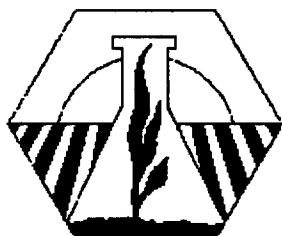


**2001**  
**Annual Meetings**  
**ABSTRACTS**



American Society of Agronomy  
Crop Science Society of America  
Soil Science Society of America

October 21-25, 2001  
Charlotte, North Carolina

**2001 ANNUAL MEETINGS ABSTRACTS**

**AMERICAN SOCIETY OF AGRONOMY**

**93rd Annual Meeting**

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**A-6 - International Agronomy**

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**A-7 - Agricultural Research Station Management**

**Title**

Synthetic Derived Wheats Under Reduced Irrigation

**TSNo**

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**Keywords**

BREAD WHEAT

SYNTHETIC HEXAPLOIDS

DROUGHT TOLERANCE

AGRONOMIC PERFORMANCE

**abstract**

Thirty-seven percent of the developing world's wheat area is semiarid where moisture is the principal production constraint. This emphasizes the importance of developing drought tolerant wheat germplasm. Two field experiments were conducted at the Mexican National Institute of Agriculture at the Yaqui Valley Sonora to test the agronomic potential of 260 BC2F1-derived F6 lines with *Aegilops tauschii* base. These were three backcross populations of Altar 84/*Ae. tauschii* 219//3\*Seri 82, Croc1/*Ae. tauschii* 224//3\*Opata 85, and Duerd/*Ae. tauschii* 214 //3\*Bcn 88. Trials were arranged in an Alpha Lattice Design with three replications. The experimental plots, each consisting of 8 rows, 20 cm apart and 4 m long, were machine-drilled into dry soil at a seeding rate of 100 kg/ha. Mean of the crosses showed lines superior to the recurrent bread wheat parents on 1000-grain weight (38%), spike length (10%), test weight (8%), biomass at maturity (2%) and grain yield (2%). The best yield (5042 kg/ha) was obtained on Duerd/*Ae. tauschii* 214 //3\*Bcn 88 cross. Twenty-one percent of the derivatives are taller and later maturing (3%) than their recurrent parents. On mean of nine yield-related traits, 19% of the lines are superior to the recurrent parents.

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