ESTIMATION OF COMPONENTS OF GENETIC VARIANCE AND GRAPHICAL ANALYSIS IN FIELD PEA (*PISUM SATIVUM* (L.) VAR. *ARVENSE*)

S.S. Chauhan,* Y. Ravindrababu and A.M. Patel

Centre of Excellence for Research on Pulses,
S.D. Agricultural University, Sardarkrushinagar- 385 506, Gujarat, India
Email: surbhi6691@yahoo.in

Received-07.06.2015, Revised-15.06.2015

Abstract: Genetic analysis was carried out by 8 x 8 diallel analysis (excluding reciprocals) of Field pea (Pisum sativum (L.) *var arvense*) genotypes. The results of t^2 test indicated the fulfillment of assumptions required under diallel analysis for all the characters under study except number of primary branches, grain yield (g) and harvest index (%). Narrow sense heritability was low for number of seeds per pod and most of the other trait except Days to 50% flowering and plant height which had moderate to high heritability. A higher proportion of dominant genes were observed in parent PRAKASH for affecting number of pods per plant. The parental line ADARSH was found having maximum recessive gene for increasing the protein content.

Keywords: Degree of dominance, Dialle, Fieldpea, Gene action

REFERENCES

Dalia, M., Nassef, T. and El-Rawy, M.A. (2013). Analysis of gene effects controlling some traits in gardenpea (*Pisum sativum* L.). *Aust. J. of Basic and App. Sci.*, **7** (1) : 537-542.

Griffing, B. (1956a). A generalized treatment of the use of diallel crosses in quantitative inheritance. *Heredity*. **10** : 31-50.

Hayman, B.I. (1954b).The analysis of variance of diallel tables. *Biometrics*. **10** : 235-244.

Kearsey, M.J. (1965). Biometrical analysis of random mating population : A comparison of five experimental designs. *Heredity*. **20** : 205-235.

Kosev, V.I. (2013). Inheritance of earliness and vegetation period in pea (*Pisum sativum* L.) genotypes. *Banat's J. Biotech.*, **4** (8) : 35-41.

Mather, K. and Jinks, J.L. (1971). *Biometrical Genetics* (2nd Ed.). Chapman and Hall, London, New York.

Punia, S.S., Baldev, Ram., Koli, N.R., Ranwha, B.R. and Maloo, S.R. (2013). Genetics studies in relation to yield and its component in fieldpea (*Pisum sativum* L.), *Legume Res*., **36** (2) : 98-104.

*Corresponding Author