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Genetic variability for quantitative traits in China aster

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China aster [*Callistephus chinensis* (L.) Nees], belonging to the family Asteraceae, is most popular annual flowering plant grown throughout the world. In India, it is grown traditionally for its loose flower, cut flower, arranging in vase, floral decorations, making garlands and *venis*. It is extensively grown in Karnataka, Tamil Nadu, West Bengal and Maharashtra by marginal and small farmers. Information on nature and magnitude of variability among traits in the existing germplasm is prerequisites for improvement in desired flower trait. A field study was conducted to estimate the genetic variability, heritability and genetic advance in twenty genotypes of China aster for 15 traits during the year 2012-13 in randomized complete block design with three replications. Results revealed that magnitude of the Phenotypic Co-efficient of Variation (PCV) was higher than the Genotypic Co-efficient of Variation (GCV) for all the traits. Narrow differences between GCV and PCV were recorded for all the characters except for flowering duration, vase life and shelf life, indicating little environmental influence on the expression of these characters. High (>20%) GCV and PCV were recorded for plant height, number of branches and leaves per plant, flower diameter, number of ray and disc florets/flower head, stalk length, number and weight of flowers/plant. Heritability estimates ranged from 28.30 per cent (flowering duration) to 99.54 per cent (flower diameter). High heritability (>60%) was observed for all the traits except for flowering duration. High heritability coupled with high genetic advance as per cent mean was recorded for flower diameter, stalk length, number of branches/plant, weight of flowers/plant, days to first flower opening, days to 50 per cent flowering, plant height, number of leaves/plant, number of ray and disc florets/flower head, number of flowers/plant, indicating the possible role of additive gene action. Thus, these characters can be improved through pure line selection, mass selection, progeny selection and hybridization and selection with pedigree.

Keywords: China aster, genetic variability, heritability, genetic advance.

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