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Performance of standard carnation varieties for flowering and flower quality parameters under naturally ventilated polyhouse

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Abstract : The experiment was carried out under naturally ventilated polyhouse for investigation on evaluation of ten varieties of carnation (*Dianthus caryophyllus* L.) with respect to flowering and flower quality parameters. Varieties Diana, Yellow Firato and Aicardi were found early to initiate flower buds and opening of flower buds. Varieties Diana, Yellow Firato and Aicardi recorded longer duration of flowering as compared to rest of varieties. Firato, Gaudina, Buemonde and Dali required comparatively less period for development of flower buds. In general Diana, Firato, Aicardi and Gaudina were early varieties. In case of flower qualities, flower stalk length was highest in variety Yellow Firato, followed by Diana, Firato and Pink Shiva, whereas the girth of flower stalks was highest in variety Pink Shiva, followed by Guadiana and Viking. Varieties Gaudina, Aicardi, Alibaba and Diana recorded higher diameter of flowers. Number of petals was highest in variety Pink Shiva, followed by Guadiana and Viking. Pink Shiva, Aicardi, Guadiana and Viking recorded higher vase life. The weight of flower was highest in variety Pink Shiva, followed by Gaudina, Viking and Firato. In general high quality flowers were obtained in Diana, Yellow Firato, Firato, Aicardi and Pink Shiva.

Key words : Carnation, Polyhouse, Flowering characters, Quality.

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India has been identified as one of the major forces in the world floriculture scenario. In Karnataka apart from Bangalore, the entire part of transitional belt seems to be very ideal for cultivation of flowers on account of favourable climate, soil and other factors. In Pune and Bangalore, carnation is grown under controlled condition. Standard carnation performs well under cool climate, whereas spread type grow better at higher temperature. Though there are different types of greenhouses, naturally ventilated polyhouses are preferred in mild climate in which temperature is reduced by ventilation (Ryagi *et al.*, 2007).

The performance of carnation varieties varies with region, season, genotypes and growing environment. In India, depending upon region there is a wide difference in temperature, light intensity and humidity which not only affect the yield and quality of flowers but also limit their availability for a particular period of a year. It is necessary to grow carnation under polyhouse condition for obtaining good quality flowers. Testing of the available varieties

for suitability and adaptability with respect to flowering and flower quality parameters are of prime importance.

RESEARCH METHODS

The investigation was carried out at the Hi-Tech Horticulture Unit, Saidapur farm, Main Agricultural Research Station, University of Agricultural Sciences, Dharwad under naturally ventilated polyhouse during February, 2008 to August, 2008 for second flush. The experiment was laid out in Randomized Block Design (RBD) with three replications. Experiment included ten standard carnation varieties of which five varieties *viz.*, Gaudina, Viking, Buemonde, Firato and Yellow Firato were from KF Bio plant Pune, while remaining five varieties *viz.*, Diana, Pink Shiva, Aicardi, Alibaba and Dali were from SPA Flora, Bangalore.

The support was provided by iron rods at 3 m distance to both side of the bed and wire of 15 cm x