

PERFORMANCE OF ROSE (*Rosa hybrida*) CULTIVARS UNDER GREEN HOUSE CONDITIONS IN PERADENIYA

W.B.W.M.R.C.P. Alluwihare¹, W.A.P. Weerakkody² and N. Senanayake¹

¹ Department of Plant Sciences, Faculty of Agriculture, Rajarata University of Sri Lanka, Puliyankulama, Anuradhapura.

² Department of Crop Science, Faculty of Agriculture, University of Peradeniya, Peradeniya.

Amongst the flowers, rose which is known as “Queen of the Flowers” occupies a special position in floriculture industry. In Sri Lanka, most of the commercial cultivations of cut roses are done in the up country. It is important to select the most adaptable rose cultivar for a particular climatic region to increase the production and to earn high profits. A study was conducted to compare the growth and yield attributes of promising cut rose (*Rosa hybrida*) cultivars planted in 'fertigated grow bags', under controlled environment conditions. The experiment was designed as Complete Randomized Design with five cultivars and four replicates. Cultivar *Black Magic*, *Grandgala*, *Grand Master Piece*, *Peach Pope* and *White Success* were used for the evaluation. Plant growth, flower counts, flower quality and shelf-life were assessed. Cultivars *Black Magic*, *Grandgala* and *White Success* were always significantly higher than *Peach Pope* in terms of leaf area and leaf length. Significant differences were found among cultivars *Black Magic* (19.95 and 34.66 cm) and *Peach Pope* (9.49 and 21.99 cm) in terms of mean leaf number and shoot height. Among cultivars, *Black Magic* had vigorous vegetative growth and it produced higher number of marketable flowers (2.7 flowers / plant) than other cultivars. There were significant varietal differences in flower bud length, flower diameter and flower height. The longest flower buds were found in *Peach Pope* (4.20 cm) and *Black Magic* (4.14 cm). The highest flower diameter was recorded for *Grand Master Piece* (10.62 cm) but it showed a medium length (4.25 cm) and low vegetative growth. The highest flower length was recorded by *Black Magic* (5.31 cm). Cultivar *White Success* was very low in marketable flower percentage (48.08) though it had vigorous vegetative growth. *Grandgala* and *Peach Pope* maintained medium level of growth and yield. Cut flowers of *Black Magic* and *Grand Master Piece* were shorter in shelf-life (3-4 days) compared to *Grandgala* and *Peach Pope* (6-7 days). Results concluded that *Black Magic* is the most promising cultivar for commercial production in mid country wet zone under greenhouse conditions.

Key words: Flower quality, Plant growth, *Rosa hybrida*, Shelf life