

Durability of Adult Plant Resistance Gene *Yr18* in Partial Resistance Behavior of Wheat (*Triticum aestivum*) Genotypes with Different Degrees of Tolerance to Stripe Rust Disease, Caused by *Puccinia striiformis* f. sp. *tritici*: A Five-Year Study

Ghady E. Omar ^{1,*}, Yasser S. A. Mazrou ^{2,3}, Mohammad K. EL-Kazzaz ⁴, Kamal E. Ghoniem ⁴, Mamduh A. Ashmawy ¹, Amero A. Emeran ⁴, Ola I. Mabrouk ¹ and Yasser Nehela ^{5,6,*}

¹ Wheat Diseases Research Department, Plant Pathology Research Institute, Agricultural Research Center, Giza 12619, Egypt; Dr_ashmawy2011@yahoo.com (M.A.A.); Ola_pathology@yahoo.com (O.I.M.)

² Business Administration Department, Community College, King Khalid University, Guraiger, Abha 62529, Saudi Arabia; yasser.mazroua@agr.tanta.edu.eg

³ Department of Agriculture Economic, Faculty of Agriculture, Tanta University, Tanta 31527, Egypt

⁴ Agricultural Botany Department, Faculty of Agriculture, Kafrelsheikh University, Kafr Elsheikh 33516, Egypt; kelkazzaz@yahoo.com (M.K.E.-K.); Kamalghoniem@yahoo.com (K.E.G.); emeranaa@yahoo.com (A.A.E.)

⁵ Department of Agricultural Botany, Faculty of Agriculture, Tanta University, Tanta 31511, Egypt

⁶ Department of Plant Pathology, Citrus Research and Education Center, University of Florida, 700 Experiment Station Rd., Lake Alfred, FL 33850, USA

* Correspondence: ghadyezzatomar@yahoo.com (G.E.O.); yasser.nehela@ufl.edu (Y.N.)

Table S1. Name and pedigree/selection history of wheat genotypes used in this study.

| Genotypes | Pedigree |
|------------------------|--|
| Sakha 94 | OPATA/RAYON//KAUZ. CMBW90Y3180 0TOPM-3Y010M010M-010Y-10M-015Y-0Y-0AP-0S |
| Sakha 95 | PASTOR // SITE / MO /3/ CHEN / AEGILOPS SQUARROSA (TAUS) // BCN /4/ WBLL1. CMA01Y00158S-040POY-040M-030ZTM-040SY-26M-0Y-0SY-0S. |
| Gemmeiza 11 | BOW"S"/KVZ"S"//7C/SER182/3/GIZA168/SAKHA61GM58 20-3GM-1GM-2GM-0GM |
| Gemmeiza 12 | OTUS/3/SARA/THB//VEECMSS97Y00227S-5Y010M-010Y-010M-2Y-1M-0Y-0GM |
| Giza 168 | MAL / BUC // SERI. CM93046-8M-0Y-OM-2Y-0PMRL / BUC // SERI CM93046-8M-0Y-0M-2Y-0B |
| Giza 171 | SAKHA 93/GEMMEIZA 9. S.6-1GZ-4GZ-1GZ-2GZ-0S |
| Sids 12 | BUC//7C/ALD/5/MAYA74/ON//1160.147/3/BB/GLL/4/CHAT"S"/6/MAYA/VUL//CMH74A.630/4*SX. SD7096-4SD-1SD-1SD-0SD |
| Sids 14 | Bow"s"/Vee"s"//Bow's'/Tsi/3/BANI SUEF 1. SD293-1SD-2SD-4SD-0SD |
| Misir 1 | OASIS / SKAUZ // 4*BCN /3/ 2*PASTOR. CMSS00Y01881T-050M-030Y-030M-030WGY-33M-0Y-0S |
| Misir 2 | SKAUZ / BAV92. CMSS96M03611S-1M-010SY-010M-010SY-8M-0Y-0S |
| Misir 3 | ATTILA*2/PBW65*2/KACHU. CMSS06Y00582T-099TOPM-099Y-099ZTM-099Y-099M-10WGY-0B- 0EGY |
| Shandaweel 1 | SITE/MO/4/NAC/TH.AC//3*PVN/3/MIRLO/BUC. CMSS93B00567S-72Y-010M-010Y-010M-3Y-0M- 0HTY-0SH |
| Morocco | Not available |
| Jupateco 73 'R' | (Yr18)II-12300//Lerma-Rojo-64/II-8156/3/Norteno-67[1281]; (S)Jupateco-73 |

Table S2. Marker name, sequences, PCR annealing temperature, expected product size and reference used for analysis of *Yr18* in selected wheat genotypes.

| Marker Name | Marker Type | Sequence of Primers (5' – 3') | Product Size (bp) | Annealing Temp. (C°) | Reference |
|----------------|-------------|--|-------------------|----------------------|--------------------------------|
| <i>csLV34</i> | STS | F: GTTGGTTAAGACTGGTGATGG R: TGCTTGCTATTGCTGAATAGT | 150 229 | 55 | Lagudah <i>et al.</i> , (2006) |
| <i>cssfr 1</i> | SSR | F: TTGATGAAACCAGTTTTTTTTCTA R: GCCATTTAACATAATCATGATGGA | 517 | 58 | Lagudah <i>et al.</i> , (2009) |
| <i>cssfr2</i> | SSR | F: TTGATGAAACCAGTTTTTTTTCTA R: TATGCCATTTAACATAATCATGAA | 523 | 58 | Lagudah <i>et al.</i> , (2009) |