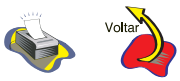

COMBINING ABILITY OF INBRED LINES DERIVED FROM A DENT MAIZE SYNTHETIC CMS 61. Gama EEG, Meireles WF, Pacheco CAP, Parentoni SN, Santos MX. Embrapa Milho e Sorgo. gamaelto@cnpms.embrapa.br

Abstract: The objectives were to study the combining abilities and the identification of lines, derived from a synthetic Maize (*Zea mays* L.) CMS 61, in a diallel crosses, as nominees for more stable and superior yielding hybrids combinations with flint heterotic group. The 10 inbred were crossed to form 45 single crosses in 1999. Parental inbred and crosses together with a single cross commercial hybrid were evaluated using a 7 x 8 simple rectangular lattice design at four locations during the 1999/00 Summer season. Data were collected for several agronomic traits, but only ear yield (kg/ha) is discussed. For the analysis of this trait, there were employed Griffing´s (1956) method 4, model 1, over locations.The combining ability analysis of variance of the diallel data over locations showed highly significant ($P<0.01$) effects for locations, crosses and lines, general combining ability (GCA), specific combining ability (SCA). Genotype x Locations and GCA x Locations were also significant ($P<0.05$), but SCA x Location was not significant. Means of the crosses over the four locations ranged from 6367.78 kg/ha to 9493.37 kg/ha. Results showed that additive and non-additive gene effects were important in this diallel crosses study. Therefore, there were crosses specificity for each location indicating the importance of SCA effects over GCA effects at all locations. The selected lines should prove useful in tropical conditions.Key words: *Zea mays* L., diallel, inbred lines, combining ability, ear yield. Órgão Financiador : EMBRAPA