

Research Note :**EVALUATION OF CHRYSANTHEMUM GENOTYPES FOR FLOWERING TRAITS UNDER OPEN GROWN CONDITION****Rajiv Kumar***

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ABSTRACT : An experiment was carried out to evaluate seven genotypes of chrysanthemum for flower quality traits at IIHR, Bengaluru from 2010-11 to 2012-13. Significantly wide variation was recorded in all floral traits. Results revealed that maximum number of flowers/plant (81.51) and flowering duration (43.14 days) were recorded in Anmol. Maximum plant height (47.25 cm) and flower diameter (5.03 cm) were recorded in Garden Beauty. However, maximum average weight of flower (2.59 g) and flower yield/plant (131.43 g) were recorded in Autumn Joy. The genotype Winter Queen recorded maximum number of sprays/plant (6.89). On the basis of three years observations, genotypes Winter Queen, Garden Beauty and Autumn Joy found promising for garden display.

Keywords: *Chrysanthemum, evaluation, flowering, quality.*

Chrysanthemum (*Chrysanthemum morifolium* Ramat.), belongs to the family Asteraceae, is a popular flower crop used for cut flower, loose flower, garland making, garden display, pot plant etc.. It occupies prime position among commercial flower crops which has high demand in both domestic and international market. Chrysanthemum is very rich in varietal wealth and every year there is an addition of new varieties. The performance of any crop or variety largely depends on interaction between genotype and environment. As a result, varieties, which perform well in one region, may not perform same in other regions of varying climatic conditions. Hence, it necessary to evaluate the new genotypes for their quality traits under varying climatic conditions. In view of the above, an experiment was carried out to evaluate the performance of the newly released six varieties with 'Local Yellow Semi-Double' as check, under AICRP on Floriculture for three consecutive years from 2010-11 to 2012-13.

A field experiment was carried out to evaluate the performance of seven genotypes viz., Anmol, Winter Queen, Garden Beauty, Yellow Delight, Autumn Joy, Pusa Anmol and Local Yellow Semi-Double in RBD with three replications at ICAR-Indian Institute of Horticultural Research, Hessaraghatta Lake Post, Bengaluru 560 089 for three consecutive years from 2010-11 to 2012-13. The experimental site was geographically located at 13° 58' N Latitude, 78° E Longitude and at an elevation of 890 m above mean sea level. Terminal rooted cuttings of all seven

genotypes were planted at 30 cm x30 cm in a plot size of 2.7 m x 1.2 m accommodating 32 plants per plot. Uniform cultural practices were followed to all the genotypes throughout the experiment. Five randomly selected plants per genotype per replication were labeled for recording observations on plant height (cm), number of flowers per plant, number of sprays per plant, flower diameter (cm), average weight per flower (g), flower yield per plant (g) and duration of flowering (days). Statistical package 'Biostat IIHR, version 1.0' was used for statistical analysis of data.

Significant differences were recorded in all the genotypes for flowering characters (Table 1). Results revealed that maximum plant height was recorded in Garden Beauty (47.25 cm) followed by Local Yellow Semi-Double (46.27 cm) and Pusa Anmol (40.00 cm), whereas, it was recorded minimum in Winter Queen (26.26 cm). The variation in plant height is mainly due to their genetic make up of individual genotype. Similar variation in plant height due to genotypes has also been reported (Kulkarni and Reddy, 3; Gantait and Pal, 2). Maximum number of flowers per plant was recorded in Anmol (81.51) followed by Winter Queen (64.90), Local yellow Semi-Double (46.27) and Autumn Joy (48.15), whereas minimum number of flowers per plant was recorded in Yellow Delight. The genotype Winter Queen recorded maximum number of sprays/plant (6.89) while it was recorded minimum in Yellow Delight (5.47). Maximum flower diameter (5.03 cm) was recorded in Garden Beauty, whereas maximum average flower weight was recorded in Autumn Joy (2.59 g). The flower yield per plant ranged from 60.25 g

Table 1: Performance of chrysanthemum genotypes for growth and flowering under open grown condition (pooled data of three years, 2010-11 to 2012-13)

Genotype	Plant height (cm)	No. of flowers/plant	No. of spray/plant	Flower diameter (cm)	Average weight/flower(g)	Flower yield/plant (g)	Duration of flowering (days)
Anmol	29.22	81.51	6.60	3.00	1.33	82.61	43.14
Winter Queen	26.26	64.90	6.89	4.49	1.37	92.95	41.29
Garden Beauty	47.25	40.28	6.24	5.03	2.48	102.45	37.09
Yellow Delight	28.68	27.14	5.47	4.23	2.17	42.67	37.71
Autumn Joy	31.53	48.15	6.62	4.97	2.59	131.43	41.33
Pusa Anmol	40.00	45.72	5.51	4.05	1.42	60.25	20.55
Local Yellow Semi-Double	46.27	48.38	5.61	4.97	1.88	64.61	37.76
C.D. (P=0.05)	3.96	6.18	0.52	0.27	0.34	6.18	4.16

(Pusa Anmol) to 131.43 g (Autumn Joy). Variation in number of flowers per plant and weight of flowers per plant due to genotypes has also been reported (Barigidad and Patil, 1; Saud and Talukdar, 4; Gantait and Pal, 2). The maximum flowering duration was recorded in Anmol (43.14 days) followed by Autumn Joy (41.33 days) and Winter Queen (41.29 days). Variation in flowering duration in various genotypes of chrysanthemum as reported by Barigidad and Patil (1) also confirms present findings. On the basis of three years observations, genotypes Winter Queen, Garden Beauty and Autumn Joy found promising and suitable for garden display.

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