Int. J. Agricult. Stat. Sci. Vol. 16, Supplement 1, pp. 1421-1426, 2020 www.connectjournals.com/ijass
DocID: https://connectjournals.com/03899.2020.16.1421 ISSN : 0973-1903, e-ISSN : 0976-3392

ORIGINAL ARTICLE

STUDYING SOME GENETIC IN MAIZE BY LINE × TESTER ANALYSIS

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Abstract: Three male inbreds crossed on 6 female inbreds of maize were crossed in spring 2019. That was in Remedy city 43.26^0 longitude and 33.43 latitude, Anbar, Iraq. There were 18 crosses seeds obtained and grown in fall planting of same year along with male and female inbreds. The objectives were to determine combining ability and some other genetic parameters. The inbreeds AGR11 gave higher plant grain yield (120.51g), while the cross AGR3 × AGR11 gave higher plant grain yield (2.51g). Tester inbred AGR3 gave higher positive effect of combining ability in grain yield (2.51g). The best effect of general combining ability in grain yield and rows per ear for inbred DR-B1 are 5.511 and 0.593, respectively. This initiated the high magnitude of this inbred to transfer traits to the cross. The cross S7 × AGR 21 gave higher effect of positive specific combining ability of grain yield (5.611g). General combining ability component variance was less than specific combining ability. Over dominance variance (σ^2D) was higher than additive variance (σ^2A) for all traits studied. This indicates that over dominance effect was controlling most of traits. That lead to low h^2n.s% and degree of dominance. We can conclude that some inbreds could be improved by salting and selection to develop elite hybrids.

***Key words*:** Heritability, Over dominance, Additive variance, Randomized complete block design (RCBD).

Cite this article

Zeyad A. Abdul Hamed, Sinan A. Abas and Aayd A. Abed (2020). Studying some genetic in Maize by line × tester analysis. *International Journal of Agricultural and Statistical Sciences.* DocID: https://connectjournals.com/03899.2020.16.1421