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Research Paper

Effect of integrated system of plant nutrition management on growth, yield and flower quality of carnation (*Dianthus caryophyllus* L.) under green house

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ABSTRACT

Carnation flowers used in arrangements last for a long time after being cut and stand well during harsh treatment. An experiment on integrated nutrient management in carnation was carried out in a medium cost greenhouse. Plants receiving 50 per cent RDF + vermicompost + 3 per cent Manchurian tea + 3 per cent panchagavya recorded significantly higher number of branches per plant as compared to the other treatments. The maximum duration of flowering was observed in plots receiving 50% RDF + vermicompost + 3 per cent Manchurian tea + 3 per cent Panchagavya (59.20 days). Number of flowers per plant per year and number flowers per m^2 year Was significantly higher (6.54 and 132.33, respectively) in 50 per cent RDF + vermicompost +3 per cent Manchurian tea + 3 per cent panchagavya. Significantly maximum vase life (8.40 days) was observed in 50 per cent RDF + vermicompost + 3 per cent Manchurian tea + 3 per cent panchagavya.

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Key words : Carnation, Vermicompost, Manchurian tea, Biofertilizers and INM

Carnations flowers used in arrangements, they last a long time after being cut and stand well during harsh treatment. Carnation is preferred to roses and chrysanthemum, due to its excellent keeping quality, attractive form, wide range of colours, ability to withstand long distance transportation and ability to rehydrate after continuous shipping (Bhattacharjee, 1994).

The combined application of organic manures, fertilizers and biofertilizers along with the application of Manchurian tea may be helpful in the production of quality cut flowers. Soil and optimization of nutrients, use of bio-inoculants and their efficient application should receive prime importance. Keeping this in view, an experiment was conducted to analyse the effect of integrated nutrient management on growth, yield and keeping quality of carnation grown under protected environmental conditions.

MATERIALS AND METHODS

An experiment on integrated nutrient management in carnation was carried out in a medium cost greenhouse situated at Hebbal campus of University of Agricultural Sciences, Bangalore. Both vegetative and flower characters were recorded from five plants which were randomly selected and labeled in each plot.

Vegetative characters *viz.*, number of lateral branches and number of leaves was recorded. Flower characters *viz*., number of days taken for flower, bud initiation and number of days taken for flower bud opening, duration of flowering (days) and days taken for 50% flowering, number of flowers / plant / year and number of flowers /m2/year vase life (days), water uptake (ml) and physiological loss in weight were recorded.

RESULTS AND DISCUSSION

The results obtained from the present investigation as well as relevant discussion have been summarised under following heads:

Growth characters:

Plants receiving 50 per cent RDF + vermicompost + 3 per cent Manchurian tea + 3 per cent panchagavya recorded significantly higher number of branches per plant as compared to the other treatments (Table 1). Application