

Genetic resources in creating sustainable diseases of introgressive spring wheat forms

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Introgression spring wheat forms with *T. militinae*, *T. timopheevii*, *T. dicoccum*, *T. kiharae* and *T. zhykovskiyi* were screened for disease resistance (leaf, stem, yellow rust, septoria, mildew, smut) in: Almalyk, Karabalyk; OmSAU, Turkey; on the infectious background St. Petersburg, Otar; Moscow, Turkey; at the cytological and genetic level – KazRIAPG, ICG and ARRIPS, CIMMYT. On a natural infectious and background from 7 to 21 samples (23–50 %) were allocated for leaf rust resistance: 6583 × *T. timopheevii* (Lr34, Lr36, Lr68), Kazakhstanskaya 10 × *T. dicoccum* (Lr46, Lr68), 6569 × *T. militinae* (Lr34, Lr46), 6625 × *T. timopheevii* (Lr14, Lr46) and 6631 × *T. timopheevii* (Lr9, Lr14) and species *T. militinae* (Lr19, Lr68), *T. timopheevii* (Lr19, Lr68) and *T. kiharae* (Lr68). According to stem rust, advanced lines block was immune (Sr2) and highly resistant (5–10) relative to cvs-standard Kazakhstanskaya 10 (15–75) and to *T. militinae*, *T. timopheevii*, *T. kiharae* Sr36. 9 synthetic spring wheat lines were found (Kazakhstanskaya 10 × *T. dicoccum*, 6569 × *T. militinae*-1, 6569 × *T. militinae*-2, 6628 × *T. militinae*, 6625 × *T. timopheevii*-1, 6625 × *T. timopheevii*-2, 6625 × *T. timopheevii*-3, 6628 × *T. timopheevii*-1 and 6628 × *T. timopheevii*-2), which show horizontal rust resistance. Genotypes 6628 × *T. militinae* and 6569 × *T. militinae*-1 (TIRS.1BL; estimated substitution 2B (2G) or translocation T2B-2G); 6569 × *T. militinae*-2 (TIRS.1BL; T3GS/3BL) (I.G. Adonina, unpublished data). According to maximum yield, genotypes with brown and stem rust resistance are 6569 × *T. militinae*-2 (3.2–5.2 t/ha); 6569 × *T. militinae*-1 (3.0–5.7 t/ha); 6628 × *T. timopheevii*-3 (3.0–5.7 t/ha). The following genotypes were distinguished by minimum powdery mildew infection: Kazakhstanskaya 10 × *T. timopheevii*; 6631 × *T. timopheevii* (0–5 %); 6625 × *T. timopheevii*-2 (10–15 %). Selected resistance forms were evaluated by high yield, quality, DUS-test, transferred to double haploid basis and for (Tim-biday, Gunticum, VEK).