Combining Ability for Yield, Yield Attributes and Protein Content in Maize (*Zea mays* L.)

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ABSTRACT

Combining ability studies were conducted using 10 parents and their 45 hybrids obtained from a half-diallel mating for eleven grain yield and yield components over two locations (Hyderabad and Palem) and two seasons (*kharif,* 2002 and *rabi,* 2002-03). The studies revealed significant *GCA* and *SCA* effects for all the traits. The parental lines P_{8-} and P_9 were early and contributed maximum favourable genes for maturity characters. P_8 and P_9 for plant height and ear height, P_1, P_3 and P_8 for ear length, P_2 and P_8 for ear girth were the good general combiners. Considering the two locations and two seasons, P_2 and P_8 contributed more useful genes for number of kernel rows per ear and number of kernels per row. Parents P_1, P_2, P_8 and P_{10} for grain yield and P_4, P_5 and P_6 for protein content turned out to be good general combiners. Among the crosses, P1 X P8, P2 X P5, P2 X P8, P2 X P9, P4 X P6, P4 X P7, P5 x P7 and P6 x P7 were the best specific crosses for grain yield and four crosses *viz*., P3 X P5, P3 X P9, P4 X P9 and P4 x P10 turned out to be good specific combiners for protein content.

Key words : Combining ability, Locations and seasons, Maize, Protein content, Yield.