Table: Seedling response of AVT lines against the pathotypes of Puccinia graminis $\mathbf{f}$. sp. tritici (wheat black rust) during 2021-22 at ICAR-IIWBR, RS, Shimla

| S. No. | Variety/line | Pathotype |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Sr-gene |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $=$ | $\mathbb{J}$ | $\begin{aligned} & 7 \\ & n \end{aligned}$ | ন | $\frac{N}{N}$ | $\underset{\sim}{4}$ | $\begin{aligned} & T \\ & m \end{aligned}$ | $\underset{8}{6}$ | $\underset{F}{T}$ | $\stackrel{T}{\tau}$ | $\begin{aligned} & \text { T } \end{aligned}$ | $\stackrel{N}{7}$ | $\stackrel{4}{\mathrm{I}}$ | $\frac{\pi}{\sqrt{n}}$ | $\stackrel{T}{I}$ | $$ | $\begin{aligned} & \text { I } \\ & \end{aligned}$ | $\begin{aligned} & i \\ & \stackrel{1}{y} \end{aligned}$ | N | $\stackrel{\square}{\sim}$ | $\stackrel{\star}{\circ}$ |  |
| 1. | VL2041 | R | NG | R | R | R | R | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | R | Sr 30+5+11+ |
| 2. | VL2043 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |
| 3. | VL2044 | R | R | R | R | R | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | R | Sr30+11+ |
| 4. | HD3402 | R | R | R | R | R | R | R | R | R | R | S | R | R | R | R | R | R | MR | R | R | R | Sr9b+11+ |
| 5. | HPW481 | R | NG | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |
| 6. | HPW487 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr31+ |
| 7. | HPW488 | R | R | R | R | R | R | R | R | R | S | MS | R | R | R | R | MR | R | R | R | R | R | Sr8a+9b+7b+ |
| 8. | HS692 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr31+2+ |
| 9. | HS693 | MS | R | R | R | R | R | R | S | R | R | MS | R | R | R | R | R | R | MR | R | R | R | Sr9b+11+7b+ |
| 10. | HS694 | S | R | R | R | R | MR | R | MS | R | R | S | R | R | R | R | R | R | R | R | R | R | Sr11+7b+ |
| 11. | UP3114 | R | R | S | R | R | R | R | MR | R | R | MR | R | R | R | R | R | R | MS | R | R | R | Sr8a+9b+7b+ |
| 12. | VL3028 | S | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | R | R | R | R | R | R | Sr30+5+11+ |
| 13. | VL3029 | R | R | R | R | R | R | R | R | R | S | MS | R | R | R | R | R | R | R | R | R | R | Sr8a+5+9e+ |
| 14. | VL3030 | R | R | R | R | R | R | R | R | R | R | MS | R | R | R | R | R | R | R | R | R | R | Sr30+8a+2+ |
| 15. | HPW483 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | R | Sr31+ |
| 16. | HPW484 | S | R | R | R | R | R | NG | R | R | R | MS | R | R | R | R | R | R | R | R | R | R | Sr30+5+11+ |
| 17. | HPW485 | R | R | S | R | R | R | R | R | R | MR | MS | R | R | R | R | R | R | R | R | R | R | Sr8a+9b+7b+2+ |
| 18. | HPW486 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | MR | R | R | R | Sr31+ |
| 19. | HS688 | R | R | R | R | R | R | R | R | R | S | S | R | R | R | R | R | R | R | R | R | R | Sr8a+9b+ |
| 20. | HS689 | MS | R | R | R | R | R | R | R | R | S | S | R | R | R | R | R | R | R | R | R | R | Sr5+9b+7b+ |
| 21. | HS690 | S | R | R | R | R | R | R | S | S | R | S | R | R | R | R | R | R | R | MS | R | R | Sr5+9b+11+ |
| 22. | HS691 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr2+R |
| 23. | SKW362 | S | R | R | R | R | R | R | R | R | R | S | R | R | R | R | R | R | MR | R | R | R | Sr30+11+ |
| 24. | UP3113 | S | R | R | R | R | R | R | R | R | R | S | MR | R | R | R | R | R | MS | R | R | R | Sr13+11+7b+2+ |
| 25. | VL2047 | R | R | R | R | R | R | R | R | R | R | S | R | R | NG | R | R | R | MS | R | R | R | Sr13+11+9e+ |
| 26. | VL2048 | R | R | S | R | R | R | R | R | R | R | MS | R | R | R | R | R | R | R | R | R | R | Sr30+8a+5+ |
| 27. | VL2049 | R | R | S | R | R | R | R | R | R | R | S | R | R | R | R | R | R | MR | R | R | R | Sr30+8a+5+ |
| 28. | VL2050 | R | R | S | R | R | R | R | MR | R | R | R | R | R | R | R | R | R | MS | R | R | R | Sr9e+7b+ |
| 29. | HS507(C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr31+5+ |
| 30. | HS562(C) | S | R | S | R | R | R | R | S | R | S | S | R | R | R | R | R | R | R | R | R | R | Sr8a+9b+11+ |
| 31. | HS490(C) | S | MR | R | R | MR | R | R | R | R | S | R | R | R | R | R | MR | R | R | R | R | R | Sr8a+9b+ |
| 32. | HPW349(C) | S | R | MR | R | R | R | R | R | R | S | S | MR | R | R | R | R | R | R | MR | R | R | Sr7b+2+ |
| 33. | VL907(C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | R | Sr31+2+ |


| 34. | VL892(C) | S | R | R | R | R | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | R | Sr30+11+ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 35. | DBW377 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |
| 36. | PBW870 | R | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | R | R | R | R | R | R | $R$ |
| 37. | DBW372 | S | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | MR | R | R | R | Sr28+ |
| 38. | DBW318 | R | R | MR | R | R | R | R | R | R | R | MR | R | R | R | R | R | R | R | R | R | S | $R$ |
| 39. | DBW327 (C) | R | R | MS | R | R | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | R | Sr5+13+ |
| 40. | DBW332(C) | R | R | R | R | R | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | R | Sr30+8a+ |
| 41. | DBW370 | S | S | S | R | R | R | R | MR | R | MR | S | R | R | R | R | R | R | MS | R | R | R | Sr7b+ |
| 42. | DBW371 | S | S | MS | R | R | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | R | Sr8a+5+ |
| 43. | DBW373 | R | R | R | R | R | R | R | R | R | R | S | R | R | R | R | R | R | MR | R | R | R | Sr11+ |
| 44. | PBW868 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |
| 45. | PBW871 | R | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | R | R | R | R | R | R | Sr9b+11+2+ |
| 46. | PBW872 | MR | R | S | R | R | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | MS | * |
| 47. | HD3090(C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr31+2+ |
| 48. | HI1633(C) | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | R | R | R | R | R | R | R | Sr31+ |
| 49. | RAJ4083(C) | R | R | R | R | R | R | R | R | R | R | S | R | R | R | R | R | R | MR | R | R | R | Sr11+ |
| 50. | DBW320\#* | R | R | S | R | R | R | R | R | R | S | S | R | R | R | R | R | R | MS | R | R | R | Sr30+8a+ |
| 51. | MP1380\# | MR | R | R | R | R | R | R | MR | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr2+R |
| 52. | DBW407 ${ }^{\text {B }}$ | S | MS | R | R | R | R | R | R | R | R | S | R | R | R | R | R | R | MS | R | R | R | Sr13+7b+ |
| 53. | DDW48(d)(C) | R | R | R | R | R | S | R | R | R | R | R | S | R | R | R | R | R | S | MS | R | S | Sr7b+2+ |
| 54. | HI8826(d)* | R | R | R | R | R | S | R | R | R | R | R | MS | R | R | R | S | MR | MS | R | MR | R | Sr7b+2+ |
| 55. | MACS4100(d)* | R | R | MS | R | R | S | R | S | S | S | S | R | S | S | S | S | S | S | R | S | R | - |
| 56. | MP1378 | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | R | R | R | R | R | R | R | Sr31+ |
| 57. | MP3552 | MS | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | R | R | R | R | R | R | Sr30+5+11+ |
| 58. | UAS3015 | S | S | S | MS | R | R | R | MR | MR | S | S | R | R | R | R | S | MR | MR | MR | R | MS | Sr7b+ |
| 59. | HI8839(d) | R | R | MS | R | R | S | R | R | R | R | R | S | R | MR | R | S | R | MR | R | R | R | Sr13+7b+ |
| 60. | HI8840(d) | R | R | R | R | R | S | R | R | R | R | R | MR | S | R | MS | S | R | S | R | R | R | Srl3+7b+ |
| 61. | MP1358(I)(C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr11+ |
| 62. | NIAW3922 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr31+2+ |
| 63. | NIDW1149(d)(C) | NG | R | R | R | R | MR | R | R | R | R | R | S | MR | NG | R | R | NG | R | R | R | R | Sr11+2+ |
| 64. | UAS478(d) | R | R | MS | R | R | S | R | S | R | S | S | R | S | S | S | S | S | S | R | S | R | Sr7b+2+ |
| 65. | DBW352\# | R | R | MR | R | R | R | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | R | Sr2+R |
| 66. | GW513(I)(C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr24+2+ |
| 67. | GW547 $^{\text {B }}$ | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr2+R |
| 68. | HI1636(I)(C) | R | R | R | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | R | R | R | R | Sr24+2+ |
| 69. | HI1650* | R | R | R | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | R | R | R | R | Sr31+ |
| 70. | MACS6768* | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr31+2+ |
| 71. | MP3535* | S | S | S | MR | R | MR | R | R | R | MS | MS | S | R | R | R | R | R | S | MS | R | S | * |
| 72. | NWS2194\# | MR | R | R | R | R | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | R | Sr30+11+ |
| 73. | HI1665 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr $2+$ R |
| 74. | NIAW4028 | S | R | R | R | R | S | R | R | R | R | R | S | R | R | R | MR | R | R | R | R | R | Sr30+5+2+ |


