

Response of different potassium fertilizer levels through fertigation on rose (*Rosa indica*) cv. PASSION under protected cultivation

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■ **Abstract** : The present experiment was conducted at Hi-Tech Floriculture Research Project, Fruit Research Station, Aurangabad. The experiment was planned in poly house for the rose cv. Passion (red) with three levels of fertilizers supplied through drenching with a control level of fertigation. The experiment was laid out in completely randomized design (CRD) with four treatments and 12 replications. Data generated indicated the effective influence of different K levels of fertilizer application. For investigation K levels of fertilizers *i.e.* 100 per cent K_2O regular farmer practice (control), 20 per cent increase of K_2O over regular farmer practice supplied through drenching, 40 per cent increase of K_2O over regular farmer practice supplied through drenching and 60 per cent increase of K_2O over regular farmer practice supplied through drenching were applied and the observations recorded which consisted of vegetative characters, flower quality characters, flower yield characters, vase life study, water requirement and cost of cultivation. The treatment which was consisted of 60 per cent increase of K_2O over regular farmer practice supplied through drenching was found superior in number of branches per plant, leaf area, diameter of flower, number of petals per flower, weight of flower, number of flowers per plant, number of flower per m^2 , number of flowers per treatments, vase life over rest of the treatments. However, treatment which was consisted of 40 per cent increase of K_2O over regular farmer practice supplied through drenching was found superior in flower stalk length, girth of flower stalk over rest of the treatments. The water requirement for rose cv. Passion was obtained 495.10 ml/pot/day in February, 596.38 ml/pot/day in March and in April it was 696.70 ml/pot/day in polyhouse condition. The cost economics point of view the treatment which was consisted of 40 per cent increase of K_2O over RFP supplied through drenching was found superior because it had a more B-C ratio over rest of the treatments.

■ **Key words** : Potassium fertilizer, Fertigation, Rose, Protected cultivation

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In spite of long tradition of agriculture and floriculture, India share in the International market for cut flowers is hardly 0.04 per cent of the global trade. The most important cut flower traded in the market is rose. A typically naturally ventilated structure contains a mesh covered top ventilator for escape of hot air. Besides, top ventilator, such polyhouse also much have mesh covered side ventilators on both the sides with an option to cover by rolling a layer of polythene cladding material. Occasional rise in temperature for a few days in summer can be easily managed by operating both the ventilation systems. Besides operating the crop level misters, fogger or micro sprinklers, high temperatures in a polyhouse in hot season can also be minimized by applying a layer of lime on the top of polyhouse. Crop management and other

factors of greenhouse cultivation are highly intensive and technically in nature necessitating the availability of advanced knowledge to the growers. Keeping this in view the present experiment has been planned. In order to expand the area under rose cultivation and to promote the farmers towards the rose farming in protected cultivation an experiment was planned.

■ METHODOLOGY

Experimental details:

The experiment was planned in poly house for the rose cv. PASSION (red) with three levels of fertilizers supplied through drenching with a control level of fertigation.