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Effect of growth regulators on shelf-life of sweet orange cv. Sathgudi at low temperature (*Citrus sinensis* Osbeck.)

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The present study was undertaken to know the effect of different growth regulators along with fungicidal wax on shelf life of sweet orange at low temperature (10±10C, 95-98% RH). Sathgudi fruits were treated with 2,4-D 500 ppm + wax 6%, GA3 500 ppm + wax 6%, Benzyl Adenine 50 ppm + wax 6%, wax 6% and control (distilled water) and physico-chemical changes was observed at regular intervals. The experimental design was complete randomized design (CRD) and each treatment was replicated four times.

Experimental findings revealed that, among the growth regulators BA 50 ppm + wax 6% was effective in maintaining the physical and chemical properties followed by 2,4-D 500 ppm + wax 6%. The efficacy of BA 50 ppm + wax 6% in prolonging the shelf life of sweet orange fruits was due to reduction of weight loss, spoilage and retention of more juice and peel content with higher firmness. It was observed that quality parameters such as TSS, acidity, ascorbic acid, total and reducing sugars along with sensory characteristics was found to be more in BA 50 ppm + wax 6% followed by 2,4-D 500 ppm + wax 6%. The storage performance of the fruits was good at low temperature due to less respiratory losses. With increase in duration of storage period, the shelf-life and quality gradually decreased due to spoilage. The fruits treated with growth regulators were better in keeping quality over wax treated and control fruits. The marketable quality of the fruits was good upto 75 days of storage at low temperature.

Biography

Hemalatha Vutukuri is doing Ph.D. at Dr Y S R Horticultural University, College of Horticulture, Rajendranagar, Hyderabad. In continuation to the P.G. work, she is doing her Ph.D. work. She had presented a poster and published an abstract to National Seminar of Plant Physiology.

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Effect of seed biopriming using biocontrol agents for enhanced germination and vigour in chilli cv. PKM 1

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An investigation was carried out with PKM1 chilli seeds to standardize seed biopriming with biocontrol agents (*Trichoderma viride* and *Pseudomonas fluorescens*). To optimize the concentration and duration of biopriming, seeds were bioprimed with biocontrol agents such as *Trichoderma viride* and *Pseudomonas fluorescens* (Concentration: 40, 60, and 80%; Duration: 3, 6, 9 and 12 h). The seeds were also hydroprimed for 3, 6, 9 and 12 h for standardization. The nonprimed seeds formed the control. Biopriming with *Trichoderma viride* 60% concentration for 3 h expressed high values for all the parameters studied namely speed of germination, germination (%), root length (cm), shoot length (cm), dry matter production (g/10 seedlings) and vigour index which accounted for 25, 29, 21, 18, 95 and 56% increase over nonprimed seed. *Pseudomonas fluorescens* 60% concentration for 12 h was found to improve the speed of germination, germination (%), root length (cm), shoot length (cm), dry matter production (g/10 seedlings) and vigour index. The increase over nonprimed seeds for these parameters were 38, 31, 24, 32, 113 and 68%.

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