

Blanco and Oliveira reported (Genetica Iberica; Vol. II, 15-28) the CHAIN CROSSING SYSTEM as a method to utilize, continually, hybrid vigor. They reported that n-way crosses, (((A . B) x C) x D) x E) x F, are equal or superior to the single crosses of the two last lines: E x F.

In 1953, eleven 4-way crosses, ((A . B) x C) x D, and fourteen single crosses, (all possible combinations between the inbreds of the 4-way crosses), were tested together in one randomized block trial.

Using the equation $((A . B) x C) x D = 1/2 (C x D) \div 1/4 (B x D) \div 1/4 (A x D)$, and assigning to it the yields of the single crosses, the theoretical yields of the 4-way crosses were calculated. Theoretical and real yields of the 4-way crosses manifested a correlation coefficient = 0.9988; $P < 0.01$.

Significant differences of the trial = 861 Kgs./Ha., $P < 0.05$
1,143 " $P < 0.01$

Extreme yields 11,192 Kgs./Ha. and 7,413 Kgs./Ha.

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