TO STUDY OF CORRELATION COEFFICIENTS FOR YIELD COMPONENT IN WHEAT (TRITICUM SPP.) FOR IDENTIFICATION OF IDEAL GENOTYPES FOR CHANGING CLIMATE OF CHHATTISGARH

Raushan Kumar and Kritraj

Department of Genetics and Plant Breeding Indira Gandhi Agriculture University, Raipur, 492006, Chhattisgarh, India Email-Raushan.ogrey@gmail.com, Kritrajkurrey22@gmail.com

Abstract: The present experiment entitled Study of yield attributing traits for identification of ideal wheat (Triticum spp.) genotypes for changing climate of Chhattisgarh was conducted at Department of Genetics and Plant Breeding, Indira Gandhi Krishi Vishwavidyalaya, Raipur during rabi 2009-10. Grain yield per plot showed highly significant positive correlation with biological yield at phenotypic level (0.704) and also at genotypic level (0.959). Ear head length showed highly significant positive correlation at phenotypic level with biological yield (0.605) and significant positive correlation with grain yield per plot (0.503). Number of tillers per plant exhibited significant positive correlation of both phenotypic level with grain yield (0.492, 0.443), and biological yield (0.505, 0.441), respectively. Genotypes HI 8691, HI 1568, LOK 62 and GW 322 showed tolerance towards the higher temperature and gave higher yield in comparison to rest of the genotypes.

Keywords: Wheat, correlation coefficients, climate, Chhattisgarh

REFERENCES

Anonymous, (2010). Status Report (2007-08 to 2009-10). Indira Gandhi Krishi Vishwavidyalaya, Raipur IGKV/Pub/2010/19-120.

Singh, S.S. (2010). Domestic wheat production and future prospects. 8th International Wheat Conference Abstracts 2010 St. Petersburg, Russia. pp. 346-348.

Jaiswall, J. P., Bhowmick, P. K. and Grover, A. (2010). Selection of bread wheat genotypes for heat tolerance based on physiological traits and heat shock proteins. In 8th International Wheat Conference Abstracts St 2010. Petersburg, Russia, pp163

Sareen, S., Tyagi, B. S., Singh, G., Shoran, J. and Singh, S.S. (2010). Evaluation of wheat synthetic hexaploids for heat tolerance using stress indices. In 8^{th} International Wheat Conference Abstracts 2010 St. Petersburg, Russia, pp. 190.

Boyadzhieva, D. (1987). Study of the main yield components in wheat by correlation and path coefficient analyses. *Genetika-i-Selektsiya*, 20(1): 22-28.

Kumar, S. and Singh, I. S. (1993). Correlation and path analysis in triticale. *Indian. J. Genet.* 53(2): 197-202

Sultanov, I. M. and Dolotovskii, I. M. (1994). Variation in coefficients of genotypic correlation in wheat under different environmental conditions. *Tsitologiya I Genetika*, 28(1): 44-48.

Shoran, J., Hariprasad, A. S., Kant, L., Mani, V. P. and Chauhan, V. S. (2000). Association and contribution of yield attributes to seed yield in wheat under varying environments in north western hills. *Annals Agricultural Research*, 21(2): 274-278.

Sheik, S. and Singh, I. (2001). Studies on path coefficient analysis of harvest index and its related traits in wheat. *I. J. Agril. Res.*, 35(2): 127-129.

Singh, V., Singh, D. and Singh, N. (2003). Studies on correlation and path coefficient analysis in bread wheat (*Triticum aestivum L. em. Thell*). *National Journal Plant Improvement*, 5(2): 106-109.

Khaliq, I., Parveen, N. and Chowdhry, M. A. (2004). Correlation and path coefficient analyses in bread wheat. *Int. j. Agriculture Biology*, 6(4): 633-635.

Kumar, S., Singh, R. C., Kadian, V. S. and Malik, B. P. S. (2004). Correlation and path coefficient analysis of yield and yield components in wheat (*Triticum aestivum* L.) under different dates of sowing. *Annals Biology*, 20(2): 239-242.

Kumar, N., Bahuguna, D. K., Singh, P. B., Kumar, P. and Singh, R. (2009). Correlation and path coefficient analysis in wheat. *Indian J. Plant Genetic Resources*, 22(1):123-125.

Khan, M. H. and Dar, A. N. (2010). Correlation and path coefficient analysis of some quantitative traits in wheat. *African Crop Science Journal*, 18(1): 9-14.

Mahmood, Q., Lei, W. D., Qureshi, A. S., Khan, M. R., Hayat, Y., Jilani, G., Shamsi, I. H., Tajammal, M. A. and Khan, M. D. (2006). Heterosis, correlation and path analysis of morphological and biochemical characters in wheat (*Triticum aestivum* L. Emp. Thell). Agricultural Journal, 1(3): 180-185.

Miller, D.A., Williams, J.C., Robinson, H.F. and Comstock, K.B. (1958). Estimations of genetic and environmental varieties and covariances in upland cotton and their implication in selection. *Agron. J.*, **50**: 126-131.