| 75. | CG1036* | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr7b+2+ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 76. | CG1040 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | MR | R | R | R | R |
| 77. | DDW47(d)(C) | R | R | R | R | R | R | R | R | R | R | R | MR | R | R | S | S | MR | MS | R | MS | S | Sr11+7b+2+ |
| 78. | DDW55(d) ${ }^{\text {Q }}$ | R | R | S | R | R | S | R | S | MS | S | S | R | S | S | S | S | S | MS | R | S | R | Sr7b+2+ |
| 79. | GW532 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr2+R |
| 80. | HD3401 | R | R | MS | S | R | S | R | S | S | S | MS | R | S | S | S | S | S | S | R | S | R | - |
| 81. | HI1655 ${ }^{\text {* }}$ | MR | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr2+R |
| 82. | HI1666 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | MR | R | Sr $2+\mathrm{R}$ |
| 83. | HI8823(d)(I)(C) | R | R | R | R | R | MR | R | R | R | R | R | R | R | R | R | S | MR | S | R | S | R | Sr11+2+ |
| 84. | HI8830(d)* | R | R | R | R | R | R | R | R | S | R | MS | R | MR | R | S | S | MR | S | R | MR | R | Sr7b+2+ |
| 85. | MACS6795 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | R | Sr2+R |
| 86. | MP1377 | MS | R | R | R | R | MR | NG | R | R | R | S | MR | R | R | MR | R | R | R | R | R | R | Srl3+11+7b+ |
| 87. | MP3288(C) | S | R | R | R | R | S | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | * |
| 88. | UAS3019 | MR | R | MR | R | R | R | R | R | R | MR | S | R | R | R | R | R | R | R | R | R | R | Sr9b+7b+ |
| 89. | DBW316\#* | S | S | S | MR | R | S | R | S | R | S | S | S | R | R | R | S | R | R | MR | R | S | * |
| 90. | HD3118(C) | MR | R | R | R | R | R | R | R | MR | R | R | R | R | R | R | MR | R | MR | R | R | R | Sr9b+11+ |
| 91. | HD3392 | S | R | R | R | R | R | R | R | R | R | S | R | R | R | R | R | R | MS | R | R | R | Sr13+11+7b+ |
| 92. | HI1621(C) | R | R | MS | R | R | R | R | R | R | R | S | R | R | R | R | R | R | S | R | R | R | Sr28+ |
| 93. | PBW833* | S | R | R | R | R | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | R | Sr7b+2+ |
| 94. | PBW835 ${ }^{\text {Q }}$ | R | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | R | R | R | R | R | R | Sr $2+\mathrm{R}$ |
| 95. | HD3249(C) | R | R | R | R | R | MR | R | R | R | R | MR | S | R | R | R | R | MR | S | MR | MS | R | Sr11+2+ |
| 96. | PBW826\#* | MR | R | R | R | R | R | R | R | R | R | MS | R | R | R | R | R | R | R | R | R | R | Sr30+8a+2+ |
| 97. | HD3388 | S | R | MS | R | R | R | R | R | R | R | S | R | R | R | R | R | R | MR | R | R | R | Sr13+7b+ |
| 98. | PBW852 | S | R | R | R | R | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | S | Sr30+11+2+ |
| 99. | DBW252(C) | MS | R | R | R | R | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | R | Sr8a+5+11+2+ |
| 100. | HD3171(C) | S | R | R | R | R | R | R | R | R | R | S | R | R | R | R | R | MS | MR | R | R | R | Sr11+7b+2+ |
| 101. | HD3293(C) | S | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | R | MR | R | R | R | MS | Sr13+2+ |
| 102. | DBW353 | S | R | MS | R | R | R | R | R | R | R | S | R | R | R | R | R | R | MS | R | R | R | Sr13+7b+ |
| 103. | JKW261(I)(C) | S | S | S | R | R | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | S | Sr11+ |
| 104. | PBW771(C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr31+2+ |
| 105. | WH1124(C) | S | S | R | R | R | R | R | R | R | R | S | MS | R | R | R | R | R | R | MR | MR | MR | Sr7b+2+ |
| 106. | HD2967(C) | R | R | MR | R | R | R | R | R | R | R | S | R | R | R | R | MR | R | R | R | R | R | Sr8a+11+2+ |
| 107. | HD3386 | R | R | MS | R | R | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | R | Sr30+5+2+ |
| 108. | DBW359 | S | S | MS | R | R | R | R | R | R | MR | MS | R | R | R | R | R | R | MR | R | R | R | Sr9b+7b+ |
| 109. | DBW358 | S | R | MR | R | R | R | R | R | R | R | MR | R | R | R | R | R | R | R | R | R | R | Sr30+5+ |
| 110. | NIAW3170(C) | R | R | MS | R | R | R | R | MR | MR | R | MR | R | R | R | R | R | R | R | R | R | R | Sr8a+2+ |
| 111. | HD3043(C) | R | R | MR | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr31+2+ |
| 112. | HD3369* | R | R | R | R | R | MR | R | R | R | R | MR | R | R | R | R | MR | R | R | R | R | R | Sr13+ |
| 113. | HD3397 | S | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | MR | R | R | R | - |
| 114. | HD3400 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | MR | R | R | R | $R$ |
| 115. | HD3418 | MS | R | MR | R | R | R | R | R | R | R | MR | R | R | R | R | R | R | MR | MR | R | R | Sr30+ |


