

**Title** Postharvest quality of hardy kiwifruit (*Actinidia arguta* ‘Ananasnaya’) associated with packaging and storage conditions

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**Citation** Postharvest Biology and Technology, Volume 47, Issue 3, March 2008, Pages 338-345

**Keywords** Hardy kiwifruit (*Actinidia arguta* ‘Ananasnaya’); Edible coatings; Packaging; Physicochemical properties; Consumer sensory test

### **Abstract**

Limited information exists regarding the ripening physiology of hardy kiwifruit (*Actinidia arguta* (Siebold & Zucc.) Planch. ex Miq) or the ideal packaging and storage conditions for optimum quality and storage life. In this study, the physicochemical properties (total soluble solids, titratable acidity, pH, firmness, color, weight loss, and respiration) of hardy kiwifruit cv. Ananasnaya were monitored at harvest and during storage from 2003 to 2005. Fruit were packaged in low- or high-vent clamshell containers and stored under room ( $22 \pm 1$  °C, 45% RH) or refrigerated (2 °C, 88% RH) conditions. Calcium caseinate, chitosan, PrimaFresh<sup>®</sup> 50-V, and Semperfresh<sup>™</sup> edible coatings were investigated for their potential to enhance the quality and extend the storage life of the fruit. Semperfresh<sup>™</sup>-coated and uncoated fruit were evaluated by a sensory consumer panel using a hedonic scale in the third season. Low-vent packaging reduced weight loss. Refrigerated storage delayed ripening and extended storage life of fresh fruit compared to un-refrigerated fruit to 7–10 weeks depending on the specific packaging and other storage conditions. Coatings provided an attractive sheen to the fruit surface and did not impair ripening. The consumer test indicated that both coated and uncoated fruit were well liked. These results provide important information regarding the ripening physiology of ‘Ananasnaya’ hardy kiwifruit and indicate that edible coatings may be an alternative to costly low-vent packaging for reducing moisture loss and extending storage life of fresh fruit.