

Title Antifungal effects of chitosan with different molecular weights on *in vitro* development of *Rhizopus stolonifer* (Ehrenb.:Fr.) Vuill

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Abstract

Determination of the molecular weight of three types of chitosan was carried out by HPSEC-RI. The effect of low, medium and high molecular weight chitosan was evaluated on development of three isolates of *Rhizopus stolonifer*. Image analysis and electronic microscopy observations were done in spores of this fungus. Germination of *R. stolonifer* in potato dextrose broth with chitosan was also evaluated. Results pointed out that the low molecular weight chitosan was more effective for inhibition of mycelial growth while the high molecular weight chitosan affected spore shape, sporulation and germination. Studies of scanning and transmission electron microscopy revealed numerous and deeper ridge ornamentations of the chitosan-treated spore.