

2nd International Conference on **Agricultural & Horticultural Sciences**

Radisson Blu Plaza Hotel, Hyderabad, India February 03-05, 2014

Effect of postharvest application of antioxidants on storage life improvement of Custard apple (*Annona squamosa* L.) 'Balanagar' fruits

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The effect of postharvest application of various concentrations of antioxidants [500, 1000 ppm of sodium benzoate (SB) and ascorbic acid (AA) and 50, 100 ppm of benzyl adenine (BA)] on storage life of custard apple (*Annona squamosa* L.) fruits of cv 'Balanagar', stored at 15±1°C, was studied at Fruit Research Station, Sangareddy, A.P., India. Various physico-chemical parameters viz. physiological loss in weight (PLW), firmness, spoilage, ripening, days taken for ripening, storage life, total soluble solids (TSS) and ascorbic acid were estimated at an interval of 2 days during storage. Fruits treated with BA (100 ppm) recorded the lower PLW than untreated fruits. The highest firmness was recorded in fruits treated with BA (100 ppm), whereas maximum days taken for ripening were recorded with BA (50 ppm and 100 ppm) and SB 500 ppm. Fruits treated with BA (100 ppm) or SB (500 ppm) or AA (1000 ppm) recorded lower spoilage and correspondingly increased the storage life up to 11, 10.5 and 10 days, respectively, whereas, untreated fruits recorded a storage life of 8.5 days only. The lowest TSS and the highest ascorbic acid were recorded with fruits treated with BA (100 ppm), whereas untreated fruits recorded highest TSS and the lowest ascorbic acid. From the present investigation, it can be concluded that postharvest application of either BA (100 or 50 ppm) increases the storage life of custard apple by 29.41 per cent (2.5 days) over untreated fruits.

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Effect of polyamines, biocides and ethylene inhibitors on extension of vase life of carnation (*Dianthus caryophyllus* L.) cut flower

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Effect of polyamines, biocides and ethylene inhibitors on extension of vase life of carnation (*Dianthus caryophyllus* L.) cut flower was studied. A total set of four experiments were carried out to evaluate the effect of polyamines, biocides and ethylene inhibitors and their combination treatments on different parameters viz., water uptake, transpirational loss of water, water balance, fresh weight change, number of days for full flower opening, diameter of flower, vase life, electrical conductivity of vase solution which were recorded at an interval of 2 days during whole vase life period of carnation cut flower. All the experiments had two factors viz., cultivars and chemicals and were laid out in a Completely Randomized Design with factorial concept and replicated thrice. In all four experiments, the flowers were continuously held in the test treatment solutions at ambient room temperature till the end of the vase life period. Vase life of cut carnations was determined by observing senescence symptoms, i.e., in-rolling of petals or wilting of one third of petals in each flower i.e., till the loss of ornamental value of flower. In experiment-IV the flowers stalks were held in the best of the holding treatment solutions of experiment I, II and III. Among polyamine solutions, spermine 1 mM recorded best results for almost all the parameters studied and resulted in higher vase life of 13.49 days in cv. Master followed by spermidine 10 mM. The carnation cultivars treated with different biocide vase solutions; cv. Baltico recorded higher vase life of 13.75 days with aluminium sulphate 100 ppm followed by 300 ppm 8-hydroxyquinoline citrate. The ethylene inhibitor vase solutions, cv. Master recorded higher vase life of 13.16 days with benzyl adenine 15 ppm followed by benzyl adenine 20 ppm. Whereas, among the best treatment combination vase solutions, higher vase life of 16.24 days was recorded in cv. Master with 1.0 mM spermine+100 ppm aluminium sulphate+15 ppm benzyl adenine followed by 1.0 mM spermine+15 ppm benzyl adenine. Among the vase solution studied, the best treatment combination vase solution 1.0 mM spermine+100 ppm aluminium sulphate+15 ppm benzyl adenine recorded higher benefit cost ratio.

Biography

Shivani Sharma has completed her M.Sc. (Horticulture- Floriculture and Landscape Architecture) at the age of 23 years from Dr. Y.S.R. Horticultural University, Hyderabad (A.P) and has published five popular articles.

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