

Use of a synthetic form Avrodes for modification of the genome of common wheat

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The synthetic form Avrodes (BBAASS) was used for modification of the genome of common wheat. This form possesses the ability of *Aegilops speltoides* to suppress the activity of *Ph* gene(s) and stimulate homoeologous chromosome pairing. Synthetic recombinant forms (RS-forms) were obtained in which the first two genomes A and B originate from common wheat, and the third genome combining the chromosomes of the S genome from *Aegilops speltoides* with the chromosomes of other wild species. Introgression lines obtained on the basis of RS-forms can carry genetic material of two wild species, both separately and together. Currently a cytological study (C-banding and FISH) of lines derived from the synthetic recombinant form RS7 (BBAAUS) has been carried out. Lines are resistant to leaf rusts and may presumably have genetic material from both *Ae. speltoides* and *Ae. umbellulata*. Chromosomal changes affected 10 of the 12 studied lines. In most cases the lines carry translocations from *Ae. speltoides*. Translocations from this species were identified on chromosomes 1D, 2D, 3D, 2B, 4B, 5B and 7B. Lines with substituted chromosomes 1B(1S), 4D(4S), 5D(5S) and 7D(7S) were also identified. Lines with translocations only from *Ae. umbellulata* not identified. Two lines carry simultaneously genetic material from *Ae. speltoides* and *Ae. umbellulata*. In line 3379 translocations were detected in the short arm of chromosome 7D from *Ae. umbellulata* (T7DL.7DS-7US) and on chromosomes 5B, 1D, 2D from *Ae. speltoides*. Line 4626 presumably has a translocation on the long arm of chromosome 2D from *Ae. umbellulata* (T2DS.2DL-2UL) and translocation T7SS.7SL-7DL from *Ae. speltoides*. The translocations T1DS.1DL-1SL, T3DS.3DL-3SL from *Ae. speltoides* and T2DS.2DL-2UL, T7DL.7DS-7US from *Ae. umbellulata* obtained for the first time.