Annexure V. Seedling Resistance Test of AVT-I against pathotypes of black rust (*Puccinia graminis tritici*) at Shimla during 2015-16

S. NO.	Variety/Line	PATHOTYPES																				Postulated genes
		11	11A	15-1	21	21-1	21A-2	24A	34-1	40A	40-2	40-3	42B	117A-1	117-1	117-3	117-4	117-5	117-6	122	295	
I - Northern Hill Zone																						
1	HS623	MS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	*Sr*2+
2	HS622	MR	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	*Sr*31+
3	VL1009	MR	R	R	R	R	R	R	MS	R	R	R	R	R	R	R	R	R	R	R	R	R
4	HPW423	S	R	R	R	R	R	R	R	MS	R	R	R	MS	MR	MR	S	S	R	MS	R	*Sr*7b+11+
5	HPW424	S	MS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	*Sr*5+30+
6	HS628	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	*Sr*25+R
7	UP2954	MR	MS	S	R	R	R	R	R	R	R	S	R	R	R	R	R	R	R	R	R	*Sr*2+5+28+
8	VL1008	MR	R	R	R	R	R	R	R	MS	R	S	R	R	R	R	R	R	R	R	R	*Sr*5+28+11+2+
9	VL1010	R	S	R	R	R	R	R	R	R	R	R	R	R	S	R	R	R	R	R	R	*Sr*13+2+
10	HS625	MR	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	*Sr*11+2+
11	HPW433	MR	R	R	R	R	R	R	R	MR	R	R	R	R	R	R	R	R	R	R	R	*Sr*28+11+2+
12	HS627	MS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	*Sr*28+11+2+
13	HPW432	MS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	*Sr*11+
14	VL3010	R	R	R	R	R	R	R	R	R	R	S	R	R	R	R	R	R	R	R	R	*Sr*8a+11+13+
15	HS626	R	R	R	R	R	R	R	R	R	R	S	R	R	R	R	R	R	R	R	R	*Sr*8a+11+13+2+
16	VL3012	R	R	S	R	R	R	R	R	R	S	S	R	R	R	R	R	R	R	R	R	*Sr*5+28+2+
17	UP2955	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	*Sr*31+2+
18	VL3011	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	*Sr*31+2+
II. NORTH WESTERN PLAIN ZONE																						
19	DBW172	S	S	R	R	R	R	R	S	MS	R	R	R	R	R	R	R	R	R	R	R	*Sr*5+28+2+
20	DBW173	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	*Sr*31+2+
21	DBW179	R	R	R	R	R	R	R	R	R	R	R	S	R	R	R	R	R	R	R	R	*Sr*5+8a+30+2+
22	NW6046	S	S	R	R	R	R	R	R	S	MS	S	R	R	R	R	R	R	R	S	R	*Sr*5+13+2+
23	PBW725	S	R	R	R	R	R	R	MR	S	R	MS	R	R	R	R	R	R	R	MR	R	*Sr*7b+11+
24	PBW737	S	S	S	R	R	R	R	S	R	R	S	R	R	MS	MS	R	R	R	S	R	*Sr*7b+
25	UP2903	R	NG	R	R	R	R	R	R	S	R	R	R	R	R	R	R	R	R	R	R	*Sr*8a+
26	UP2907	S	R	MS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	*Sr*30+5+
27	WH1184	MR	MS	S	R	R	R	R	R	R	R	S	R	R	R	R	R	R	R	R	R	*Sr*7b+
III. NORTH EASTERN PLAIN ZONE																						
28	HD3184	S	S	S	R	R	R	MR	S	R	R	S	R	R	R	R	R	R	R	R	MR	*Sr*7b+
29	HI1612	S	S	S	R	MS	R	MR	S	MR	R	S	S	S	MS	MR	R	R	R	S	S	*S7b+2+*
30	WH1181	S	S	S	R	R	R	R	R	R	R	S	R	R	R	R	R	R	R	R	R	*Sr*28+2+
IV. CENTRAL ZONE																						
31	HI8774(D)	R	R	MS	R	R	R	S	R	R	R	R	R	S	S	R	R	R	MS	R	R	*Sr*7b+2+
32	PDW344(D)	MR	R	R	R	MR	R	S	R	R	R	R	S	S	S	MS	S	MS	S	S	MS	*Sr*7b+
V. PENINSULAR ZONE																						
33	AKAW4842	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	*Sr*2+R

