Effect of different substrates on quantitative and qualitative traits of gerbera (*Gerbera jamesonii*) in a nonrecyclying soilless culture system

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Abstract

This experiment was carried out at National Research Station of Ornamental Plants, Mahallat, Iran, to investigate the effect of different substrates on growth and yield of gerbera flower. The experimental design was randomized complete blocks, using 14 treatments with 3 replications as: fine sand, peat + fine sand (25% + 75%), peat + fine sand (50% + 50%), perlite + peat (75% + 25%), perlite + peat (50% + 50%), perlite + peat (25% + 75%), perlite + peat + expanded clay (25% + 70% + 5%), perlite + peat + expanded clay (50% + 25% + 25%), perlite + peat + expanded clay (25% + 50% + 25%), perlite + expanded clay (50% + 50%), coco peat, coco peat + perlite (75% + 25%), coco peat + perlite (50% + 50%) and coco peat + perlite + expanded clay (50% + 25% + 25%). Results indicated that the medium containing perlite + peat + expanded clay (25% + 70% + 5%) had significant difference with other media in number of flowers, flower disk diameter, shoot diameter, shoot neck diameter, flower height and vase life. In this media, number of flowers, flower disk diameter, shoot diameter, shoot neck diameter, flower height and vase life were 207 per m^2/year, 12.4 cm, 0.8 cm, 0.58 cm, 54.5 cm and 11.6 days, respectively. With respect to the quantitative and qualitative traits of gerbera flower, among the studied substrates in this experiment, mixture of perlite + peat + expanded clay (25% + 70% + 5%) was the best medium and could be recommended to the gerbera growers.

Keywords: Gerbera, Soilless culture, Peat, Vegetative growth.

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