

Title Effect of packaging material on shelf life and quality of mango cv. Baneshan harvested at different maturity stages

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Abstract

The current study was initiated to investigate the potential for extending shelf life of mango cv. *Baneshan*. Two different maturity stages (7-8°B TSS, M₁ and 8-9°B TSS, M₂) of harvest and different packaging material were tested. Packaging materials included polypropylene bags of 12.5 micron (50 gauge), 25 micron (100 gauge) and 37.5 micron (150 gauge), and StePac Xtend® modified atmosphere/modified humidity. Fruits left without packaging in CFB boxes were treated as control. In each type of bags, 4 kg fruits were packed and maintained at 12.5±1°C. Head space gas analysis for O₂% and CO₂% was carried out at 24 hour intervals. A proportion of packages were opened every 14 days (14th, 28th and 42nd day) and exposed to ambient temperatures for ripening. Fruit samples that were subjected to the process of ripening were taken at every four days interval and tested for physical and chemical analysis (physiological loss in weight, firmness, visual colour score, pH, total soluble solids, acidity, reducing and total sugars). Overall, results suggested that fruits harvested at M₂ stage and packed in Xtend® bags had better quality after 14 and 28 days of storage at 12.5± 1 °C followed by ambient conditions. Shelf life was extended up to 28 days at 12.5± 1 °C and 4 days of ambient conditions.