



## Research Paper

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# Effect of foliar application of micronutrients on growth and flowering of rose under polyhouse conditions

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**Abstract :** Present investigation was carried out to study the effect of foliar application of micronutrients on growth and flowering of rose under polyhouse conditions was conducted at Satpuda Botanic Garden, College of Agriculture, Nagpur during the year July 2008 to Dec. 2008. The treatment comprised of 0.1 to 0.3 per cent alone ZnSO<sub>4</sub>, MnSO<sub>4</sub>, FeSO<sub>4</sub> and combination treatments. The results of present investigation indicated that, the vegetative growth in term of number of primary branches, number of secondary branches, number of leaves per shoot, number of leaves per plant and number of blind shoots were found superior under 0.3 per cent ZnSO<sub>4</sub> + 0.3 per cent MnSO<sub>4</sub> + 0.3 per cent FeSO<sub>4</sub> followed by 0.2 per cent ZnSO<sub>4</sub> + 0.2 per cent MnSO<sub>4</sub> + 0.2 per cent FeSO<sub>4</sub>. The flowering attribute like days required for first flower bud initiation was found minimum in treatment 0.3 per cent ZnSO<sub>4</sub> + 0.3 per cent MnSO<sub>4</sub> + 0.3 per cent FeSO<sub>4</sub>. Foliar spray of 0.3 per cent ZnSO<sub>4</sub> + 0.3 per cent MnSO<sub>4</sub> + 0.3 per cent FeSO<sub>4</sub> increased the flower yield and quality of flower.

**Key words :** Rose, Polyhouse, Foliar application, Micronutrients, Growth, Flowering

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Flowers have been associated with mankind since time immemorial, as they have been used for religious offerings and other social ceremonies. In the past, these requirements were met from home grown plants. Growing loose flower mostly for worship, garland making and decoration forms the backbone of Indian floriculture industry. Now a day's rose has come up as a new potential flower crop for protected cultivation. It is one of the most popular cut flower in the world and according to the global trends in floriculture, it occupies first place among the cut flowers (Deshraj, 2006). In India, it is grown for both domestic and international trade purpose, which plays a key role in national economy. Rose is the world's leading cut flower in production as well as in the market. It accounts for 24 per cent of world trade in cut flowers. Rose is commonly known as "Queen of flowers". Maharashtra is one of the leading state of country in flower production.

In India, floriculture has increased tremendously, flowers occupied only 1,06,477 hectare area with production of 2,50 million of cut flower (Anonymous, 2008). The hi-tech floriculture projects depend on many factors like the selection

of varieties, site, package of agro-techniques, plant protection measures, proper application of manure and fertilizers and post harvest management of crop. All these factors play a major role in getting quality bloom with exportable standards for this point of view, study was undertaken.

## RESEARCH METHODS

The experiment was carried out in a semi controlled multispan polyhouse of 500 m<sup>2</sup>. The growing media were mixed (Red soil + sand + Rice husk + FYM) at proper proportion of 2:1:1:1. The media was sterilized with formalin (0.2%) and covered with polythene sheet for 48 hours then washed thoroughly three times with fresh water to reach out ingredients of formalin and treated with *Trichoderma viridae* prior to planting. Then, the treated growing media was filled in beds of equal size. The experiment was laid out in Randomized Block Design (RBD) with 3 replications and 13 treatments. Four months old budded plants of rose var. 'First Red' were used for planting in raised beds under polyhouse conditions. The micronutrients were applied as per proposed treatments at 15