

Table 1.2: Adult plant response of AVT IIInd 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 IIInd Year 2012-13 | | | | | | | | | | | | |
| I. NORTHERN HILL ZONE | | | | | | | | | | | | |
| 1 | HS 536 | 40S | 16.8 | 5MS | 1.7 | TR | 0.0 | 40S | 17.0 | Sr 2+5+8a+11+ | R | _ |
| 2 | HS 542 | 20MS | 5.0 | 10S | 3.2 | 10S | 2.0 | 30S | 7.1 | Sr 5+8a+9b+11+ | Lr 13+10+ | Yr 2+ |
| 3 | HPW 251 (C) | 20MR | 3.4 | 20S | 9.4 | 5S | 1.9 | 80S | 30.8 | Sr 2+31+ | Lr 26+23+ | Yr 9+ |
| 4 | HPW 349 (I) (C) | 40S | 15.0 | 60S | 13.4 | 10S | 3.6 | 20S | 7.0 | _ | Lr 13+10+ | Yr 2+ |
| 5 | HS 277 (C) | 20MR | 2.6 | 20S | 5.3 | 30S | 10.0 | 80S | 47.4 | Sr 31+ | Lr 26+34+ | Yr 9+18+ |
| 6 | HS 490 (C) | 20S | 9.4 | 30MR | 5.2 | 10S | 2.2 | 30S | 7.5 | Sr 2+9b+ | Lr 23+ | _ |
| 7 | HS 507 (C) | 10S | 4.9 | 20S | 3.7 | 60S* | 12.8 | 20S | 4.6 | Sr 31+ | Lr 26+1+ | Yr 9+ |
| 8 | VL 804 (C) | 40MR | 5.2 | 60MR | 7.3 | 40S | 16.0 | 60S | 15.7 | Sr 5+31+ | Lr 26+34+ | Yr 9+18+ |
| 9 | VL 829 (C) | 20MS | 3.2 | 10S | 3.7 | TR | 0.1 | 40S | 10.0 | Sr 5+31+ | Lr 26+34+* | Yr 9+18+ |
| 10 | VL 892 (C) | 10S | 7.6 | 20S | 10.8 | 40S* | 8.8 | 60S | 15.5 | R | Lr 13+10+ | R |
| 11 | VL 907 (C) | 5MR | 0.4 | 20S | 4.2 | 5MS | 1.6 | 40S | 10.9 | Sr 31+ | Lr 26+1+ | Yr 9+27+ |
| II. NORTH WESTERN PLAIN ZONE | | | | | | | | | | | | |
| 12 | DBW 74 | 40S | 14.4 | 20S | 12.2 | 20S | 8.0 | 60S | 24.6 | Sr 8a+9b+11+ | Lr 13+ | Yr 2+ |
| 13 | DBW 88 | 40MR | 3.4 | 40S | 14.7 | 0 | 0.0 | 40S | 13.4 | Sr 11+ | Lr 13+10+ | _ |
| 14 | DBW 90 | 40S | 26.4 | 40S | 16.9 | 20S | 12.4 | 30S | 11.4 | Sr 13+ | Lr 13+10+3+ | Yr 2+ |
| 15 | HD 3070 | 20MS | 5.6 | 60S | 13.1 | 40S* | 9.0 | 40S | 17.1 | Sr 31+ | Lr 26+ | Yr 9+ |
| 16 | HD 3086 | 60S | 26.4 | 20S | 8.7 | 20S | 10.0 | 20S | 5.3 | Sr 2+7b+ | Lr 13+10+3+ | Yr 2+ |
| 17 | HD 3091 | 40S | 14.0 | 20S | 9.4 | 20S | 4.8 | 60S | 21.6 | Sr 11+ | Lr 23+ | Yr 2+ |
| 18 | HI 8728 | 40S | 9.6 | 10S | 4.5 | 10MR | 0.8 | 15MR | 2.2 | Sr 11+ | _ | Yr 2+ |
| 19 | PBW 660 | 20S | 4.4 | 10S | 3.7 | 20S | 4.0 | 10S | 3.4 | Sr 5+31+ | Lr 26+10+ | Yr 9+ |
