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Performance of carnation cultivars under polyhouse condition

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ABSTRACT

An experiment was conducted to study the performance of carnation cultivars on growth, flowering, flower yield, flower quality and vase life under semi-control polyhouse in Complete Randomized Design at Floriculture Unit, Department of Horticulture, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola during January to August, 2005. The result indicated that, maximum growth was observed in the cultivars Domingo and Master. While, early flower bud appearance, flower yield, flower quality and vase life were observed superior in cultivars Master and Paolo.

Key words : Carnation, Polyhouse

In India, floriculture has attained new height of popularity in modern agriculture. It is profession with the high potential of returns from per unit area. Protected cultivation of cut flower is now becoming a popular enterprise among the farmers and entrepreneurs to meet the demand of global market.

Carnation (*Dianthus caryophyllus* L.) which is indigenous to the Mediterranean region is one of the most important cut flower belonging to the family caryophyllaceae. Among the top three cut flowers in international market, carnation ranks third. In carnation, there are many cultivars having variable characters and qualities. The quality of flower have great value in case of marketing of cut flowers, so varietal performance have got value for deciding the cultivar/cultivars for getting more economical returns to the cultivators of this region. Thus, keeping this in view, the present study was undertaken to assess the performance of different varieties of carnation under polyhouse condition.

MATERIALS AND METHODS

The present investigation was carried out on the performance of carnation cultivars under polyhouse condition from 1st January to 30th August, 2005 at Floriculture Unit, Department of Horticulture, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola (MS). The experiment was laid out in Complete Randomized Design with 10 replications. In present investigation, five cultivars of carnation (Domingo, Master, Paolo, Solar and Yellow Solar) were included to study their performance under polyhouse conditions.

Beds of 40 cm height and 1 m width having 10m length were prepared. The media was prepared by mixing 60 per cent red soil, 30 per cent FYM and 10 per cent sand. Beds were sterilized by using 0.2 per cent formaldehyde. Rooted stem cuttings of carnation cultivars were planted at 15 x 15 cm plant to plant and row to row distance. Water soluble fertilizers were applied @ of 40 g N, 10 g P_2O_5 and 10 g K_2O m^2, at 3 days interval. All other cultural practices were applied as and when required. The observations on growth, flowering, flower yield, flower quality and vase life in different cultivars were recorded.

RESULTS AND DISCUSSION

Growth and flowering:

The data presented in Table 1 showed significant differences among the cultivars in respect of growth. Cultivar Domingo recorded significantly more plant height (87.38 cm), while maximum number of shoots were produced by cultivar Master (5.00). However, significantly lowest plant height (81.11 cm) and shoots per plant (4.00) were observed in cultivar Yellow Solar and Solar, respectively. The above variation in growth of carnation plant may be due to individual varietal character. Some cultivars have capacity to produce tallest plant, while other the dwarf. Similarly, the data on days required for appearance of first flower bud indicated that, cultivar Master and Paolo were precocious, about 6 to 8 days earlier. Whereas, late appearance was observed in Yellow Solar. These results are in close conformity with the findings of Khanna *et al.* (1986), Bhautkar (1994) and Shahakar (2003).

Flower yield:

The data presented in Table 1 revealed that, cultivar Master recorded significantly superior flower yield (4.57 flowers per plant and 164.52 per sq. m) over rest of the