Studies on combining ability of promising lines for yield and its components in tomato

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ABSTRACT
Thirty two F₁ hybrids developed as a result of line x tester design involving 8 lines and 4 testers were evaluated in RCBD with three replications during 2005-2006 for tomato for yield and its components. A measure of general and components of genetic variance would be of great value in choice of parents and for effective crosses for crop improvement. Generally, general combining ability is largely associated with additive gene action. While the specific combining ability was the result of dominance epistasis and genotype environment interactions (Spagoe and Tatum, 1942). The analysis of variance for all the characters studied indicated significant differences among hybrids. The line x tester analysis for combining ability revealed the role of non-additive gene action for all the traits under consideration, except for number of primary branches indicating preponderance of non-additive components of genetic variance.

Key words: Tomato, Hybrids, Genetic variance, Crop improvement