

Title Biocides effect on cut tuberose cv. Gol dorosht-e-mahallat vase solution microbial kind and population

Author M.M. Jowkar

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Abstract

Blockage of vascular bundles due to microorganism proliferation is one of the reasons for cut flower postharvest losses. Therefore in this experiment effect of different biocides on kind and proliferation of microbes in vase solution of cut 'Gol Dorosht-e-Mahallat' tuberose were studied. Treatments used in this study were: sterilised distilled water, citric acid (150, 300 and 450 mg L⁻¹), 8-hydroxyquinoline citrate (200, 300 and 400 mg L⁻¹), calcium hypochlorite (400, 600 and 800 mg L⁻¹), aluminium sulphate (100, 200 and 300 mg L⁻¹), sodium hypochlorite (400, 600 and 800 mg L⁻¹) and tap water as control. 8-hydroxyquinoline citrate treatments were the most effective treatments in controlling microbial proliferation of cut 'Gol Dorosht-e-Mahallat' tuberose vase solution, after which 800 mg L⁻¹ sodium hypochlorite was placed. Microbial contamination of cut 'Gol Dorosht-e-Mahallat' tuberose vase solution was mostly due to bacteria such as Streptomyces, negative gram Bacillus, negative gram Cocci. After the mentioned bacteria Aspergillus and yeasts were the most spread microorganisms. Early yellowing and drying of cut tuberose flowering spike were side effects of 8-hydroxyquinoline citrate treatments. Floret shattering which was observed at day-4 was more severe in 8-hydroxyquinoline citrate compared to other treatments. Results suggest that 800 mg L⁻¹ sodium hypochlorite is the best treatment for controlling microbial proliferation of cut 'Gol Dorosht-e-Mahallat' tuberose due to low toxicity and better microbial control.