

Title Strategies and methods to extend the useful shelf life of loose flowers
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Abstract

It was estimated that an area of about 1,06,000 hectares are under flower production in India. More than two third of this large area is meant for traditional flowers, which are marketed as loose flowers viz., jasmine, tuberose, marigold, chrysanthemum, aster, nerium, gaillardia, lotus, gomphrena and crossandra. Production of loose flowers is estimated to be nearly 5,35,000 metric tonnes.

The major loss in the flower production starts after harvesting the flowers because of the market fluctuation, perishable nature of flowers and distantly situated markets. After harvest, the loose flowers can not be copiously provided with external water source and carbohydrates as in cut flowers, hence, wet packaging is not possible in loose flowers. Therefore, it is essential to study the post harvest changes accompanying these loose flowers and to derive strategies for extending shelf life. From earlier research works on cut flowers, it is postulated that the shelf life of loose flowers can be extended by adopting proper packaging method, storage temperature, substituting carbohydrate loss with sucrose and treating with preservative chemicals and growth regulators.

Storage temperature is the prime factor in controlling metabolic activities like ethylene production and action. Packaging of loose flowers in polyethylene bags increased the shelf life to the extent of 3 days. The carbohydrates particularly sucrose plays a major role in extending the vase life of all the flowers. Soaking of loose flowers in sucrose solution prolonged the longevity of flowers. The mineral ions like calcium, aluminium, boron and chemical preservatives like silver thio sulphate (STS), AgNO₃, also found effective in extending the vase life of most of the flowers. In recent days, 1-methyl cyclo propene (1-MCP) has been used as a tool to enhance shelf life of perishable flowers, as it blocks ethylene receptors and prevents ethylene effects in plant tissue for extended periods.

This presentation deals with the research works carried out on the influence of storage temperature, packaging methods, sucrose, 1-MCP and other chemical preservatives and their integration on the post harvest shelf life of loose flowers especially Jasmine flowers, tuberose, chrysanthemum, marigold, crossandra and nerium.