**Evaluation of *Triticum durum - Aegilops tauschii* derived primary synthetics as potential sources of heat stress tolerance for wheat improvement**

**Amandeep Kaur1\*, Parveen Chhuneja1, Puja Srivastava2, Kuldeep Singh1,3 and Satinder Kaur1**

1. School of Agricultural Biotechnology, Punjab Agricultural University, Ludhiana, India
2. Department of Plant Breeding and Genetics, Punjab Agricultural University, Ludhiana, India
3. Present address: National Bureau of Plant Genetic Resources, Pusa Road, New Delhi, India

\*Corresponding author email: aman-coasab@pau.edu

**Table S1: Details of the plant material used in present study**

|  |  |  |
| --- | --- | --- |
| **Material** | **Cultivar** | **Pedigree** |
| ***T. durum*** | PBW114 |  |
| PBW233 |  |
| ***T. aestivum*** | BWL4444 | HD2967+*Yr10* |
| BWL3279 | DBW17+*Yr5* |
| BWL3531 | PBW343+*Yr17*+*Yr70*+*Lr76* |
| **Synthetic Hexaploid****Wheat** | Syn14102 | PBW114-*Ae. tauschii* pau14102 synthetic |
| Syn14170 | PBW114-*Ae. tauschii* pau14170 synthetic |
| Syn9809 | PBW114-*Ae. tauschii* pau9809 synthetic |
| Syn14135 | PDW233-*Ae. tauschii* pau14135 synthetic |
| Syn14128 | PBW114-*Ae. tauschii* pau 4128 synthetic |
| Syn3761 | PBW114-*Ae. tauschii* pau3761 synthetic |
| Syn14576 | PBW114-*Ae. tauschii* pau14576 synthetic |

**Table S2: Percent reduction in different traits under Late Sown Conditions**

|  |  |
| --- | --- |
| **Genotype** | **Percent Reduction** |
| **SPAD** | **pTN** | **SPN** | **DF** | **GFD** | **SL** | **PH** | **GL** | **GB** | **TGW** |
| PBW114 | 14.28 | 45.68 | 20.19 | 12.38 | 19.79 | 7.65 | 8.84 | 9.78 | 10.18 | 41.67 |
| PDW233 | 13.37 | 46.85 | 26.35 | 13.14 | 17.63 | 7.55 | 12.85 | 1.67 | 10.49 | 42.08 |
| Syn3761 | 2.53 | 45.49 | 4.91 | 18.94 | 28.80 | 14.57 | 16.27 | 3.44 | 9.09 | 30.23 |
| Syn9809 | 4.41 | 35.68 | 19.33 | 23.67 | 22.96 | 24.10 | 9.61 | 1.71 | 2.32 | 21.20 |
| Syn14102 | 5.99 | 44.15 | 7.75 | 24.57 | 24.92 | 4.36 | 17.32 | 0.82 | 2.63 | 25.63 |
| Syn14128 | 2.56 | 49.70 | 15.83 | 19.93 | 26.22 | 10.52 | 15.89 | 1.86 | 1.07 | 21.72 |
| Syn14135 | 6.35 | 41.84 | 10.15 | 23.18 | 14.20 | 13.01 | 12.59 | 2.72 | 4.69 | 23.97 |
| Syn14170 | 8.99 | 45.00 | 14.55 | 22.75 | 30.25 | 12.41 | 23.37 | 1.35 | 5.98 | 25.70 |
| Syn14576 | 5.96 | 46.81 | 3.79 | 26.26 | 23.37 | 6.59 | 13.40 | 3.63 | 2.76 | 21.18 |
| BWL3279 | 9.41 | 45.72 | 8.73 | 19.49 | 24.29 | 12.46 | 20.67 | 0.64 | 5.43 | 32.09 |
| BWL3531 | 9.24 | 51.03 | 4.57 | 21.22 | 32.34 | 11.53 | 20.30 | 4.19 | 6.60 | 38.16 |
| BWL4444 | 4.20 | 47.85 | 9.10 | 19.14 | 32.67 | 14.42 | 14.41 | 1.14 | 5.07 | 27.78 |

**Table S3: Response of Selected Genotypes Towards Heat Stress**

|  |  |  |
| --- | --- | --- |
| **Genotype** | **Productive Tillers per plant** | **Thousand Grain Weight** |
| PBW114 | 54.32 | 58.33 |
| PDW233 | 53.15 | 57.92 |
| Syn3761 | 54.51 | 69.77 |
| Syn9809 | 64.32 | 78.80 |
| Syn14102 | 55.85 | 74.37 |
| Syn14128 | 50.30 | 78.28 |
| Syn14135 | 58.16 | 76.03 |
| Syn14170 | 55.00 | 74.30 |
| Syn14576 | 53.19 | 78.82 |
| BWL3279 | 54.28 | 67.91 |
| BWL3531 | 48.97 | 61.84 |
| BWL4444 | 52.15 | 73.16 |

**\*Values depicted as HTI (Heat Tolerance Index)**