| 20 | PBW 674 | 40MS | 12.4 | 20S | 7.0 | 10MS | 1.6 | 40S | 14.7 | Sr 2+11+ | Lr 23+1+ | Yr 2+ |
| 20.A | INFECTOR | 100S | 70.0 | 100S | 75.0 | 80S | 68.0 | 80S | 74.0 | | | |
| 21 | PBW 675 | 60S* | 15.0 | 20S | 6.4 | 10MS | 1.6 | 60S | 25.0 | Sr 9b+11+ | _ | Yr 2+ |
| 22 | WH 1098 | 40S | 19.4 | 20S | 7.8 | 10S | 2.0 | 20S | 6.9 | _ | Lr 13+ | Yr 2+ |
| 23 | WH 1124 | 80S | 36.0 | 40S | 10.7 | 5MS | 0.8 | 30S | 10.9 | Sr 7b+ | Lr 13+10+ | Yr 2+ |
| 24 | WH 1126 | 40S | 18.8 | 20MS | 9.4 | TR | 0.0 | 40S | 17.6 | _ | - | _ |
| 25 | WH 1127 | 60S | 25.4 | 15MS | 3.4 | 20S | 6.8 | 60S | 27.6 | _ | R | Yr 2+ |

| 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 | | | |
| 26 | C 306 (C) | 80S | 35.0 | 60S | 24.7 | 60S | 31.0 | 40S | 17.3 | – | Lr 34+ | Yr 18+ |
| 27 | DBW 17 (C) | 30MR | 4.8 | 60S | 22.3 | 10S | 2.8 | 80S | 29.5 | Sr 2+31+ | Lr 26+23+ | Yr 9+ |
| 28 | DBW 71 (I) (C) | 20S | 8.8 | 20S | 8.0 | 20S | 6.8 | 40S | 19.0 | Sr 5+31+ | Lr 26+ | Yr 9+ |
| 29 | DPW 621-50 (C) | 40MR | 7.2 | 40S | 16.7 | 10MS | 1.6 | 60S | 14.0 | – | – | – |
| 30 | HD 2967 (C) | 80S | 23.0 | 80S | 20.7 | 20S | 5.0 | 60S | 15.1 | Sr 8a+11+ | Lr 23+ | Yr 2+ |
| 31 | HD 3043 (C) | 60S | 21.0 | 20S | 6.5 | 10S | 2.0 | 30S | 7.6 | – | Lr 13+10+ | Yr 2+ |
| 32 | HD 3059 (I) (C) | 40MR | 5.6 | 40MR | 5.7 | 10MR | 0.8 | 40S | 7.4 | – | – | – |
| 33 | PBW 175 (C) | 20S | 10.4 | 80S | 15.7 | 60S | 21.6 | 60S | 33.4 | Sr 2+ | Lr 23+34+ | Yr 2+18+ |
| 34 | PBW 373 (C) | 40MR | 6.4 | 40S | 16.3 | 10S | 4.4 | 80S | 32.6 | Sr 2+5+31+ | Lr 26+ | Yr 9+ |
| 35 | PBW 590 (C) | 10S | 4.0 | 40MR | 4.4 | 0 | 0.0 | 80S | 27.0 | Sr 5+31+ | Lr 26+23+1+ R | Yr 9+ |
| 36 | PBW 644 (C) | 40MS | 9.2 | 40S* | 9.3 | 10MR | 0.8 | 60S | 20.0 | Sr 2+8a+11+ | – | – |
| 37 | PDW 291 (C) | 10MS | 3.2 | 30S | 13.0 | 20MS | 5.0 | 10S | 5.4 | Sr 2+9e+ | – | – |
| 38 | PDW 314 (C) | 60S | 21.6 | 60MR | 10.5 | 5S | 2.2 | 60S | 9.4 | Sr 9e+ | Lr 23+ | Yr 2+ |
| 39 | WH 1021 (C) | 10S | 4.4 | 40S* | 8.8 | 20S | 6.8 | 60S | 14.8 | Sr 31+ | Lr 26+1+ | Yr 9+ |
