

**Title** Alleviation of chilling injury and browning of postharvest bamboo shoot by salicylic acid treatment

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#### **Abstract**

The effects of salicylic acid (SA) treatment on chilling injury, disease incidence, electrolyte leakage (EL), flesh browning index, malondialdehyde (MDA) and total phenolic content, phenylalanine ammonia-lyase (PAL), polyphenol oxidase (PPO) and peroxidase (POD) activities, and polyamine (PA) content of bamboo shoot, during storage at 1 °C for 50 days, were examined. Chilling injury and disease incidence, EL, MDA content of control shoot increased progressively. Chilling injury promoted PAL, PPO and POD activities, which are associated with shoot total phenolic content and flesh browning index increase. Chilling injury was significantly positively correlated with putrescine (Put) or spermidine (Spd) contents. Suppression of chilling injury by SA treatment was associated with reducing EL, MDA and total phenolic content, retarding activities of PAL, PPO and POD, and promoting PA accumulation. The present findings suggest that SA treatment could be used commercially to control chilling injury in bamboo shoot during cold storage.