

The efficacy of acetylsalicylic acid, spermidine and calcium preharvest foliar spray applications on yield efficiency, incidence of physiological disorders and shelf-life performance of loquat fruit

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Abstract

The effect of preharvest foliar spray applications at fruit colour breaker stage with acetylsalicylic acid (synthetic salicylate), spermidine (polyamine), their combination and a commercial calcium supplement on loquat (*Eriobotrya japonica* Lindl cv. 'Karantoki') fruit at successive harvests and subsequently during maintenance at room temperature (shelf-life) for 3 and 6 days respectively, were investigated. Yield efficiency, qualitative attributes, textural properties and the incidence of physiological disorders, namely purple spot and fruit cracking, were determined. Loquat fruit quality parameters were affected by spraying treatments, harvesting day and shelf-life periods applied. Acetylsalicylic acid is recommended as an efficient and cost-effective treatment that needs to be further explored towards production of loquat fruit with enhanced quality properties. However, spermidine application alone, or in combination with acetylsalicylic acid, did not show any beneficial and/or synergistic effect on loquat fruit quality parameters to justify its application. All foliar applications did not affect fruit growth and yield efficiency. The current study shed some light on the potential use of foliar spraying with acetylsalicylic acid, alone or in combination with a calcium supplement, towards enhancement of fruit quality properties of an added value product as loquat. To this aim, further studies need to be implemented to test their efficacy under different environmental conditions that may accelerate the incidence of physiological disorders and/or multiple applications over the growing season.