| 116. | HI1628(C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr2+R |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 117. | HI1653* | MS | R | R | R | R | R | R | R | R | R | MS | R | R | R | R | R | R | R | R | R | R | Sr7b+ |
| 118. | HI1654* | S | R | MS | R | R | R | R | R | MR | R | S | R | R | R | R | S | R | R | R | R | R | Sr13+ |
| 119. | HUW838(I)(C) | S | R | R | R | R | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | R | Sr8a+5+11+ |
| 120. | UP3090 | S | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | R | R | R | R | R | MS | Sr30+11+ |
| 121. | WH1402 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |
| 122. | WH1403 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr2+R |
| 123. | DBW365 | R | R | S | R | R | R | R | R | MS | S | S | R | R | R | R | R | R | R | R | R | R | Sr8a+2+ |
| 124. | DBW366 | MR | R | R | R | R | R | R | R | MR | R | MR | R | R | R | R | R | MS | R | R | R | R | Sr30+8a+ |
| 125. | DBW402 | MR | R | R | R | R | R | R | R | MR | R | S | R | R | R | R | R | R | R | R | R | R | Sr11+7b+2+ |
| 126. | HD3415 | MS | R | R | R | R | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | R | Sr30+11+ |
| 127. | Kharchia65(C) | S | S | MR | S | S | S | MS | S | MS | R | S | MS | S | S | S | S | S | S | S | S | S | Sr7b+ |
| 128. | KRL19(C) | R | R | S | R | R | R | R | R | R | MR | S | R | R | R | R | R | R | R | R | R | R | Sr8b+9b+11+2+ |
| 129. | KRL2006 | S | R | MR | R | R | R | R | R | R | R | MS | R | R | R | R | R | R | R | R | R | R | Sr30+ |
| 130. | UAS310 | S | R | S | MR | MS | R | R | R | R | S | S | R | R | R | MR | S | MR | R | R | R | R | Sr13+7b+ |
| 131. | KRL2021 | R | R | R | R | R | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | R | Sr30+5+ |
| 132. | KRL210(C) | S | S | S | R | R | R | R | MR | R | R | S | MS | R | MS | R | S | MS | R | MR | R | MR | Sr7b+2+ |
| 133. | RAJ4565 | MR | R | R | R | R | R | R | MR | R | R | S | R | R | R | R | R | R | R | R | R | R | Sr30+11+2+ |
| 134. | HD3438 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |
| 135. | HD3439 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |
| 136. | CG1029(C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr24+2+ |
| 137. | HD3407* | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |
| 138. | HI1634(C) | R | R | R | R | R | R | R | R | MR | R | R | R | R | MR | R | R | R | R | R | R | R | Sr31+ |
| 139. | MP3336(C) | MS | R | R | R | R | R | R | R | R | R | S | R | R | R | MR | R | MS | MR | R | R | R | Srl1+2+ |
| 140. | HI8498(C) | S | R | MR | MR | R | S | R | R | R | R | S | S | R | R | MS | MS | S | S | R | MR | R | Sr11+2+ |
| 141. | HI8759(C) | MS | R | R | MR | R | MS | R | R | R | R | R | S | R | MR | R | MR | R | MR | R | R | R | Sr11+2+ |
| 142. | HI8846 | R | R | R | R | R | R | R | R | R | R | MS | R | R | R | R | R | R | R | R | R | R | Sr30+ |
| 143. | HI8847 | R | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | R | R | R | R | MR | R | Sr2+R |
| 144. | HD2733(C) | R | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | R | R | R | R | R | R | Sr31+2+ |
| 145. | HD3411* | S | MS | S | MR | S | R | R | S | MR | S | S | R | R | R | MR | MR | R | S | S | R | R | Sr7b+ |
| 146. | HD3440 | S | S | MR | S | S | S | R | MS | S | S | MS | S | S | S | MR | S | MR | S | S | S | S | Sr7b+ |
| 147. | HD3406* | S | R | R | R | R | R | R | R | R | R | S | R | R | R | R | R | R | S | R | R | MS | Sr13+ |
| 148. | HD3436 | R | R | MS | R | R | R | R | S | R | R | S | R | R | R | R | R | R | R | R | MR | R | Sr8b+9b+9e+ |
| 149. | HD3437 | R | R | R | R | R | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | R | Sr30+ |
| 150. | PBW175(C) | MS | R | R | R | R | R | R | R | R | R | MS | R | R | R | R | R | R | S | R | R | R | Sr7a+2+ |
| 151. | PBW677(C) | R | R | R | R | R | R | R | R | R | R | S | R | R | R | R | R | R | S | R | R | R | Sr9b+11+2+ |
| 152. | PBW901 | S | MR | S | R | R | R | R | MS | R | S | R | R | R | R | MR | R | R | S | MR | R | S | Sr9b+7b+2+ |
| 153. | PBW902 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr2+R |

* Different seed lot to that of previous cropping season, - Gene not postulated, $R$ resistant to all pathotypes

Table: Seedling response of AVT lines against the pathotypes of Puccinia triticina (wheat brown rust) during 2021-22 at ICAR-IIWBR,
RS, Shimla

