

**Title** Effect of salicylic acid on postharvest quality and ripening of mango fruit  
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### Abstract

To learn how salicylic acid (SA) may affect quality and ripening of mango fruit (*Mangifera indica* L. cv. Matisu) after harvest, mango fruit were treated with 0.5 mmol l<sup>-1</sup>, 1 mmol l<sup>-1</sup> and 5 mmol l<sup>-1</sup> SA solution under vacuum infiltration for 2 min at a low pressure (-80 kPa) and for additional 10 min at air pressure. Then, the fruit were stored at 13°C and 85-95%RH. The inhibition of fruit peel turning to yellow was achieved with SA treatment at 1 mmol l<sup>-1</sup> concentration, but not significantly effected with other concentrations (0.5 mmol l<sup>-1</sup> and 5 mmol l<sup>-1</sup>). Fruit treated with 1 mmol l<sup>-1</sup> SA showed significantly less soften than those in the other treatments after 4<sup>th</sup> storage, while there was no significant difference among 0.5 mmol l<sup>-1</sup> SA, 5 mmol l<sup>-1</sup> SA treatment and control. The study further showed that 1 mmol l<sup>-1</sup> SA treatment inhibited the decreases of content of ascorbic acid (AsA) and titratable acidity (TA), and the increases of total soluble solids (TSS). Changes in other parameters related to mango ripening, such as respiration rate cell membrane permeability and melondialdehyde concentration were also significantly reduced or delayed by SA. Postharvest decay incidence and severity of mango fruit was reduced by treatment with 1 mmol l<sup>-1</sup> SA in the 12th or 16th day of the storage. In conclusion, postharvest ripening of mango fruit can be effectively inhibited by 1 mmol l<sup>-1</sup> SA treatment could also maintain the quality and enhance the disease resistance of mango fruit.