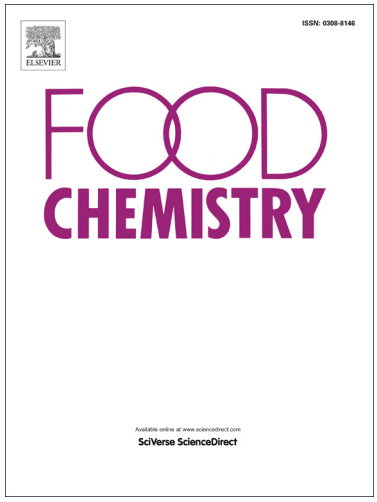


Short communication

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# Effect of chitosan and its derivatives as antifungal and preservative agents on postharvest green asparagus

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**ABSTRACT**

The antifungal activity and effect of high-molecular weight chitosan (H-chitosan), low-molecular weight chitosan (L-chitosan) and carboxymethyl chitosan (C-chitosan) coatings on postharvest green asparagus were evaluated. L-chitosan and H-chitosan efficiently inhibited the radial growth of *Fusarium concentricum* separated from postharvest green asparagus at 4 mg/ml, which appeared to be more effective in inhibiting spore germination and germ tube elongation than that of C-chitosan. Notably, spore germination was totally inhibited by L-chitosan and H-chitosan at 0.05 mg/ml. Coated asparagus did not show any apparent sign of phytotoxicity and maintained good quality over 28 days of cold storage, according to the weight loss and general quality aspects. Present results inferred that chitosan could act as an attractive preservative agent for postharvest green asparagus owing to its antifungal activity and its ability to stimulate some defense responses during storage.

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