

Title Effect of chitosan and chitooligosaccharide on vitamin C and polyphenols contents in cherries and strawberries during refrigerated storage

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Abstract

The objective of this research was to investigate the effect of treatment with chitosan and chitooligosaccharide on vitamin C and polyphenols contents in cherries and strawberries during refrigerated storage. Chitosans and chitooligosaccharides, as well as vitamin C and polyphenols are associated with reduced risk of cardiovascular diseases and cancer. Synthesis of vitamin C in strawberries and loss of vitamin C in cherries were observed during refrigerated storage. The treatment with chitosan and chitooligosaccharides inhibits vitamin C synthesis in strawberries and promotes vitamin C synthesis in cherries. Lower values of anthocyanin content for strawberries and higher values of anthocyanin content for cherries treated with chitosan and chitooligosaccharide compared with anthocyanin content in control strawberries and cherries were found after 7 days storage at 4 °C. Total phenols content in strawberries decreased and in cherries increased after storage 7 days at 4 °C and more pronounced changes observed for samples treated with high molecular weight chitosan. The correlation between moisture content in treated and non-treated strawberries and contents of vitamin C, anthocyanin and total phenols was shown. No correlation between moisture content and content of vitamin C, anthocyanins and total phenols was found for cherries.

<http://www.springerlink.com/content/bwn66p37843684n9/fulltext.pdf>