

Effect of different media substrate and humic acid on growth and nutrient absorption of soilless cultured cut rose flowers

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Abstract

This research was performed to investigate the effect of different substrates and humic acid on quantitative and qualitative traits of cut Rose (*Rosa hybrida* cv. Angelina) in soilless culture. A factorial experiment was carried out in a randomized complete blocks design with three replications. The first factor was humic acid (HA) at 4 concentrations (0, 2, 4 and 6 gr/L) and the second factor was six different combinations of substrate (1- Vermicompost + Cocopeat, 2- Vermicompost + Perlite 3- Vermicompost + Zeolite, 4- Zeolite+ Cocopeat, 5- Sawdust + Cocopeat, and 6- Zeolite + Sawdust, as 50:50 ratio). Traits such as stem length and diameter, flower-bud diameter, fresh and dry weights of stem, chlorophyll index, and potassium and phosphorus content were measured. Results showed that application of HA and type of substrate was significantly effective ($P<0.01$) on all investigated traits. The highest flower stalk (73.63 cm), diameter of flower bud (33.3 mm), stem diameter (6.97 mm), stem fresh weight (48.83 gr), stem dry weight (12.11 gr) and leaf phosphorus content were obtained in the plants cultured in vermicompost+ cocopeat and treated with 6 gr/L HA as compared to other treatments. Therefore, application of 6 gr/L HA and mixture of vermicompost and cocopeat as substrate in order to improve the quality of rose cut flower in soilless culture is recommended.

Keywords: Rose cut flower, Potasssum, Zeolite, Cocopeat, Phosphorus, Vermicompost.

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