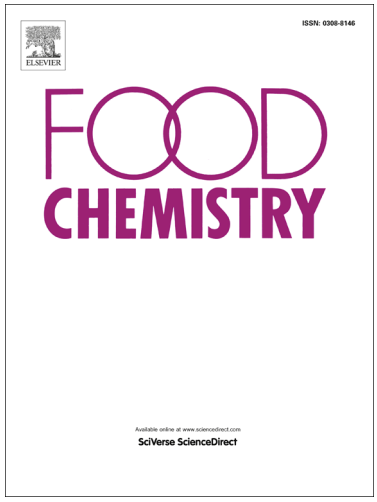

Impact of chitosan based edible coatings functionalized with natural compounds on *Colletotrichum fragariae* development and the quality of strawberries

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PII: S0308-8146(18)30686-1
DOI: https://doi.org/10.1016/j.foodchem.2018.04.063
Reference: FOCH 22758

To appear in: *Food Chemistry*

Received Date: 13 December 2017
Revised Date: 15 April 2018
Accepted Date: 17 April 2018

Please cite this article as: Ventura-Aguilar, R.I., Bautista-Baños, S., Flores-García, G., Zavaleta-Avejar, L., Impact of chitosan based edible coatings functionalized with natural compounds on *Colletotrichum fragariae* development and the quality of strawberries, *Food Chemistry* (2018), doi: https://doi.org/10.1016/j.foodchem.2018.04.063

Impact of chitosan based edible coatings functionalized with natural compounds on *Colletotrichum fragariae* development and the quality of strawberries

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Abstract

The antifungal effect of chitosan edible coatings (ChEC) functionalized with cinnamon essential oil and aqueous extract of Roselle calyces on *Colletotrichum fragariae* growth and physical-chemical, physiological and nutraceutical features of strawberries at 5 and 20 °C were evaluated. ChEC was characterized with respect to its water vapor permeability (WVP) and mechanical properties. Results indicated that *C. fragariae* grew from the third day in strawberries stored at 20 °C, whilst at 5 °C disease symptoms were observed after 10 days in fruit inoculated and treated with ChEC after 24 h. The weight loss was reduced 15 times and firmness was higher by 33% in fruit treated with ChEC and stored at 5°C. The antioxidant capacity of strawberries increased at the end of the storage only in control group. In conclusion, ChEC can be an effective technology for preserving quality strawberries for 17 days at 5ºC.

Keywords: *Fragaria ananassa* Duch, Roselle, cinnamon essential oil, antioxidant capacity

Chemical compounds studied in this article

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