

ESTIMATION OF COMBINING ABILITY EFFECTS, HETEROSIS AND HETEROBELTIOSIS BY LINE X TESTER METHOD IN MAIZE

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ABSTRACT

The data from an experiment consisting of four testers and six lines of maize selected deliberately have been analysed. The study showed higher specific combining ability for grain yield, thousand kernel weight, number of nodes, first ear height, ear length and earliness, but higher general combining ability for plant height and number of rows on ear. The presence of marked additive and non-additive gene effects indicated the need for exploiting both fixable and non-fixable components of genetic variance for increasing productivity in maize. Of parental lines, N.7A, H.96, A.619, W-552 and IDRN Cornell were found to possess high general combining ability for yield. Parent A.634 contributed for thousand kernel weight whereas H.96 was good general combiner for plant height and ear height. The crosses N.7A × IDRN Cornell, H.96 × ALKD-222, N.7A × W-552, A.619 × W-552, DN.B × IDRN Cornell and H.96 × IDRN Cornell might be considered as promising combinations in terms of their yields, heterosis and heterobeltiosis and specific combining ability estimates.