Effect of chitosan composite coating on Chinese blueberry fruit (*Vaccinium uliginosum* L.)

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Abstract

The effects of chitosan and gelatin-based coatings on the postharvest quality of blueberry fruit were investigated by measuring changes in firmness, rate of weight loss, titratable acidity, vitamin C content, respiratory rate, and the activity of SOD during 20 d of cold storage at 2±0.5°C (RH 70-80%). The results indicated that chitosan composite coatings successfully reduced the rate of weight loss, inhibited changes in titratable acidity and the loss of vitamin C content. Fruit maintained their firmness, and exhibited increased activity of SOD. The coating used on the blueberry fruit consisted of 1% chitosan, 1% gelatin, 0.2% glycerol, 0.1% Tween 20, and 1.0 mmol/L salicylic acid. The incorporation of salicylic acid into the coating also reduced the respiratory rate in blueberry, which could also contribute to prolonging its shelf life.