## GENETIC ANALYSIS FOR YIELD AND ITS ATTRIBUTES IN F<sub>3</sub> GENERATION IN BLACKGRAM (VIGNA MUNGO (L.) HEPPER) GERMPLASM

## E. Sairam\*, G. M. LAL and Y. Vinod Kumar Reddy

Department of Genetics and Plant Breeding, Naini Agriculture Institute, Sam Higginbottom
University of Agriculture, Technology & Sciences, Prayagraj,
Uttar Pradesh, 211007, India
Email: sairameriventi@gmail.com

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**Abstract:** The present investigation was prevailed to examine the 28 blackgram genotypes along with one check (T-9) to study the Genetic analysis for yield and its attributes in F<sub>3</sub> generation in black gram. Analysis of variance showed highly significant differences among 28 blackgram genotypes all the 13 quantitative characters studied. Maximum genotypic and phenotypic variance was recorded for biological yield/plant, plant height and harvest index. Maximum GCV and PCV were recorded for number of economic yield/plant, no of clusters per plant and seed yield /plant. High genetic advance was recorded for plant height, harvest index. High heritability coupled with high genetic advance as percentage of mean was recorded for no of pods/plant. Maximum phenotypic and genotypic path analysis was observed in plant height and harvest index.

Keywords: Blackgram, Yield attributes, Heritability, Genetic advance, Correlation coefficient analysis

## **REFERENCES**

**Al-Jibouri, H.A., Mullar, P.A., and Rabinsion, H.F.** (1958). Genetic and environmental variances and co-variances in an upland cotton cross of inter specific origin. *Journal of Agronomy*, 50:633-636.

**Anonymous** (2011). Agriculture Statistics at a glance. Directorate Of Economics And Statistics , New Delhi.

**Bhattacharya, A.** (2002). Effect of yield attributing traits on seed yield of mungbean and urdbean. *Indian journal Pulses Research*, 15(1): 23-27.

**Burton, G.W. and De Vane, E. M.** (1953). Estimating heritability in tall fesses from replicated cloned material. *Journal of Agronomy*, 45(3): 474-481.

**Anonymous** (2011). Agriculture Statistics at a glance. Directorate of Economics and Statistics, New Delhi.

**Bhattacharya, A.** (2002). Effect of yield attributing traits on seed yield of mungbean and urdbean. *Indian journal Pulses Research*, **15(1):** 23-27.

**Burton, G.W. and De Vane, E. M.** (1953). Estimating heritability in tall fesses from replicated cloned material. *Journal of Agronomy*, **45(3):** 474-481.

Chauhan, M.P., Mishra A.C. and Singh, A.K. (2007). Correlation and path analysis in urd bean. *Legume Res.*, 30(3): 205-208.

**Das, S., Das S.S. and Ghosh, P.** (2014). Analysis of genetic diversity in some blackgram cultivars using ISSR. *European Journal of Experimental Biology*, 4(2):30-34.

**Deepalakshmi, A.J. and Anandakumar, C.K.** (2004). Creation of genetic variability for different polygenic traits in blackgram (*Vigna mungo* L. Hepper) through induced mutagenesis. *Legume Research*, **3**: 188-192.

**Deepshikha, Lavanya, G.R. and Kumar, Sujeet** (2014). Assessment of Genetic Variability for Yield

and Its Contributing Traits in Blackgram. *Trends in Biosciences*, 7(18): 2835-2838.

**Donald, CM. and Hamblin, J.** (1976). The biological yield and harvest index of cereals as agronomic and plant breeding criteria. *Advance Agronomy*, **28**: 61-83.

**Chauhan, M.P., Mishra, A.C. and Singh, A.K.** (2007). Correlation and path analysis in urd bean. *Legume Res.*, 30(3): 205-208.

**Fisher, R.A.** (1936). Statistical tables for biological, agricultural and mendelianinheriatance. *France Royal Society of Edinburgh*, **52:** 399-433.

Ghafoor, A., Sharif, A., Ahamad, Z., Zahid, M.A. and Rabbani, M.A. (2001). Genetic diversity in blackgram (*Vigna mungo* L. Hepper). *Field crops Research*, **69**: 183-190.

**Johnson, H.W., Robinson, H.F. and Comstock. R.E.** (1955). Genotypic and Phenotypic Correlations in Soybean and their implications in selection. *Agronomy journal*, **47**: 477-438.

**Konda, C.R., Salimath, P.M. and Mishra, M.N.** (2009). Genetic variability studies for productivity and its components in blackgram (*vigna mungo* L. Hepper). *Indian journal Genetics*, **62**(4):345-346.

**Neelavati, S. and Govindarasu, R.** (2010). Studied on Analysis of Variability and diversity in rice fallow blackgram (*Vigna mungo* L. Hepper). *Legume Research*, **33**(3): 206-210.

Panigrahi, K.K., Mohanty, A. and Baisakh, B. (2014). Genetic divergence, variability and character association in landraces of blackgram (*Vigna mungo* L. Hepper) from Odisha. *Journal of Crop and Weed*, **10**(2): 155-165.

**Patel, R.V., Patil, S.S., Patel, S.R. and Jadhav, B.D.** (2014). Genetic Diversity Studies in Summer Season Blackgram [*Vigna mungo* L. Hepper] *Trends in Biosciences*, **7**(23): 3799-3801

Kumar, Rajendra, Singh, Audhesh, Rath, A.S., Kumar, R. and Singh, A. (2002). Estimating genetic parameters in urd bean. *Annals of Agriculture Research*, **21**(3): 335-337.

\*Corresponding Author