| 40 | WH 1080 (C) | 15MS | 9.4 | 60MR | 11.0 | 30S | 11.0 | 40S | 16.0 | Sr 9e+ | Lr 13+ | Yr 2+ |
| 40.A | INFECTOR | 100S | 68.0 | 100S | 71.7 | 80S | 64.0 | 90S | 71.0 | | | |
| 41 | WH 1105 (I) (C) | 30S | 11.0 | 20S | 9.8 | 10MS | 1.6 | 10S | 1.9 | – | Lr 13+ | Yr 2+ |
| III. NORTH EASTERN PLAIN ZONE | | | | | | | | | | | | |
| 42 | HD 3076 | 40S | 12.8 | 60MR | 9.5 | 10MR | 1.2 | 60S | 16.1 | – | Lr 13+10+3+ | Yr 2+ |
| 43 | K 1006 | 40S | 14.4 | 40S | 13.7 | 20S | 10.2 | 40S | 16.3 | – | – | Yr 2+ |
| 44 | NW 5054 | 60S | 21.2 | 30S | 13.3 | 40S* | 9.6 | 60S | 14.9 | Sr 7b+ | Lr 23+ | Yr 9+ |
| 45 | PBW 661 | 30MS | 13.4 | 10S | 3.9 | 10S | 2.8 | 60S | 27.2 | Sr 11+ | Lr 13+10+ | Yr 2+ |
| 46 | Raj 4250 | 20MR | 4.2 | 30S | 6.1 | 10MR | 1.0 | 80S | 40.0 | Sr 8a+ | Lr 23+10+1+3+ | Yr 2+ |
| 47 | WH 1120 | 80S | 38.0 | 40MR | 5.0 | 60S* | 12.4 | 20S | 8.6 | Sr 7b+ | Lr 13+10+3+ | Yr 2+ |
| 48 | DBW 14 (C) | 10MS | 5.2 | 60MR | 4.9 | 20S | 6.0 | 80S | 18.5 | Sr 2+ | Lr 23+ | – |
| 49 | DBW 39 (C) | 40MS | 7.6 | 20MS | 6.7 | 20S | 6.0 | 60S | 15.2 | Sr 31+ | Lr 26+23+1+R | Yr 9+ |
| 50 | HD 2733 (C) | 10MS | 11.2 | 40S | 14.7 | 40S | 13.0 | 90S | 53.6 | Sr 31+ | Lr 26+34+ | Yr 9+18+ |
| 51 | HD 2888 (C) | 80S* | 18.0 | 20S | 3.7 | 10S | 2.0 | 40S | 11.2 | Sr 2+24+ | Lr 24+ R | Yr 2+ |
| 52 | HD 2985 (C) | 30S | 15.6 | 20S | 10.7 | 60S* | 12.0 | 80S | 22.4 | Sr 7b+ | Lr 13+10+ | Yr 2+ |
| 53 | HI 1563 (C) | 10S | 4.1 | 30MS | 8.0 | 20S | 6.8 | 80S | 31.1 | Sr 2+ | R | Yr 2+ |

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|---------------------------|---------------------|---------------------------------------|------|------|------|-------|------|--------|------|------------------|--------------------|--------------|
| | | South | | | | North | | | | Sr | Lr | Yr |
| | | STEM | | LEAF | | LEAF | | STRIPE | | | | |
| | | HS | ACI | HS | ACI | HS | ACI | HS | ACI | | | |
| 54 | K 0307 (C) | 80S | 30.0 | 80S | 28.0 | 20S | 6.0 | 60S | 20.6 | <i>Sr</i> 9b+11+ | <i>Lr</i> 23+1+ | <i>Yr</i> 2+ |
