



RESEARCH ARTICLE :

Heritability, variability and genetic advance for grain yield and its component characters in maize (*Zea mays* L.)

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ARTICLE CHRONICLE :

Received :

20.07.2017;

Accepted :

16.08.2017

SUMMARY : Knowledge of the magnitude of genetic variability, heritability and genetic gains in selection of desirable characters could assist the plant breeder in ascertaining criteria to be used for the breeding programmes. Eighteen (15 lines and 3 testers) open pollinated maize genotypes were evaluated at Agricultural Research Station, Madhira, Prof. Jayashanker Agricultural University of Telangana during 2015 and 2016 cropping seasons to estimate genetic variability, heritability and genetic advance of grain yield and its component characters. The effect of genotype and genotype by year interaction were significant for ear height and seed yield, while the effect of year was highly significant ($P < 0.01$) for all the characters. Low to moderate genotypic and phenotypic co-efficients of variation were observed for all the characters except for ear height and seed yield which recorded high variation both at phenotypic and genotypic levels indicating profound influence of environment in the expression of these traits. High heritability estimates were recorded by all the characters whereas high heritability along with high genetic advance was recorded for plant height, ear height and seed yield per plant which provides evidence that these parameters were under the control of additive gene effects and effective selection could be possible for improvement for these characters. Moderately high values for genetic advance as percentage of mean was recorded for plant height, ear height, ear length, number of kernels per row, test weight and seed yield per plant indicating responsiveness of selection for bringing improvement in these characters for ultimate yield improvement in maize genotypes under study.

KEY WORDS :

Heritability,
Variability, Maize

How to cite this article : Shivani, D. and Prasad, B.V.V. Vara (2017). Heritability, variability and genetic advance for grain yield and its component characters in maize (*Zea mays* L.). *Agric. Update*, **12** (TECHSEAR-8): 2146-2149.

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