

Title Influence of post harvest chemical treatments on shelf life and quality of Mango *Cv. Baneshan* harvested at different maturity stages

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Abstract

An investigation was carried out on the effect of post harvest chemical treatments on shelf life and fruit quality of '*Baneshan*' mango with a view on enhancing its export potential. Two different maturity stages (7-8°B TSS, M₁ and 89°B TSS, M₂) were considered for this purpose. Fruits were treated with 1-methylcyclopropene (1-MCP) 1000 ppb, 1-MCP 2000 ppb and Spermine 1.0mM. Untreated fruits formed the control group. After treatment fruits were stored at 12.5±1°C in cool chambers. A proportion of packages were removed every 14 days (14th, 28th and 42nd day) and exposed to ambient temperatures for ripening. Since subjecting to the process of ripening, samples were taken at every four days interval and tested for physical and chemical analysis (physiological loss in weight (PLW), firmness, visual colour score, pH, total soluble solids (TSS), acidity, reducing and total sugars). Results suggested that after 14 and 28 days of cold storage, PLW (%) was less in 1-MCP 2000 ppb treated fruits at ambient conditions followed by 1-MCP 1000 ppb. Firmness was better in fruits treated with 1-MCP 2000 ppb followed by 1-MCP 1000 ppb. Colour attainment in 1-MCP treated fruits was better. Other quality parameters like pH, TSS and total sugars were better in 1-MCP 1000 ppb treated fruits followed by 1-MCP 2000 ppb. Among the maturity stages TSS and total sugars were better in M₂ with 1-MCP 1000 and 2000 ppb. It was concluded that 1-MCP delayed the ripening process and the shelf life was extended up to 28 days at 12.5±1°C and 4 days of ambient conditions.