| 55 | K 8027 (C) | 80S | 32.0 | 40S | 14.8 | 60S | 28.0 | 60S | 32.0 | <i>Sr</i> 2+11+ | <i>Lr</i> 13+ | <i>Yr</i> 2+ |
| 56 | NW 2036 (C) | 20MR | 3.4 | 20S | 9.0 | 5S | 1.4 | 60S | 46.0 | <i>Sr</i> 31+ | <i>Lr</i> 26+23+ | <i>Yr</i> 9+ |
| 57 | RAJ 4229 (I) (C) | 5MS | 1.8 | 20S | 6.9 | 10MR | 0.8 | 60S | 22.6 | <i>Sr</i> 2+5+ | R | <i>Yr</i> 2+ |
| IV. CENTRAL ZONE | | | | | | | | | | | | |
| 58 | HD 3095 | 40MR | 4.0 | 20MR | 3.3 | 20MR | 2.0 | 80S | 24.0 | <i>Sr</i> 2+24+ | <i>Lr</i> 24+ R | <i>Yr</i> 2+ |
| 59 | HI 8724 (d) | 40MR | 5.6 | 80MR | 8.0 | 5S | 2.0 | 30S | 5.4 | <i>Sr</i> 11+ | <i>Lr</i> 23+ | <i>Yr</i> 2+ |
| 60 | HI 8725 (d) | 40S | 13.2 | 20S | 11.0 | 5MS | 1.6 | 30S | 4.1 | <i>Sr</i> 11+ | <i>Lr</i> 18+ | <i>Yr</i> 2+ |
| 60. A | INFECTOR | 100S | 72.0 | 100S | 73.3 | 80S | 60.0 | 80S | 75.0 | | | |
| 61 | HI 8727 (d) | 10MS | 4.0 | 20MS | 6.7 | 10MS | 1.6 | 5S | 1.0 | <i>Sr</i> 11+ | <i>Lr</i> 23+18+ | R |
| 62 | HI 8731 (d) | 40MR | 4.7 | 60MR | 6.7 | 20S | 6.4 | 20S | 7.0 | - | <i>Lr</i> 14a+ | - |
| 63 | MPO 1255 (d) | 15MR | 4.0 | 20MS | 3.1 | 10S | 2.8 | 40S | 15.3 | <i>Sr</i> 7b+ | - | <i>Yr</i> 2+ |
| 64 | A 9-30-1 (C) | 80S | 49.6 | 80S | 39.8 | 60S | 22.0 | 100S | 67.4 | <i>Sr</i> 11+ | <i>Lr</i> 23+ | - |
| 65 | GW 322 (C) | 60S | 16.8 | 40S | 12.3 | 20S | 5.0 | 80S | 56.5 | <i>Sr</i> 2+11+ | <i>Lr</i> 13+10+1+ | <i>Yr</i> 2+ |
| 66 | HD 2864 (C) | 40S* | 9.6 | 10S | 3.0 | 10MS | 2.0 | 80S | 37.5 | - | R | <i>Yr</i> 2+ |
| 67 | HI 1500 (C) | 80S* | 17.2 | 10MR | 0.9 | 15S | 1.3 | 60S | 29.0 | <i>Sr</i> 24+ | <i>Lr</i> 24+ | <i>Yr</i> 2+ |
| 68 | HI 1544 (C) | 20MR | 2.4 | 5MS | 1.3 | 10MS | 1.6 | 80S | 39.2 | <i>Sr</i> 24+ | <i>Lr</i> 24+ | <i>Yr</i> 2+ |
| 69 | HI 8498 (d) (C) | 40MS | 8.2 | 60S* | 12.1 | 20S | 4.0 | 60S | 7.3 | <i>Sr</i> 2+11+ | <i>Lr</i> 23+ | <i>Yr</i> 2+ |
| 70 | HI 8627 (C) | 60S | 18.0 | 60S | 17.7 | 10MR | 1.6 | 30MS | 5.6 | <i>Sr</i> 9e+12+ | <i>Lr</i> 13+ | - |
| 71 | HI 8713 (d) (I) (C) | 20MS | 5.4 | 10S | 5.2 | 5MS | 0.8 | 10S | 2.8 | <i>Sr</i> 2+9e+ | - | <i>Yr</i> 2+ |
