

**Title** Mango fruit quality, storability and marketability in response to precooling and various fungicidal treatments

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### **Abstract**

Postharvest disease incidence along the supply chains does limit the shipment potential of mango fruit around the globe. This study examines the impact of pre-cooling and efficacy of a Syngenta product viz a viz Tecto (a.i. Thiabendazole-500g/L) at different concentrations alone and in combination with Sportak (a.i. Prochloraz-450g/L) against postharvest disease development in a commercial mango cv. Sufaid Chaunsa of Pakistan. The fruit that is subjected to on-farm forced air pre-cooling and transported under low temperature conditions (11 DC; 80-85%RH) had significantly ( $P < 0.05$ ) lesser disease and better fruit quality along with longer shelflife and higher marketability index as compared to non-pre-cooled and traditionally transported mangoes. Moreover, non-pre-cooled fruit had significantly higher rate of respiration (CO<sub>2</sub> liberation) and more weight loss as compared to pre-cooled one. Among the tested fungicidal combinations, the combined application of Tecto @ 2000 ppm with sportak @0.5ml/L (Tank mix; HWT 5<sup>th</sup> C; 5 min) performed better with significant disease control (i.e. stem end rot, side rot and anthracnose) and more marketability index during storage and ripening. The tested alone concentrations of Tecto (1000, 1500 and 2000 ppm) could not perform well in this regard. However, the effect of Tecto 2000 ppm was relatively better (but nonsignificant) in terms of marketable fruit followed by Tecto-1500ppm than other Tecto concentrations, carbendazim and mancozeb. This paper discusses the effect of pre-cooling and different fungicidal treatments (alone or in combination) on postharvest disease development, marketability, shelf life and physico-chemical quality of Sufaid Chaunsa mangoes.