Title Effects of postharvest nano-silver treatments on cut-flowers

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Abstract

Nano-silver (NS) is nanometer sized (~2-5 nm) silver (Ag^{+}) particles used in other applications as an antimicrobial material. A series of experiments were conducted to investigate effects of pulse and vase solution treatments with NS solutions on the vase lives of commercially important rose (*Rosa hybrida*), carnation (*Dianthus caryophyllus*) and gerbera (*Gerbera jamesonii*) cut-flowers. Both pulse and vase solutions treatments with NS individually and/or in combination extended the vase lives of these three species. Moreover, NS treatments in combination with sugar further prolonged the vase lives of these cut-flowers. In vitro tests and microscope observations indicated that NS treatments inhibited the growth of microorganisms from cut carnation flower vase solution.