| S. No. | Variety/line | Pathotype |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Lr-gene |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\square$ | $\begin{gathered} \text { N } \\ \text { ベ } \end{gathered}$ | $\begin{gathered} \text { I } \\ \text { I } \end{gathered}$ | $\begin{aligned} & \text { M } \\ & \underset{\sim}{2} \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { İ } \\ & \underset{\sim}{2} \end{aligned}$ | $\begin{aligned} & \vec{b} \\ & \hline \end{aligned}$ | N | $\stackrel{i}{N}$ | $\stackrel{N}{\mathbf{N}}$ | $\frac{N}{N}$ | $\underset{\underset{N}{\mathrm{~N}}}{ }$ | $\underset{\underset{N}{\infty}}{\substack{\infty}}$ | $\underset{\underset{N}{i}}{\substack{2}}$ | $\frac{\theta}{1}$ | $\underset{N}{T}$ | $\begin{aligned} & T \\ & \vdots \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { I } \\ & \vdots \\ & \hline \end{aligned}$ | $\begin{aligned} & i \\ & i \\ & \hline \end{aligned}$ | $\stackrel{\square}{\square}$ | $\begin{aligned} & T \\ & \hat{6} \end{aligned}$ | $\begin{aligned} & T \\ & 0 \\ & \hline \end{aligned}$ |  | $\begin{aligned} & 1 \\ & \text { O} \\ & \hline \end{aligned}$ |  |
| 1 | VL2041 | R | R | R | S | S | R | S | S | S | S | R | R | S | NG | S | NG | S | S | R | R | R | R | S | Lr13+ |
| 2 | VL2043 | R | R | R | R | MS | R | R | MS | MS | S | R | MS | S | S | S | R | R | S | R | R | R | R | NG | Lr13+ |
| 3 | VL2044 | R | R | R | S | S | R | S | R | S | S | R | R | S | S | S | S | S | R | R | R | R | R | MS | Lr13+3+ |
| 4 | HD3402 | R | S | R | S | S | R | S | S | S | S | S | R | S | S | S | S | S | S | R | S | R | R | S | Lr13+ |
| 5 | HPW481 | R | NG | R | S | MR | R | S | S | S | S | R | MS | S | S | S | S | S | R | R | R | R | R | MS | Lr13+3+ |
| 6 | HPW487 | R | R | R | R | R | R | R | R | R | S | S | R | R | R | R | R | S | S | R | R | R | R | R | Lr26+23+1+ |
| 7 | HPW488 | R | R | R | S | S | R | S | S | S | S | S | R | S | S | S | S | S | R | R | R | R | R | R | Lr13+3+ |
| 8 | HS692 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Lr26+R |
| 9 | HS693 | R | S | S | S | S | R | R | S | S | S | S | R | S | S | MR | S | S | S | R | R | R | R | S | Lr13+ |
| 10 | HS694 | R | R | R | R | S | R | S | S | S | S | R | R | S | S | S | MS | R | R | R | R | R | R | R | Lr13+3+ |
| 11 | UP3114 | R | S | R | S | S | R | S | S | S | S | S | S | S | S | S | S | S | R | R | R | R | R | R | Lr3+ |
| 12 | VL3028 | R | R | R | R | R | R | R | S | R | S | R | R | MS | S | S | R | R | R | NG | R | R | R | R | Lr13+1+ |
| 13 | VL3029 | R | R | R | R | R | R | S | S | S | S | S | R | S | S | S | R | R | MS | R | R | R | MS | R | Lr13+ |
| 14 | VL3030 | R | R | R | R | R | R | MS | S | R | S | R | R | S | MS | S | R | R | R | R | R | R | R | R | Lr13+1+ |
| 15 | HPW483 | NG | R | R | R | S | R | R | S | R | S | S | R | MS | R | R | NG | S | R | R | R | R | R | R | Lr26+10+ |
| 16 | HPW484 | R | R | R | R | R | R | MS | R | R | R | R | R | R | MS | R | R | R | R | R | R | R | R | R | Lr13+1+ |
| 17 | HPW485 | R | R | R | S | S | R | R | S | S | S | R | S | S | R | MS | S | S | S | R | R | R | R | R | Lr13+ |
| 18 | HPW486 | R | R | R | R | S | R | R | S | R | S | S | R | R | R | R | R | R | MS | R | R | R | R | R | Lr26+10+ |
| 19 | HS688 | R | R | R | R | S | R | R | R | S | S | MS | R | S | S | R | R | R | R | R | R | R | R | R | Lr23+10+ |
| 20 | HS689 | R | R | R | R | R | R | S | S | S | S | MS | R | S | S | S | R | MS | S | R | R | R | R | R | Lr13+1+ |
| 21 | HS690 | R | S | S | S | S | MS | S | S | S | S | S | R | S | S | M | S | S | S | R | R | R | MS | S | - |
| 22 | HS691 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |
| 23 | SKW362 | R | R | R | R | R | R | MS | S | MS | S | MS | R | S | S | S | R | R | R | R | R | R | R | R | Lr13+1+ |
| 24 | UP3113 | R | R | R | R | R | R | R | S | R | S | R | NG | S | R | R | R | R | MS | R | R | R | R | R | Lr13+1+ |
| 25 | VL2047 | R | R | R | R | MS | R | R | S | R | MR | R | NG | MS | R | R | R | R | R | R | R | R | R | NG | Lr13+10+ |
| 26 | VL2048 | R | R | R | R | S | R | R | S | MS | S | R | MS | S | MS | MS | R | MS | S | R | R | R | R | R | Lr13+10+ |
| 27 | VL2049 | R | R | R | R | R | R | S | S | S | S | MS | MS | S | S | S | R | R | R | R | R | R | R | R | Lr13+1+ |
| 28 | VL2050 | R | R | S | R | S | R | S | MS | R | S | R | R | S | S | MS | NG | MS | S | R | R | R | MS | S | Lr13+10+ |
| 29 | HS507(C) | R | R | R | R | R | R | R | S | R | S | MS | R | R | R | R | R | MS | S | R | R | R | R | R | Lr26+1+ |
| 30 | HS562(C) | R | R | R | R | S | R | R | R | S | S | S | R | S | S | R | S | S | R | R | R | R | R | R | Lr23+10+3+ |
| 31 | HS490(C) | R | R | R | R | R | R | R | R | S | S | R | R | S | S | R | R | S | S | R | R | R | R | R | Lr23+ |
| 32 | HPW349(C) | R | R | R | MS | S | R | MS | S | S | S | S | R | S | S | R | S | S | S | R | R | R | R | R | Lr13+10+ |
| 33 | VL907(C) | R | R | R | R | S | R | R | S | R | S | R | R | R | R | R | R | MS | S | R | R | R | R | S | Lr26+10+ |
| 34 | VL892(C) | R | R | R | R | S | R | R | S | S | S | S | R | S | S | R | R | MS | M | R | R | R | R | R | Lr13+10+ |
| 35 | DBW377 | R | R | R | R | R | R | R | R | R | R | R | R | MS | MS | R | R | R | R | R | R | R | R | R | Lr23+1+ |
| 36 | PBW870 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |
| 37 | DBW372 | R | R | R | R | MS | R | R | S | MS | R | R | R | S | S | R | R | MR | R | R | R | R | R | R | Lr23+1+ |
| 38 | DBW318 | R | S | R | S | S | R | S | S | S | S | R | R | S | S | R | R | S | S | R | R | R | R | R | Lr 23+ |
| 39 | DBW327 (C) | R | R | R | R | R | R | R | R | R | S | S | R | S | MS | R | R | R | S | R | R | R | R | R | Lr23+1+ |


| 40 | DBW332(C) | R | R | R | R | R | R | MS | MS | S | S | R | R | S | R | S | R | R | R | R | R | R | R | R | Lr13+1+ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 41 | DBW370 | R | R | R | R | R | R | MS | S | R | S | S | R | S | S | S | R | R | R | R | R | R | R | R | Lr13+1+ |
| 42 | DBW371 | R | R | R | R | R | R | R | R | R | S | R | R | S | S | R | R | R | R | R | R | R | R | R | Lr23+1+ |
| 43 | DBW373 | R | R | R | R | R | R | S | S | MS | S | R | MS | S | S | S | R | R | R | R | R | R | R | R | Lr13+1+ |
| 44 | PBW868 | R | R | R | R | R | R | R | S | R | S | R | R | S | S | R | R | R | S | R | R | R | R | M | Lr13+10+ |
| 45 | PBW871 | R | R | R | R | R | R | MS | S | R | S | S | MS | S | R | S | R | R | R | R | R | R | R | R | Lr13+1+ |
| 46 | PBW872 | R | R | R | R | MS | R | R | R | S | S | R | R | S | R | R | R | R | S | R | R | R | R | R | Lr23+10+ |
| 47 | HD3090(C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Lr26+R |
| 48 | HI1633(C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $L r 26+R$ |
| 49 | RAJ4083(C) | R | S | R | R | S | R | R | S | S | S | S | R | S | S | MS | MS | S | S | R | R | R | R | R | Lr13+ |
| 50 | DBW320\#* | R | R | R | R | R | R | R | S | R | S | S | R | S | S | R | R | R | R | R | R | R | R | R | Lr10+1+ |
| 51 | MP1380\# | R | R | R | R | R | R | R | MS | MS | R | R | R | S | S | S | R | R | S | R | R | R | R | R | Lr13+ |
| 52 | DBW407 ${ }^{\text {B }}$ | R | R | R | R | S | R | S | S | S | S | M | MS | S | S | S | R | S | S | R | R | R | R | R | Lr13+ |
| 53 | DDW48(d)(C) | NG | R | R | MX | MX | R | R | R | R | R | R | R | S | S | R | R | S | S | R | R | R | NG | R | Lr23+ |
| 54 | HI8826(d)* | S | S | S | S | S | S | R | R | R | R | R | R | R | R | R | S | S | S | R | R | R | R | R | - |
| 55 | MACS4100(d)* | MS | R | R | R | R | R | R | R | R | MS | R | R | R | R | MS | MR | R | R | R | S | R | R | R | - |
| 56 | MP1378 | R | R | R | R | S | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Lr26+10+ |
| 57 | MP3552 | R | R | R | R | R | R | S | S | MS | S | R | MS | S | S | S | R | R | R | R | R | R | MX | R | Lr13+1+ |
| 58 | UAS3015 | R | R | R | R | S | R | R | R | S | S | MS | R | S | S | R | S | S | S | R | R | R | R | R | Lr23+10+ |
| 59 | HI8839(d) | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | - |
| 60 | HI8840(d) | S | MS | S | S | S | S | R | R | R | R | R | R | S | MR | R | S | S | S | R | R | R | S | S | - |
| 61 | MP1358(I)(C) | NG | R | R | R | R | R | R | MR | R | R | R | R | S | R | S | R | R | S | R | R | R | R | R | Lr23+10+ |
| 62 | NIAW3922 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Lr26+R |
| 63 | NIDW1149(d)(C) | NG | NG | MS | NG | MS | NG | NG | R | R | R | NG | R | MS | NG | R | R | NG | S | NG | R | R | R | R | Lr23+10+ |
| 64 | UAS478(d) | R | R | R | S | S | R | R | R | R | R | R | R | S | MS | R | S | S | S | R | R | R | R | R | Lr23+ |
| 65 | DBW352\# | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |
| 66 | GW513(I)(C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Lr24+R |
| 67 | GW547 ${ }^{\text {B }}$ | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |
| 68 | HI1636(I)(C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Lr24+R |
| 69 | HI1650* | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $L r 26+R$ |
| 70 | MACS6768* | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $L r 26+R$ |
| 71 | MP3535* | R | R | R | R | S | R | R | S | S | S | S | R | S | S | R | S | S | R | R | R | R | R | R | Lr13+10+3+* |
| 72 | NWS2194\# | R | R | R | R | R | R | R | S | MS | S | S | MS | S | S | R | R | R | R | R | R | R | R | R | Lr13+1+ |
| 73 | HI1665 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |
| 74 | NIAW4028 | S | R | S | R | S | R | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | R | R | - |
| 75 | CG1036* | S | R | R | R | S | R | R | R | R | R | R | R | R | R | R | NG | R | R | R | R | R | R | R | - |
| 76 | CG1040 | R | S | R | R | S | R | S | S | MS | S | MS | R | S | S | S | NG | S | S | R | R | R | R | R | Lr13+ |
| 77 | DDW47(d)(C) | R | R | R | R | S | R | NG | R | R | R | R | R | S | S | MS | R | S | S | R | R | R | R | R | Lr13+10+* |
| 78 | DDW55(d) ${ }^{\text {Q * }}$ | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | NG | R | R | R | R | R | R | R | $R$ |
| 79 | GW532 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |
| 80 | HD3401 | R | R | R | R | S | R | R | R | R | R | R | R | R | R | R | R | MS | R | R | R | R | R | R | Lr23+10+ |
| 81 | HI1655 ${ }^{\text {Q* }}$ | R | R | S | R | S | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | -* |
| 82 | HI1666 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |
| 83 | HI8823(d)(I)(C) | R | R | R | S | S | S | R | R | R | R | R | R | S | MS | R | S | S | S | R | R | R | R | S | - |
| 84 | HI8830(d)* | R | MS | R | S | S | S | R | R | R | R | R | R | MS | R | R | S | S | S | R | R | R | R | R | - |
| 85 | MACS6795 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |


