

STABILITY ANALYSIS OF BREAD WHEAT VARIETIES FOR NITROGEN USE EFFICIENCY CONTRIBUTING TRAITS IN TARAI PLAINS OF UTTARAKHAND

¹Meenakshi Uniyal*, ²Manjeet Kumar and ¹J.P. Jaiswal

¹Department of Genetics and Plant Breeding, Govind Ballabh Pant University of Agriculture and Technology, Pantnagar- 263145, India.

²Division of Genetics, Indian Agricultural Research Institute, New Delhi -110012, India.
Email: uniyalmeenakshi53@gmail.com

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Abstract: The AMMI model was employed to assess the phenotypic stability of twelve bread wheat varieties over six environments under three nitrogen doses for two consecutive years i.e. 2012-13 and 2013-14 in Pantnagar. For spike length, UP 2825 was overall stable performer whereas, QLD 11 and GW 445 were found to adapt in E₁. For E₃ two genotypes i.e. DBW 97 and HD 3112 showed adaptability. In case of trait, number of spikelets per spike, no genotype was found stable but GW 445 in E₂ showed higher value for this trait and was found well adapted to this environment and QLD 33 also had higher value with adaptability to E₃.

Keywords: Stability Analysis, AMMI Model, Nitrogen Utilization Efficiency

REFERENCES

- Gorny AG, Banaszak Z, Lugowska B and Ratajcka D.** (2011). Inheritance of the efficiency of nitrogen uptake and utilisation in winter wheat (*Triticum aestivum* L.) under diverse nutritional levels. *Euphytica*, **177**: 191 - 206.
- Mohamedi M, Safari P and Mohammadi G.** (2013). Additive main effect and multiplication interaction analysis of grain yield in bread wheat genotypes across environments. *International journal of biosciences*, **3(8)**: 218- 225.
- Ortiz-Monasterio JI, Sayre KD, Pena J and Fischer RA.** (1994). Improving the nitrogen use efficiency of irrigated spring wheat in the Yaqui Valley of Mexico. *15th World Cong. Soil Science*, **5b**: 348-349.
- Purchase JL, Hatting H and Deventer CS.** (2000). Genotype × environment interaction of winter wheat (*Triticum aestivum* L.) in South Africa: I.AMMI analysis of yield performance. *S. Afr. J. Plant Soil*, **17(3)**: 95-100.
- Rad MR, Kadir M, Raffi M, Jaafar H, Naghavi M and Ahmadi F.** (2013). Genotype × environment interaction by AMMI and GGE biplot analysis in three consecutive generations of wheat (*Triticum aestivum*) under normal and drought stress conditions. *Australian journal of crop sciences*, **7(7)**:956-961.
- Saleem N, Ahmad M, Vaishnavi R, Bukhari A and Dar ZA.** (2015). Stability analysis of wheat: an application of additive main effects and multiplicative interaction. *African journal of agricultural research*, **10(4)**:295-300.

*Corresponding Author