



RESEARCH PAPER

Estimation of gene actions and character association in F_3 and F_4 generations of little millet cross JK 8 x Peddasame purple early (*Panicum miliare*)

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Abstract : An investigation was carried out in F_3 and F_4 segregating generations of little millet to study gene interactions and correlation for yield and its component traits during *Kharif* 2015 and summer 2016 at UAS, GKVK, Bengaluru. Most of the characters studied were positively skewed and were being governed by several genes indicating quantitative inheritance. Characters seed yield per plant, number of productive tillers per plant and days to maturity were positively skewed indicating complementary gene action hence, to maximize the genetic gain in these characters require intense selection from the existing variability. Panicle length showed negatively skewed distribution indicating duplicate gene action hence, genetic gain will be rapid under mild selection. Seed yield and associated characters showed leptokurtic distribution indicated the involvement of few genes in inheritance of these traits. Seed yield per plant had significant positive association with days to 50 per cent flowering, plant height, number of productive tillers per plant, panicle length and days to maturity. This indicates that selection could be practiced for these component characters to increase seed yield. Variance for majority of the characters has decreased in F_4 over F_3 generation indicated over the generation variability in population has decreased due to increase in homozygosity.

Key Words : Correlation, Skewness, Kurtosis, Gene interaction, Little millet

View Point Article : Sujata, B., Nandini, C., Krishnappa, M., Angadi, Chandrashekhara and Prabhakar (2017). Estimation of gene actions and character association in F_3 and F_4 generations of little millet cross JK 8 x Peddasame purple early (*Panicum miliare*). *Internat. J. agric. Sci.*, 13 (1) : 119-123, DOI:10.15740/HAS/IJAS/13.1/119-123.

Article History : Received : 20.10.2016; Revised : 25.11.2016; Accepted : 22.12.2016