

RESEARCH ARTICLE

Gene action studies in pearl millet (*Pennisetum glaucum* L.)

■ S. B. Borgaonkar, J. E. Jahagirdar, H. V. Kalpande and D. K. Patil

SUMMARY

The present investigation on “Studies on heterosis for yield and its components in pearl millet (*Pennisetum glaucum* L.)” was conducted during *Khari*-2020, at Department of Agriculture Botany, Vasantao Naik Krishi Vidyapeeth, Parbhani, National Agricultural Research Project, Aurangabad and College of Agriculture, Golegaon. The experimental material included in the present study comprised of five females (lines) and twelve restorers (testers) and sixty crosses. The experimental material was evaluated for twelve characters *viz.*, days to 50% flowering, days to maturity, earhead length (cm), earhead girth (cm), number of nodes per plant, plant height (cm), total number of tillers per plant, number of effective tillers per plant, Fe content (ppm), Zn content (ppm), grain yield per plant (g) and grain yield per hectare (kg). The range of heterobeltiosis was from -33.13 % to 78.20 %. In case of heterobeltiosis, twenty-two crosses showed positive significant heterobeltiosis for grain yield per plant. The cross 02888 X 15006R displayed highly significant standard heterosis over AHB 1200 (43.45 %), AHB 1666 (72.14 %) and Dhanshakti (68.53 %). The standard heterosis for grain yield per plant ranged from -36.31 % to 72.14 %. The other crosses having highly significant and positive standard heterosis were 99111A X 15713R (41.07 %, 69.29 % and 65.73 % over standard check AHB 1200, AHB 1666 and Dhanshakti), 99111A X 15020R (39.29 %, 67.14 % and 63.64 % over standard check AHB 1200, AHB 1666 and Dhanshakti), 02333A X 15183R (36.31 %, 63.57 % and 60.14 % over standard check AHB 1200, AHB 1666 and Dhanshakti) and 02333A X 15351R (37.50 %, 65.00 % and 61.54 % over standard check AHB 1200, AHB 1666 and Dhanshakti).

Key Words : Heterosis, Heterobeltiosis, Standard heterosis

How to cite this article : Borgaonkar, S.B., Jahagirdar, J. E., Kalpande, H.V. and Patil, D.K. (2023). Gene action studies in pearl millet (*Pennisetum glaucum* L.). *Internat. J. Plant Sci.*, 18 (1): 1-9, DOI: 10.15740/HAS/IJPS/18.1/1-9, Copyright@ 2023:Hind Agri-Horticultural Society.

Article chronicle : Received : 17.09.2022; Revised : 01.11.2022; Accepted : 02.12.22

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