

Title Role of essential oils, ethanol and methanol in increasing the vase-life of tuberose (*Polianthes tuberosa* L.)

Author Zahra Karimin Fariman

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Abstract

The aim of this study was to evaluate the efficacy of essential oils, ethanol and methanol as novel and old antimicrobial agents (respectively) in extending the vase-life of Tuberose (*Polianthes tuberosa* L.) flowers. Cut spikes of tuberose were kept in preservative solution containing essential oils of Thyme, Black cumin and Peppermint (50 and 100 mg L⁻¹), ethanol, methanol (4, 7 and 10%) and control. Result showed the highest solution uptake was in ethanol 10% and methanol 4%. Treatments of control, ethanol and methanol 4% had the highest SPad number (up to 30) in comparison with other treatments. In spike fresh weight losses, significant difference was shown among of ethanol 10% and methanol 7% (highest spike fresh losses) with ethanol and methanol 4%, control, Thyme essential oils 50 mg L⁻¹, Peppermint essential oils 100 mg L⁻¹ and Black cumin essential oils 50 mg L⁻¹ (lowest fresh losses). In preservative solution of essential oils, ethanol and methanol the vase-life of flowers didn't have significant difference compared with control. Our results suggest the importance of alcohols in preservative solutions for Tuberose flowers.