

OL 14 - Bioactivity of Chitosans Against Fruit Phytopathogens

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Chitosans, partially N-acetylated linear polymers of β -(1,4)-linked glucosamine units, are natural polysaccharides found in some fungal cell walls and commercially, they are produced from the fully N-acetylated counterpart, chitin, extracted from crustacean exoskeletons and from fungal cells. The aim of this study was to investigate the relationship between antifungal activity and chemical structure of chitosans with different degrees of polymerization (DP) and different degrees of acetylation (FA). Chitosan samples were previously characterized and were tested against four phytopathogenic fungi, *Alternaria alternata*, *Botrytis cinerea*, *Penicillium expansum* and *Rhizopus stolonifer*.

Minimum inhibitory concentrations (MIC) for each chitosan were determined against the four fungi by using 96-well microtiter plate and a microplate reader and consequently, to evaluate the chitosan effect on the fungal growth ($\lambda=405\text{nm}$).

The results showed that antifungal activities of chitosans increased with decreasing of FA and the sensitivity of fungi is different depending on the chitosan properties.