| 72 | MP 3288 (C) | 40MR | 5.0 | 20S | 6.7 | 20S | 5.4 | 60S | 24.0 | R | <i>Lr</i> 13+ | <i>Yr</i> 2+ |
| 73 | MP 3336 (I) (C) | 20S | 10.0 | 20S | 7.3 | 10S | 3.2 | 80S | 24.3 | - | - | <i>Yr</i> 2+ |
| 74 | MP 4010 (C) | 10S | 4.4 | 20MS | 5.7 | 20S | 4.0 | 80S | 41.0 | <i>Sr</i> 2+24+ | <i>Lr</i> 24+ | <i>Yr</i> 2+ |
| 75 | MPO 1215 (d) (C) | 40S | 10.2 | 20MR | 2.3 | 20MS | 3.2 | 20MR | 1.8 | <i>Sr</i> 11+ | - | - |
| 76 | RAJ 4238 (I) (C) | 40MR | 5.8 | 20MR | 1.4 | 10S | 2.8 | 80S | 35.0 | <i>Sr</i> 2+ | R | - |
| V. PENINSULAR ZONE | | | | | | | | | | | | |
| 77 | DBW 93 | 20MR | 3.6 | 40S | 13.3 | 20S | 4.0 | 60S | 25.1 | <i>Sr</i> 31+ | <i>Lr</i> 26+ | <i>Yr</i> 9+ |
| 78 | GW 432 | 40MR | 5.0 | 20S | 8.8 | 5MR | 0.4 | 80S | 64.0 | <i>Sr</i> 24+ | <i>Lr</i> 24+ R | <i>Yr</i> 2+ |
| 79 | HD 3090 | 30MR | 7.2 | 15MS | 5.0 | 40S | 10.0 | 80S | 34.0 | <i>Sr</i> 31+ | <i>Lr</i> 26+1+ | <i>Yr</i> 9+ |
| 80 | HD 3093 | 10S | 4.4 | 60MR | 8.0 | 0 | 0.0 | 30MS | 13.9 | <i>Sr</i> 24+ | <i>Lr</i> 24+ R | <i>Yr</i> 2+ |

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|--------------------------------|---------------------|---------------------------------------|------|------|------|-------|------|--------|------|-----------------|-------------------|-----------------|
| | | South | | | | North | | | | Sr | Lr | Yr |
| | | STEM | | LEAF | | LEAF | | STRIPE | | | | |
| | | HS | ACI | HS | ACI | HS | ACI | HS | ACI | | | |
| 80.A | INFECTOR | 100S | 72.0 | 100S | 73.3 | 80S | 72.0 | 90S | 71.0 | | | |
| 81 | MACS 6478 | 30MS | 10.2 | 30S | 9.3 | 0 | 0.0 | 80S | 16.1 | <i>Sr</i> 13+ | <i>Lr</i> 23+ | <i>Yr</i> 2+ |
| 82 | UAS 334 | 20MR | 4.0 | 60S | 20.7 | 40S* | 8.8 | 60S | 26.9 | <i>Sr</i> 31+ | <i>Lr</i> 26+1+ | <i>Yr</i> 9+A |
| 83 | AKDW 2997-16(d) (C) | 60S | 22.0 | 60S | 19.0 | 20S | 5.6 | 70S | 15.6 | <i>Sr</i> 7b+ | - | - |
| 84 | HD 2932 (C) | 40MS | 13.6 | 40S | 22.0 | 80S | 22.8 | 80S | 44.5 | - | <i>Lr</i> 13+ | - |
