



Stionic effect on flowering attributes in rose

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ABSTRACT

A field experiment was carried out for two years continuously (2007-08 and 2008-09) at Horticultural Experiment and Training Centre, Basti (U.P.) 272001, to find out the stionic effect on flowering attributes in rose (*Rosa* species). Four rootstocks (*Rosa multiflora*, *Rosa indica* var *odorata*, *Rosa wutchuriana* and *Rosa bourboniana*) and four scion cultivars Montezuma, Nazneen, June Bride and Raktgandha) were taken for the experiment. The flowering attributes; flower bud length, flower bud breadth and number of petals in initial bloom recorded a significant stionic effect due to different cultivars, however, it was non-significant due to rootstocks and interaction of cultivars and rootstocks. Fresh weight of initial bloom was the only flowering attributes recorded significant stionic effect due to both cultivars and rootstocks taken for experimentation. Cultivar Montezuma significantly improved the performance of flowering attributes and recorded the longest flower bud length (2.71 and 2.59 cm), largest flower bud breadth (1.49 and 1.46 cm), highest fresh weight of initial bloom (15.11 and 16.07 g) and the maximum number of petals in initial bloom (31.98 and 32.20) during both the year of experimentation (2007-08 and 2008-09), respectively, followed by the cultivars June Bride. The rootstock *Rosa indica* var. *Odorata* recorded significantly highest fresh weight of initial bloom (15.04 and 15.89 g). Among the other flowering attributes taken during experimentation *Rosa indica* var. *Odorata* also recorded longest flower bud length (2.71 and 2.59 cm), largest flower bud breadth (1.43 and 1.43 cm) and the maximum number of petals in initial bloom (31.79 and 31.50).

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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 occupies the prime position in India and is widely grown all over the country. Without rose, gardens are not considered complete. Gardens exclusively for roses have been made in various parts of the world for showing the respect for this flower. Great diversity in plant growth, colour of flowers, flower shape, fragrance, slow opening of flowers and good keeping quality made rose so popular that it is grown commercially to meet the demand of cut blooms. Besides this, growing of rose has prime importance in maintaining the ecological balance and controlling environmental pollution in surroundings. Growing of rose involves skills and specialized technique. Besides cultural practices, multiplication plays an important role in successful cultivation. Rose can be propagated both by seeds and various vegetative methods like cutting, layering, grafting, budding. Depending upon

the species, roses are the commercially propagated by bud grafting on suitable rootstocks or by cutting or from seeds.

Impact of stock on scion and scion on stock is known as stionic effect. It is well established fact that the rootstock exerts profound influence on the vigour, precocity, productivity and yield, quality of flowers, disease resistance, adoptability 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. Similarly, scion if not of same magnitude has bearing on the vigour, resistance to disease cold hardiness and choice of nutrient uptake of the rootstock. Flowering characters like, length and width of flower, number of flower, duration of flowering are influenced by the scion of rose while 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