

Comparison of nanosil, nanosilver and hydrogen peroxide on quality and vase life of cut rose

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Abstract Rose (*Rosa hybrida* L.) the family of Rosaceae is an important cut flower that forms about 40% of total cut flowers in the US and has a special importance in other countries. The present study was carried out in vase life assessment laboratory on the basis of a complete randomized design of 10 treatments, 3 replications, 30 plots, 5 cut flowers per plot, and in total, 150 cut flowers. The studied factors included nanosilver at three levels of 5, 10 and 20 mg L⁻¹, nanosil at three levels of 200, 400, and 600 µmol, and hydrogen peroxide at three levels of 200, 400, and 600 µmol. It was found that nanosil at 400 µmol was the best treatment for vase life, water uptake, fresh weight loss, stem-end and vase solution bacteria population, carotenoid, chlorophyll a, total chlorophyll, and peroxidase enzyme. It was the best treatment for other traits too, but with no significant difference with other treatments. Only MDA and CAT enzyme activity were not among superiors in this treatment, though they were acceptable justifying the use of this treatment for rose cut flower cv. 'Grand Press Angella'. Also, the failure of nanosilver in the present study can be partially related to the fact that it was fake and had impurities, which was unfortunately a failure despite its high costs.

Keywords : Keywords: Rose, Vase life, Nanosilver, Nanosil, Hydrogen peroxide.

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