**Active chitosan coatings with antimicrobial peptides to control moulds growth on the surface of fermented and smoked meat sausages**

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Fermented and smoked sausages are very appreciated by consumers. After purchase, at home the consumers used to open their package (MAP or vacuum) ant to put these meat products under refrigeration. The moulds are pointed out as the main spoilage microorganisms that develops on sausage surface, giving them an unappealing aspect and rejection to consume. The aim of this work was to study the effect of active coatings with antimicrobial peptide (Nisin and/or Natamycin) on the inhibition of common spoilage moulds of fermented/smoked meat sausages. Five coatings were tested: 1- a coating control composed by Chitosan (Ch, 0.5%) and Sodium Lactate 2.4% (SL); 2-Nisin coating: Ch(0.5%)+SL(2.4%)+Nisin (Ns,1%); 3 and 4-Natamycin coating Ch(0.5%)/SL(2.4%)+Natamycin (Nt, 0.05% and 0.025%); 5-Nisin and Natamycin coating Ch(0.5%)/SL(2.4%)+Ns(1%)+Nt(0.05%). These coatings were applied on natural dried casing (64cm²) as model, previously decontaminated 1h by UV light exposure. Three study conditions were established: casing with application of coating (CC); casing contaminated with Penicillium funiculosum (initial counting 2.3 cfu/cm²) before (CB) or after application (CA) of coating. The samples were left at room temperature (18ºC) and microbiological analysis was performed for moulds according to ISO, after 30 and 60 days. In all CB coatings conditions, the growth of Penicillium was inhibited probably due to the lack of oxygen. Moreover, Natamycin at 0.05% proved to be effective to inhibit the growth of moulds contamination after coating casing surface (CA condition). The application of a coating with immobilized antimicrobial is therefore an effective technique on mould growth control on traditional Portuguese sausage surface.