

Title Effect of modified atmosphere packaging on shelf life and quality of pomegranate cv. *'Bhagwa'* in cold storage

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Abstract

An experiment to investigate effect of modified atmosphere packaging in improving shelf life and maintaining quality of pomegranate fruit cv. *'Bhagwa'* was conducted. For this purpose, fruits were packed in polypropylene bags of different gauges; 12.5 micron (50 gauge), 25 micron (100 gauge) and 37.5 micron (150 gauge), and StePac Xtend® modified atmosphere/modified humidity bags. Fruits left without packaging in CFB boxes formed the control. Packed fruits were stored at 4±1 °C. Fruit characteristics measured for evaluating different packing treatments were physiological loss in weight, colour, firmness, external appearance, total soluble solids, titratable acidity, browning, spoilage, sensory attributes and moisture accumulation in bags. Observations were drawn periodically at 30 days interval up to 120 days. Results revealed that there was shrinkage, decay, appearance of scalds and impaired quality and taste among all unwrapped fruits from polypropylene bags after 90 days of storage. Physical and chemical parameters of fruits packed in StePac Xtend® modified atmosphere/modified humidity bags were maintained satisfactorily up to 90 days. Shrinkage and decay was noticed in Xtend® bags after 120 days of storage. In conclusion, by packing pomegranate fruits in Xtend® modified atmosphere/modified humidity bags and storing at a temperature of 4± 1°C, there were no significant changes in the observed parameters at 90 days of storage.