

EXTENT OF RELATEDNESS AMONG PRE-RELEASED AND RELEASED VARIETIES OF FINGER MILLET (*ELEUSINE CORACANA* L. GAERTN)

Gautham S., Karishma and Prafull Kumar*

SG College of Agriculture and Research Station,
Jagdalpur-494001, IGKV, Raipur Chhattisgarh (India)
Email: prafull397@gmail.com

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Abstract: A field study was conducted at Research cum Instructional Farm, S.G. College of Agriculture and Research Station, Kumhrawand, Jagdalpur, IGKV, Raipur (C.G.), in Kharif -2019, in a Randomized Block Design with 3 replications to evaluate 11 accessions of finger millet (*Eleusine coracana* L. Gaertn). The observations of 13 qualitative and 13 quantitative characters were recorded at different stages of plant growth from flowering stage to harvest, according to the Guidelines for the test of DUS on Finger millet by PPV& FRA, Government of India. Genotypes were grouped into three clusters based on the D^2 values irrespective of geographical diversities, among which maximum inter-cluster distance was found between cluster II and cluster I, followed by cluster III and cluster II and cluster III and cluster I, which indicates that the use of genotypes from these clusters can serve as potential parents for hybridization. In view of cluster mean and genetic distance, the crossing of entries of cluster I with entries of cluster III would be fruitful for obtaining transgressive segregants for developing high yielding and better quality finger millet varieties.

Keywords: D^2 statistics, Finger millet, Genetic closeness, Heterotic parents

REFERENCES

- Arun Prabhu, D., Selvi, B. and Govindaraj, M.** (2008). Genetic variability and multivariate analysis in finger millet (*Eleusine coracana*) germplasm for yield characters. *Crop Res.*, 36 (1, 2 & 3): 218-223.
- Bedis, M.R., Patil, H.S., Jangle, G.D. and Patil, V.S.** (2007). Correlation and path coefficient analysis in finger millet (*Eleusine coracana* (L.) Gaertn.). *Crop Res.*, 31 (2): 264-266.
- Das, R., Sujatha, M., Pandravada, S.R. and Sivasankar, A.** (2013). Trait relationship and path coefficient analysis in finger millet (*Eleusine coracana* L.). *Journal of Progressive Agriculture*, 4(1): 81-84
- Gowda, M.V.C., Ravishankar, P. and Patro, T.S.S.K.** (2001). Guidelines for the conduct of test for Distinctiveness, Uniformity and Stability on Finger millet (*Eleusine coracana* (L.) Gaertn.) Protection of Plant Varieties and Farmers' Rights Authority. Government of India.
- Haradari, I.C., Ugalat, J. and Nagabhushan** (2012). A study on character association, genetic variability and yield components of finger millet (*Eleusine coracana* L.). *J. of Crop and Weed*. 8(2):32-35.
- Harti, M., Gowda, J., Mallikarjun, K., Basavaraja, T. and Vijayakumar, L.** (2013). Genetic diversity assessment for yield and its attributes characters of white seeded accession in finger millet (*Eleusine coracana* (L.) Gaertn). *Environ. and Eco.* 31(2): 740-744.
- John, S. and Kumar, P.** (2018). Character Association among Vegetative, Pre-yield and Yield Parameters in Finger Millet (*Eleusine coracana* L.), *Int. J. Pure App. Biosci.* 6(2): 156-161.
- Kumar, D., Tyagi, V., Ramesh, B. and Pal, S.** (2010). Genetic diversity in finger millet (*Eleusine coracana* (L.) Gaertn). *Crop Imp.* 37(1):25-28.
- Mahalanobis, P.C.** (1936). On the generalized distances in statistics. *Proc. Nat. Inst. Sci., India.* 2(1): 49-55.
- Negi, S., Kumar, V. and Bhatt, A.** (2017). Genetic Diversity among Finger Millet [*Eleusine coracana*(L.) Gaertn] Genotypes for Yield and Its Contributing Traits. *Int. J. Curr. Microbiol. App. Sci.*, 6(8): 3332-3337.
- Rao, C.R.** (1952). Advance statistical methods in biometric research. *Wiley and Sons, New York*. pp.390.
- Rao, B. D., Bhaskarachary, K., Christina, G.D., Devi, S.G. and Tonapi, V.A.** (2017). Nutritional and Health benefits of Millets., ICAR, Indian Institute of Millets Research (IIMR), 1: 15-17, 5: 65-68.
- Sahu, S., and Pradhan, K.** (2012). Genetic divergence in finger millet (*Eleusine coracana* (L.) Gaertn). *Environ. and Eco.*, 30(2): 291-294.
- Shinde, S.R., Desai, S.V. and Pawar, R.M.** (2014). Genetic variability and character association in finger millet [*Eleusine coracana* (L.) Gaertn]. *Int. J. Plant Sci.*, 9 (1): 13-16.
- Wolie, A. and Belete, K.** (2013). Genetic divergence and variability studies in some Ethiopian finger millet germplasm collections. *Scholarly J. of Agric. Sci.*, 3(4): 110-116.

*Corresponding Author