

ESTIMATION OF HETEROSIS AND COMBINING ABILITY IN MAIZE (*Zea mays* L.) BY HALF DIALLEL CROSSING .

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ABSTRACT

Six inbred lines of corn (*Zea mays* L.) were studied planted (W13R , IK8 , IK58 , AGR183 , R153 and OH40) to attain hybridization program of (Half – Diallel Cross). The research included 21 genotypes (6 parents + 15 hybrids) grown in fields of Agriculture College / Tikrit university in Autumn season of (2008) by using RCBD design with three replications , to study heterosis and combining ability for characters (number of days to male and female flowering , plant height , ear height , leaf area , number of plant ears , number of ear rows , number of row grains , number of ear grains , weight of 300 grains , shattering rate and individual plant yield .

The research showed that there were significantly differences at 1% level for all characters except date of male and female flowering characters which showed signification differences at 5% level only , also showed that the hybrids (W13R×IK58) , (W13R×OH40) , (IK8×IK58) and (AGR183×R153) showed desired heterosis for most characters studied as compared with mid parents . Two parents (W13R and AGR183) showed good and desired general combining ability , while the hybrids (W13R×IK58) , (W13R×OH40) , (IK8×IK58) and (AGR183×R153) were showed high and good desired specific combining ability in most of the studied characters .