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Autochthonous yeasts as potential biocontrol agents in dry-cured meat products



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ABSTRACT

This work aimed to evaluate the ability of selected yeasts, previously isolated from dry-cured hams, to compete with *Penicillium nordicum* and to inhibit ochratoxin A (OTA) accumulation in a dry-cured pork meat model system in the perspective of their use as surface starter cultures. Two strains of *Debaryomyces hansenii* and one strain of *Hyphopichia burtonii* were used. A dry-cured pork meat model system was prepared using meat portions at 0.88 and 0.92 a_w ; meat surface disinfection (disinfected or non disinfected) was considered to take into account the possible role of naturally occurring microbial population. *P. nordicum* (10^5 spores/ml) was co-inoculated with each yeast strain (around 10^6 cells/cm² on meat surface) one at a time. Meat portions were incubated in the dark at 18 °C for 30 days. The co-inoculation of *P. nordicum* and yeasts allowed a decrease in penicillia counts between 1 and 3 Log compared to the control, irrespective of the investigated conditions. Ochratoxin A content in meat portions was significantly reduced when yeasts were co-inoculated with *P. nordicum*. *D. hansenii* 147 showed the greatest antagonistic activity and proved to be effective in the investigated conditions. This strain is supposed to be appropriate for typical flavour development, being native to the production plants. Therefore, it is eligible to be tested as biocontrol agent in the dry-cured meat production chain.