

**Title** Physiological responses and quality attributes of table grape fruit to chitosan preharvest spray and postharvest coating during storage

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#### **Abstract**

The effects of preharvest chitosan spray (PCS) or/and postharvest chitosan coating (PCC) treatments on the quality and physiological response of table grape fruit stored at 20 or 0 °C was evaluated, respectively. PCS/PCC treatment showed the best control effect on decay. PCC or PCS/PCC treatment significantly decreased the weight loss of fruit stored at 20 °C. Additionally, all chitosan treatments inhibited the increase in rate of soluble solid content to titratable acid in fruit, stored at 20 °C, while enhancing the rate at 0 °C and affecting the content of total phenolic compounds in the fruit. Furthermore, the activities of superoxide dismutase decreased in all chitosan treatments and PCS or/and PCC treatments also changed the activities of polyphenol oxidase, peroxidase and phenylalanine ammonia-lyase. The results indicated the beneficial effect of chitosan by preharvest spray and/or postharvest coating on fruit quality and resistance to fruit decay.