

ESSENTIAL OILS: A SUBSTITUTE FOR CHEMICALS IN ENHANCING VASE LIFE OF CUT FLOWERS

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Abstract: Cut flowers trade increased in recent years. Freshness of flowers for longer time after its removal from the mother plant is very important in flower industry. Vase life refers to the time period for which a cut flower retains its appearance in a vase. Vase life of cut flowers is mainly affected by two main factors, namely ethylene which accelerates the senescence of many flowers and by microorganisms which cause vascular blockage and thus reduces the vase life of cut flowers through reduced water uptake. Chemicals like 8-HQS, 8-HQC, AgNO₃, STS, TBZ, QAS, Al₂(SO₄) are very important germicide used as preservatives in floral industry. These agents act as biocide (bactericide) and also are able to increase water uptake. Silver thiosulfate is in widespread commercial use to inhibit effects of ethylene and prolong vase life in many ornamentals. However, as silver is a heavy metal, it cannot be used on food and feed, and many countries prohibit its use. Keeping in view the environmental and safety issues in relation to above chemicals forced the scientist to look for good alternative substances for preservative solution of cut flowers. Essential oils are natural products taken from plant materials that, due to their antibacterial, antifungal, antioxidant and anti carcinogenic properties can be used as natural additives in many crops. Thyme, rosemary, geranium, coriander, Artemisia and mint account some of the aromatic and medicinal plants whose essential oils were tested and resulted in positive responses in post-harvest treatment of cut flowers. Recent studies reported usefulness of essential oils and herbal extracts for floriculture as noble alternative substitute to other silver and chemical compounds because of their antimicrobial activities and environmental friendly nature of the extracts.

Keywords: Cut flowers, Chemicals, Essential oil

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