Cross-performance of Subtropical Maize Recombinant Inbred Lines Derived from Segregating Populations. (C01*srinivasan153225-Poster)*

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Abstract:

Seventy recombinant inbred lines (RILs) from a cross between tropical lines from La Posta (drought tolerant) by Tuxpeno Caribe with a line developed in Zimbabwe. The RILs were developed through single seed descent method until S5 by sib-mating and advanced ear to row until S8 when the RILs were test-crossed to 3 subtropical testers. Resulting line x tester combinations were evaluated in 4 Mexican locations during 2001. Data across locations showed grain yield ranging from 11.6 ton/ha to 5.3 ton/ha. General combining ability of RILs with testers A, B and C were 0.33, 0.17, and -0.50 respectively. In general, these RILs can be grouped under heterotic group B although they crossed well with both A and B and could possibly could fall under a new heterotic group C. Molecular basis for developing the RILs came from RFLP data involving 142 loci. Fifteen top yielding RILs across locations presented 2 regions that might be of interest as showing a clear predominance of one type of allele. The regions were identified on chr 5 (bnl5.71, umc107, and umc27) and on chr 3 (umc2 and umc317), with the allelic shift was towards allele A coming from Ac7643.

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