| 86 | MP1377 | S | R | R | R | R | R | R | R | R | R | R | R | S | S | S | R | R | MS | R | R | R | R | R | - |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 87 | MP3288(C) | R | R | R | R | R | R | R | MS | R | S | R | R | R | R | R | R | R | S | R | R | R | R | R | -* |
| 88 | UAS3019 | R | R | R | S | MS | R | R | S | MR | S | R | R | S | S | S | R | MS | S | R | R | R | R | R | Lr13+ |
| 89 | DBW316\#* | R | R | R | R | S | R | R | S | S | S | S | R | S | S | R | S | S | R | R | R | R | R | S | Lr13+10+3+* |
| 90 | HD3118(C) | R | MS | R | S | S | R | S | S | S | S | S | S | S | S | S | S | S | S | R | MR | M | R | MS | - |
| 91 | HD3392 | R | R | R | MS | S | R | S | S | R | S | S | R | S | S | S | R | R | R | R | MS | R | R | S | Lr13+ |
| 92 | HI1621(C) | R | R | R | S | S | R | S | S | S | S | MS | S | S | S | S | R | S | S | R | R | R | R | R | Lr13+ |
| 93 | PBW833* | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |
| 94 | PBW835 ${ }^{\text {Q* }}$ | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |
| 95 | HD3249(C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R^{*}$ |
| 96 | PBW826\#* | R | R | R | R | R | R | R | R | R | S | R | R | S | MS | R | R | R | R | R | R | R | R | R | Lr23+ |
| 97 | HD3388 | R | R | R | R | R | R | R | R | S | S | R | R | R | R | R | R | R | R | R | R | R | R | R | Lr23+1+ |
| 98 | PBW852 | R | R | R | R | R | R | R | R | S | S | R | R | S | MS | R | R | R | S | R | R | R | R | R | Lr23+1+ |
| 99 | DBW252(C) | R | R | R | R | R | R | R | MS | R | S | R | R | S | MS | R | R | R | S | R | R | R | R | R | Lr13+10+ |
| 100 | HD3171(C) | R | MS | R | R | S | R | R | R | S | S | S | R | S | S | R | R | S | S | R | NG | R | R | MS | Lr23+13+10+ |
| 101 | HD3293(C) | R | R | R | R | S | R | R | MS | R | R | MR | R | S | S | S | R | MS | S | R | R | R | R | R | Lr13+10+ |
| 102 | DBW353 | R | R | R | R | R | R | S | S | R | S | R | R | S | MS | S | R | R | R | R | R | R | R | R | Lr13+ |
| 103 | JKW261(I)(C) | R | R | R | S | S | R | R | R | R | R | R | R | S | MS | R | S | MS | S | R | R | R | R | R | Lr23+13+ |
| 104 | PBW771(C) | R | R | R | R | MS | R | R | R | R | R | R | R | R | R | R | R | MS | R | R | R | R | R | R | Lr26+23+1+ |
| 105 | WH1124(C) | R | R | R | R | S | R | R | S | S | S | S | R | S | S | R | S | S | R | R | R | R | R | MS | Lr13+10+3+ |
| 106 | HD2967(C) | R | R | R | R | MS | R | R | R | R | S | S | R | S | S | R | R | R | S | R | R | R | R | R | Lr23+ |
| 107 | HD3386 | R | R | R | R | MS | R | R | MS | MS | S | R | R | S | MS | R | R | R | S | R | R | R | R | R | Lr13+10+ |
| 108 | DBW359 | R | R | R | S | S | R | S | S | MS | S | MS | S | S | S | S | S | S | R | R | R | R | MR | S | - |
| 109 | DBW358 | R | R | R | S | MR | R | S | S | S | S | S | S | S | S | S | R | S | S | R | R | R | R | R | - |
| 110 | NIAW3170(C) | R | R | R | R | S | R | R | R | S | S | S | R | S | MR | R | R | R | S | R | R | R | R | R | Lr13+10+ |
| 111 | HD3043(C) | R | R | R | R | S | R | R | S | R | S | S | R | S | R | R | R | S | S | R | R | R | R | S | Lr26+10+ |
| 112 | HD3369* | S | S | R | S | S | R | S | R | S | S | S | R | S | R | S | S | S | S | R | R | R | R | R | Lr13+ |
| 113 | HD3397 | R | R | R | S | R | R | S | S | S | S | S | MS | S | S | S | R | R | R | R | R | R | R | R | Lr13+ |
| 114 | HD3400 | R | R | R | R | MS | R | R | R | MS | S | S | R | S | R | R | R | S | R | R | R | R | R | R | Lr23+10+ |
| 115 | HD3418 | R | R | R | R | R | R | MS | R | S | R | M | R | R | R | R | R | R | R | R | R | R | R | R | Lr13+1+ |
| 116 | HI1628(C) | R | MS | R | R | S | R | S | S | S | S | S | S | S | S | S | R | S | S | R | R | R | R | R | Lr13+10 |
| 117 | HI1653* | R | R | R | R | R | R | R | S | MS | S | R | S | S | S | S | R | R | R | R | R | R | R | S | Lr13+3+ |
| 118 | HI1654* | R | R | R | M | M | R | S | S | S | S | MS | S | S | S | S | R | MS | S | R | R | R | R | R | Lr13+ |
| 119 | HUW838(I)(C) | R | R | S | R | R | R | MS | S | S | S | R | R | S | MS | S | R | R | R | R | R | R | R | R | Lr13+10+3+ |
| 120 | UP3090 | R | R | R | R | R | R | R | R | R | R | R | R | S | MS | R | R | R | R | R | R | R | R | R | Lr23+10+ |
| 121 | WH1402 | R | S | R | R | R | R | S | S | S | S | R | R | R | R | S | R | S | S | R | R | R | R | R | Lr13+ |
| 122 | WH1403 | R | MS | R | R | R | R | S | S | S | S | MS | R | R | R | S | S | S | S | R | R | R | R | R | Lr13+ |
| 123 | DBW365 | R | R | R | R | S | R | R | R | R | R | R | R | S | R | R | S | S | S | R | R | R | R | S | Lr13+10+ |
| 124 | DBW366 | R | R | R | R | S | R | R | R | R | R | R | R | S | MS | R | R | MS | R | R | R | R | R | S | -* |
| 125 | DBW402 | R | R | R | R | R | R | S | S | MS | S | S | R | S | S | MR | R | R | R | R | R | R | R | R | Lr13+1+ |
| 126 | HD3415 | R | S | MX | R | S | R | MX | S | MX | S | S | R | S | R | R | R | S | S | R | R | R | R | R | Lr13+10+ |
| 127 | Kharchia65(C) | S | S | S | S | S | R | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | - |
| 128 | KRL19(C) | R | R | R | S | S | R | MS | S | R | S | S | R | S | MS | S | S | S | S | R | R | R | MS | R | Lr13+ |
| 129 | KRL2006 | R | R | R | R | R | R | R | R | MR | R | R | R | S | S | R | R | R | R | R | R | R | R | R | - |
| 130 | UAS310 | R | R | R | R | S | R | R | S | S | S | R | R | S | MS | R | S | S | S | R | R | R | R | R | Lr13+10+ |
| 131 | KRL2021 | R | R | R | R | R | R | R | S | S | S | S | MS | S | MS | MR | R | R | R | R | R | R | R | R | Lr13+1+ |