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		11	11A	15-1	21	21-1	21A-2	24A	34-1	40A	40-2	40-3	42B	117A-1	117-1	117-3	117-4	117-5	117-6	122	295	
34	DBW168	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	*Sr*31+2+
35	GW477	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	*Sr*2+R+
36	HI8777(D)	MR	R	S	R	R	R	MS	R	MR	R	MR	S	S	S	MR	MR	R	R	S	S	*Sr*7b+
37	KD1418(D)	S	R	MS	R	R	R	S	R	S	S	S	R	S	R	S	S	S	S	R	R	*Sr*7b+
38	MACS4028(D)	R	R	R	R	R	R	S	R	R	R	R	R	MS	R	S	S	MR	S	R	R	*Sr*7b+
39	MACS6660	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	*Sr*31+2+
40	NIAW2495	R	R	S	R	R	R	R	R	S	R	S	MR	R	R	R	R	R	R	R	R	*Sr*8a+
41	RKD283(D)	MS	R	R	R	R	R	S	S	R	R	R	R	R	S	S	MS	S	R	S	S	*Sr*7b+
42	RKD292(D)	R	R	R	R	R	R	S	R	R	R	R	R	R	S	MS	S	R	S	R	R	*Sr*7b+11+
43	UAS375	S	R	S	R	R	R	R	S	MR	R	R	R	R	MS	MR	MS	R	R	S	MS	*Sr*7b+2+
44	UAS459(D)	R	R	MR	R	R	R	MS	R	MR	R	R	R	MR	S	R	S	MR	S	R	R	*Sr*11+2+
VI. SPECIAL TRIAL (Dicoccum and Sailinity and Alkalinity)																						
45	DBW214	MR	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	MS	R	*Sr*5+11+2+
46	DBW215	R	R	R	R	MR	R	R	R	S	R	S	R	R	R	R	R	R	R	R	R	*Sr*8a+
47	DBW216	S	R	R	R	R	R	R	R	R	R	S	R	R	R	R	R	R	R	R	R	*Sr*5+11+
48	DBW217	MS	R	R	R	R	R	R	MR	R	R	MS	R	R	R	R	R	R	R	R	R	*Sr*7b+
49	DDK1050	MR	R	R	R	R	R	S	R	MS	R	R	S	MS	MS	R	R	R	S	R	MR	*Sr*7b+11+
50	DDK1051	R	R	R	S	R	R	S	R	R	R	R	S	MR	MS	R	R	R	S	S	MS	*Sr*7b+
51	KA1427	R	R	R	R	R	R	R	R	MR	R	R	R	R	R	R	R	R	R	R	R	*Sr*11+
52	MACS5044	S	R	R	MR	R	R	S	R	R	R	R	S	MS	R	R	MS	R	MR	MS	MS	*Sr*11+
53	MACS5046	S	R	R	MR	R	R	S	R	MR	R	R	S	MS	R	MS	R	R	S	MS	MS	*Sr*11+
54	NW6094	R	R	R	R	R	R	R	R	R	R	R	R	R	MR	R	R	R	R	R	R	*Sr*31+2+
55	WH1310	R	R	MR	R	R	R	MS	R	R	S	R	R	R	R	R	R	R	R	R	R	*Sr*7b+2+
VII. SPECIAL TRIAL (TRITICALE)																						
56	TL3006	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
57	TL3007	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
58	TL3008	MR	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	*Sr*2+R+
59	TL3009	MR	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	*Sr*2+R+
60	TL3010	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	*Sr*2+R+
VIII. SPECIAL TRIAL (MABB/NIL (KB) ENTRIES /Bio fortification trial)																						
61	HPBW01	MS	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	*Sr*31+2+
62	HPBW02	MR	R	R	R	R	R	R	R	MR	R	R	R	R	R	R	R	R	R	R	R	*Sr*31+2+
63	HPPAU05	S	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	MR	R	*Sr*11+
64	HPPAU08	R	R	R	R	R	R	R	R	R	R	MS	R	R	R	R	R	R	R	R	R	*Sr*30+
65	HPPAU10	R	R	S	R	R	R	MR	R	MR	S	S	R	R	R	R	R	R	R	R	R	*Sr*7b
66	PBW760	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	*Sr*31+2+
IX. SPECIAL TRIAL (Very Late Sown)																						
67	DBW218	R	R	S	R	R	R	R	R	MS	R	S	R	R	R	R	R	R	R	R	R	*Sr*5+8a+2+
68	DBW219	S	R	R	R	R	S	R	R	R	R	S	R	R	R	R	R	R	R	R	R	*Sr*28+2+
69	DBW220	R	R	MS	R	R	R	R	R	R	S	R	R	R	R	R	R	R	R	R	R	*Sr*8a+2+
70	HD3236	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	*Sr*31+2+

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		11	11A	15-1	21	21-1	21A-2	24A	34-1	40A	40-2	40-3	42B	117A-1	117-1	117-3	117-4	117-5	117-6	122	295	
71	HI1621	R	R	R	R	MS	R	R	R	R	R	MS	R	R	R	R	R	R	R	R	R	*Sr*8a+
72	PBW756	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
73	PBW757	R	R	R	R	R	R	R	R	MR	R	S	R	R	R	R	R	R	R	R	R	*Sr*5+8a+2+
74	WH1215	R	R	S	R	R	R	R	R	R	R	S	R	R	R	R	R	R	R	R	R	*Sr*30+5+
75	WH1216	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	*Sr*31+2+
X. AVTs for Summer sown (VHA)																						
76	HS580	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	*Sr*31+2+
77	HS590	S	S	S	R	R	R	R	S	R	R	S	R	R	R	R	R	R	R	R	R	*Sr*5+28+
78	VL3002	MR	R	R	R	R	R	R	R	MS	R	R	R	R	R	R	R	R	R	R	R	*Sr*13+2+
79	VL4001	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	*Sr*31+2+
80	PBW621	S	R	R	R	R	R	R	R	MS	R	MS	R	R	R	R	R	R	R	MR	R	*Sr*11+
81	HPW393	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	-
82	HPW394	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	-