

## Stionic effect on rooting attributes in rose

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### ABSTRACT

A field experiment was conducted at Horticultural Experiment and Training Centre, Basti (U.P.) 272001, India for two years continuously (2007-08 and 2008-09) to find out the stionic effect on rooting attributes in rose (*Rosa* species). Four rootstocks (*Rosa multiflora*, *Rosa indica* var. *Odorata*, *Rosa wichuriana* and *Rosa bourboniana*) and four scion cultivars (Montezuma, Nazneen, June Bride and Raktgandha) were taken for the experiment. Minimum days to root initiation (24.13 and 24.34), maximum percentage of rooted cutting (85.23 and 85.59), maximum number of roots per cutting (28.43 and 29.96), largest length of root (6.99 and 6.92 cm), thickest diameter of root (0.18 and 0.17 cm), maximum fresh weight of root (2.27 and 2.37 g) and maximum dry weight of root (1.35 and 1.35 g) were significantly improved by using the rootstock *Rosa indica* var. *Odorata* followed by the rootstock *Rosa bourboniana* during both the year of experimentation (2007-08 and 2009-08), respectively.

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### INTRODUCTION

Rose is the queen of flowers. No other flower is a better symbol of love, adoration, innocence and other virtue than the rose. Rose is the national flower of England. It occupied the prime position in India and widely grown all over the country. Without rose, gardens are not considered complete. Growing of rose involves skill and specialized technique. Besides cultural practices, multiplication plays an important role in successful cultivation.

The rose rootstocks are easily budded by 'T' method and there is high percentage of success. The best budding time in India is from November to February (more precisely December to January) and after union of buds, budding starts growing. In the rose nursery the common practice is to plant the cutting in one season and that they are taken care of one year till they are budded in the budding season. Thus, for raising a budding suited for planting, it requires normally two years. In this process more labour, money and care are required. The new method of cuttage- budding is followed to reduce this long period in which cuttings are budded immediately and planted in the prepared rooting media in the month of December to January. It takes about 3 to 4 weeks for cutting to strike root and bud to grow.

Roses are woody perennials with partial bud dormancy operating at the basal portion of the canes and are perpetuating flowering, non-inductive plants. The

sprouting of axillary buds is recurrent, when apical dominance is removed and environmental conditions are suitable for the growth. Due to terminal position of flowering, there is no antagonism between vegetative growth and flowering. Most of the vegetative and flowering parameters of roses are governed by rootstock as well as scion. Success of rose nursery depends upon the selection of suitable rootstocks.

Impact of stock on scion and scion on stock is known as stionic effect. It is a well established fact that the rootstock exerts profound influence on the vigour, precocity, productivity and yield, quality of flowers, disease resistance, adaptability to soil and climatic conditions, nutrition, winter hardiness and finally longevity of scion varieties budded on them. Therefore, it is necessary to choose the right type of rootstock for budding or grafting roses. The vegetative growth characters like, length and diameter of sprout, number of leaflets and growth pattern of root like, number, length and diameter of root are influenced by the rootstocks of rose. A suitable combination between rootstock and scion is provided resistance against many diseases like, wilt; provide better survival in field and adverse climatic conditions and export quality budding and flowers.

### MATERIALS AND METHODS

An experiment was carried out to study the suitable bud-graft-cuttage in rose in relation to different stionic

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