

VARIABILITY STUDIES IN BRINJAL (*SOLANUM MELONGENA* L.)

Randhir Lal Ambade*, Sunil Kumar Verma and Nandan Mehta

Department of Genetics and Plant Breeding,
Indira Gandhi Krishi Vishvavidhayalya, Raipur, (C.G.), 492 012, India
*Email: randhir.pbg@gmail.com

Abstract: The genetic parameters were estimated in twelve genotypes including its local germplasm and national checks of Brinjal. The study revealed highly significant differences for most of the traits. High Genotypic and Phenotypic Coefficient of Variance were observed for number of long style flowers per inflorescence, number of fruits per cluster, number of medium style flower per inflorescence, rind thickness, average fruit weight, fruit length, fruit girth, number of flowers per inflorescence, total fruit yield per plant, number of branches per plant and total fruit yield per plant indicating effectiveness of simple selection for improvement of these characters. The low estimates of GCV & PCV were observed for days to first flowering and days to first fruiting while, the moderate estimates of Genotypic Coefficient Variance were exhibited for the characters stalk length, total fruit yield per plant, plant height. The highest estimates of GCV, heritability coupled with high genetic advance was observed for average fruit weight, indicating effectiveness of simple selection for improvement of these characters.

Keywords: Brinjal, GCV, PCV, Heritability, Genetic Advance, Yield

REFERENCES

- Baswana, K.S.; Bhatia, M.K. and Duhan, D.** (2002). Genetic variability and heritability studies in rainy season brinjal (*Solanum melongena* L.). *Haryana J. Hort. Sci.*, **31**(1&2):71-73.
- Burton, G.W. and De Vane, E.H.** (1953). Estimating heritability in tall fescue (*Festuca arundinacea*) from replicated clonal material. *Agronomy Journal*, **45**:478-81.
- Das, B.; Mishra, S.N.; Sahu, G.S. and Dash, S.K.** (2002). Studies on variability and heritability in brinjal. *Orissa J. Hort.*, **30**(1):54-58.
- Golani, I.J.; Mehta, D.R.; Naliyadhara, M.V.; Pandya, H.M. and Purohit, V.C.** (2007). A study on genetic diversity & genetic variability in brinjal. *Agric. Sci. Digest.*, **27**(1):22-25.
- Hanson, W.D.; Robinson, H.F. and Comstock, R.E.** (1956). Biometrical studies of yield in segregating population Korean Lespandez. *Agron. J.*, **48**:268-272.
- Ingale, B.V. and Patil, S.J.** (1994). Variability, heritability and genetic advance in collection of brinjal. *Indian J. Hort.*, **51**(2):182-186.
- Johnson, H.W.; Robinson, H.F. and Comstock, R.E.** (1955). Estimates of genetic and environmental variability in soybean. *Agron. J.*, **47**:310-318.
- Kailash, R.; Singh, P. and Singh, R.** (2007). Studies on genetic variability and selection parameters for economic characters eggplant. *Int. J. of Plant Sci.*, **2**(1):99-102.
- Mishra, S.V.; Warade, S.D. and Nayakwadi, M.B.** (2008). Genetic variability and heritability studies in brinjal. *J. Maharashtra Agric. Univ.*, **33**(2) 267-268.
- Mohanty, B.K. and Prusti, A.M.** (2002). Variability and selection parameters for economic characters in brinjal. *Orissa J. Hort.*, **30**(1):1-4.
- Mohanty, B.K.** (2001). Genetic variability, correlation and path coefficient studies in brinjal. *Ann. Agril. Res.*, **22**(1):59-63.
- Patel, N.T.; Bhalia, M.K.; Kathuria, K.B. and Doshi, K.M.** (1999). Genetic variability for yield and its components in brinjal (*Solanum melongena* L.). *GAU. Res. J.*, **25**(1):177-180.
- Pathania, N.K.; Katoch, B. and Katoch, V.** (2006). Genetic variability and heritability studies in brinjal (*Solanum melongena* L.). *Haryana J. hort. Sci.*, **35**(1&2):156-157.
- Prasad, M.; Mehta, N.; Dikshit, S.N. and Nichal, S.S.** (2004). Genetic variability, genetic advance and heritability in brinjal (*Solanum melongena* L.). *Orissa J. of Hort.*, **32**(2):26-29.
- Rai, N.; Singh, A.K. and Sarnaik, D.A.** (1998). Estimation of variability, heritability and scope of improvement for yield components in round brinjal (*Solanum melongena* L.). *Agril. Sci. Digest*, **18**(3):187-190.
- Sao, Abhinav** (2006). Line x tester analysis for fruit yield and its components in brinjal (*Solanum melongena* L.) Ph. D. thesis, IGKV, Raipur. 158p.
- Sharma, T.V.R.S. and Kishan, Swaroop** (2000). Genetic variability and character association in brinjal (*Solanum melongena* L.). *Indian J. Hort.*, **57**(1):59-65.
- Singh, P.K. and Gopalkrishnan, T.R.** (1999). Variability and heritability estimates in brinjal (*Solanum melongena* L.). *South Indian Hort.*, **47**(1/6):174-178.
- Suneetha, Y. and Kathiria, K.B.** (2005). Heterosis for yield and yield component characters in round brinjal (*Solanum melongena* L.). *Madras agric. J.*, **92**(10-12):748-752.