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Morphological characterization of chrysanthemum genotypes based on qualitative traits

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Chrysanthemum (*Dendranthema grandiflora T.*) is one of the most important ornamental cut-flowers in floriculture trade, which is available in a wide range of flower colors, flower types, and plant sizes. It is cultivated as cut flower on commercial scale as well as for its aesthetic value in gardens. There are so many varieties of chrysanthemums today that a system of classification is used to categorize and identify them. Each genotypes shows unique leaf and flower morphology with considerable variation. In the present investigation, 104 genotypes of chrysanthemum maintained at Floricultural Research Station, Hyderabad, A.P were evaluated at the field level for studying their morphological diversity. Twenty three qualitative characters of different genotypes of Chrysanthemum were observed and compared, which can offer reference for its genetic diversity studies. The plant stature was bushy in 82.69% of genotypes with semi upright growth habit in nearly 79 genotypes. The nature of leaf margin of all the genotypes was serrated and most of them are stipulated with varied sizes. Based on margins of sinus between lateral lobes, they were categorized into three groups i.e., with parallel margin (41.34%), converging margin(35.58%) and with diverging margin(23.08%) and most of the genotypes are having round base of sinus. Scoring the shape of leaf base classified the genotypes into 6 categories.

Based on floral characters, most of the genotypes were of spray type with corymbiform of inflorescence. The ray petals were of ligulate type with straight longitudinal axis. The shape of tip of ray florets was also varied among the genotypes, while the margins were flat in 57.69% of genotypes followed by weakly revolute margins. The maximum of 81 genotypes (77.88%) possessed flat shaped disc in the fully opened flower head followed by 20 genotypes (19.23%) with dome shaped disc. Almost all the genotypes (99.04%) showed yellow coloured to greenish yellow disc florets with slight variation in intensity of the colour except the variety Modella (0.96%) with light pink coloured disc florets. Finally based on the economic use of chrysanthemum flowers, they were categorized into loose flower type (40.38%) followed by 23 genotypes (22.11%) suitable for garden display in landscaping, 22 genotypes (21.15%) for cut flower production, 13 genotypes (12.5%) suitable for pot culture and only 4 genotypes (3.86%) can be categorised under ground cover varieties.

Biography

P. Lalitha Kameswari has completed her Ph.D. in Floriculture and Land scape architecture from Dr. YSR Horticultural University. She is working as Sr. Scientist at Floricultural Research Station, Hyderabad. She has more than 7 years of experience in the field of Floriculture. She is involved in teaching, research and also extension activities. She has published more than 15 papers in reputed journals and her publications also include 3 technical bulletins.

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