R	R	R	R	R	Sr8a+9b+11+
13	DBW 88	S	R	R	R	R	R	R	R	MS	R	R	MS	R	R	R	R	R	R	R	R	S	R	S	R	Sr11+
14	DBW 90	S	S	R	S	R	S	R	R	S	R	-	MR	MR	S	S	S	MS	R	MS	R	S	S	S	R	Sr13+
15	HD 3070	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr31+
16	HD 3086	S	S	R	S	R	S	S	S	S	R	S	S	S	S	R	S	S	R	R	R	S	S	S	R	Sr2+7b+
17	HD 3091	MS	R	R	MS	R	R	R	R	MS	R	R	MS	R	R	R	R	R	R	R	R	R	R	R	R	Sr11+
18	HI 8728	MR	R	R	R	R	R	S	R	S	R	R	R	S	S	R	R	R	MS	S	R	S	R	R	R	Sr11+
19	PBW 660	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr5+31+
20	PBW 674	MS	R	R	R	R	R	R	R	MR	S	R	MS	R	S	R	S	R	S	R	R	R	S	R	R	Sr2+11+
21	PBW 675	S	R	R	R	R	R	R	R	MS	R	R	R	R	MR	R	R	S	R	R	R	R	S	R	R	Sr9b+11+
22	WH 1098	S	S	R	S	MS	S	R	S	S	MR	S	S	R	R	R	S	R	S	S	R	S	S	MR	R	_
23	WH 1124	S	S	R	S	R	S	MS	R	S	R	S	S	R	R	S	S	R	MS	MS	R	S	S	S	R	Sr7b+
24	WH 1126	R	R	R	S	R	R	R	MR	S	R	S	S	R	R	R	S	R	S	MS	R	S	S	R	R	_
25	WH 1127	R	R	S	S	R	R	R	R	S	R	S	S	R	R	R	S	R	S	R	R	S	S	MR	R	_
26	C 306(C)	MR	S	S	S	S	S	S	S	S	-	S	S	-	S	-	S	S	S	S	S	S	S	S	S	_
27	DBW 17(C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr2+31+
28	DBW 71(C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr5+31+
29	DPW 621-50(C)	S	R	R	R	R	R	R	R	MR	R	R	MR	R	R	R	R	R	R	R	R	R	R	S	R	_
30	HD 2967(C)	R	R	R	R	R	R	R	R	S	R	R	R	R	R	R	R	R	R	R	R	S	S	R	R	Sr8a+11+
31	HD 3043(C)	R	S	S	R	R	R	R	S	S	R	S	R	R	S	S	S	R	MS	R	R	S	R	R	R	_
32	HD 3059(C)	S	MR	R	MS	R	S	R	R	S	R	R	R	MR	R	R	S	R	MS	MR	R	R	R	MS	R	_
33	PBW 175(C)	R	MR	R	R	R	R	R	R	MS	R	R	S	R	R	R	R	R	S	R	R	S	R	R	R	Sr2+
34	PBW 373(C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr2+5+31+
35	PBW 590(C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr5+31+
36	PBW 644(C)	R	R	R	MS	R	R	R	R	MS	X	R	S	R	R	R	R	R	R	R	R	S	R	R	R	Sr2+8a+11+

		P A T H O T Y P E S																							
S.No.	**Variety**	**11**	**11A**	**14**	**15-1**	**21-1**	**21A-2**	**24A**	**34-1**	**40A**	**40-1**	**40-2**	**40-3**	**42B**	**117-1**	**117-2**	**117-3**	**117-4**	**117-5**	**117-6**	**117A-1**	**184**	**184-1**	**295**	**117A**	**GENES**
37	PDW 291(C)	R	R	R	R	MR	R	R	R	MS	R	R	MR	S	MR	S	MR	R	MR	MS	R	R	MR	R	S	Sr2+9e+
38	PDW 314(C)	R	R	S	S	R	R	R	R	S	S	S	S	MR	R	S	S	S	S	S	R	R	MS	S	S	Sr9e+
39	WH 1021(C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr31+
40	WH 1080(C)	R	R	R	S	R	R	R	R	MR	R	R	S	R	R	R	R	R	R	R	R	R	R	R	R	Sr9e+
41	WH 1105(C)	MR	R	R	MS	R	R	R	R	MR	R	R	S	R	R	R	R	S	R	R	R	S	R	MR	R	_
III. NORTH EASTERN PLAIN ZONE																										
42	HD 3076	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	MS	R	R	_
