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Influence of various levels of nitrogen on floral and quality parameters of various varieties of chrysanthemum

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Abstract : A field experiment was carried out to evaluate the effect of levels of nitrogen (100, 150 and 200 kg/ha) on different varieties (IIHR-6, Flirt, Shyamal) of chrysanthemum. Among varieties Flirt performed superior over other varieties Shyamal and IIHR-6 with 200 kg N per ha by recording maximum number of flower per plant, flower yield per plant and hectare. In quality parameters fresh weight of flower and stalk length were highest in flirt variety with 200 kg N per ha. While number of days taken to flower initiation and size of flower were maximum in IIHR-6 with 200 kg N per ha and vase life found longest in flirt with 100 kg N per ha.

Key words : Nitrogen, Chrysanthemum, Quality parameter

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Chrysanthemum is one of the leading commercial flower crops, which is a popular flower in India as well as in abroad. In India different growing regions need its qualitative improvement in addition to various agro techniques. High quality chrysanthemum is required to meet the demand of national and international flower markets. So the proper selection of variety and judicious use of nitrogen are quite imperative factors which aid to achieve sustained boosting in the flower yield and quality of chrysanthemum.

RESEARCH METHODS

The investigation was carried out at the Floriculture Research Scheme, Regional Horticulture Research Station, Navsari Agricultural University, Navsari, during 2006-2007, in clayey soil, with pH 7.7. The experiment was laid out in a Factorial Randomized Block Design with 9 treatment combinations (with three levels of nitrogen *i.e.* 100, 150 and 200 kg/ha. and three varieties *viz.*, IIHR-6, Flirt and Shyamal) with three replications. Basal dose of FYM was applied at the rate of 20 tonnes per hectare. Phosphorus and potash were applied at uniformly to each plot at the rate of 100 kg per hectare. Nitrogen was

applied in two splits, first half dose of nitrogen applied at the time of preparation of soil as basal dose and second split was applied at 30 days after transplanting. Plants were grown spacing 30 x30 cm in each plot; all other culture practices were followed uniformly in experiment. Conventional methods were employed to record the observations of floral and quality parameters.

RESEARCH FINDINGS AND DISCUSSION

The results obtained from the present investigation are summarized below :

Flowering characters:

Number of days taken to flower initiation:

Table 1 reveals that with increase nitrogen it decreased the days to flower initiation. The highest dose of nitrogen 200 kg/ha gave lowest (128 days) as compared to other doses. Among varieties IIHR-6 took minimum (127 days) to flower initiation as compared to other varieties.

This earliness in flower initiation might be due to quick vegetative growth and there after, reproductive development of flower under optimum nitrogen treatment.