| 85 | MACS 6222 (C) | 15MR | 6.4 | 30S | 7.7 | 20S | 5.6 | 80S | 35.8 | <i>Sr</i> 31+ | <i>Lr</i> 26+1+ | <i>Yr</i> 9+27+ |
| 86 | NI 5439 (C) | 100S | 45.2 | 100S | 52.5 | 60S | 24.4 | 80S | 66.0 | <i>Sr</i> 11+ | - | <i>Yr</i> 2+18+ |
| 87 | NIAW 1415 (C) | 20MR | 1.6 | 60MR | 5.7 | 20S | 5.6 | 80S | 56.0 | <i>Sr</i> 31+ | <i>Lr</i> 26+ R | <i>Yr</i> 9+ |
| 88 | NIAW 34 (C) | 40MR | 6.2 | 20MS | 6.7 | 5S | 1.4 | 60S | 14.8 | <i>Sr</i> 8a+ | <i>Lr</i> 13+34+ | <i>Yr</i> 18+ |
| 89 | NIDW 295 (d) (C) | 10S | 6.2 | 60MR | 7.0 | 20S | 4.0 | 50S | 6.9 | <i>Sr</i> 11+ | <i>Lr</i> 18+ | - |
| 90 | Raj 4083 (C) | 15MS | 5.4 | 20MS | 8.0 | 20S | 8.8 | 60S | 23.9 | <i>Sr</i> 11+ | - | <i>Yr</i> 2+ |
| 91 | UAS 428 (d) (C) | 40MR | 4.8 | 40S | 16.5 | 10MS | 3.0 | 60S | 15.5 | <i>Sr</i> 11+ | <i>Lr</i> 23+ | - |
| 92 | WHD 948 (d) (I) (C) | 20MR | 2.6 | 60MR | 10.4 | 20S | 4.8 | 70S | 12.0 | <i>Sr</i> 2+7b+ | - | - |
| VI. SOUTHERN HILLS ZONE | | | | | | | | | | | | |
| 93 | HW 5224 | 60S | 33.0 | 40S | 19.3 | 30S | 8.0 | 30S | 9.1 | - | <i>Lr</i> 13+10+* | <i>Yr</i> 2+* |
| 94 | CoW(W) 1 (C) | 40MR | 7.8 | 60MS | 12.7 | 20S | 7.4 | 80S | 50.0 | <i>Sr</i> 31+ | <i>Lr</i> 26+1+ R | <i>Yr</i> 9+ |
| 95 | HW 2044 (C) | 10S | 4.7 | 80S | 18.7 | 10MS | 2.3 | 80S | 30.6 | <i>Sr</i> 2+24+ | <i>Lr</i> 24+ R | <i>Yr</i> 2+ |
| 96 | HW 5216 (I) (C) | 40S | 13.6 | 25MS | 7.3 | 20S | 7.6 | 60S | 21.0 | <i>Sr</i> 31+ | <i>Lr</i> 26+1+ R | <i>Yr</i> 9+ |
| VII. SPECIAL TRIAL | | | | | | | | | | | | |
| 97 | DDK 1029 (C) | 10S | 5.6 | 80S | 32.0 | 20S | 4.4 | 60S | 26.0 | <i>Sr</i> 11+ | - | - |
| 98 | Kharchia 65 (C) | 100S | 53.6 | 80S | 37.5 | 60S | 24.8 | 100S | 69.0 | - | - | - |
| 99 | KRL 210 (C) | 80S | 30.8 | 30MS | 12.0 | 20S | 4.0 | 20MS | 5.8 | - | <i>Lr</i> 13+10+ | - |
| 100 | MACS 2496 (C) | 10S | 6.8 | 80S | 40.3 | 20MR | 1.6 | 60S | 42.6 | <i>Sr</i> 2+31+ | <i>Lr</i> 26+23+ | <i>Yr</i> 9+ |
| 101 | MACS 2971 (C) | 20MR | 1.6 | 10MR | 1.0 | 10MR | 0.8 | 60S | 24.5 | <i>Sr</i> 11+ | - | <i>Yr</i> 2+ |
| 101.A | INFECTOR | 100S | 82.0 | 100S | 80.0 | 60S | 60.0 | 80S | 71.0 | - | - | - |