

Title Pre- and post-harvest salicylic acid treatments alleviate internal browning and maintain quality of winter pineapplefruit

Author Xinhua Lu, Dequan Sun, Yunhe Li, Wenqi Shi and Guangming Sun

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Abstract

The post-harvest internal browning (IB) and quality in pineapple (*Ananas comosus* L. 'Comte de Paris') fruit were studied in relation to pre-harvest salicylic acid (SA) spray (PSS) or/and post-harvest salicylic acid immersion (PSI) treatments at 10 °C for up to 20 days plus 2 days at 20 °C (shelf-life). In addition, the activities of polyphenol oxidase (PPO) and phenylalanine ammonia-lyase (PAL) were measured during cold storage. The results showed that all SA treatments significantly reduced IB incidence and intensity. Furthermore, SA did not affect soluble solids content (SSC), titratable acidity (TA) and total phenolics (TP) content, but delayed the decline of ascorbic acid (AsA) content. At the same time, SA significantly inhibited PPO and PAL activities. The study indicated the beneficial effect of SA by pre-harvest spray and/or post-harvest immersion on pineapplefruit quality and resistance to IB, and PSS + PSI treatment showed the best effect.