43	K 1006	MR	S	MR	R	R	R	R	MR	S	R	R	S	R	R	R	S	R	R	R	R	S	R	R	R	_
44	NW 5054	MS	R	R	MR	R	MS	R	R	S	R	R	R	R	R	R	R	R	R	R	R	R	MS	R	R	Sr7b+
45	PBW 661	R	R	R	MS	R	R	R	R	S	R	R	S	R	R	R	R	R	R	R	R	S	MS	R	R	Sr11+
46	RAJ 4250	R	R	R	R	R	R	R	R	S	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr8a+
47	WH 1120	S	S	R	S	R	MR	MS	MS	S	R	S	S	R	MR	S	S	S	R	MR	R	S	S	S	R	Sr7b+
48	DBW 14(C)	S	MR	S	R	R	R	R	R	MR	R	R	S	R	R	-	R	R	R	R	R	-	R	R	R	Sr2+
49	DBW 39(C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr31+
50	HD 2733(C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr31+
51	HD 2888(C)	R	R	R	R	R	R	R	R	R	MR	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr2+24+
52	HD 2985(C)	S	MS	R	MS	R	S	R	R	MR	R	R	MS	R	R	R	S	R	R	R	R	R	S	S	R	Sr7b+
53	HI 1563(C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr2+
54	K 0307(C)	MR	R	R	S	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	S	R	R	Sr9b+11+
55	K 8027(C)	S	R	R	S	R	R	R	R	S	R	R	S	S	S	R	S	S	R	S	R	R	S	S	S	Sr2+11+
56	NW 2036(C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr31+
57	RAJ 4229(C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr2+5+
IV. CENTRAL ZONE																										
58	HD 3095	R	R	R	R	R	R	R	R	R	S	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr2+24+
59	HI 8724(d)	R	R	R	MS	R	R	R	R	MS	R	R	S	S	S	R	R	MR	R	S	R	R	R	MS	MS	Sr11+
60	HI 8725(d)	MR	R	R	R	R	R	S	R	S	R	R	MS	S	S	R	R	R	S	S	R	R	MS	MR	MR	Sr11+
61	HI 8727(d)	R	R	R	R	R	R	S	R	S	R	R	S	R	S	R	R	R	R	S	R	R	R	R	R	Sr11+
62	HI 8731(d)	MS	R	R	R	MS	MR	R	R	S	R	R	MR	R	MR	R	R	R	R	S	R	R	MS	R	R	_
63	MPO 1255(d)	MR	S	R	R	R	S	R	R	S	R	R	S	S	R	R	S	R	R	R	R	R	S	S	R	Sr7b+
64	A-9-30-1(C)	S	R	R	R	R	R	S	S	S	R	R	S	R	R	-	R	R	R	R	R	-	S	S	R	Sr11+
65	GW 332(C)	S	R	R	R	R	R	R	R	R	R	R	MR	MR	R	R	R	MR	R	R	R	R	MR	MR	MR	Sr2+11+
66	HD 2864(C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	_
67	HI 1500(C)	R	R	R	R	R	R	R	MR	R	MS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr24+
68	HI 1544(C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	-	R	R	R	R	R	R	R	R	R	Sr24+
69	HI 8498(C)	R	R	R	R	R	R	R	R	S	R	R	MS	S	S	R	R	R	MS	S	R	R	R	MR	MR	Sr2+11+
70	HI 8627(C)	R	R	R	R	R	R	R	R	R	R	R	R	R	S	R	R	R	R	MR	R	R	MR	R	R	Sr9e+12+
71	HI 8713(C)	R	R	R	R	R	R	R	R	R	MR	R	R	R	S	R	R	R	R	S	R	R	R	R	R	Sr2+9e+
72	MP 3288(C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
73	MP 3336(C)	S	MR	S	S	R	R	R	R	S	R	R	R	R	R	R	S	R	R	R	R	R	R	R	R	_

		P A T H O T Y P E S																								
