

البحث رقم (٢) : بحث فردي إعتباري – منشور – غير مستخلص من رساله علمية

Effect of chitosan coating on postharvest life and quality of grape and apricot fruits

تأثير التغطية بغشاء الشيتوزان على جودة ثمار العنب والمشمش

عنوان البحث

Abstract

This study aimed to extract chitin from shrimp shells and heads followed by its deacetylation to chitosan and the final product (chitosan) was used as edible coating to maintain the quality and safety of table seedless grape (*vitis vinifera*) and apricot (*prunus armeniaca*) during cold storage at 4 °C for 10 days. The results showed the grape fruits coated with chitosan dissolved in 1% citric acid yielded fruits with significant high quality than the uncoated sample. The best results in compared with grape fruits dissolved in acetic acid, oxalic and malic. Also, the results indicated that grape and apricot fruits coated with chitosan led to decrease the activity of polyphenol oxidase and peroxidase enzymes during cold storage at 4 °C for 10 days. The results indicated also that chitosan has high significant DPPH scavenging activity against free radical compared with BHA. Interestingly, this edible coating was able to reduce the microbial counts for both total bacteria; coating with chitosan reduced the weight loss of fruits during storage at 4 °C for 10 days compared to the control.

The results indicated that grape fruits coated with chitosan dissolved in any of the used organic acids were better in all organoleptic properties compared with the uncoated grape fruits. With regard to apricot fruits coated with chitosan, results showed that chitosan was less effective in protecting the fruits, mainly because of the thicker skin in apricot compared to grape.