

TRITICUM DURUM X TRITICUM TAUSCHII SYNTHETIC HEXAPLOID WHEATS--NEW
GERMPLASM FOR WHEAT BREEDING

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Fifty synthetic hexaploid (SH) wheats developed by CIMMYT from interspecific crosses between selected tetraploid Triticum species and different accessions of T. tauschii (= Aegilops squarrosa) were grown at the Mexican national research station (INIFAP), Yaqui Valley, Sonora, Mexico. The study was conducted to evaluate the yield potential and other agronomic traits of these SH wheats as well as their resistance to leaf and stem rusts and Karnal bunt. Among the materials tested, the Cndo/R143//Ente 's'/Mex 's'/3/T. tauschii-derived lines showed the highest significant mean grain yield (6514 kg/ha), above-ground biomass at maturity (18.1 t/ha), grains/m² (10,050) and spikes/m² (444). They also matured the earliest physiologically at 126.5 days. Moreover, these lines possessed the highest number of grains/spike (22.8) similar to Altar/T. tauschii lines (21.6). The shortest genotypes were from the Chen 's'/T. tauschii cross (88.8 cm). The lines derived from the Cnd/R143//Ente 's'/Mex 's'/3/T. tauschii and Chen 's'/T. tauschii crosses flowered the earliest at 96.9 and 98.0 days, respectively. Most entries exhibited adult plant resistances to leaf and stem rusts. A very high frequency of immune resistance to Karnal bunt also occurred among the materials. Finally, the information generated by the present study could be successfully utilized by breeders in their future wheat improvement work.