| 132 | KRL210(C) | R | R | R | R | S | R | R | S | S | S | S | R | S | S | MR | R | S | R | R | R | R | R | S | Lr23+ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 133 | RAJ4565 | R | R | R | R | R | R | R | R | R | R | S | R | S | MR | R | R | R | R | R | R | R | R | R | - |
| 134 | HD3438 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |
| 135 | HD3439 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |
| 136 | CG1029(C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Lr24+R |
| 137 | HD3407* | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |
| 138 | HI1634(C) | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | R | R | R | R | R | R | R | R | R | Lr26+R |
| 139 | MP3336(C) | R | S | S | MR | S | MX | R | MS | S | S | S | R | S | MS | S | S | S | S | R | MR | R | R | MR | Lr13+ |
| 140 | HI8498(C) | MR | R | MR | MR | S | S | R | R | R | R | R | R | MS | R | R | MS | R | MS | R | R | R | R | MS | Lr23+ |
| 141 | HI8759(C) | S | MR | R | S | S | S | R | R | R | R | R | R | MR | R | R | S | S | S | R | R | R | R | R | - |
| 142 | HI8846 | MR | R | R | MR | S | S | NG | R | R | R | R | R | S | R | R | R | R | R | NG | R | R | R | MS | - |
| 143 | HI8847 | MR | R | MR | MS | S | S | R | R | R | R | R | R | R | R | R | R | MS | R | R | R | R | R | MS | - |
| 144 | HD2733(C) | R | R | S | S | S | R | R | S | R | S | R | R | S | R | R | R | S | S | R | R | R | R | S | Lr26+34+ |
| 145 | HD3411* | R | S | S | S | S | R | S | S | S | S | S | S | S | S | R | MX | S | S | R | R | S | MR | S | Lr13+ |
| 146 | HD3440 | R | R | R | MR | R | R | R | S | R | MR | R | S | MS | R | R | R | R | R | R | R | R | NG | R | - |
| 147 | HD3406* | R | R | R | MR | R | R | R | R | R | MR | R | R | S | S | R | R | R | R | R | R | R | R | R | Lr23+10+1+ |
| 148 | HD3436 | R | MS | MR | S | S | R | MX | R | S | S | R | R | S | S | R | S | S | S | R | R | R | MR | MR | Lr23+ |
| 149 | HD3437 | R | R | R | R | S | R | R | S | MS | S | R | R | S | S | R | R | S | S | R | R | R | R | S | Lr13+10+ |
| 150 | PBW175(C) | R | R | R | R | R | R | S | R | R | S | S | R | S | S | R | MS | S | S | R | R | MR | R | R | Lr23+34+ |
| 151 | PBW677(C) | R | R | R | R | R | R | R | S | S | S | S | R | S | MS | R | R | R | S | R | R | R | R | R | Lr23+1+ |
| 152 | PBW901 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |
| 153 | PBW902 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |

* Different seed lot to that of previous cropping season, - Gene not postulated, $R$ resistant to all pathotypes

Table: Seedling response of AVT lines against the pathotypes of Puccinia striiformis f. sp. tritici (wheat yellow rust) during 2021-22 at ICAR-IIWBR, RS, Shimla

| S. No. | Variety/line | Pathotype |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Yr-gene |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\frac{\underset{7}{7}}{\underset{7}{2}}$ | $\frac{\theta}{\vec{\theta}}$ | $\theta$ $\vec{\pi}$ $\underset{\sim}{\infty}$ N | $\begin{aligned} & +\infty \\ & \infty \\ & \underset{\sim}{\infty} \end{aligned}$ | $\begin{aligned} & \dot{\infty} \\ & \underset{\theta}{\boldsymbol{Z}} \end{aligned}$ |  <br>  <br>  | $\begin{gathered} \underset{\sim}{\hat{N}} \\ \underset{\sim}{\underset{\sim}{2}} \end{gathered}$ | $\begin{aligned} & 0 \\ & 0 \\ & \underline{Z} \\ & \exists \end{aligned}$ | $$ | $\begin{aligned} & \underset{W}{2} \\ & \stackrel{y}{n} \end{aligned}$ |  |  | 8 | N |  |  |
| 1. | VL2041 | S | S | S | R | MS | R | R | R | R | NG | R | R | R | R | R | Yr2+ |
| 2. | VL2043 | S | S | S | R | S | R | S | R | R | R | S | S | R | R | R | Yr2+ |
| 3. | VL2044 | S | S | MS | R | S | MS | S | R | R | R | S | S | R | R | S | Yr2+ |
| 4. | HD3402 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |
| 5. | HPW481 | MS | MS | S | R | MS | R | R | R | R | R | MR | MS | R | R | R | Yr2+ |
| 6. | HPW487 | R | R | S | MS | MS | R | R | R | R | R | R | R | R | R | R | Yr9+ |
| 7. | HPW488 | S | S | S | S | S | S | S | R | R | R | S | S | S | S | S | - |
| 8. | HS692 | R | MS | S | R | R | R | R | R | R | R | R | R | R | R | R | Yr9+ |
| 9. | HS693 | R | R | MS | R | R | R | R | R | R | R | R | R | R | R | R | - |
| 10. | HS694 | R | R | R | R | R | NG | R | R | R | NG | R | R | R | R | R | $R$ |
| 11. | UP3114 | S | S | S | S | S | R | S | R | R | R | S | S | MS | R | S | - |
| 12. | VL3028 | S | MS | S | R | MS | R | S | R | R | R | S | R | R | R | R | Yr2+ |
| 13. | VL3029 | R | R | S | R | R | R | R | R | R | R | R | R | R | R | R | - |
| 14. | VL3030 | S | S | S | S | MS | S | MS | R | R | R | S | MR | R | R | MS | Yr2+ |
| 15. | HPW483 | MS | S | S | R | R | R | R | R | R | NG | R | R | R | R | R | Yr9+ |
| 16. | HPW484 | S | S | S | MS | MS | MR | R | R | R | R | MS | R | R | R | R | Yr2+ |
| 17. | HPW485 | MS | S | MS | R | R | R | MS | R | R | R | R | MR | R | R | R | YrA+ |
| 18. | HPW486 | S | S | S | R | MS | R | R | R | R | R | R | R | R | R | R | Yr9+ |
| 19. | HS688 | S | S | S | R | MR | MS | R | R | R | R | R | MR | R | R | R | Yr2+ |
| 20. | HS689 | R | S | S | R | R | R | R | R | R | R | R | R | R | R | R | - |
| 21. | HS690 | S | S | S | R | R | R | R | R | R | R | S | R | R | R | R | YrA+ |
| 22. | HS691 | R | S | R | R | MR | R | R | R | R | R | MS | R | R | R | R | - |
| 23. | SKW362 | S | S | S | S | MS | R | R | R | R | R | S | R | R | R | R | Yr2+ |
| 24. | UP3113 | R | S | S | R | R | R | R | R | R | R | S | R | R | R | R | - |
| 25. | VL2047 | MS | S | S | R | S | S | MS | R | R | R | R | R | R | R | S | Yr2+ |