S.No.	**Variety**	**11**	**11A**	**14**	**15-1**	**21-1**	**21A-2**	**24A**	**34-1**	**40A**	**40-1**	**40-2**	**40-3**	**42B**	**117-1**	**117-2**	**117-3**	**117-4**	**117-5**	**117-6**	**117A-1**	**184**	**184-1**	**295**	**117A**	**GENES**
74	MP 4010(C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr2+24+
75	MPO 1215(C)	R	R	R	R	R	R	R	R	R	R	R	S	R	S	R	R	R	MS	R	R	R	S	R	R	Sr11+
76	RAJ 4238(C)	R	R	R	R	R	R	R	R	MR	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr2+
V. PENINSULAR ZONE																										
77	DBW 93	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr31+
78	GW 432	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr24+
79	HD 3090	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr31+
80	HD 3093	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr24+
81	MACS 6478	S	S	R	S	R	R	R	R	S	R	MR	S	R	R	R	R	R	R	R	R	R	MS	MS	R	Sr13+
82	UAS 334	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr31+
83	AKDW 29997-16(C)	S	R	R	S	S	MS	MR	R	S	S	MS	S	S	R	R	S	R	R	S	R	R	S	MR	MR	Sr7b+
84	HD 2932(C)	R	R	R	S	R	R	R	S	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	_
85	MACS 6222(C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr31+
86	NI 5439(C)	S	MS	S	S	R	R	S	R	S	R	R	S	R	R	R	R	R	MS	S	R	S	R	R	R	Sr11+
87	NIAW 1415(C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr31+
88	NIAW 34(C)	R	R	R	R	R	R	R	R	S	R	S	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr8a+
89	NIDW 295(C)	R	R	R	R	R	R	R	R	MS	R	R	R	R	S	R	R	R	R	R	R	R	R	R	R	Sr11+
90	RAJ 4083(C)	MR	R	R	S	R	R	R	R	MS	R	R	S	R	R	R	R	S	R	R	R	R	MS	R	R	Sr11+
91	UAS 428(C)	R	R	R	R	R	R	MR	R	MS	MS	R	R	R	S	R	R	MR	R	S	R	R	R	MS	R	Sr11+
92	WHD 948(C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	MS	R	R	S	R	R	R	R	S	Sr2+7b+
VI. SOUTHERN HILLS ZONE																										
93	HW 5224	S	S	S	R	R	S	R	R	S	R	S	S	R	S	S	S	S	R	MR	R	R	S	S	R	_
94	COW(C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr31+
95	HW 2044(C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr2+24+
96	HW 5216(C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr31+
VII. SPECIAL TRIAL																										
97	DDK 1029(C)	R	R	R	R	R	R	R	R	R	R	R	R	R	S	R	R	R	R	S	R	R	R	R	R	Sr11+
98	Kharchia 65(C)	S	S	S	S	S	R	R	R	S	S	R	R	R	S	R	S	S	MS	S	S	R	S	S	R	_
99	KRL 210(C)	S	R	S	S	R	R	R	R	S	R	S	S	R	MR	R	S	S	S	R	R	R	S	R	R	_
100	MACS 2496(C)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Sr2+31+
101	MACS 2971(C)	R	R	R	R	R	R	S	R	MR	R	R	R	R	R	R	R	MR	R	S	R	R	R	R	R	Sr11+