| 26. | VL2048 | MS | MS | S | S | S | R | R | R | R | R | R | R | R | R | R | Yr2+ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 27. | VL2049 | R | MR | MS | R | R | R | R | R | R | R | R | R | R | R | R | Yr2+ |
| 28. | VL2050 | MS | MS | S | R | R | R | R | R | R | R | R | R | R | R | R | Yr2+ |
| 29. | HS507(C) | R | R | S | R | R | R | R | R | R | R | R | R | R | R | R | Yr9+ |
| 30. | HS562(C) | S | S | S | R | R | R | S | R | R | R | R | S | R | R | S | YrA+ |
| 31. | HS490(C) | MS | S | S | R | MS | R | R | R | R | R | R | R | R | R | R | Yr2+ |
| 32. | HPW349(C) | S | S | S | MS | S | S | S | R | R | R | R | S | R | R | S | Yr2+ |
| 33. | VL907(C) | S | S | S | R | R | R | R | R | R | R | R | R | R | R | R | Yr9+ |
| 34. | VL892(C) | S | S | S | S | MS | R | R | R | MS | R | MS | R | R | R | MR | Yr2+ |
| 35. | DBW377 | R | S | S | R | R | S | R | S | R | R | MR | R | R | R | R | Yr2+ |
| 36. | PBW870 | R | S | S | MS | R | R | R | R | R | R | R | R | R | R | R | Yr2+ |
| 37. | DBW372 | S | S | S | MS | MS | R | S | S | MS | R | S | R | R | R | S | Yr2+ |
| 38. | DBW318 | S | S | S | MS | MS | R | R | R | R | R | R | R | R | R | R | Yr2+ |
| 39. | DBW327 (C) | S | S | S | R | MS | R | MS | R | R | R | R | R | R | R | R | Yr2+ |
| 40. | DBW332(C) | S | S | S | MS | MS | R | MS | R | R | R | R | R | R | R | R | Yr2+ |
| 41. | DBW370 | S | S | S | MS | MS | R | S | R | R | R | MS | R | MS | R | R | Yr2+ |
| 42. | DBW371 | S | S | S | R | MS | R | MS | R | R | NG | MS | R | R | R | MS | Yr2+ |
| 43. | DBW373 | R | R | S | R | R | R | R | R | R | R | R | R | R | R | R | Yr2+ |
| 44. | PBW868 | S | S | S | R | S | R | MS | R | R | R | R | R | R | R | R | Yr2+ |
| 45. | PBW871 | S | S | S | S | S | R | MS | R | R | R | R | R | R | R | MS | Yr2+ |
| 46. | PBW872 | S | S | S | R | MS | R | MS | R | R | R | R | R | R | R | R | Yr2+ |
| 47. | HD3090(C) | S | S | S | S | S | R | R | R | R | R | R | R | R | R | R | Yr9+ |
| 48. | HI1633(C) | S | S | S | S | S | R | R | R | R | R | R | R | R | R | R | Yr9+ |
| 49. | RAJ4083(C) | S | S | S | S | S | S | MS | R | R | R | R | MR | R | R | R | Yr2+ |
| 50. | DBW320\#* | S | S | S | R | MS | S | S | R | R | MS | S | S | R | R | S | Yr2+ |
| 51. | MP1380\# | R | S | S | R | MS | R | R | R | R | R | R | R | R | R | R | - |
| 52. | DBW407 ${ }^{\text {B }}$ | R | S | S | R | R | R | R | R | R | R | R | R | R | R | R | Yr2+ |
| 53. | DDW48(d)(C) | S | S | S | S | MS | R | MS | R | R | MS | S | R | S | R | R | - |
| 54. | HI8826(d)* | S | S | S | S | S | S | MS | R | R | R | MR | NG | MS | S | R | - |
| 55. | MACS4100(d)* | S | S | S | S | S | S | S | S | S | S | S | NG | S | S | S | - |
| 56. | MP1378 | S | S | S | S | S | R | R | R | R | R | R | NG | R | R | R | Yr9+ |
| 57. | MP3552 | S | MS | S | S | S | R | R | R | R | R | R | R | R | R | R | Yr2+ |
| 58. | UAS3015 | S | S | S | R | S | R | S | R | R | R | S | S | R | R | S | Yr2+ |
| 59. | HI8839(d) | S | S | S | R | R | R | R | R | R | R | R | R | R | R | R | - |


| 60. | HI8840(d) | S | S | S | MS | MS | S | MS | R | R | NG | R | NG | R | R | R | Yr2+ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 61. | MP1358(I)(C) | MS | S | S | R | S | R | MS | R | R | R | MS | NG | R | R | R | Yr2+ |
| 62. | NIAW3922 | S | S | S | R | S | R | R | R | R | R | R | R | R | R | R | Yr9+ |
| 63. | NIDW1149(d)(C) | MS | R | S | R | NG | S | MS | S | MR | NG | S | NG | R | R | S | Yr2+ |
| 64. | UAS478(d) | S | S | S | S | R | S | R | R | R | R | R | MS | MS | S | R | - |
| 65. | DBW352\# | S | S | S | S | S | S | S | S | S | MR | S | S | R | R | S | Yr2+ |
| 66. | GW513(I)(C) | S | S | S | S | S | MS | R | S | MS | S | R | MS | R | R | MR | Yr2+ |
| 67. | GW547 $^{\text {B }}$ | S | S | S | S | S | S | S | S | S | R | S | MS | R | R | S | Yr2+ |
| 68. | HI1636(I)(C) | S | S | S | S | S | S | S | MS | MS | R | S | S | MS | MS | S | - |
| 69. | HI1650* | S | S | S | S | S | R | R | R | R | R | R | R | R | R | R | Yr9+ |
| 70. | MACS6768* | S | S | S | S | S | R | R | R | R | R | R | R | R | R | R | Yr9+ |
| 71. | MP3535* | S | S | S | R | R | R | S | R | R | R | S | MS | R | R | R | Yr2+ |
| 72. | NWS2194\# | S | S | S | MS | S | R | MS | MR | R | R | MS | MS | MR | R | R | - |
| 73. | HI1665 | S | S | S | S | S | R | MS | S | R | S | R | S | S | R | R | - |
| 74. | NIAW4028 | S | S | S | R | S | R | R | R | R | R | R | R | S | R | R | - |
| 75. | CG1036* | S | S | S | S | S | NG | S | S | S | NG | S | S | S | MS | MS | - |
| 76. | CG1040 | S | S | S | S | S | R | S | S | R | R | S | S | S | R | S | - |
| 77. | DDW47(d)(C) | R | S | S | MS | S | R | S | R | R | R | R | R | R | R | R | Yr2+ |
| 78. | DDW55(d) ${ }^{\text {Q }}$ | S | S | S | S | S | S | S | R | S | S | S | S | MS | S | S | - |
| 79. | GW532 | S | S | S | S | S | S | S | S | MS | MS | S | S | MS | R | S | - |
| 80. | HD3401 | R | S | S | S | S | S | S | S | S | R | S | S | R | S | S | - |
| 81. | HI1655 ${ }^{\text {* }}$ | S | S | S | S | S | S | S | S | S | S | S | S | R | S | S | - |
| 82. | HI1666 | S | S | S | S | S | S | S | S | S | MS | S | S | MS | MR | S | - |
| 83. | HI8823(d)(I)(C) | S | S | S | MS | S | S | MS | S | MS | R | S | MR | R | S | R | - |
| 84. | HI8830(d)* | S | S | S | MR | R | R | MR | R | MS | R | R | R | MS | S | R | - |
| 85. | MACS6795 | S | S | S | S | S | R | S | S | S | S | S | S | S | S | S | - |
| 86. | MP1377 | S | S | S | S | S | MS | R | S | MR | R | MS | R | R | MR | MS | - |
| 87. | MP3288(C) | S | S | S | R | S | S | S | MS | R | R | R | S | S | MS | S | - |
| 88. | UAS3019 | S | S | S | MS | S | R | S | S | R | R | S | S | R | R | R | Yr2+ |
| 89. | DBW316\#* | MS | S | S | R | MS | R | S | R | R | R | S | MS | MS | R | S | * |
| 90. | HD3118(C) | S | S | S | MR | MS | R | S | R | MS | R | S | S | R | R | S | Yr2+ |
| 91. | HD3392 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |
| 92. | HI1621(C) | S | S | S | MS | MS | R | S | S | MS | R | S | S | R | R | S | Yr2+ |
| 93. | PBW833* | MS | S | S | R | MR | R | R | MR | R | R | R | R | R | R | R | Yr2+ |


| 94. | PBW835 ${ }^{\text {Q }}$ | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 95. | HD3249(C) | S | S | S | R | R | R | R | R | R | R | R | MR | S | S | R | - |
| 96. | PBW826\#* | S | S | S | S | S | R | S | R | R | R | R | MS | R | R | R | Yr2+ |
| 97. | HD3388 | S | MS | S | R | R | R | S | R | R | R | R | R | R | R | R | YrA+ |
| 98. | PBW852 | S | S | S | MS | S | R | MS | R | R | R | MR | S | MS | R | R | - |
| 99. | DBW252(C) | S | S | S | R | MS | R | R | R | R | R | R | R | R | R | R | Yr2+ |
| 100. | HD3171(C) | R | MS | S | R | MS | R | S | R | R | R | R | R | R | R | R | Yr2+ |
| 101. | HD3293(C) | S | S | S | R | S | R | MR | R | R | R | R | S | R | R | R | Yr2+ |
| 102. | DBW353 | S | S | S | R | S | MS | S | S | R | R | S | MS | R | R | MS | - |
| 103. | JKW261(I)(C) | S | S | S | MS | S | S | S | R | R | R | MS | S | S | MR | R | - |
| 104. | PBW771(C) | R | MS | S | R | MS | R | R | R | R | R | R | R | R | R | R | Yr9+ |
| 105. | WH1124(C) | MS | S | S | R | MS | R | S | R | R | R | S | S | R | R | S | Yr2+ |
| 106. | HD2967(C) | S | S | S | MS | S | R | S | R | R | R | S | S | R | R | S | Yr2+ |
| 107. | HD3386 | S | S | S | R | S | S | MS | R | R | R | MS | MS | R | R | R | Yr2+ |
| 108. | DBW359 | S | S | S | R | S | MS | MR | R | R | R | R | MS | R | R | R | Yr2+ |
| 109. | DBW358 | S | S | S | R | S | R | S | R | R | R | MS | S | R | R | S | Yr2+ |
| 110. | NIAW3170(C) | S | S | S | S | S | S | S | R | MS | R | S | S | MS | R | S | - |
| 111. | HD3043(C) | R | MS | MS | R | R | R | R | R | R | R | R | R | R | R | R | Yr9+A+ |
| 112. | HD3369* | S | S | S | R | MS | S | S | S | R | R | S | S | MS | R | S | - |
| 113. | HD3397 | S | S | S | R | MS | R | R | R | R | R | R | MR | R | R | R | Yr2+ |
| 114. | HD3400 | S | S | S | R | S | R | MS | R | R | R | R | R | R | R | R | - |
| 115. | HD3418 | MS | MS | MS | R | R | R | R | R | R | NG | R | R | R | R | MS | Yr2+ |
| 116. | HI1628(C) | S | S | S | MR | S | R | S | R | R | R | S | S | R | R | S | Yr2+ |
| 117. | HI1653* | S | S | S | R | MS | R | S | R | R | R | S | MS | R | R | S | Yr2+ |
| 118. | HI1654* | S | S | S | R | S | R | MS | R | MS | R | S | S | R | R | S | Yr2+ |
| 119. | HUW838(I)(C) | S | S | S | R | MS | R | MS | R | MR | R | MS | MS | R | R | S | Yr2+ |
| 120. | UP3090 | S | S | S | R | S | R | R | R | R | R | R | R | R | R | R | - |
| 121. | WH1402 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |
| 122. | WH1403 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |
| 123. | DBW365 | S | S | S | R | MS | R | S | R | R | R | S | S | R | R | S | Yr2+ |
| 124. | DBW366 | S | S | S | S | MS | R | S | R | R | R | MS | MS | R | R | MS | Yr2+ |
| 125. | DBW402 | S | S | S | R | S | R | S | R | R | R | S | MS | R | R | S | Yr2+ |
| 126. | HD3415 | S | S | S | MS | S | S | S | R | R | R | MS | S | R | R | MS | Yr2+ |
| 127. | Kharchia65(C) | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | - |


| 128. | KRL19(C) | S | S | S | S | S | R | S | S | MS | MS | MS | S | S | S | R | - |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 129. | KRL2006 | S | S | S | S | S | S | S | S | S | R | S | MS | R | MR | R | - |
| 130. | UAS310 | S | S | S | MS | S | MS | S | R | R | R | S | S | R | MS | S | - |
| 131. | KRL2021 | S | S | S | R | MS | R | R | R | R | R | R | R | R | R | R | Yr2+ |
| 132. | KRL210(C) | S | S | S | R | S | S | S | R | R | R | S | MS | R | R | S | Yr2+ |
| 133. | RAJ4565 | S | S | S | S | S | S | S | S | MS | MS | S | S | S | S | R | - |
| 134. | HD3438 | S | S | S | S | S | R | S | S | S | S | S | MS | R | R | MS | - |
| 135. | HD3439 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |
| 136. | CG1029(C) | S | S | S | S | S | R | S | S | S | R | S | S | R | R | S | Yr2+ |
| 137. | HD3407* | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |
| 138. | HI1634(C) | S | S | S | S | S | R | R | R | R | R | R | R | R | R | R | Yr9+ |
| 139. | MP3336(C) | S | S | S | S | S | MS | S | MS | R | R | MS | MS | R | R | MS | Yr2+ |
| 140. | HI8498(C) | S | S | S | R | MR | S | S | R | R | R | R | NG | MS | S | R | - |
| 141. | HI8759(C) | S | S | S | MS | S | MS | S | R | R | R | R | MR | MS | S | R | - |
| 142. | HI8846 | S | MS | MS | MS | R | S | MS | R | R | R | R | R | MS | S | R | - |
| 143. | HI8847 | S | S | MS | R | MS | R | MS | R | R | R | R | MR | MS | MS | R | - |
| 144. | HD2733(C) | S | S | S | MS | S | R | R | R | R | R | R | R | R | R | R | Yr9+18+ |
| 145. | HD3411* | S | S | S | R | S | R | S | R | MS | R | S | R | R | R | R | Yr2+ |
| 146. | HD3440 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |
| 147. | HD3406* | R | MR | S | R | R | R | S | R | R | R | R | R | R | R | R | Yr2+ |
| 148. | HD3436 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |
| 149. | HD3437 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | $R$ |
| 150. | PBW175(C) | S | S | S | R | S | R | S | R | R | R | S | MR | R | R | S | Yr2+18+ |
| 151. | PBW677(C) | S | S | S | R | S | R | R | R | R | R | R | R | R | R | R | Yr2+ |
| 152. | PBW901 | S | S | S | R | MR | R | R | R | R | R | S | R | R | R | R | Yr2+ |
| 153. | PBW902 | R | S | S | R | R | R | S | R | R | R | R | R | R | R | R | Yr2+ |

* Different seed lot to that of previous cropping season, - Gene not postulated, $R$ resistant to all pathotypes

